Cisco 640-802



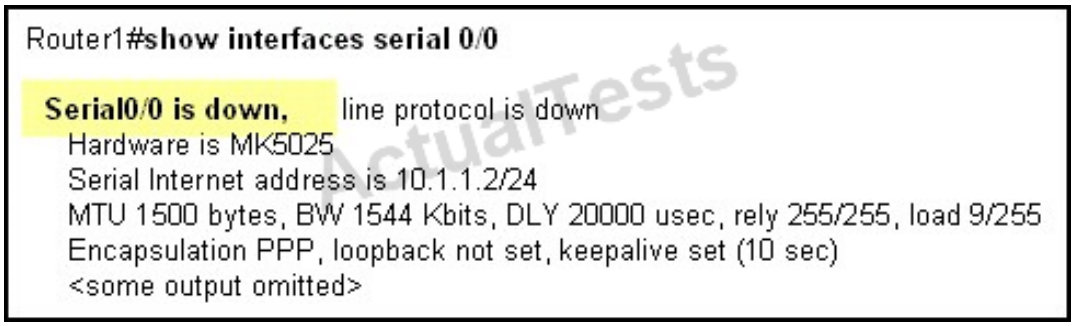
Cisco Certified Network Associate (CCNA)

Version: 9.13

Topic 1, Volume A

QUESTION NO: 1

Refer to the exhibit. What could be possible causes for the "Serial0/0 is down" interface status? (Choose two.)



A. A Layer 1 problem exists.
B. The bandwidth is set too low.
C. A protocol mismatch exists
D. An incorrect cable is being used.
E. There is an incorrect IP address on the Serial 0/0 interface.

Answer: A,D

Explanation:

QUESTION NO: 2

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.)

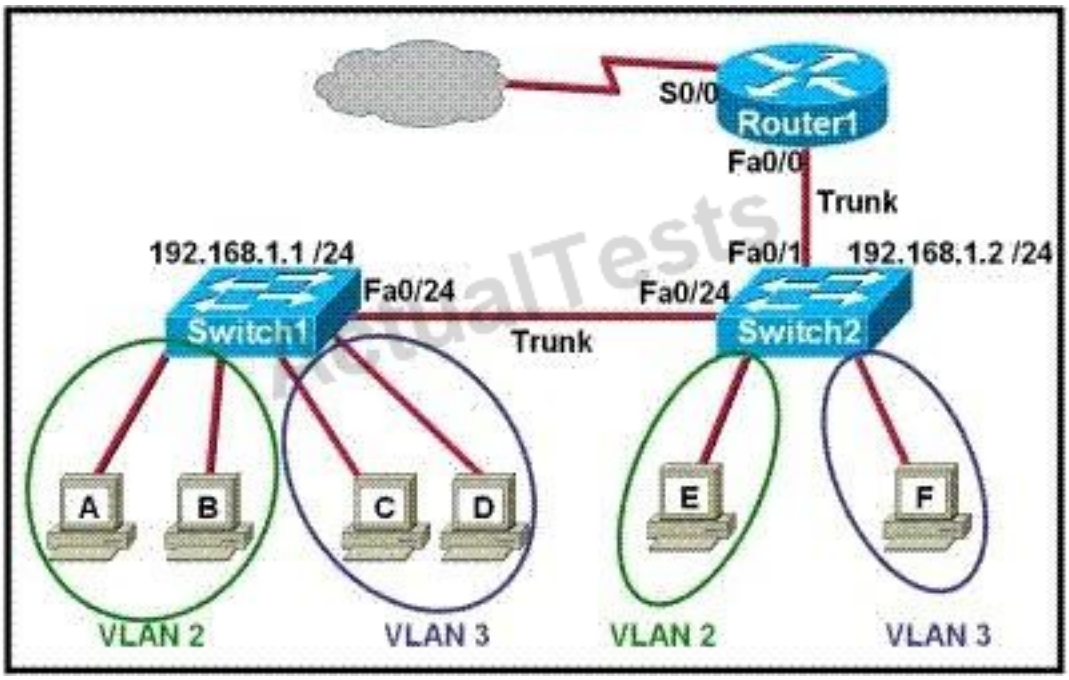
A. the amount of available ROM
B. the amount of available flash and RAM memory
C. the version of the bootstrap software present on the router
D. show version
E. show processes
F. show running-config

Answer: B,D

Explanation:

QUESTION NO: 3

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

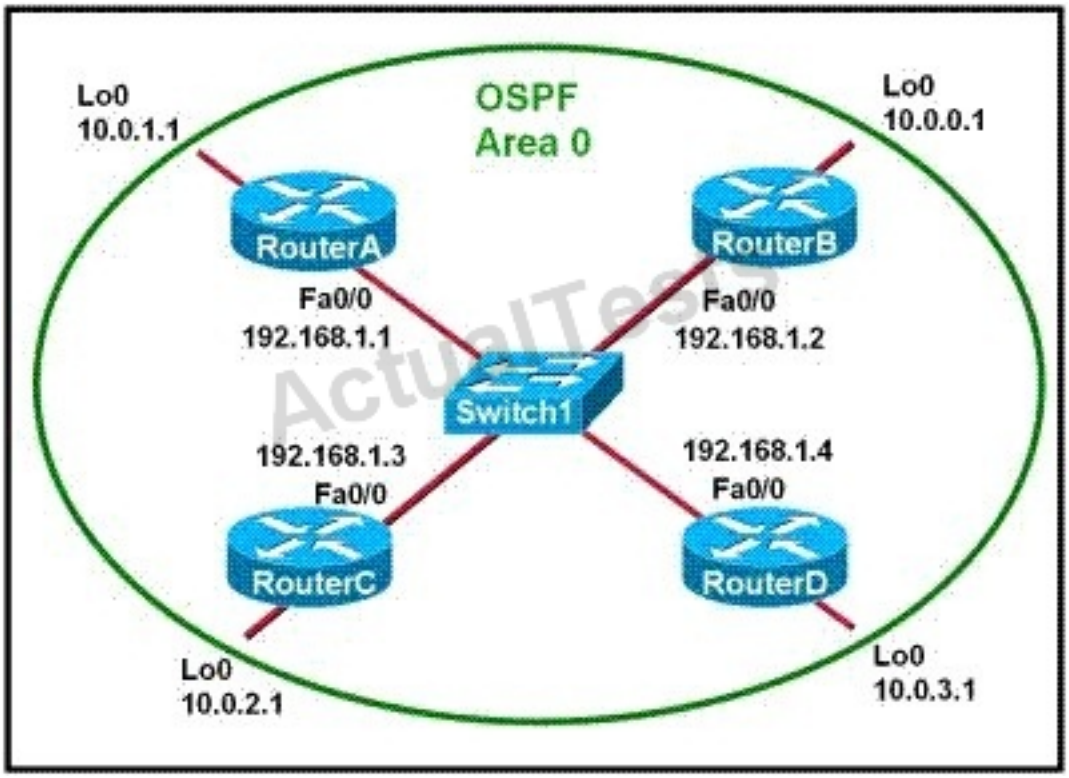


A. Host E and host F use the same IP gateway address.
B. Router1 and Switch2 should be connected via a crossover cable.
C. Router1 will not play a role in communications between host A and host D.
D. The FastEthernet 0/0 interface on Router1 must be configured with subinterfaces.
E. Router1 needs more 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
Explanation:

QUESTION NO: 4

Refer to the exhibit. Which two statements are true about the loopback address that is configured on RouterB? (Choose two.)



A. It ensures that data will be forwarded by RouterB.
B. It provides stability for the OSPF process on RouterB.
C. It specifies that the router ID for RouterB should be 10.0.0.1.
D. It decreases the metric for routes that are advertised from RouterB.
E. It indicates that RouterB should be elected the DR for the LAN.

Answer: B,C
Explanation:

QUESTION NO: 5

If you are a network administrator, how will you explain VTP configuration to a new technician? (Choose three.)

A. In the VTP client mode, a switch is unable to update its local VLAN database.
B. Configure a trunk link between the switches to forward VTP updates.
C. In the VTP server mode, a switch is able to update a switch in the VTP transparent mode.
D. In the VTP transparent mode, a switch will forward the received updates to other switches.
E. A switch in the VTP server mode only updates switches in the VTP client mode that have a higher VTP revision number.
F. A switch in the VTP server mode will update switches in the VTP client mode regardless of the configured VTP domain membership.

Answer: A,B,D

Explanation:
VTP operates in one of three modes:
Server - In this VTP mode you can create, remove, and modify VLANs. You can also set other configuration options like the VTP version and also turn on/off VTP pruning for the entire VTP domain. VTP servers advertise their VLAN configuration to other switches in the same VTP domain and synchronize their VLAN configuration with other switches based on messages received over trunk links. VTP server is the default mode. The VLANs information are stored on NVRAM and they are not lost after a reboot.
Client - VTP clients behave the same way as VTP servers, but you cannot create, change, or delete VLANs on the local device. In VTP client mode, VLAN configurations are not saved in NVRAM.

QUESTION NO: 6

Cisco IOS (originally Internetwork Operating System) is the software used on the vast majority of Cisco Systems routers and all current Cisco network switches. Which two of the following devices could you configure 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
Explanation:

QUESTION NO: 7

What are two reasons a network administrator would use CDP? (Choose two.)

A. to obtain VLAN information from directly connected switches
B. to determine the status of network services on a remote device
C. to determine the status of the routing protocols between directly connected routers
D. to verify the type of cable interconnecting two devices
E. to verify Layer 2 connectivity between two devices when Layer 3 fails

F. to obtain the IP address of a connected device in order to telnet to the device

Answer: E,F
Explanation:

Cisco Discovery Protocol (CDP) is primarily used to obtain protocol addresses of neighboring devices and discover the platform of those devices. CDP can also be used to show information about the interfaces your router uses. CDP is an independent media protocol and runs on all Cisco-manufactured devices including routers, bridges, access servers, and switches. It should be noted that CDP is a protocol which works on the layer2. By default, multicast advertise is sent every 60 seconds to 01-00-0 c-cc-cc-cc as the destination address . When reaching the holdtime of 180 seconds , if not receiving the advertise from neighboring devices yet, the information of neighboring devices will be cleared.

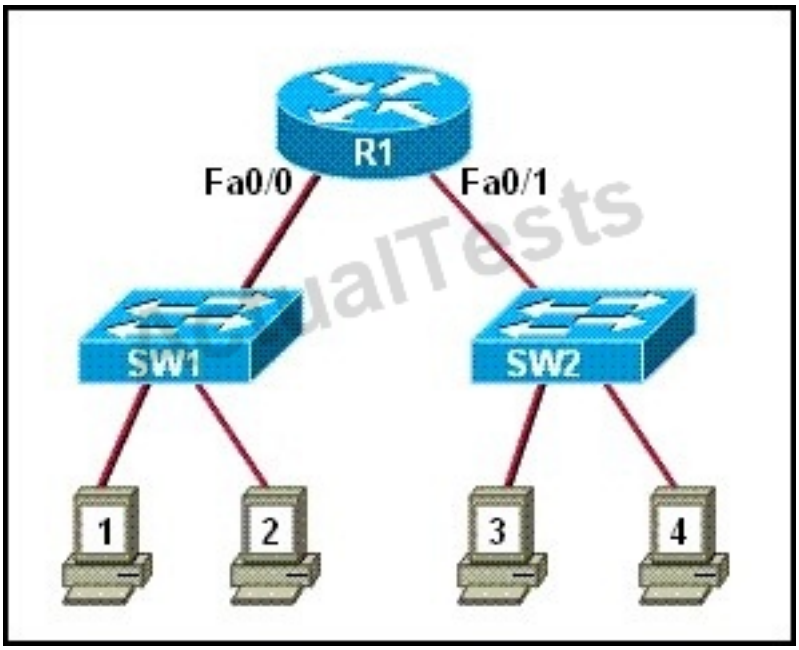
Cisco Discovery Protocol (CDP) is a proprietary protocol designed by Cisco to help administrators collect information about both locally attached and remote devices. By using CDP, you can gather hardware and protocol information about neighbor devices, which is useful info for troubleshooting and documenting the network.

You can use:

Show cdp neighbor
Show cdp neighbor details
Commands to gather the information of connected neighbors.

QUESTION NO: 8

Refer to the exhibit. Both switches are using a default configuration. Which two destination addresses will host 4 use to send data to host 1? (Choose two.)



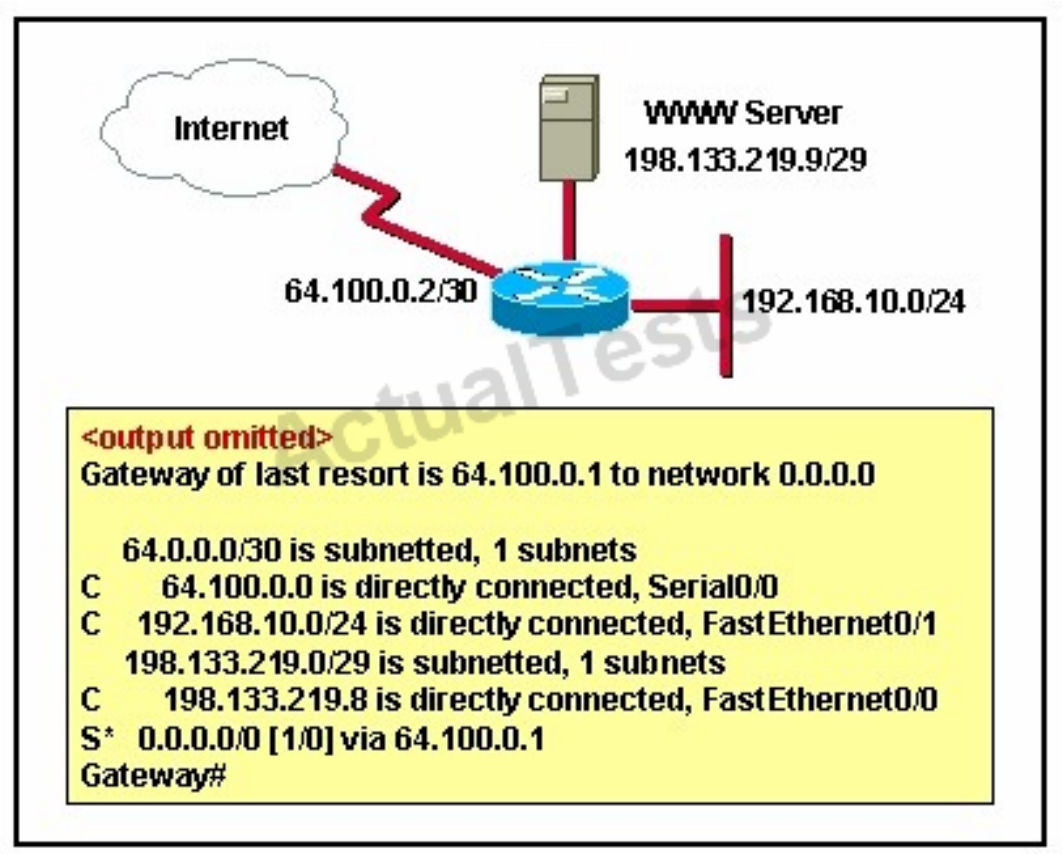
A. the IP address of host 1
B. the IP address of host 4
C. the MAC address of host 1
D. the MAC address of host 4
E. the MAC address of the Fa0/0 interface of the R1 router
F. the MAC address of the Fa0/1 interface of the R1 router

Answer: A,F

Explanation:

QUESTION NO: 9

Exhibit:



Refer to the exhibit. The router has been configured with these commands:

```
hostname Gateway
interface FastEthernet 0/0
 ip address 198.133.219.14 255.255.255.248
 no shutdown
interface FastEthernet 0/1
 ip address 192.168.10.254 255.255.255.0
 no shutdown
interface Serial 0/0
 ip address 64.100.0.2 255.255.255.252
 no shutdown
ip route 0.0.0.0 0.0.0.0 64.100.0.1
```

What are the two results of this configuration? (Choose two.)

A. The default route should have a next hop address of 64.100.0.3.
B. Hosts on the LAN that is connected to FastEthernet 0/1 are using public IP addressing.
C. The address of the subnet segment with the WWW server will support seven more servers.
D. The addressing scheme allows users on the Internet to access the WWW server.
E. Hosts on the LAN that is connected to FastEthernet 0/1 will not be able to access the Internet

without address translation.

Answer: D,E

Explanation:

Since the hosts on the Fast Ethernet 0/1 network are using private RFC 1918 IP addressing (192.168.10.0/24) their IP addresses will need to be translated into a publicly routable address in order to access the Internet. However, the server is using the 198.133.219.9 IP address, which is publicly routable and so Internet users can indeed access this server (assuming that the 198.133.219.9 IP address has been correctly assigned to the network)

QUESTION NO: 10

Your Company has installed IP phones. Both the phones and the office computers connect to the same device. The phone traffic and the office computer data traffic must be on different networks to ensure maximum throughput for the phone data. Which network device can be best connected to the phones and computers, and which technology will be performed on this device? (Choose two.)

A. hub
B. router
C. switch
D. stp
E. subinterfaces
F. VLAN

Answer: C,F

Explanation:

You can configure VLANs on the switch to distinguish two types of data traffic.

QUESTION NO: 11

Which two benefits can be obtained by using VTP in a switching environment? (Choose two.)

A. Allowing frames from multiple VLANs to use a single interface.
B. Allowing switches to read frame tags.
C. Maintaining VLAN consistency across a switched network.
D. Allowing VLAN information to be automatically propagated throughout the switching environment.

E. It allows ports to be assigned to VLANs automatically.

Answer: C,D

Explanation:

VTP minimizes the possible configuration inconsistencies that arise when changes are made. These inconsistencies can result in security violations, because VLANs can crossconnect when duplicate names are used. They also could become internally disconnected when they are mapped from one LAN type to another, for example, Ethernet to ATM LANE ELANs or FDDI 802.10 VLANs. VTP provides a mapping scheme that enables seamless trunking within a network employing mixed-media technologies.

VTP provides the following benefits:

QUESTION NO: 12

Which two statements are true about the command ip route 172.16.3.0 255.255.255.0 192.168.2.4? (Choose two.)

A. It establishes a static route to the 172.16.3.0 network.
B. It configures the router to send any traffic for an unknown destination to the 172.16.3.0 network.
C. It creates a static route to the 192.168.2.0 network.
D. It uses the default administrative distance.
E. It configures the router to send any traffic for an unknown destination out the interface with the address 192.168.2.4.
F. It is a route that would be used last if other routes to the same destination exist.

Answer: A,D

Explanation:

This question is to examine the static route-related concept.

ip route 172.16.3.0 255.255.255.0 192.168.2.4

This is a static route configuration command. 172.16.3.0 is the destination network, 192.168.2.4 is the next hop.

The administrative distance is not configured, so the default administrative distance is used. The correct answers are A and D.

QUESTION NO: 13

Which two of the following are advantages of Layer 2 Ethernet switches over hubs? (Choose two.)

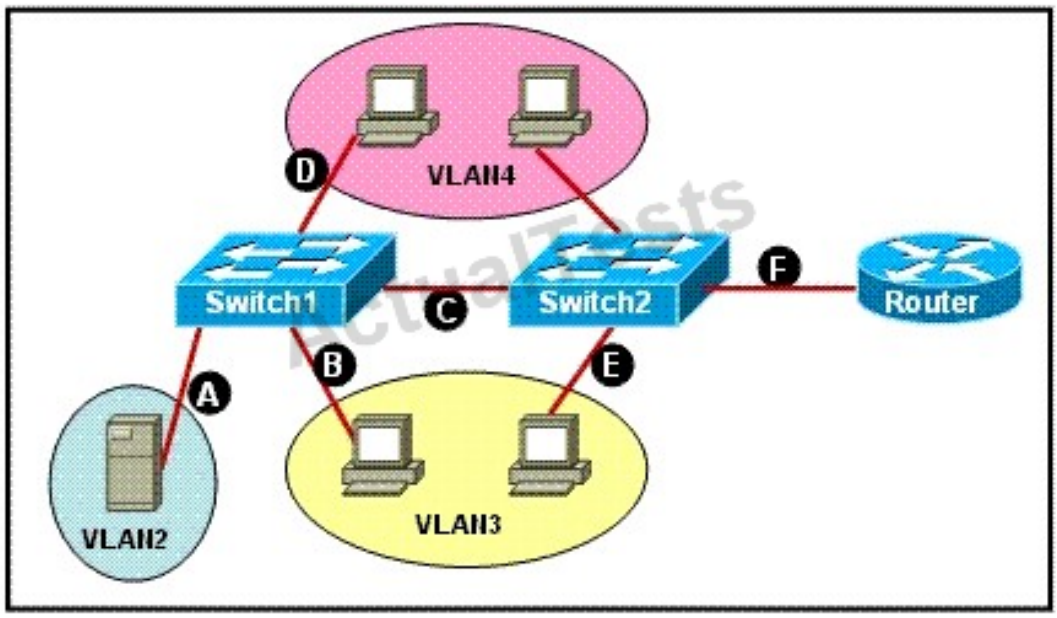
A. To increase the size of broadcast domains
B. To filter frames according to MAC addresses
C. To allow simultaneous frame transmissions
D. To increase the maximum length of UTP cabling between devices
E. decreasing the number of collision domains
F. increasing the size of broadcast domains

Answer: B,C

Explanation:

QUESTION NO: 14

Refer to the exhibit. A network associate needs to configure the switches and router in the graphic so that the hosts in VLAN3 and VLAN4 can communicate with the enterprise server in VLAN2. Which two Ethernet segments would need to be configured as trunk links? (Choose two.)



A. A
B. B
C. C
D. D
E. E
F. F

Answer: C,F

Explanation:

Layer 3 routing is needed to implement communication between VLANs, so a trunk link is configured between ROuter and Switch2. Both Switch1 and Switch2own VLAN3 and VLAN4 members, so a trunk link is configured between Switch1 and Switch2.

QUESTION NO: 15

Which two values are used by Spanning Tree Protocol to elect a root bridge? (Choose two.)

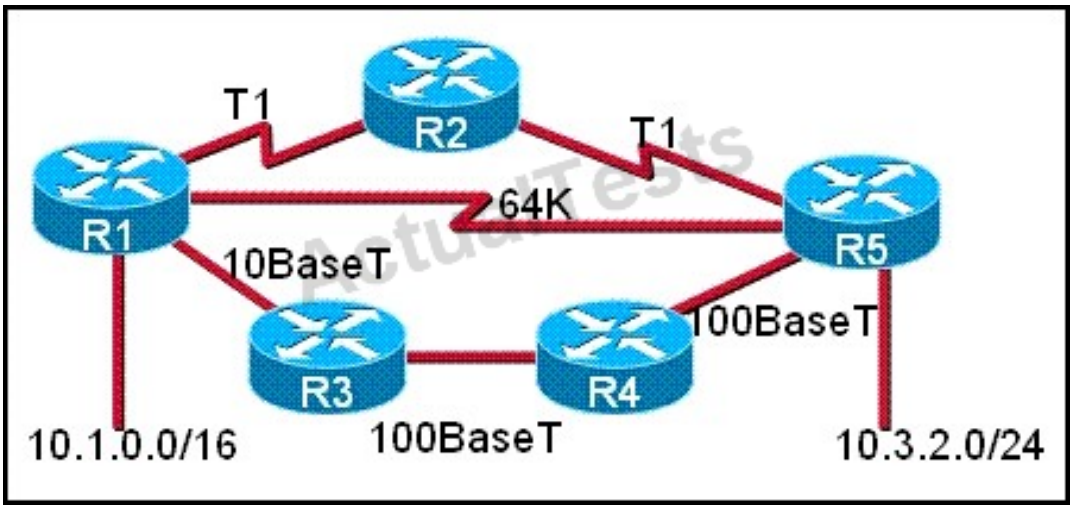
A. bridge priority
B. IP address
C. MAC address
D. IOS version
E. amount of RAM
F. speed of the links

Answer: A,C
Explanation:
Two values are compared to elect a root bridge in STP: bridge priority and MAC address.

Switch having lowest bridge ID will become the root bridge. The bridge ID is how STP keeps track of all the switches in the network. It is determined by a combination of the bridge priority (32,768 by default on all Cisco switches) and the base MAC address. The bridge with the lowest bridge ID becomes the root bridge in the network.

QUESTION NO: 16

Refer to the exhibit. Assume that the routing protocol referenced in each choice below is configured with its default settings and the given routing protocol is running on all the routers. Which two conditional statements accurately state the path that will be chosen between networks 10.1.0.0 and 10.3.2.0 for the routing protocol mentioned? (Choose two.)



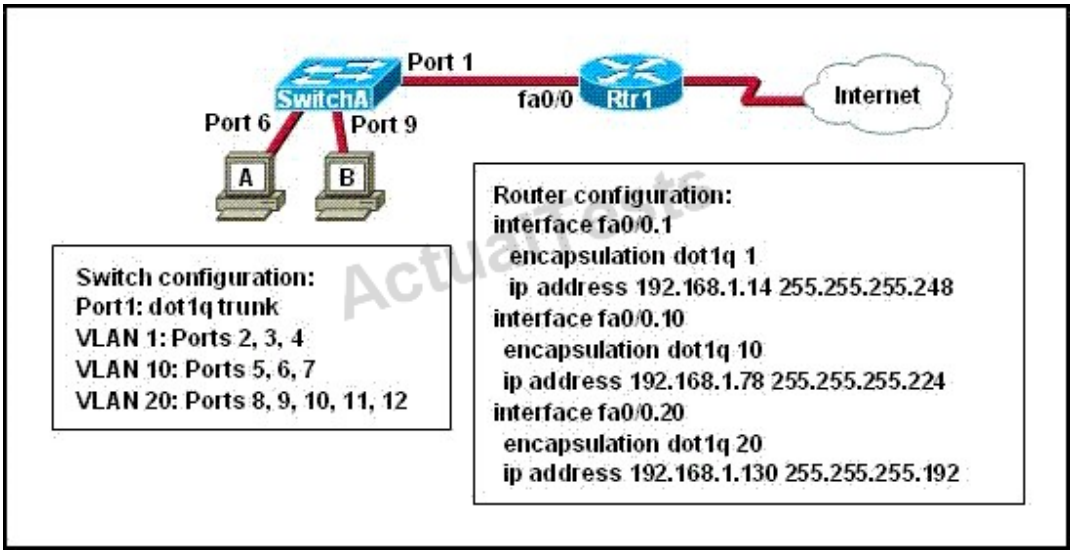
A. If OSPF is the routing protocol, the path will be from R1 to R3 to R4 to R5.
B. If OSPF is the routing protocol, the path will be from R1 to R2 to R5.
C. If OSPF is the routing protocol, the path will be from R1 to R5.
D. If RIPv2 is the routing protocol, the path will be from R1 to R3 to R4 to R5.
E. If RIPv2 is the routing protocol, the path will be from R1 to R5.

Answer: A,E

Explanation:

QUESTION NO: 17

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

Explanation:

QUESTION NO: 18

What will happen after changing the configuration register to 0x2142 and rebooting the router? (Choose two.)

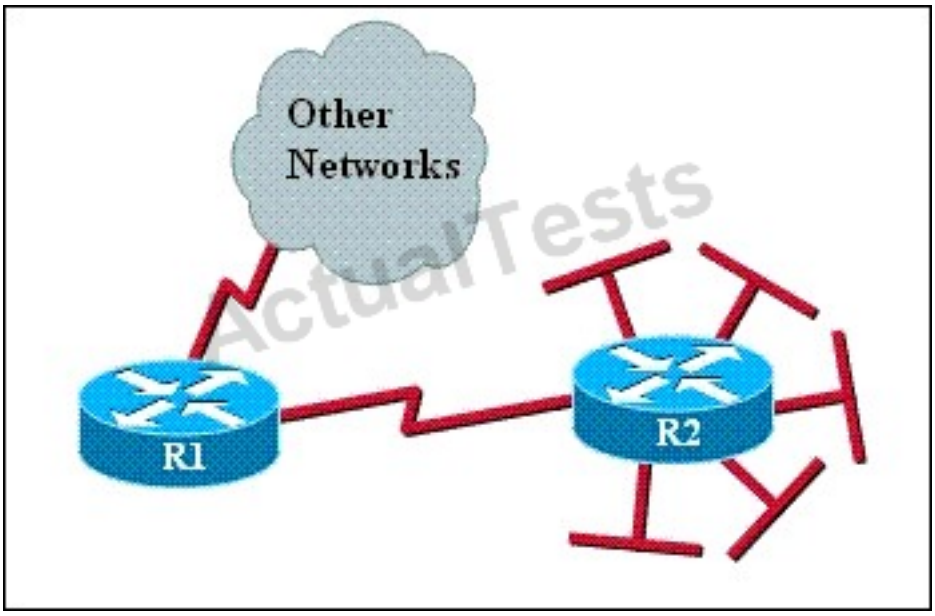
A. The IOS image will be ignored.
B. The router will prompt to enter initial configuration mode.
C. The router will boot to ROM.
D. Any configuration entries in NVRAM will be ignored.
E. The configuration in flash memory will be booted.

Answer: B,D

Explanation:

QUESTION NO: 19

Refer to the exhibit. The networks connected to router R2 have been summarized as a 192.168.176.0/21 route and sent to R1. Which two packet destination addresses will R1 forward to R2? (Choose two.)



A. 192.168.194.160
B. 192.168.183.41
C. 192.168.159.2
D. 192.168.183.255
E. 192.168.179.4
F. 192.168.184.45

Answer: B,E
Explanation:

QUESTION NO: 20

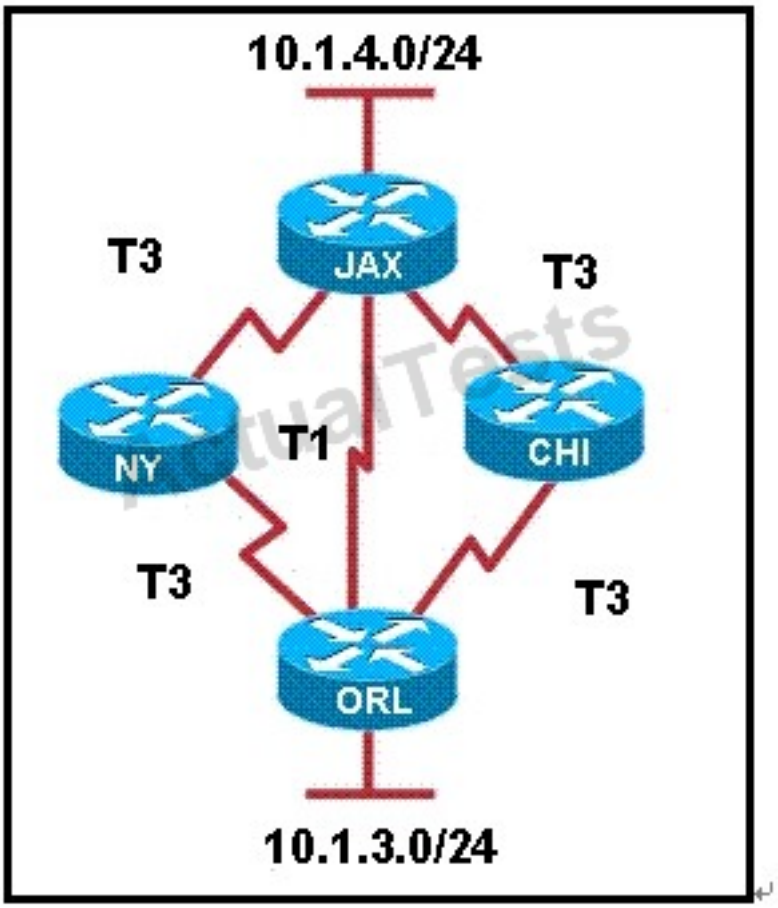
Which three statements are typical characteristics of VLAN arrangements? (Choose three.)

A. A new switch has no VLANs configured.
B. Connectivity between VLANs requires a Layer 3 device.
C. VLANs typically decrease the number of collision domains.
D. Each VLAN uses a separate address space.
E. A switch maintains a separate bridging table for each VLAN.
F. VLANs cannot span multiple switches.

Answer: B,D,E
Explanation:

QUESTION NO: 21

Refer to the exhibit. Which three statements are true about how router JAX will choose a path to the 10.1.3.0/24 network when different routing protocols are configured? (Choose three.)

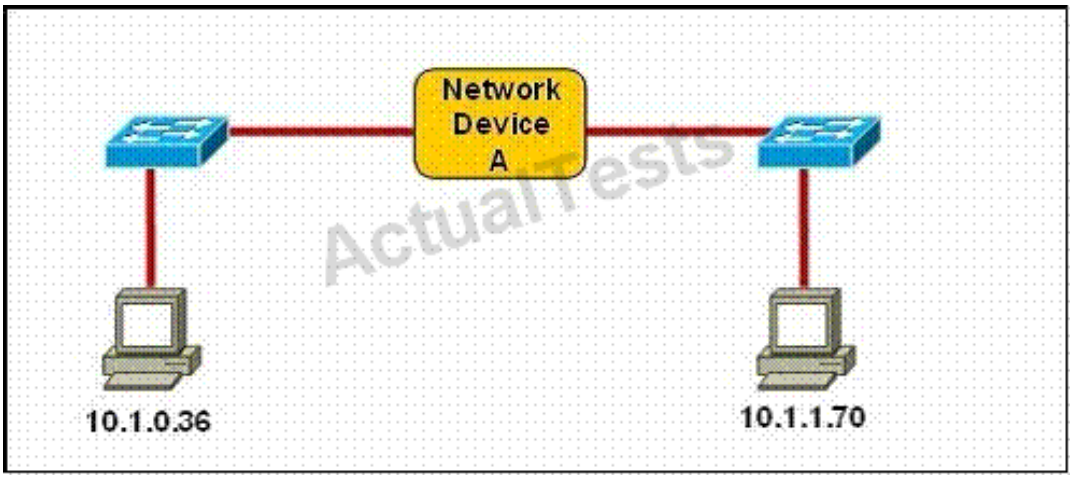


A. By default, if RIPv2 is the routing protocol, only the path JAX-ORL will be installed into the routing table.
B. The equal cost paths JAX-CHI-ORL and JAX- NY-ORL will be installed in the routing table if RIPv2 is the routing protocol.
C. When EIGRP is the routing protocol, only the path JAX-ORL will be installed in the routing table by default.
D. When EIGRP is the routing protocol, the equal cost paths JAX-CHI-ORL, and JAX-NY-ORL will be installed in the routing table by default.
E. With EIGRP and OSPF both running on the network with their default configurations, the EIGRP paths will be installed in the routing table.
F. The OSPF paths will be installed in the routing table, if EIGRP and OSPF are both running on the network with their default configurations.

Answer: A,D,E

Explanation:

QUESTION NO: 22
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
Explanation:

QUESTION NO: 23

On the basis of the IEEE 802.1w standard, which two switch ports can forward traffic?

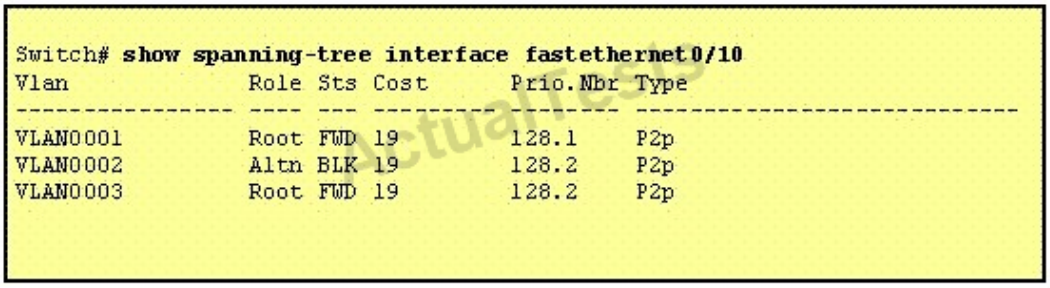
A. alternate
B. backup
C. designated
D. disabled
E. root

Answer: C,E
Explanation:

QUESTION NO: 24

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?



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

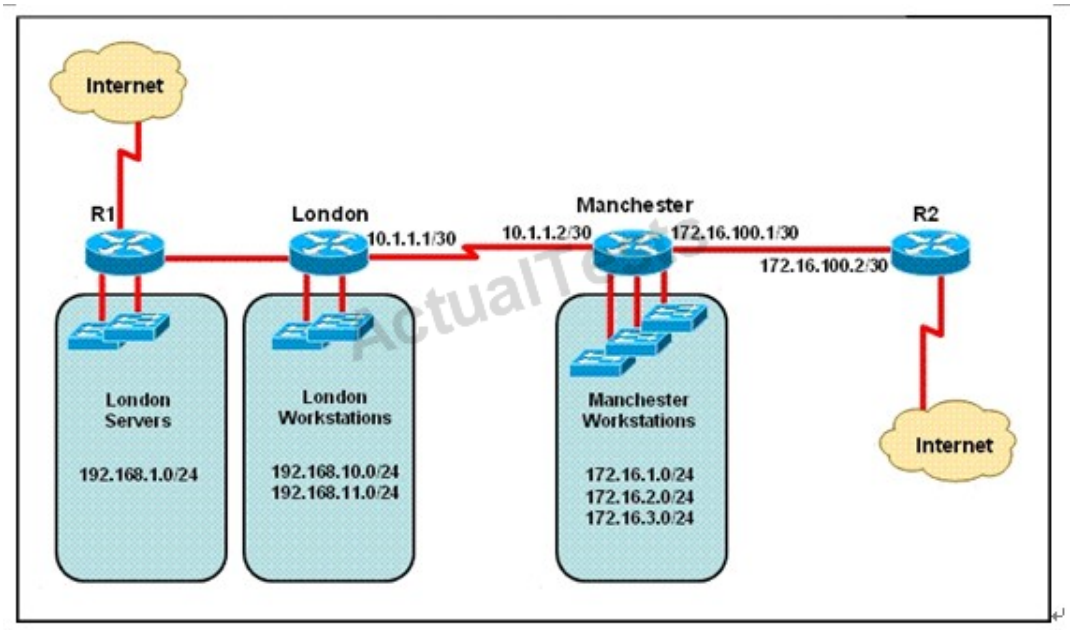
Explanation:

This question is to check the STP technology.

When STP is running in a network with loops, ports will transition into the forwarding state or the blocking state. Here decisive factor is the cost to reach the root bridge, the port with the higher cost is in the blocking state, while the port with the lower cost is in the forwarding state.

QUESTION NO: 25

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?



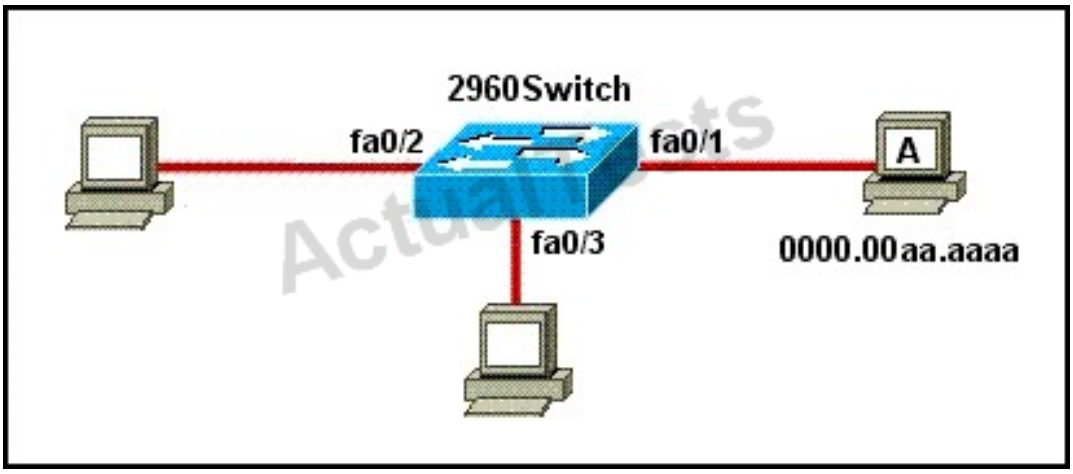
A. Configure a dynamic routing protocol on London to advertise all routes to Manchester.
B. Configure a dynamic routing protocol on London to advertise summarized routes to Manchester.
C. Configure a dynamic routing protocol on Manchester to advertise a default route to the London router.
D. Configure 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
Explanation:

QUESTION NO: 26

Refer to the exhibit. This command is executed on 2960Switch:

2960Switch(config)# mac-address-table static 0000.00aa.aaaa vlan 10 interface fa0/1



Which two of these statements correctly identify results of executing the command? (Choose two.)

A. Port security is implemented on the fa0/1 interface.
B. MAC address 0000.00aa.aaaa does not need to be learned by this switch.
C. Only MAC address 0000.00aa.aaaa can source frames on the fa0/1 segment.
D. Frames with a Layer 2 source address of 0000.00aa.aaaa will be forwarded out fa0/1.
E. MAC address 0000.00aa.aaaa will be listed in the MAC address table for interface fa0/1 only.

Answer: B,E
Explanation:

QUESTION NO: 27

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
Explanation:
Layer 2 switching is considered hardware-based bridging because it uses specialized hardware called an application-specific integrated circuit (ASIC). ASICs can run up to gigabit speeds with very low latency rates.
A router is commonly considered to be a DTE device, while a CSU/DSU is considered the DCE device.
Switches usually have higher port number then bridge. Generally bridges have two ports. Both

operates on Data link layer.

QUESTION NO: 28

What are two characteristics of Telnet? (Choose two.)

A. It sends data in clear text format.
B. It is no longer supported on Cisco network devices.
C. It is more secure than SSH.
D. It requires an enterprise license in order to be implemented.
E. It requires that the destination device be configured to support Telnet connections.

Answer: A,E

Explanation:

Telnet sends data in clear text. If a remote device wants to access the destination device through Telnet, the destination device must be configured to support Telnet connections.

QUESTION NO: 29

Which two security appliances will you use in a network? (Choose two.)

A. ATM
B. ids
C. ios
D. iox
E. ips
F. SDM

Answer: B,E

Explanation:

QUESTION NO: 30

A single 802.11g access point has been configured and installed in the center of a square office. A few wireless users are experiencing slow performance and drops while most users are operating at peak efficiency. What are three likely causes of this problem? (Choose three.)

A. mismatched TKIP encryption
B. null SSID
C. cordless phones
D. mismatched SSID
E. metal file cabinets
F. antenna type or direction

Answer: C,E,F

Explanation:

A. Cordless phones may interfere in wireless NIC.

B. mismatched SSID

SSID(Service Set Identifier)can also be written as ESSID, which is used to distinguish different networks and has 32 characters at most , WLAN cards set up different SSID to enter different networks. SSID is usually broadcast by AP, you can view SSID of the present area through XP built-in scanning feature .Taking security into consideration, SSID can be not broadcast, meanwhile users need to set up SSID manually to enter the appropriate network. In simple terms, SSID is the name of a local area network; only those computers that set up the same SSID values can communicate with each other. If SSID fails to match, wireless will fail in connection, and no wireless network inefficiency will appear.

C. metal file cabinets may have a certain amount of shielding

D. antenna type or direction

QUESTION NO: 31

Given that Host A and Host B are in different networks. When Host A is trying to communicate with Host B, which step will Host A take first?

A. Send a TCP SYN and wait for the SYN ACK with the IP address of Host B.
B. Drop the data.
C. Create an ARP request to get a MAC address for Host B.
D. Send the data frames to the default gateway.

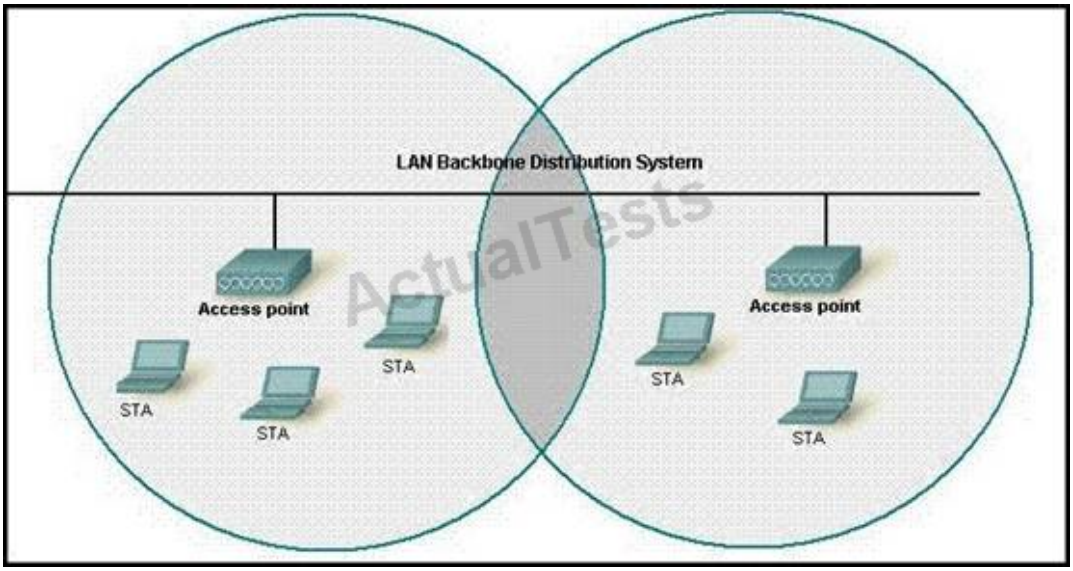
Answer: D

Explanation:

The answer “Create an ARP request to get a MAC address for Host B.” is NOT correct, the host will know if the destination is not on the local network and will send to MAC address of its default gateway setting, it will not ARP for MAC address of remote destination.

QUESTION NO: 32

Refer to the exhibit. What two facts can be determined from the WLAN diagram? (Choose two.)



A. The area of overlap of the two cells represents a basic service set (BSS).
B. The network diagram represents an extended service set (ESS).
C. Access points in each cell must be configured to use channel 1.
D. The area of overlap must be less than 10% of the area to ensure connectivity.
E. The two APs should be configured to operate on different channels.

Answer: B,E

Explanation:

QUESTION NO: 33

Which two devices can interfere with the operation of a wireless network because they operate on similar frequencies? (Choose two.)

A. toaster
B. IP phone
C. AM radio
D. cordless phone
E. microwave oven
F. copier

Answer: D,E

Explanation:

The microwave and cordless phone in the 2.4GHz spectrum band will interfere with the operation

of a wireless network.

QUESTION NO: 34

Which two descriptions are correct about 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
Explanation:

QUESTION NO: 35

Refer to the exhibit. Which statement is true?

```
SwitchA# show spanning-tree vlan 20

VLAN0020
  Spanning tree enabled protocol rstp
  Root ID     Priority    24596
              Address     0017.596d.2a00
              Cost        38
              Port        11 (FastEthernet0/11)
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
  Bridge ID   Priority    28692  (priority 28672 sys-id-ext 20)
              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
```

ActualTests

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
Explanation:

QUESTION NO: 36

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

A. There are four types of IPv6 addresses: unicast, multicast, anycast, and broadcast.
B. A single interface may be assigned multiple IPv6 addresses of any type.
C. Every IPv6 interface contains at least one loopback address.
D. The first 64 bits represent the dynamically created interface ID.
E. Leading zeros in an IPv6 16 bit hexadecimal field are mandatory.

Answer: B,C
Explanation:

QUESTION NO: 37

What are three basic parameters to configure on a wireless access point? (Choose three.)

A. SSID
B. RTS/CTS
C. AES-CCMP
D. TKIP/MIC
E. RF channel
F. authentication method

Answer: A,E,F
Explanation:
SSID (Service Set Identifier) can also be written as ESSID, which is used to distinguish different networks. It has 32 characters at most, WLAN cards set up different SSID to enter different networks. SSID is usually broadcast by AP or wireless routers , you can view SSID of the present area through XP built-in scanning feature .Taking security into consideration, SSID can be not broadcast, meanwhile users need to set up SSID manually to enter the appropriate network. Simply speaking, SSID is the name of a local area network, only those computers that set up the same SSID value can communicate with each other.
RF is an acronym for Radio Frequency. It is the electromagnetic frequency that can be radiated to

space, frequency range from 300 KHz to 30GHz.

QUESTION NO: 38

Refer to the exhibit. A system administrator installed a new switch using a script to configure it. IP connectivity was tested using pings to SwitchB. Later attempts to access NewSwitch using Telnet from SwitchA failed. Which statement is true?

```
SwitchA# show spanning-tree vlan 20

VLAN0020
  Spanning tree enabled protocol rstp
  Root ID     Priority    24596
              Address     0017.596d.2a00
              Cost        38
              Port        11 (FastEthernet0/11)
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
  Bridge ID   Priority    28692  (priority 28672 sys-id-ext 20)
              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. Executing password recovery is required.
B. The virtual terminal lines are misconfigured.
C. Use Telnet to connect to RouterA and then to NewSwitch to correct the error.
D. Power cycle of NewSwitch will return it to a default configuration.

Answer: C
Explanation:

QUESTION NO: 39

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

Explanation:

When network topology changes, rapid spanning tree protocol (IEEE802.1W, referred to as RSTP) will speed up significantly the speed to re-calculate spanning tree. RSTP not only defines the role of other ports: alternative port and backup port, but also defines status of 3 ports: discarding status, learning status, forwarding status.

RSTP is 802.1D standard evolution, not revolution. It retains most of the parameters, and makes no changes.

QUESTION NO: 40

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

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

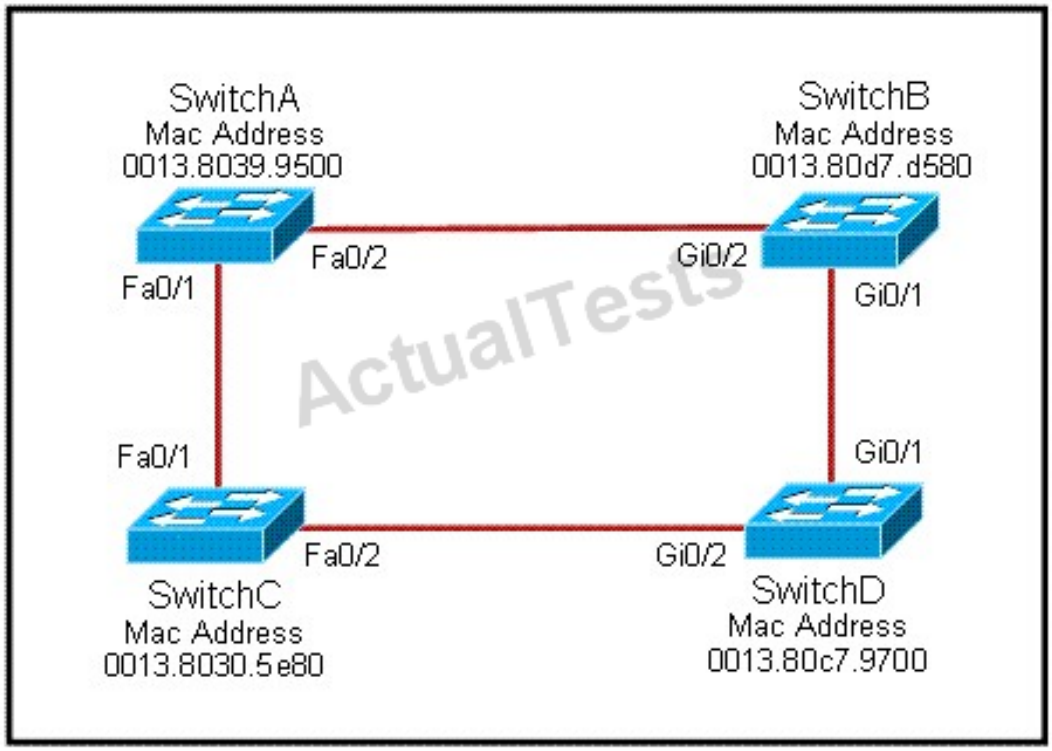
Answer: A,C,E

Explanation:

By default, 802.1Q trunk defined Native VLAN in order to forward unmarked frame. Switches can forward Layer 2 frame from Native VLAN on unmarked trunks port. Receiver switches will transmit all unmarked packets to Native VLAN. Native VLAN is the default VLAN configuration of port. NotE. for the 802.1Q trunk ports between two devices, the same Native VLAN configuration is required on both sides of the link. If the Native VLAN in 802.1Q trunk ports on same trunk link is properly configured, it could lead to layer 2 loops. The 802.1Q trunk link transmits VLAN information through Ethernet.

QUESTION NO: 41

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.)



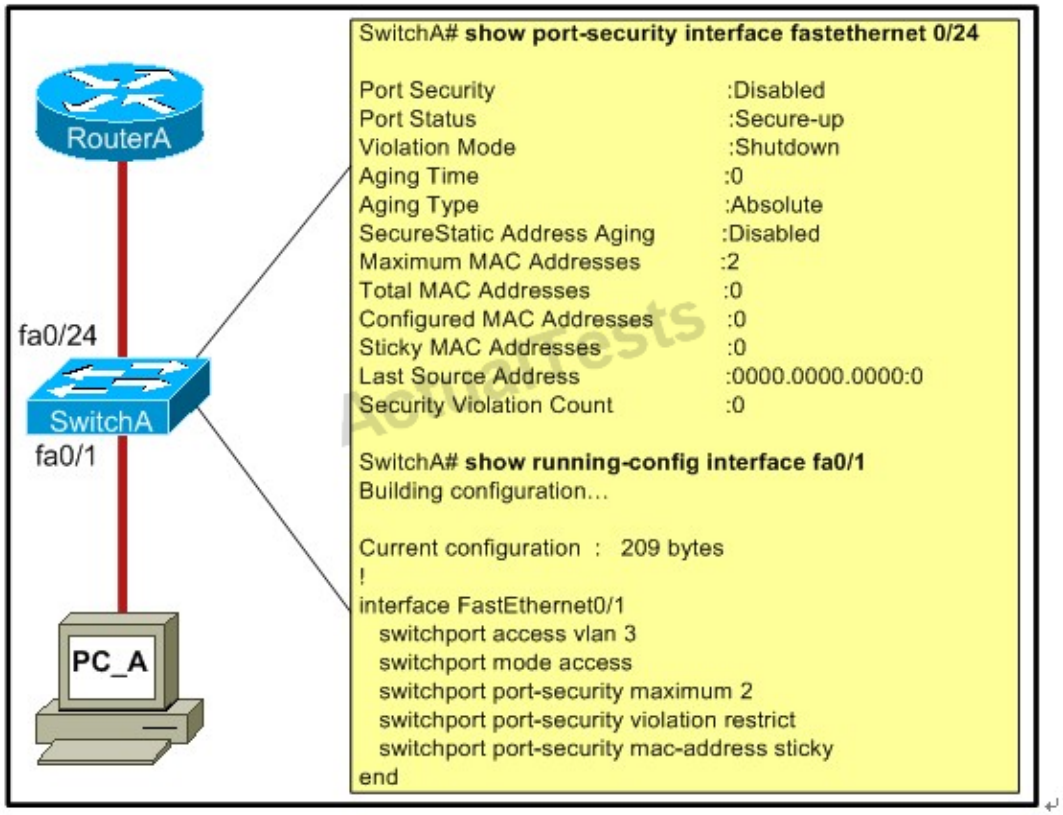
A. SwitchA, Fa0/2, designated
B. SwitchA, Fa0/1, root
C. SwitchB, Gi0/2, root
D. SwitchB, Gi0/1, designated
E. SwitchC, Fa0/2, root
F. SwitchD, Gi0/2, root

Answer: A,B,F

Explanation:

QUESTION NO: 42

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.



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

A. Configure port security to shut down the interface in the event of a violation.
B. Port security needs to be enabled on the interface.
C. Enable port security globally.
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

Explanation:

This question is to examine the layer 2 port security.

According to the exhibit, we know that the port security is configured to restrict the interface in the event of a violation. So A is wrong.

The port security should be enabled on the interface, not globally.

So the correct answers are B and D.

QUESTION NO: 43

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

Explanation:

The Application Layer (Layer 7) refers to communications services to applications and is the interface between the network and the application. Examples includE. Telnet, HTTP, FTP, Internet browsers, NFS, SMTP gateways, SNMP, X.400 mail, and FTAM.

The Presentation Layer (Layer 6) defining data formats, such as ASCII text, EBCDIC text, binary, BCD, and JPEG. Encryption also is defined as a presentation layer service. Examples includE. JPEG, ASCII, EBCDIC, TIFF, GIF, PICT, encryption, MPEG, and MIDI.

The Session Layer (Layer 5) defines how to start, control, and end communication sessions. This includes the control and management of multiple bidirectional messages so that the application can be notified if only some of a series of messages are completed. This allows the presentation layer to have a seamless view of an incoming stream of data. The presentation layer can be presented with data if all flows occur in some cases. Examples includE. RPC, SQL, NFS, NetBios names, AppleTalk ASP, and DECnet SCP

The Transport Layer (Layer 4) defines several functions, including the choice of protocols. The most important Layer 4 functions are error recovery and flow control. The transport layer may provide for retransmission, i.e., error recovery, and may use flow control to prevent unnecessary congestion by attempting to send data at a rate that the network can accommodate, or it might not, depending on the choice of protocols. Multiplexing of incoming data for different flows to applications on the same host is also performed. Reordering of the incoming data stream when packets arrive out of order is included. Examples includE. TCP, UDP, and SPX.

The Network Layer (Layer 3) defines end-to-end delivery of packets and defines logical addressing to accomplish this. It also defines how routing works and how routes are learned; and how to fragment a packet into smaller packets to accommodate media with smaller maximum transmission unit sizes. Examples includE. IP, IPX, AppleTalk DDP, and ICMP. Both IP and IPX define logical addressing, routing, the learning of routing information, and end-to-end delivery rules. The IP and IPX protocols most closely match the OSI network layer (Layer 3) and are called Layer 3 protocols because their functions most closely match OSI's Layer 3.

The Data Link Layer (Layer 2) is concerned with getting data across one particular link or medium. The data link protocols define delivery across an individual link. These protocols are necessarily concerned with the type of media in use. Examples includE. IEEE 802.3/802.2, HDLC, Frame Relay, PPP, FDDI, ATM, and IEEE 802.5/802.2.

QUESTION NO: 44

For which type of connection should a straight-through cable be used?

A. switch to switch
B. switch to hub
C. switch to router
D. hub to hub
E. router to PC

Answer: C
Explanation:

QUESTION NO: 45

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
Explanation:
This question is to examine the layer 2 security configuration.
In order to satisfy the requirements of this question, you should perform the following configurations in the interface mode:
First, configure the interface mode as the access mode
Second, enable the port security and set the maximum number of connections to 1.

QUESTION NO: 46

By default, each port in a Cisco Catalyst switch is assigned to VLAN1. Which two recommendations are key to avoid unauthorized management access? (Choose two.)

A. Create an additional ACL to block the access to VLAN 1.
B. Move the management VLAN to something other than default.
C. Move all ports to another VLAN and deactivate the default VLAN.
D. Limit the access in the switch using port security configuration.
E. Use static VLAN in trunks and access ports to restrict connections.
F. Shutdown all unused ports in the Catalyst switch.

Answer: B,F

Explanation:

QUESTION NO: 47

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

Explanation:

QUESTION NO: 48

Which type of cable is used to connect the COM port of a host to the COM port of a router or switch?

A. crossover
B. straight-through

C. rolled
D. shielded twisted-pair

Answer: C
Explanation:

QUESTION NO: 49

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

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

Answer: B
Explanation:

QUESTION NO: 50

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
Explanation:

QUESTION NO: 51

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

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

Answer: D
Explanation:

QUESTION NO: 52

Which layer of the OSI reference model uses the hardware address of a device to ensure message delivery to the proper host on a LAN?

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

Answer: B
Explanation:

QUESTION NO: 53

Which layer of the OSI reference model uses flow control, sequencing, and acknowledgments to ensure that reliable networking occurs?

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

Answer: C
Explanation:

QUESTION NO: 54

What is the principle reason to use a private IP address on an internal network?

A. Subnet strategy for private companies.
B. Manage and scale the growth of the internal network.
C. Conserve public IP addresses so that we do not run out of them.
D. Allow access reserved to the devices.

Answer: C

Explanation:

This question is to examine the concept of the private IP address.

Class A. 10.0.0.0 --10.255.255.255

Class B. 172.16.0.0--172.31.255.255

Class C. 192.168.0.0--192.168.255.255

The three classes of addresses shown above cannot be used on the Internet, they can only be used for the interior LAN addressing scheme. Because of the practical exhaustion of the IPv4 address space, private IP addresses are generated to save the address resources.

The correct answer is C.

QUESTION NO: 55

Which IP address can be assigned to an Internet interface?

A. 10.180.48.224
B. 9.255.255.10
C. 192.168.20.223
D. 172.16.200.18

Answer: B

Explanation:

QUESTION NO: 56

What will happen if a private IP address is assigned to a public interface connected to an ISP?

A. Addresses in a private range will be not routed on the Internet backbone.
B. Only the ISP router will have the capability to access the public network.
C. The NAT process will be used to translate this address in a valid IP address.
D. Several automated methods will be necessary on the private network.
E. A conflict of IP addresses happens, because other public routers can use the same range.

Answer: A

Explanation:

QUESTION NO: 57

When is it necessary to use a public IP address on a routing interface?

A. Connect a router on a local network.
B. Connect a router to another router.
C. Allow distribution of routes between networks.
D. Translate a private IP address.
E. Connect a network to the Internet.

Answer: E
Explanation:

QUESTION NO: 58

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

A. NIC
B. BIA
C. oui
D. vai

Answer: C
Explanation:
This question is to examine the MAC address structure.
The MAC address is expressed as a 48-bit hexadecimal number. The first 24-bit number is to identify the vendor/manufacturer, also called OUI. The latter 24-bit is assigned by the vendor.

QUESTION NO: 59

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

Explanation:

QUESTION NO: 60

Which term describes the process of encapsulating IPv6 packets inside IPv4 packets?

A. tunneling
B. hashing
C. routing
D. NAT

Answer: A
Explanation:
This question is to examine the IPv6 application.
There are three IPv6 transition mechanisms:
1. Dual stack
2. 6to4 Tunneling
3. NAT-PT
This question describes the 6to4 Tunneling.

QUESTION NO: 61

Which statement about RIPng is true?

A. RIPng uses broadcasts to exchange routes.
B. RIPng is enabled on each interface separately.
C. There can be only one RIPng process per router.
D. RIPng allows for routes with up to 30 hops.

Answer: B
Explanation:

QUESTION NO: 62

Which statement about IPv6 is true?

A. Addresses are not hierarchical and are assigned at random.
B. Only one IPv6 address can exist on a given interface.
C. There are 2.7 billion addresses available.
D. Broadcasts have been eliminated and replaced with multicasts.

Answer: D

Explanation:

This question is to check the concept of IPv6.

IPv4 supports three address types: unicast, multicast and broadcast.

In IPv6, broadcasts have been eliminated and replaced with multicasts. At the same time, IPv6 introduces another address type - anycast.

QUESTION NO: 63

Which line from the output of the show ip interface command indicates a layer 1 problem?

A. Serial0/1 is up, line protocol is down
B. Serial0/1 is down, line protocol is down
C. Serial0/1 is up, line protocol is up
D. Serial0/1 is administratively down, line protocol is down

Answer: B

Explanation:

QUESTION NO: 64

A network admin wants to know every hop the packets take when he accesses cisco.com. Which command is the most appropriate to use?

A. path cisco.com
B. debug cisco.com
C. trace cisco.com
D. traceroute cisco.com

Answer: D

Explanation:

QUESTION NO: 65

QoS policies are applied on the switches of a LAN. Which type of command will show the effects of the policy in real time?

A. show command
B. debug command
C. configuration command
D. rommon command

Answer: B

Explanation:

QUESTION NO: 66

Which command will show the MAC addresses of stations connected to switch ports?

A. show mac-address
B. show arp
C. show table
D. show switchport

Answer: A

Explanation:

QUESTION NO: 67

What is the name of the VTP mode of operation that enables a switch to forward only VTP advertisements while still permitting the editing of local VLAN information?

A. server
B. client
C. tunnel
D. transparent

Answer: D

Explanation:

QUESTION NO: 68

Which port state is introduced by Rapid-PVST?

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

Answer: C

Explanation:

QUESTION NO: 69

What speeds must be disabled in a mixed 802.11b/g WLAN to allow only 802.11g clients to connect?

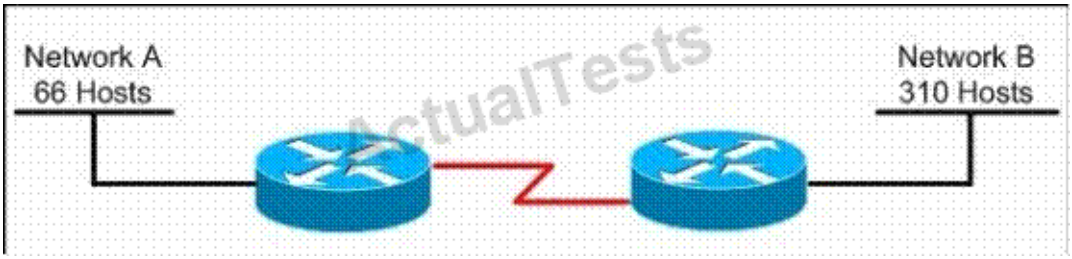
A. 6, 9, 12, 18
B. 1, 2, 5.5, 6
C. 5.5, 6, 9, 11
D. 1, 2, 5.5, 11

Answer: D

Explanation:

QUESTION NO: 70

Refer to the exhibit. Which VLSM mask will allow for the appropriate number of host addresses for Network A?



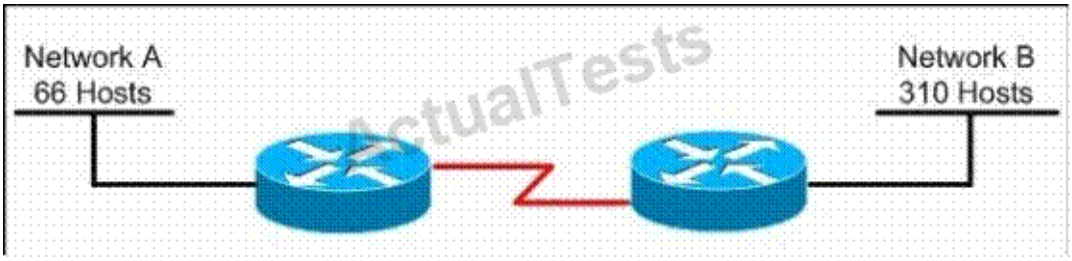
A. /25
B. /26

C. /27
D. /28

Answer: A
Explanation:

QUESTION NO: 71

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
Explanation:

QUESTION NO: 72

A new hardware item is using an IEEE 802.11b a wireless LAN. What is the maximum data rate specified for this WLAN?

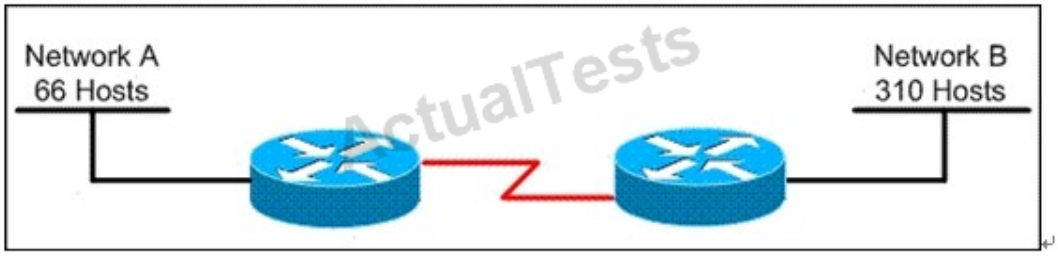
A. 10 mbps
B. 11 Mbps
C. 1000 Mbps
D. 16 Mbps
E. 100 Mbps

Answer: B
Explanation:

The maximum speed for 802.11b is 11 Mbps.

QUESTION NO: 73

Refer to the exhibit. Which mask is correct to use for the WAN link between the routers that will provide connectivity while wasting the least amount of addresses?

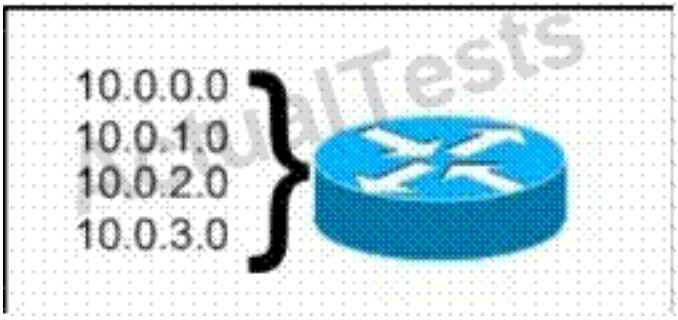


A. /23
B. /24
C. /25
D. /30

Answer: D
Explanation:
This question is to examine the IP addressing scheme.
In the serial port network, only two IP addresses can be assigned. In order to save IP addresses, we often use the /30 subnet mask.
So the correct answer is D.

QUESTION NO: 74

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
Explanation:

QUESTION NO: 75

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
Explanation:

QUESTION NO: 76

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
Explanation:

QUESTION NO: 77

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
Explanation:

QUESTION NO: 78

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

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

Answer: B,D
Explanation:
This question is to check the trunking protocol.
IGP is an interior gateway protocol and also a routing protocol, such as OSPF and EIGRP.
802.1q and ISL are trunking protocols which can be used to carry the traffic of multiple VLANs over a single link. ISL is a Cisco proprietary protocol.
802.3u (100Base-T) is 100 Mbps Ethernet standard.

QUESTION NO: 79

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

Explanation:
This question is to examine the STP protocol.
STP (802.1d) is used to prevent Layer 2 loops.
802.1q is a Frame Relay protocol which belongs to VLAN.
SAP is a concept of the OSI model.
So the correct answers are A and D.

QUESTION NO: 80

On the network 131.1.123.0/27, what is the last IP address that can be assigned to a host?

A. 131.1.123.30
B. 131.1.123.31
C. 131.1.123.32
D. 131.1.123.33

Answer: A
Explanation:

QUESTION NO: 81

The ip subnet zero command is not configured on a router. What would be the IP address of Ethernet 0/0 using the first available address from the sixth subnet of the network 192.168.8.0/29?

A. 192.168.8.25
B. 192.168.8.41
C. 192.168.8.49
D. 192.168.8.113

Answer: C
Explanation:

QUESTION NO: 82

For the network 192.0.2.0/23, which option is a valid IP address that can be assigned to a host?

A. 192.0.2.0
B. 192.0.2.255
C. 192.0.3.255
D. 192.0.4.0

Answer: B
Explanation:

QUESTION NO: 83

How many addresses for hosts will the network 124.12.4.0/22 provide?

A. 510
B. 1022
C. 1024
D. 2048

Answer: B
Explanation:

QUESTION NO: 84

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

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

Answer: B
Explanation:
This question is to examine the TCP/IP model.
TCP/IP model has four layers: Process/Application layer, Host-to-Host layer, Internet layer, Network Access layer.
Routing occurs at the Internet layer.

QUESTION NO: 85

Which VTP mode is capable of creating only local VLANs and does not synchronize with other switches in the VTP domain?

A. client
B. dynamic
C. server
D. static
E. transparent

Answer: E
Explanation:

QUESTION NO: 86

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
Explanation:

QUESTION NO: 87

A switch is configured with all ports assigned to VLAN 2. In addition, all ports are configured as full-duplex FastEthernet. What is the effect of adding switch ports to a new VLAN on this switch?

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

Answer: B
Explanation:
A VLAN is a group of hosts with a common set of requirements that communicate as if they were attached to the same wire, regardless of their physical location. A VLAN has the same attributes as a physical LAN, but it allows for end stations to be grouped together even if they are not located on the same LAN segment.

Networks that use the campus-wide or end-to-end VLANs logically segment a switched network based on the functions of an organization, project teams, or applications rather than on a physical or geographical basis. For example, all workstations and servers used by a particular workgroup can be connected to the same VLAN, regardless of their physical network connections or interaction with other workgroups. Network reconfiguration can be done through software instead of physically relocating devices.
Cisco recommends the use of local or geographic VLANs that segment the network based on IP subnets. Each wiring closet switch is on its own VLAN or subnet and traffic between each switch is routed by the router. The reasons for the Distribution Layer 3 switch and examples of a larger network using both the campus-wide and local VLAN models will be discussed later.
A VLAN can be thought of as a broadcast domain that exists within a defined set of switches. Ports on a switch can be grouped into VLANs in order to limit unicast, multicast, and broadcast traffic flooding. Flooded traffic originating from a particular VLAN is only flooded out ports belonging to that VLAN, including trunk ports, so a switch that connects to another switch will normally introduce an additional broadcast domain.

VLAN (Virtual Local Area Network) technology is to solve the problem that switches can't limit broadcast within the LAN interconnection. This technology can divide a LAN into more logical LAN- VLAN, each VLAN is a broadcast domain, the communication between the hosts within a VLAN is like that of the hosts in a LAN, while the communication can't be achieved between VLANs directly. Thus the broadcast datagram is limited within a LAN. So, creating a new VLAN on switch is the same as adding a new broadcast domain.

QUESTION NO: 88

VLAN is a most useful technology, which is often used in different network environments. It is important for you to have a real understanding of the changes brought by VLAN. Refer to the following statements about VLAN, which two are correct?

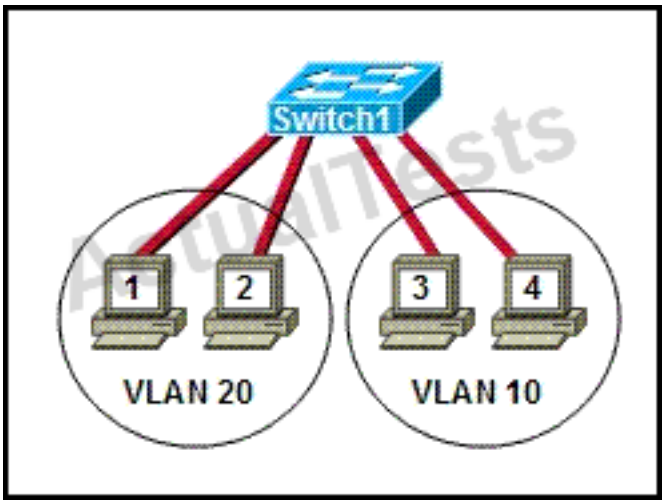
A. VLANs increase the size of collision domains.
B. VLANs allow logical grouping of users by function.
C. VLANs simplify switch administration.
D. VLANs enhance network security.

Answer: B,D
Explanation:
Refer to the divided VLANs. The number of collision domains does not change because each switch port is a collision domain. So A is wrong.
VLANs do not simplify switch administration. On the contrary, many configurations are required.

VTP can simplify theses configurations. C is wrong.
VLANs allow logical grouping of users by function. Communication cannot be achieved between VLANs without the layer 3 device, which restricts the mutual access and improves the network security.

QUESTION NO: 89

Refer to the exhibit. Hosts on the same VLAN can communicate with each other but are unable to communicate with hosts on different VLANs. What is needed to allow communication between VLANs?



A. a router with an IP address on the physical interface that is connected to the switch
B. a router with subinterfaces configured on the physical interface that is 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: B
Explanation:
Different VLANs can't communicate with each other , they can communicate with the help of Layer3 router. Hence ,it is needed to connect a router to a switch , then make the sub-interface on the router to connect to the switch, establishing Trunking links to achieve communications of devices which belong to different VLANs.

When using VLANs in networks that have multiple interconnected switches, you need to use VLAN trunking between the switches. With VLAN trunking, the switches tag each frame sent between switches so that the receiving switch knows to what VLAN the frame belongs. End user devices connect to switch ports that provide simple connectivity to a single VLAN each. The attached devices are unaware of any VLAN structure.

By default, only hosts that are members of the same VLAN can communicate. To change this and allow inter-VLAN communication, you need a router or a layer 3 switch.

Here is the example of configuring the router for inter-vlan communication
RouterA(config)#int f0/0.1
RouterA(config-subif)#encapsulation ?
dot1Q IEEE 802.1Q Virtual LAN
RouterA(config-subif)#encapsulation dot1Q or isl VLAN ID
RouterA(config-subif)# ip address x.x.x.x y.y.y.y

QUESTION NO: 90

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
Explanation:

QUESTION NO: 91

How does a DHCP server dynamically assign IP addresses to hosts?

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

Answer: D

Explanation:

QUESTION NO: 92

Which network protocol does DNS use?

A. FTP
B. TFTP
C. TCP
D. udp
E. scp

Answer: D

Explanation:

QUESTION NO: 93

When two hosts are trying to communicate across a network, how does the host originating the communication determine the hardware address of the host that it wants to "talk" to?

A. RARP request
B. Show Network Address request
C. Proxy ARP request
D. ARP request
E. Show Hardware Address request

Answer: D

Explanation:

QUESTION NO: 94

During the data transmission between hosts over a network, which process does the data experience?

A. standardization
B. conversion
C. encapsulation
D. synchronization

Answer: C

Explanation:

This question is to examine the OSI model.

Two hosts are communicating through Internet. The communication process includes encapsulation and de-encapsulation.

From down to top, de-encapsulation is required.

From top to down, encapsulation is required.

So the correct answer is C.

QUESTION NO: 95

An administrator attempts a traceroute but receives a "Destination Unreadable" message. Which protocol is responsible for that message?

A. RARP
B. RUDP
C. ICMP
D. SNMP

Answer: C

Explanation:

This question is to examine the command ping.

The ping command is often used to check the network connectivity.

Ping sends an ICMP echo request to the destination and tells whether a corresponding ICMP echo reply message is received or not.

QUESTION NO: 96

When you are logged into a switch, which prompt indicates that you are in privileged mode?

A. %
B. @
C. >
D. $
E. #

Answer: E

Explanation:

QUESTION NO: 97

Which command shows system hardware and software version information?

A. show configuration
B. show environment
C. show inventory
D. show platform
E. show version

Answer: E
Explanation:
This question is to examine the show version command.
By using the show version command, you can display information such as Cisco IOS software version, hardware platform, flash and memory size.
So the correct answer is E.

QUESTION NO: 98

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. 802.1 Q 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
Explanation:

QUESTION NO: 99

Which command would correctly configure a serial port on a router with the last usable host address in the 192.216.32.32/29 subnet?

A. router (config-if)# ip address 192.216.32.38 255.255.255.240
B. router (config-if)# ip address 192.216.32.39 255.255.255.224
C. router (config-if)# ip address 192.216.32.63 255.255.255.248
D. router (config-if)# ip address 192.216.32.39 255.255.255.248
E. router (config-if)# ip address 192.216.32.63 255.255.255.248
F. router (config-if)# ip address 192.216.32.38 255.255.255.248

Answer: F

Explanation:

This question is to examine the IP addressing.

In the 192.216.32.32/29 subnet, the network number is 192.216.32.32.

The first usable IP address is 192.216.32.33.

The last usable IP address is 192.216.32.38.

192.216.32.39 is the broadcast address, /29 represents 255.255.255.248.

QUESTION NO: 100

The network default gateway applying to a host by DHCP is 192.168.5.33/28. Which option is the valid IP address of this host?

A. 192.168.5.55
B. 192.168.5.47
C. 192.168.5.40
D. 192.168.5.32
E. 192.168.5.14

Answer: C

Explanation:

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QUESTION NO: 101

Which two addresses can be assigned to a host with a subnet mask of 255.255.254.0? (Choose

two.)

A. 113.10.4.0
B. 186.54.3.0
C. 175.33.3.255
D. 26.35.2.255
E. 17.35.36.0

Answer: B,D
Explanation:

QUESTION NO: 102

The network administrator has asked you to check the status of the workstation's IP stack by pinging the loopback address. Which address would you ping to perform this task?

A. 10.1.1.1
B. 127.0.0.1
C. 192.168.0.1
D. 239.1.1.1

Answer: B
Explanation:

QUESTION NO: 103

Workstation A has been assigned an IP address of 192.0.2.24/28. Workstation B has been assigned an IP address of 192.0.2.100/28. The two workstations are connected with a straight-through cable. Attempts to ping between the hosts are unsuccessful. What are two things that could be attempted that would allow communications between the hosts? (Choose two.)

A. Replace the straight-through cable with a crossover cable.
B. Change the subnet mask of the hosts to /25.
C. Change the subnet mask of the hosts to /26.
D. Change the address of Workstation A to 192.0.2.15.
E. Change the address of Workstation B to 192.0.2.111.

Answer: A,B
Explanation:

QUESTION NO: 104

Your ISP has given you the address 223.5.14.6/29 to assign to your router's interface. They have also given you the default gateway address of 223.5.14.7. After you have configured the address, the router is unable to ping any remote devices. What is preventing the router from pinging remote devices?

A. The default gateway is not an address on this subnet.
B. The default gateway is the broadcast address for this subnet.
C. The IP address is the broadcast address for this subnet.
D. The IP address is an invalid class D multicast address.

Answer: B
Explanation:

QUESTION NO: 105

Which command is used to copy the configuration from RAM into NVRAM?

A. copy running-config startup-config
B. copy startup config running config
C. copy startup-config running-config
D. copy running config startup config
E. write terminal

Answer: A
Explanation:

QUESTION NO: 106

Which command is used to load a configuration from a TFTP server and merge the configuration into RAM?

A. copy running-config: TFTP:
B. copy TFTP: running-config
C. copy TFTP: startup-config
D. copy startup-config: TFTP:

Answer: B
Explanation:

QUESTION NO: 107

A system administrator types the command to change the hostname of a router. Where on the Cisco IFS is that change stored?

A. NVRAM
B. RAM
C. FLASH
D. ROM
E. PCMCIA

Answer: B
Explanation:

QUESTION NO: 108

Which command is used to configure a default route?

A. ip route 172.16.1.0 255.255.255.0 0.0.0.0
B. ip route 172.16.1.0 255.255.255.0 172.16.2.1
C. ip route 0.0.0.0 255.255.255.0 172.16.2.1
D. ip route 0.0.0.0 0.0.0.0 172.16.2.1

Answer: D
Explanation:

QUESTION NO: 109

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

Explanation:

QUESTION NO: 110

Which command can enable CDP globally on the router and show the information about directly connected Cisco devices?

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

Answer: C

Explanation:

This question is to examine the CDP protocol configuration.
Cisco Discovery Protocol (CDP) is primarily used to obtain protocol addresses of neighboring devices and discover the platform of those devices.
The cdp run command is used to enable CDP globally on the router.
To enable CDP on an interface, use the cdp enable command.
The correct answer is C.

QUESTION NO: 111

Which command is used to see the path taken by packets across an IP network?

A. show ip route
B. show route
C. trace route
D. trace ip route

Answer: C

Explanation:

This question is to examine the trace route command.
When checking the network connectivity, we often use the ping command or the trace route command. And the trace route command can also trace the network path of Internet routers that

packets take as they are forwarded from your computer to a destination address.
The correct answer is C.

QUESTION NO: 112

Which command is used to debug a ping command?

A. debug icmp
B. debug ip icmp
C. debug tcp
D. debug packet

Answer: B
Explanation:

QUESTION NO: 113

Which command displays CPU utilization?

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

Answer: B
Explanation:

QUESTION NO: 114

When configuring a serial interface on a router, what is the default encapsulation?

A. atm-dxi
B. frame-relay
C. hdlc
D. lapb
E. ppp

Answer: C

Explanation:

This question is to examine the data link layer protocols.

LAPB. Link Access Procedure Balanced for x.25

PPP: Point-to-Point Protocol

HDLC. High-Level Data Link Control

Frame-relay and the three protocols above are data link layer protocols. HDLC is the default serial encapsulation protocol.

The correct answer is C.

QUESTION NO: 115

What must be set correctly when configuring a serial interface so that higher-level protocols calculate the best route?

A. bandwidth
B. delay
C. load
D. reliability

Answer: A

Explanation:

QUESTION NO: 116

A company implements video conferencing over IP on their Ethernet LAN. The users notice that the network slows down, and the video either stutters or fails completely. What is the most likely reason for this?

A. minimum cell rate (MCR)
B. quality of service (QoS)
C. modulation
D. packet switching exchange (PSE)
E. reliable transport protocol (RTP)

Answer: B

Explanation:

This question is to examine QoS.

Quality of Service is a network security mechanism, which is used to resolve the network delay problem. This mechanism is essential to multimedia application. When the network is overloaded, QoS will prevent a possible delay in the important data transmission and ensure the efficient operation of the network.
The correct answer is B.

QUESTION NO: 117

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
Explanation:
This question is to examine the OSI reference model.
The Application layer is responsible for identifying and establishing the availability of the intended communication partner and determining whether sufficient resources for the intended communication exist.
The correct answer is E.

QUESTION NO: 118

Data transfer is slow between the source and destination. The quality of service requested by the transport layer in the OSI reference model is not being maintained. To fix this issue, at which layer should the troubleshooting process begin?

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

Answer: D
Explanation:

QUESTION NO: 119

Which protocols are found in the network layer of the OSI reference model and are responsible for path determination and traffic switching?

A. LAN
B. routing
C. WAN
D. network

Answer: B
Explanation:

QUESTION NO: 120

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
Explanation:

QUESTION NO: 121

Which three options are valid WAN connectivity methods? (Choose three.)

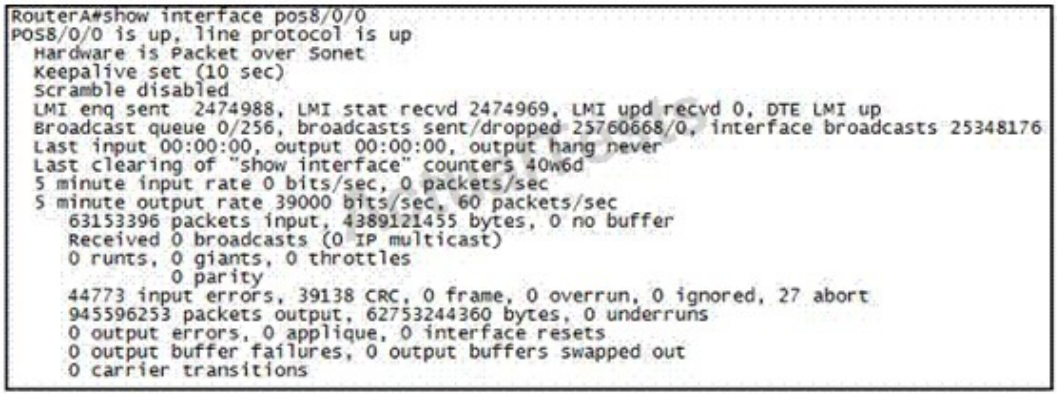
A. PPP
B. wap
C. HDLC
D. MPLS
E. L2TPv3
F. ATM

Answer: A,C,F

Explanation:

QUESTION NO: 122

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



```
RouterA#show interface pos8/0/0
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

Explanation:

This question is to examine the show int command.

According to the information provided in the exhibit, we can know that the data link protocol used in this network is the Frame Relay protocol.

“LMI enq sent…”

So the correct answer is C.

QUESTION NO: 123

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
Explanation:

QUESTION NO: 124

A network administrator must configure 200 switch ports to accept traffic from only the currently attached host devices. What would be the most efficient way to configure MAC-level security on all these ports?

A. Visually verify the MAC addresses and then telnet to the switches to enter the switchport-port security mac-address command.
B. Have end users e-mail their MAC addresses. Telnet to the switch to enter the switchport-port security mac-address command.
C. Use the switchport port-security MAC address sticky command on all the switch ports that have end devices connected to them.
D. Use show mac-address-table to determine the addresses that are associated with each port and then enter the commands on each switch for MAC address port-security.

Answer: C
Explanation:

QUESTION NO: 125

When troubleshooting a Frame Relay connection, what is the first step when performing a loopback test?

A. Set the encapsulation of the interface to HDLC.
B. Place the CSU/DSU in local-loop mode.
C. Enable local-loop mode on the DCE Frame Relay router.
D. Verify that the encapsulation is set to Frame Relay.

Answer: A
Explanation:

QUESTION NO: 126

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

Explanation:

QUESTION NO: 127

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

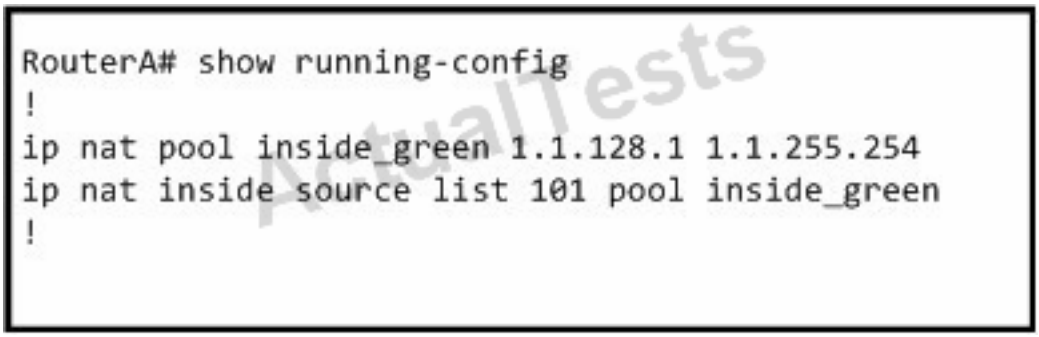
A. They create split-horizon issues.
B. They require a unique subnet within a routing domain.
C. They emulate leased lines.
D. They are ideal for full-mesh topologies.
E. They require the use of NBMA options when using OSPF.

Answer: B,C

Explanation:

QUESTION NO: 128

Refer to the exhibit. Addresses within the range 10.10.10.0/24 are not being translated to the 1.1.128.0/16 range. Which command shows if 10.10.10.0/24 are allowed inside addresses?



A. debug ip nat

B. show access-list
C. show ip nat translation
D. show ip nat statistics

Answer: B
Explanation:

QUESTION NO: 129

A wireless client cannot connect to an 802.11b/g BSS with a b/g wireless card. The client section of the access point does not list any active WLAN clients. What is a possible reason for this?

A. The incorrect channel is configured on the client.
B. The client's IP address is on the wrong subnet.
C. The client has an incorrect pre-shared key.
D. The SSID is configured incorrectly on the client.

Answer: D
Explanation:
SSID is used to differentiate networks from one another, which has a maximum length of 32 characters.
Wireless network card configured with different SSIDs can access different networks. AP is often used to broadcast SSID. SSID discovery is done by active scanning. SSID will not be broadcasted for security reasons. Then users need to manually configure the SSID to access the network.
If a client cannot find the efficient network although the wireless card is working normally, the most likely cause is that SSID is configured incorrectly.

QUESTION NO: 130

Which two features did WPAv1 add to address the inherent weaknesses found in WEP? (Choose two.)

A. a stronger encryption algorithm
B. key mixing using temporal keys
C. shared key authentication
D. a shorter initialization vector
E. per frame sequence counters

Answer: B,E

Explanation:
This question is to examine the differences between WPAv1 and WEP.

QUESTION NO: 131

Which two wireless encryption methods are based on the RC4 encryption algorithm? (Choose two.)

A. WEP
B. CCKM
C. AES
D. TKIP
E. ccmp

Answer: A,D
Explanation:

QUESTION NO: 132

What are two characteristics of RIPv2? (Choose two.)

A. classful routing protocol
B. variable-length subnet masks
C. broadcast addressing
D. manual route summarization
E. uses SPF algorithm to compute path

Answer: B,D
Explanation:
RIPV2 supports VLSM networks. RIPV1 does not support VLSM.
RIPV2 supports manual route summarization
Incorrect answer:
Classful routing protocol: The original specification of RIP (RIP V1), uses classful routing.
RIPv2 included the ability to carry subnet information, thus supportingClassless Inter-Domain Routing (CIDR).
The main difference between RIPv1 and RIPv2 is classless routing. RIPv2 incorporates the addition of the network mask in the update to allow classless routing advertisements.

QUESTION NO: 133

Which two Ethernet fiber-optic modes support distances of greater than 550 meters?

A. 1000BASE-CX
B. 100BASE-FX
C. 1000BASE-LX
D. 1000BASE-SX
E. 1000BASE-ZX

Answer: C,E

Explanation:

QUESTION NO: 134

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

Explanation:

QUESTION NO: 135

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

ActualTests

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

Answer: C
Explanation:

QUESTION NO: 136

Which command shows if an access list is assigned to an interface?

A. show ip interface [interface] access-lists
B. show ip access-lists interface [interface]
C. show ip interface [interface]
D. show ip access-lists [interface]

Answer: C
Explanation:

QUESTION NO: 137

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

Explanation:

QUESTION NO: 138

Refer to the exhibit. You are connected to the router as user Mike. Which command allows you to see output from the OSPF debug command?

```
Router#show users
    Line       User       Host(s)              Idle       Location
*322 vty 0     Mike       idle                 00:00:00   laptop

  Interface    User               Mode         Idle     Peer Address

Router#debug ip ospf events
OSPF events debugging is on
Router#
```

A. terminal monitor
B. show debugging
C. show sessions
D. show ip ospf interface

Answer: A

Explanation:

QUESTION NO: 139

Refer to the exhibit. If number 2 is selected from the setup script, what happens when the user runs setup from a privileged prompt?

```
[0] Go to the IOS command prompt without saving this config.
[1] Return back to the setup without saving this config.
[2] Save this configuration to nvram and exit.

Enter your selection [2]:
```

A. Setup is additive and any changes will be added to the config script.
B. Setup effectively starts the configuration over as if the router was booted for the first time.
C. Setup will not run if an enable secret password exists on the router.
D. Setup will not run, because it is only viable when no configuration exists on the router.

Answer: A
Explanation:

QUESTION NO: 140

Refer to the exhibit. Which (config-router) command will allow the network represented on the interface to be advertised by RIP?

```
router rip
 version 2
 no auto-summary
!
interface ethernet0
 ip address 10.12.0.1 255.255.0.0
```

A. network ethernet0
B. redistribute 10.12.0.0
C. redistribute ethernet0
D. network 10.12.0.0

Answer: D
Explanation:

QUESTION NO: 141

Refer to the exhibit. What information can be gathered from the output?

```
RouterA#debug ip rip
RIP protocol debugging is on

00:34:32: RIP: sending v2 flash update to 224.0.0.9 via FastEthernet0/0 (172.16.1.1)
00:34:32: RIP: build flash update entries
00:34:32:       10.10.1.0/24 via 0.0.0.0, metric 1, tag 0
00:34:32: RIP: sending v2 flash update to 224.0.0.9 via Loopback0 (10.10.1.1)
00:34:32: RIP: build flash update entries
00:34:32:       10.0.0.0/8 via 0.0.0.0, metric 2, tag 0
00:34:32:       172.16.1.0/24 via 0.0.0.0, metric 1, tag 0
00:34:32: RIP: ignored v2 packet from 10.10.1.1 (sourced from one of our addresses)
00:34:33: RIP: received v2 update from 172.16.1.2 on FastEthernet0/0
00:34:33:      10.0.0.0/8 via 0.0.0.0 in 1 hops
00:34:44: RIP: sending v2 update to 224.0.0.9 via FastEthernet0/0 (172.16.1.1)
00:34:44: RIP: build update entries
00:34:44:       10.10.1.0/24 via 0.0.0.0, metric 1, tag 0
```

A. One router is running RIPvl.
B. RIP neighbor is 224.0.0.9.
C. The network contains a loop.
D. Network 10.10.1.0 is reachable.

Answer: D
Explanation:

QUESTION NO: 142

Refer to the exhibit. What type of connection would be supported by the cable diagram shown?

Pin Number	Color	Function	Pin	Color	Function
1	White/Green	TX+	1	White/Green	TX+
2	Green	TX-	2	Green	TX-
3	White/Orange	RX+	3	White/Orange	RX+
6	Orange	RX-	6	Orange	RX-

A. PC to router
B. PC to switch
C. server to router
D. router to router

Answer: B
Explanation:
The cable is wired as straight-thru.

QUESTION NO: 143

Refer to the exhibit. What type of connection would be supported by the cable diagram shown?

Pin Number	Color	Function	Pin	Color	Function
1	White/Green	TX+	3	Orange	RX+
2	Green	TX-	6	White/Orange	RX-
3	White/Orange	RX+	1	Green	TX+
6	Orange	RX-	2	White/Green	TX-

A. PC to router
B. PC to switch
C. server to switch
D. switch to router

Answer: A
Explanation:

QUESTION NO: 144

Which two statements describe the Cisco implementation of VLANs? (Choose two.)

A. VLAN 1 is the default Ethernet VLAN.
B. CDP advertisements are only sent on VLAN 1002.
C. By default, the management VLAN is VLAN 1005.
D. By default, the switch IP address is in VLAN 1005.
E. VLANs 1002 through 1005 are automatically created and cannot be deleted.

Answer: A,E
Explanation:

QUESTION NO: 145

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
Explanation:

QUESTION NO: 146

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

```
Router#show ip arp
Protocol  Address          Age (min)  Hardware Addr   Type   Interface
Internet  192.168.1.1            -   ca00.17d0.0008  ARPA   FastEthernet0/0
Internet  192.168.3.1            -   ca00.17d0.0008  ARPA   FastEthernet0/0
Internet  192.168.1.2            0   ca01.17d0.0008  ARPA   FastEthernet0/0
```

A. 192.168.1.2 is local to the router.
B. 192.168.3.1 is local to the router.
C. 192.168.1.2 will age out in less than 1 minute.
D. 192.168.3.1 has aged out and is marked for deletion.

Answer: B
Explanation:

QUESTION NO: 147

Refer to the exhibit. Which command would allow the translations to be created on the router?

```
RouterA#show ip nat translations
Pro Inside global         Inside local          Outside local         Outside global
--- 1.1.128.1             10.18.14.90           ---                   ---
--- 1.1.129.107           10.18.14.91           ---                   ---
--- 1.1.130.178           10.18.14.92           ---                   ---
--- 1.1.131.177           10.18.14.89           ---                   ---
--- 1.1.132.171           10.10.16.204          ---                   ---
--- 1.1.133.172           10.10.24.210          ---                   ---
--- 1.1.134.173           10.10.24.216          ---                   ---
--- 1.1.135.168           10.19.16.95           ---                   ---
--- 1.1.134.169           10.19.16.96           ---                   ---
--- 1.1.130.170           10.20.122.234         ---                   ---
--- 1.1.135.174           10.20.122.240         ---                   ---
```

A. ip nat pool mynats 1.1.128.1 1.1.135.254 prefix-length 19
B. ip nat outside mynats 1.1.128.1 1.1.135.254 prefix-length 19
C. ip nat pool mynats 1.1.128.1 1.1.135.254 prefix-length 18
D. ip nat outside mynats 1.1.128.1 1.1.135.254 prefix-length 18

Answer: A
Explanation:

QUESTION NO: 148

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)
```

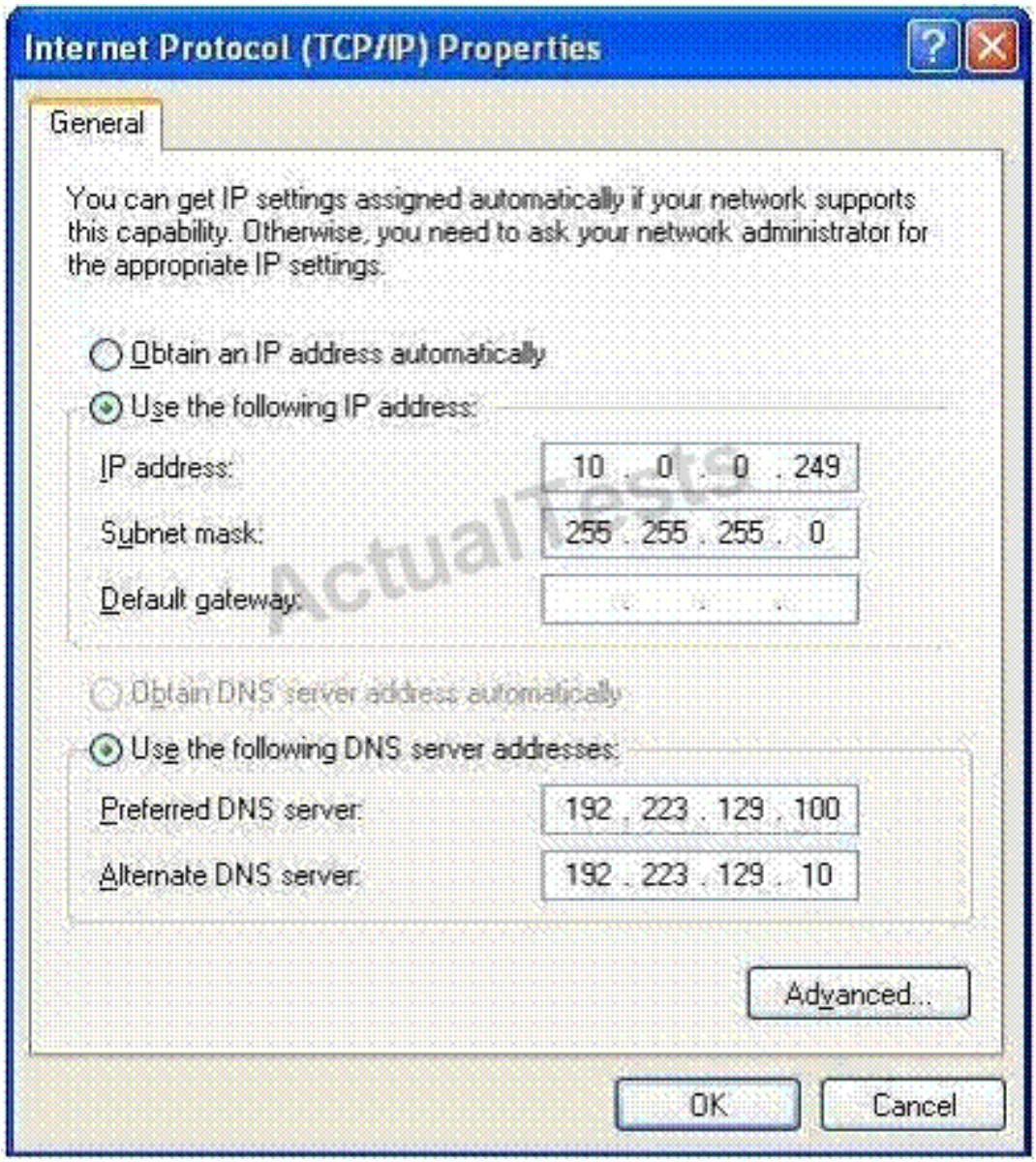
A. data link layer
B. application layer
C. access layer
D. session layer
E. network layer

Answer: E
Explanation:
The command ping uses ICMP protocol, which is a network layer protocol used to propagate control message between host and router. The command ping is often used to verify the network

connectivity, so it works at the network layer.

QUESTION NO: 149

Refer to the exhibit. Which value will be configured for Default Gateway of the Local Area Connection?



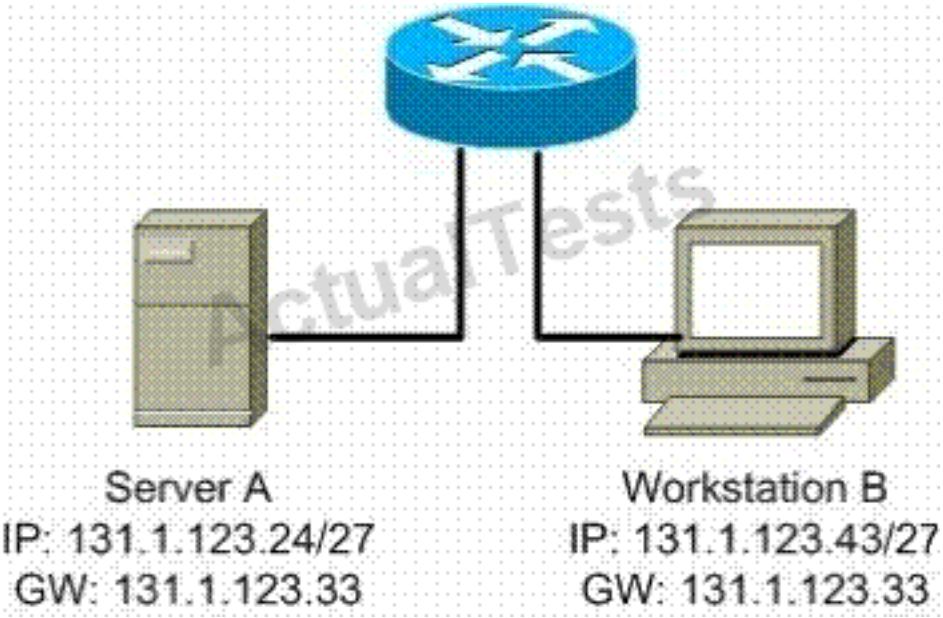
A. 10.0.0.0
B. 10.0.0.254
C. 192.223.129.0
D. 192.223.129.254

Answer: B

Explanation:

QUESTION NO: 150

Refer to the exhibit. The user at Workstation B reports that Server A cannot be reached. What is preventing Workstation B from reaching Server A?



A. The IP address for Server A is a broadcast address.
B. The IP address for Workstation B is a subnet address.
C. The gateway for Workstation B is not on the same subnet.
D. The gateway for Server A is not on the same subnet.

Answer: D
Explanation:

QUESTION NO: 151

Refer to the exhibit. What does the (*) represent in the output?

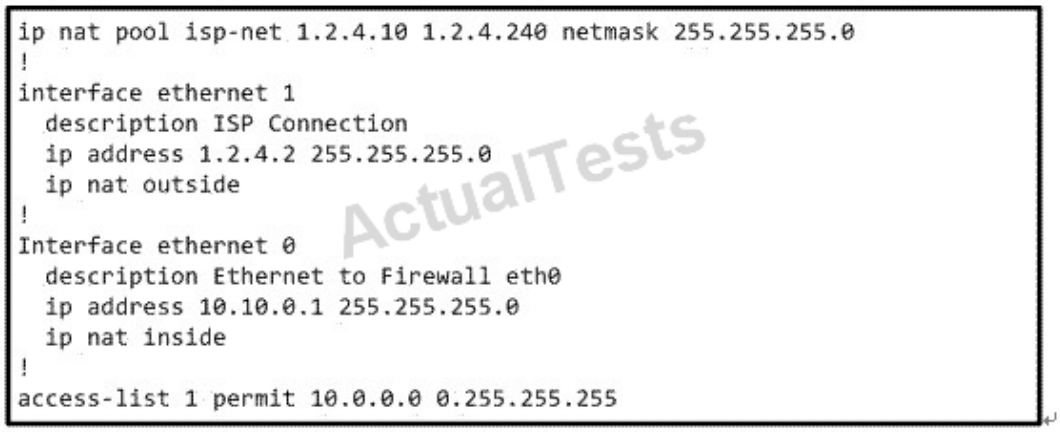
```
02:16:29: NAT: s=10.10.0.2->1.2.4.2, d=1.2.4.1 [51607]
02:16:29: NAT: s=1.2.4.1, d=1.2.4.2->10.10.0.2 [55227]
02:16:29: NAT*: s=10.10.0.2->1.2.4.2, d=1.2.4.1 [51608]
02:16:29: NAT*: s=10.10.0.2->1.2.4.2, d=1.2.4.1 [51609]
```

A. Packet is destined for a local interface to the router.
B. Packet was translated, but no response was received from the distant device.
C. Packet was not translated, because no additional ports are available.
D. Packet was translated and fast switched to the destination.

Answer: D
Explanation:

QUESTION NO: 152

Refer to the exhibit. What command sequence will enable PAT from the inside to outside network?



A. (config) ip nat pool isp-net 1.2.4.2 netmask 255.255.255.0 overload
B. (config-if) ip nat outside overload
C. (config) ip nat inside source list 1 interface ethernetl overload
D. (config-if) ip nat inside overload

Answer: C
Explanation:

QUESTION NO: 153

Refer to the exhibit. What will happen to HTTP traffic coming from the Internet that is destined for 172.16.12.10 if the traffic is processed by this ACL?

```
router#show access-lists
Extended IP access list 110
    10 deny tcp 172.16.0.0 0.0.255.255 any eq telnet
    20 deny tcp 172.16.0.0 0.0.255.255 any eq smtp
    30 deny tcp 172.16.0.0 0.0.255.255 any eq http
    40 permit tcp 172.16.0.0 0.0.255.255 any
```

A. Traffic will be dropped per line 30 of the ACL.
B. Traffic will be accepted per line 40 of the ACL.
C. Traffic will be dropped, because of the implicit deny all at the end of the ACL.
D. Traffic will be accepted, because the source address is not covered by the ACL.

Answer: C

Explanation: In Line 30 only deny http Traffic that come from 172.16.0.0 and goes to any.

QUESTION NO: 154

Refer to the exhibit. Which statement describes the effect that the Router1 configuration has on devices in the 172.16.16.0 subnet when they try to connect to SVR-A using Telnet or SSH?




```
Router1#show ip access-lists
Extended IP access list 100
    10 permit tcp 172.16.16.0 0.0.0.15 host 172.16.48.63 eq 22
    20 permit tcp 172.16.16.0 0.0.0.15 eq telnet host 172.16.48.63
Extended IP access list 101
    10 permit tcp host 172.16.48.63 eq 22 172.16.16.0 0.0.0.15
    20 permit tcp host 172.16.48.63 172.16.16.0 0.0.0.15 eq telnet
Router1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router1(config)#int fa0/0
Router1(config-if)#ip access-group 100 in
Router1(config-if)#int fa0/1
Router1(config-if)#ip access-group 101 in
Router1(config-if)#
```

A. Devices will not be able to use Telnet or SSH.
B. Devices will be able to use SSH, but not Telnet.
C. Devices will be able to use Telnet, but not SSH.

D. Devices will be able to use Telnet and SSH.

Answer: B

Explanation:

This question is to examine the use of ACL.

According to the information provided in the exhibit, 172.16.16.0 can reach SVR by using SSH.

SVR can reach 172.16.16.0 by using telnet.

So the correct answer is B.

QUESTION NO: 155

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

Explanation:

VLAN technology is often used in practice, because it can better control layer2 broadcast to improve network security. This makes network more flexible and scalable.

Packet filtering is a function of firewall instead of VLAN.

QUESTION NO: 156

An administrator would like to configure a switch over a virtual terminal connection from locations outside of the local LAN. Which of the following are required in order for the switch to be configured from a remote location? (Choose two.)

A. The switch must be configured with an IP address, subnet mask, and default gateway.
B. The switch must be connected to a router over a VLAN trunk.
C. The switch must be reachable through a port connected to its management VLAN.
D. The switch console port must be connected to the Ethernet LAN.
E. The switch management VLAN must be created and have a membership of at least one switch port.

F. The switch must be fully configured as an SNMP agent.

Answer: A,C

Explanation:

QUESTION NO: 157

Which of the following host addresses are members of networks that can be routed across the public Internet? (Choose three.)

A. 10.172.13.65
B. 172.16.223.125
C. 172.64.12.29
D. 192.168.23.252
E. 198.234.12.95
F. 212.193.48.254

Answer: C,E,F

Explanation:

QUESTION NO: 158

Given a subnet mask of 255.255.255.224, which of the following addresses can be assigned to network hosts? (Choose three.)

A. 15.234.118.63
B. 92.11.178.93
C. 134.178.18.56
D. 192.168.16.87
E. 201.45.116.159
F. 217.63.12.192

Answer: B,C,D

Explanation:

QUESTION NO: 159

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

Explanation:

QUESTION NO: 160

In order to resolve the LAN connectivity problems, which router IOS commands will you use? (Choose three.)

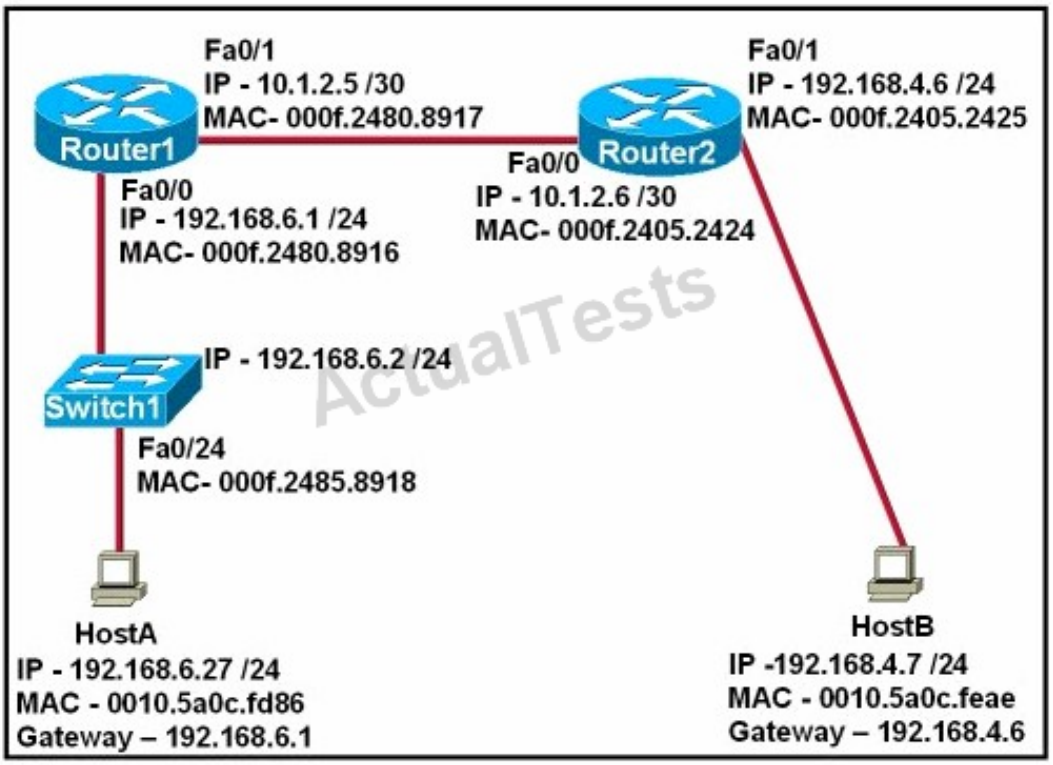
A. ping
B. tracert
C. ipconfig
D. show ip route
E. winipcfg
F. show interfaces

Answer: A,D,F

Explanation:

QUESTION NO: 161

Exhibit:



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

Entry exhibit

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

A. Exhibit A
B. Exhibit B
C. Exhibit C
D. Exhibit D
E. Exhibit E
F. Exhibit F

Answer: A

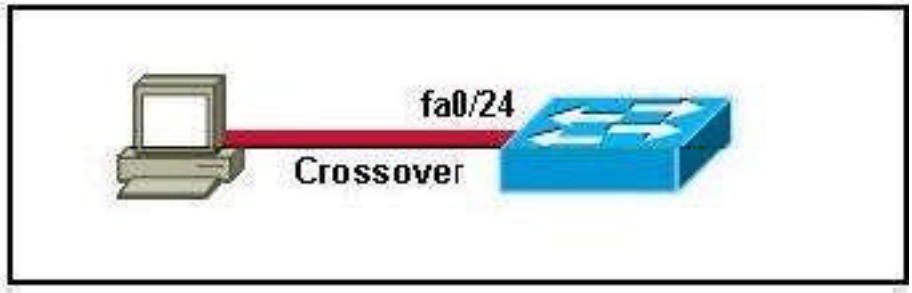
Explanation:

When a host needs to reach a device on another subnet, the ARP cache entry will be that of the Ethernet address of the local router (default gateway) for the physical MAC address. The destination IP address will not change, and will be that of the remote host (HostB).

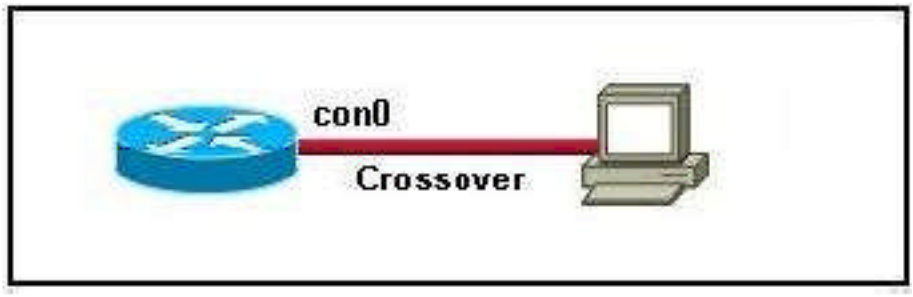
QUESTION NO: 162

Which two topologies are using the correct type of twisted-pair cables? (Choose two.)

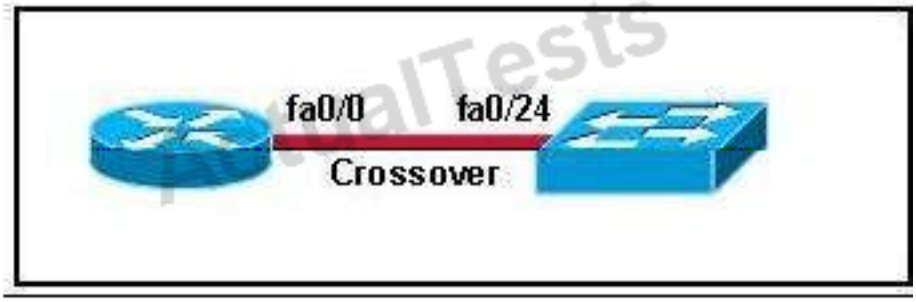
A.



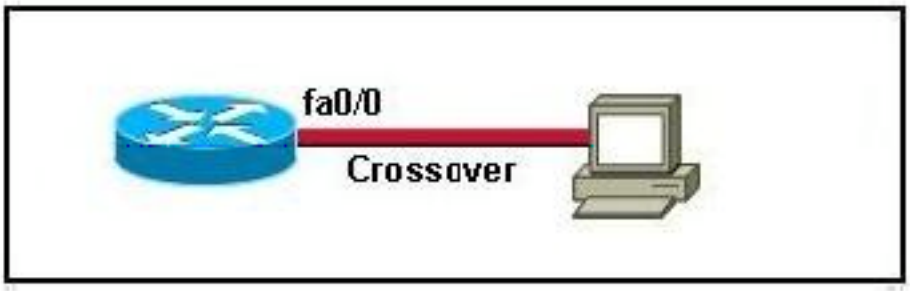
B.



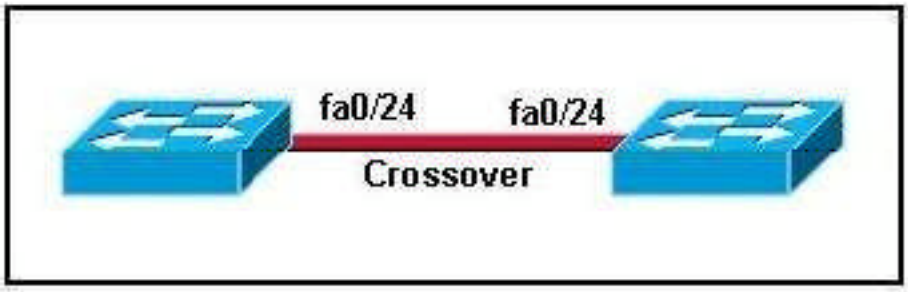
C.



D.



E.



A. Exhibit A
B. Exhibit B
C. Exhibit C
D. Exhibit D
E. Exhibit E

Answer: D,E

Explanation:
Devices of the same layer are connected by crossover cable, while devices of different layers are connected by straight-through cable.
Router ------ Crossover ------- Router
Router ------ Crossover ------- PC
Router ------ straight-through ------- Switch
Switch ------ straight-through ------- PC
Switch ------ Crossover ------- Switch

QUESTION NO: 163

Which of the following are true regarding bridges and switches? (Choose two.)

A. Bridges are faster than switches because they have fewer ports.
B. A switch is a multiport bridge.
C. Bridges and switches learn MAC addresses by examining the source MAC address of each frame received.
D. A bridge will forward a broadcast but a switch will not.
E. Bridges and switches increase the size of a collision domain.

Answer: B,C
Explanation:
Bridge is a Layer2 device, which is designed to create two or more LAN segments. Each segment is an independent collision domain. Bridge is also created to provide more available bandwidth, Its purpose is to filter the LAN traffic, making local traffic be in the local area, and those directed to other parts of the LAN (sub) be forwarded there. Each NIC on each device has a unique MAC address. Bridge will record the MAC address of each port and then make forwarding decisions based on this MAC address table.
Switch is a device of the data link layer, it combines multiple physical LAN segments into a large network.. Similar to bridge, the switch will transfer and flood the communication frames based on the MAC address. Because the switching process is performed in hardware, the switching speed of the switch is faster than that of a bridge performed by software. Regarding each switching port as a mini-bridge, then each switching port will work as an independent bridge to provide full medium's bandwidth to each host.

QUESTION NO: 164

What are some of the advantages of using a router to segment the network? (Choose two.)

A. Filtering can occur based on Layer 3 information.
B. Broadcasts are eliminated.
C. Routers generally cost less than switches.
D. Broadcasts are not forwarded across the router.
E. Adding a router to the network decreases latency.

Answer: A,D
Explanation:
The router will never forward the broadcast packet, each interface of the router is a separate broadcast domain. The router has two primary advantages:
1.By default, the router will never forward broadcasts.

QUESTION NO: 165

Which of the following statements are true regarding bridges and switches? (Choose 3.)

A. Switches are primarily software based while bridges are hardware based.
B. Both bridges and switches forward Layer 2 broadcasts.
C. Bridges are frequently faster than switches.
D. Switches have a higher number of ports than most bridges.
E. Bridges define broadcast domains while switches define collision domains.
F. Both bridges and switches make forwarding decisions based on Layer 2 addresses.

Answer: B,D,F
Explanation:
Bridge is a Layer2 device, which is designed to create two or more LAN segments. Each segment is an independent collision domain. Bridge is also created to provide more available bandwidth, Its purpose is to filter the LAN traffic, making local traffic be in the local area, and those directed to other parts of the LAN (sub) be forwarded there. Each NIC on each device has a unique MAC address. Bridge will record the MAC address of each port and then make forwarding decisions based on this MAC address table.
Switch is a device of the data link layer, it combines multiple physical LAN segments into a large network.. Similar to bridge, the switch will transfer and flood the communication frames based on the MAC address. Because the switching process is performed in hardware, the switching speed of the switch is faster than that of a bridge performed by software. Regarding each switching port as a mini-bridge, then each switching port will work as an independent bridge to provide full medium's bandwidth to each host.

QUESTION NO: 166

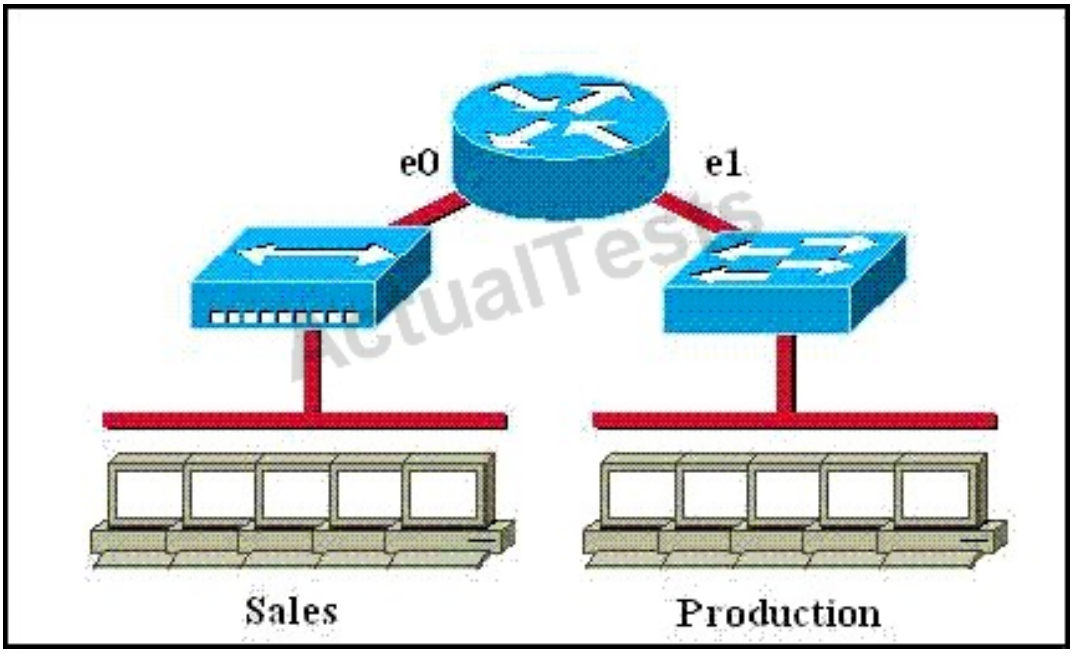
Which characteristics are representative of a link-state routing protocol? (Choose three.)

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
Explanation:

QUESTION NO: 167

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



What are the proper statements?. (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.

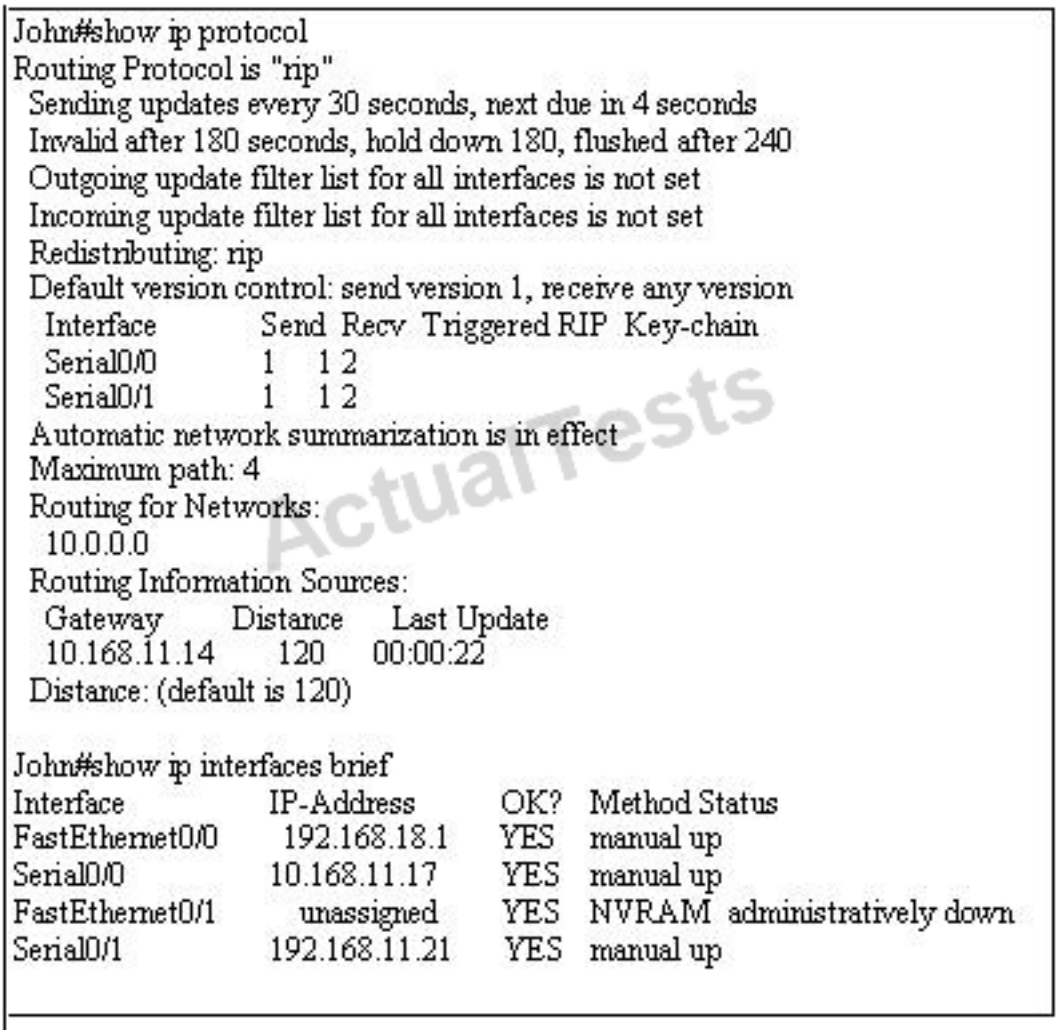
D. There are four collision domains in the network.
E. There are five collision domains in the network.
F. There are seven collision domains in the network.

Answer: A,F

Explanation:

QUESTION NO: 168

Use the output from the router shown in the graphic above to determine which of the following are correct. (Choose two.)



A. Router John uses a link-state routing protocol.
B. Router John will receive routing updates on the Serial0/0 interface.
C. Router John will receive routing updates on the Serial0/1 interface.
D. Router John will send routing updates out the Serial0/0 interface.
E. Router John will send routing updates out the FastEthernet0/0 interface.

F. Router John will send routing updates out the Serial0/1 interface.

Answer: B,D

Explanation:

QUESTION NO: 169

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

Explanation:

Subnetting is used to break the network into smaller more efficient subnets to prevent excessive rates of Ethernet packet collision in a large network. Such subnets can be arranged hierarchically, with the organization's network address space (see also Autonomous System) partitioned into a tree-like structure. Routers are used to manage traffic and constitute borders between subnets.
A routing prefix is the sequence of leading bits of an IP address that precede the portion of the address used as host identifier. In IPv4 networks, the routing prefix is often expressed as a "subnet mask", which is a bit mask covering the number of bits used in the prefix. An IPv4 subnet mask is frequently expressed in quad-dotted decimal representation, e.g., 255.255.255.0 is the subnet mask for the 192.168.1.0 network with a 24-bit routing prefix (192.168.1.0/24).

QUESTION NO: 170

Given the address 192.168.20.19/28, which of the following are valid host addresses on this subnet? (Choose two.)

A. 192.168.20.29
B. 192.168.20.16
C. 192.168.20.17

D. 192.168.20.31
E. 192.168.20.0

Answer: A,C
Explanation:

QUESTION NO: 171

An inbound access list has been configured on a serial interface to deny packet entry for TCP and UDP ports 21, 23 and 25. What types of packets will be permitted by this ACL? (Choose three.)

A. HTTP
B. FTP
C. POP3
D. Telnet
E. SMTP
F. DNS

Answer: A,C,F
Explanation:

The most often used port numbers of TCP/UDP are as follows:
The port numbers of TCP:
20 FTP data
21 FTP control
23 Telnet
25 SMTP
53 DNS
80 WWW
110 POP3
The port numbers of UDP
53DNS
69 TFTP
161 SNMP
NotE. DNS uses TCP to perform Zone Transfers and UDP to query name .
The ACL created on the router denied the traffic from the ports 21,23,25, thus allowing these three types of traffic such as DNS, POP3, HTTP to cross .

QUESTION NO: 172

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

Explanation:

Both the auto and on modes can be automatically switched to the desirable mode based on the topology.

A trunk port can be configured as one of the following 5 different modes: on, off, desirable, auto, or nonegotiate.

QUESTION NO: 173

OSPF routing uses the concept of areas. What are the characteristics of OSPF areas? (Choose Three.)

A. Each OSPF area requires a loopback interface to be configured.
B. Areas may be assigned any number from 0 to 65535.
C. Area 0 is called the backbone area.
D. Hierarchical OSPF networks do not require multiple areas.
E. Multiple OSPF areas must connect to area 0.
F. Single area OSPF networks must be configured in area 1.

Answer: B,C,E

Explanation:

Answer A is wrong because of the “requires”

Answer B is tricky but is correct

Definition of OSPF areas: An OSPF network may be structured, or subdivided, into routing *areas* to simplify administration and optimize traffic and resource utilization. Areas are identified by 32-bit numbers, expressed either simply in decimal, or often in octet-based dot-decimal notation, familiar from IPv4 address notation.

Answer C is correct.
Answer D is NOT correct.
Answer E is correct
Answer F is NOT correct.

See discussion following Cisco Learning discussion.

https://learningnetwork.cisco.com/message/90832

QUESTION NO: 174

What information can be used by a router running a link-state protocol 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
Explanation:

QUESTION NO: 175

Which items are correct about 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 RIP v2.

Answer: A,C,E
Explanation:

QUESTION NO: 176

The switches shown in the diagram.

Core and Core2, are both Catalyst 2950s.

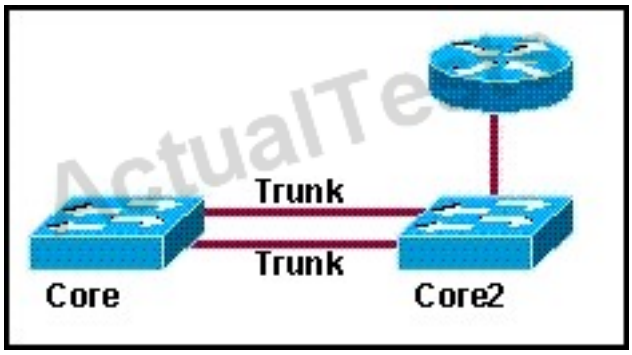
The addressing scheme for each company site is as follows:

Router Ethernet port: 1st usable address

CorE. second usable address

Core2: third usable address

For this network, which of the following commands must be configured on Core2 to allow it to be managed remotely from any subnet on the network? (Choose three.)



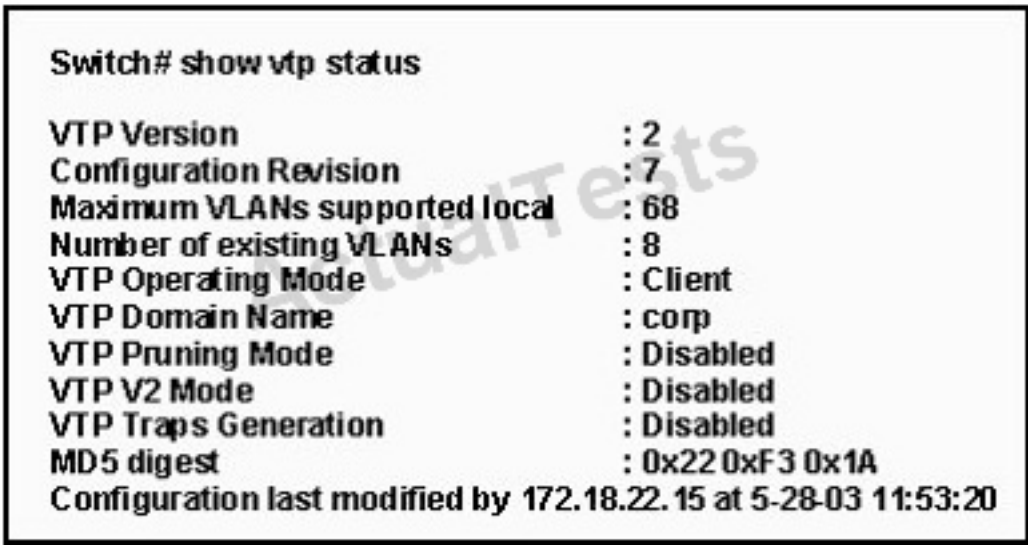
A. Core2(config)# interface f0/0
Core2(config-if)# ip address 192.168.1.10 255.255.255.248
B. Core2(config)# interface vlan 1
Core2(config-if)# ip address 192.168.1.11 255.255.255.248
C. Core2(config)# line con 0 Core2(config-line)# password cisco
D. Core2(config)# line vty 0 4 Core2(config-line)# password cisco
E. Core2(config)# ip default-gateway 192.168.1.9
F. Core2(config)# ip route 0.0.0.0 0.0.0.0 192.168.1.8

Answer: B,D,E
Explanation:

QUESTION NO: 177

An administrator is unsuccessful in adding VLAN 50 to a switch. While troubleshooting the

problem, the administrator views the output of the show vtp status command, which is displayed in the graphic. What commands must be issued on this switch to add VLAN 50 to the database? (Choose two.)



A. Switch(config-if)# switchport access vlan 50
B. Switch(vlan)#vtp mode server
C. Switch(config)# config-revision 20
D. Switch(config)# vlan 50 name Tech
E. Switch(vlan)#vlan50
F. Switch(vlan)# switchport trunk vlan 50

Answer: B,E

Explanation:

QUESTION NO: 178

Which of the following IP addresses fall into the CIDR block of 115.64.4.0/22? (Choose three.)

A. 115.64.8.32
B. 115.64.7.64
C. 115.64.6.255
D. 115.64.3.255
E. 115.64.5.128
F. 115.64.12.128

Answer: B,C,E

Explanation:

QUESTION NO: 179

Which of the following are types of flow control? (Choose three.)

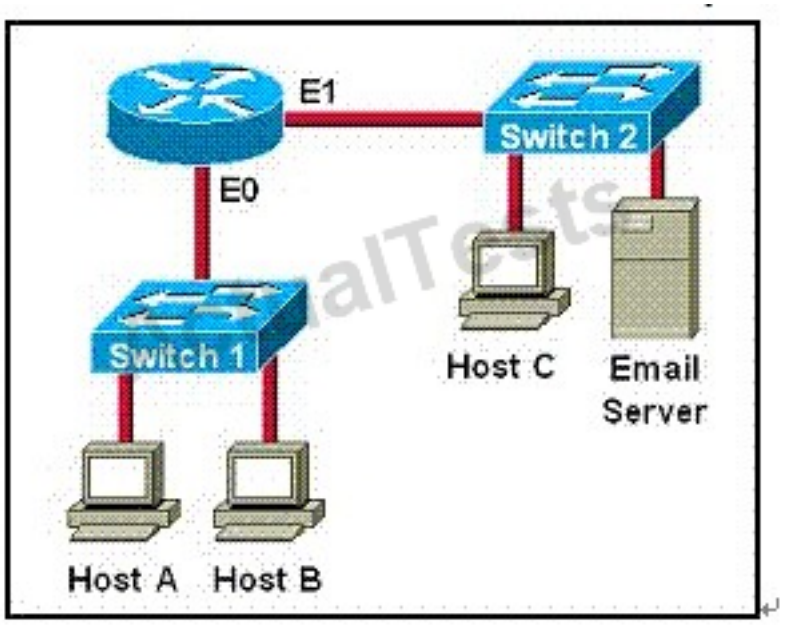
A. buffering
B. cut-through
C. windowing
D. congestion avoidance
E. load balancing

Answer: A,C,D

Explanation:

QUESTION NO: 180

Which destination addresses will be used by Host A to send data to Host C? (Choose two.)



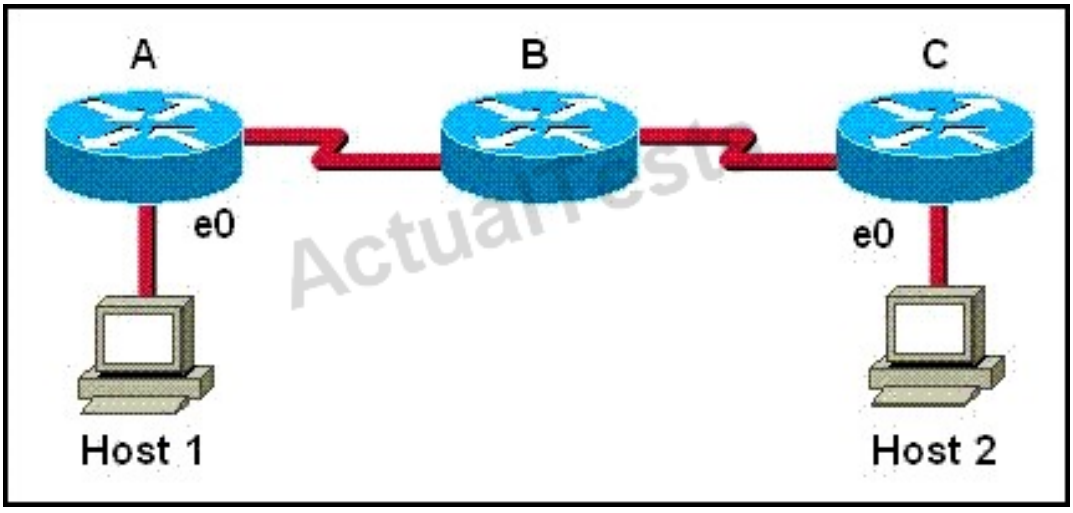
A. the IP address of Switch 1
B. the MAC address of Switch 1
C. the IP address of Host C
D. the MAC address of Host C
E. the IP address of the router's E0 interface
F. the MAC address of the router's E0 interface

Answer: C,F

Explanation:

QUESTION NO: 181

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 send a Destination Unreachable message type.
B. Router C will send a Source Quench message type.
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 Router Selection message type.
E. Router C will use ICMP to inform Host 1 that Host 2 cannot be reached.
F. Router C will use ICMP to inform Router B that Host 2 cannot be reached.

Answer: A,E

Explanation:

Host 1 is trying to communicate with Host 2. The e0 interface on Router C is down. Router C will send ICMP packets to inform Host 1 that Host 2 cannot be reached.

QUESTION NO: 182

To configure the VLAN trunking protocol to communicate VLAN information between two switches, what two requirements must be met? (Choose two.)

A. Each end of the trunk line must be set to IEEE 802.1 E encapsulation.
B. The VTP management domain name of both switches must be set the same.
C. All ports on both the switches must be set as access ports.
D. One of the two switches must be configured as a VTP server.
E. A rollover cable is required to connect the two switches together.
F. A router must be used to forward VTP traffic between VLANs.

Answer: B,D

Explanation:

VLAN Trunking Protocol (VTP) is a Cisco proprietary Layer 2 messaging protocol that manages the addition, deletion, and renaming of VLANs on a network-wide basis. Virtual Local Area Network (VLAN) Trunk Protocol (VTP) reduces administration in a switched network. When you configure a new VLAN on one VTP server, the VLAN is distributed through all switches in the domain. This reduces the need to configure the same VLAN everywhere. To do this VTP carries VLAN information to all the switches in a VTP domain. VTP advertisements can be sent over ISL, 802.1q, IEEE 802.10 and LANE trunks. VTP traffic is sent over the management VLAN (VLAN1), so all VLAN trunks must be configured to pass VLAN1. VTP is available on most of the Cisco Catalyst Family products.

VTP operates in one of three modes:

Server - In this VTP mode you can create, remove, and modify VLANs. You can also set other configuration options like the VTP version and also turn on/off VTP pruning for the entire VTP domain. VTP servers advertise their VLAN configuration to other switches in the same VTP domain and synchronize their VLAN configuration with other switches based on messages received over trunk links. VTP server is the default mode. The VLANs information are stored on NVRAM and they are not lost after a reboot.

Client - VTP clients behave the same way as VTP servers, but you cannot create, change, or delete VLANs on the local device. In VTP client mode, VLAN configurations are not saved in NVRAM.

QUESTION NO: 183

Which of the following describe the process identifier that is used to run OSPF on a router? (Choose two.)

A. It is locally significant.
B. It is globally significant.
C. It is needed to identify a unique instance of an OSPF database.
D. It is an optional parameter required only if multiple OSPF processes are running on the router.
E. All routers in the same OSPF area must have the same process ID if they are to exchange routing information.

Answer: A,C
Explanation:

QUESTION NO: 184

What functions do routers perform in a network? (Choose two.)

A. packet switching
B. access layer security
C. path selection
D. VLAN membership assignment
E. bridging between LAN segments
F. microsegmentation of broadcast domains

Answer: A,C
Explanation:
(1) Intercept datagrams sent to remote network segments between networks, playing a translated role.

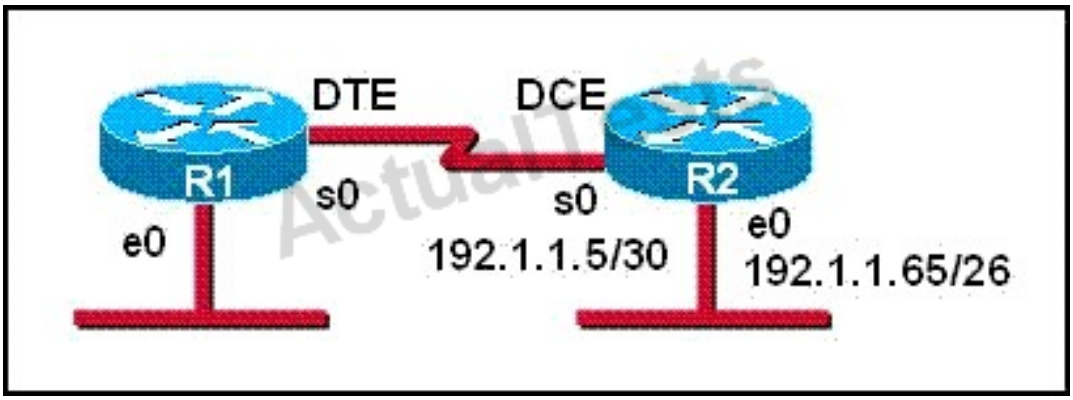
(2) Select the most reasonable route to guide communications. In order to achieve this function, the router will check the routing table based on certain routing communication protocol, and the routing table lists all the nodes contained in the entire internet , the path conditions between nodes and transmission costs associated with them. If a specific node has more than one path, then select the optimal path based on pre-determined specifications. Because a variety of network segments and their mutual connection situations may change, the routing information needs to be updated in time, which is completed by timing update or updating according to changes determined by the routing information protocol used. Each router in the network dynamically updates its routing table according to this rule to maintain effective routing information.

(3) When forwarding datagrams, in order to facilitate transferring datagrams between networks, routers will divide large data packets into appropriate sized data packets according to pre-determined specifications, and those appropriate sized data packets will be turned into their original form when reaching the destination.

(4) Multi-protocol routers can connect and use network segments of different communication protocols, they can be used as communication connecting platforms of network segments of different communication protocols.

QUESTION NO: 185

Which series of commands will configure router R1 for LAN-to-LAN communication with router R2? The enterprise network address is 192.1.1.0/24 and the routing protocol in use is RIP. (Choose three.)



A. R1(config)# interface ethernet 0
R1(config-if)# ip address 192.1.1.129 255.255.255.192
R1(config-if)# no shutdown
B. R1(config)# interface ethernet 0
R1(config-if)# ip address 192.1.1.97 255.255.255.192
R1(config-if)# no shutdown
C. R1(config)# interface serial 0
R1(config-if)# ip address 192.1.1.4 255.255.255.252
R1(config-if)# clock rate 56000
D. R1(config)# interface serial 0
R1(config-if)# ip address 192.1.1.6 255.255.255.252
R1(config-if)# no shutdown
E. R1(config)# router rip
R1(config-router)# network 192.1.1.4
R1(config-router)# network 192.1.1.128
F. R1(config)# router rip
R1(config-router)# version 2
R1(config-router)# network 192.1.1.0

Answer: A,D,F

Explanation:

QUESTION NO: 186

A network administrator wants to ensure that only the server can connect to port Fa0/1 on a Catalyst switch. The server is plugged into the switch Fa0/1 port and the network administrator is about to bring the server online. What can the administrator do to ensure that only the MAC

address of the server is allowed by switch port Fa0/1? (Choose two.)

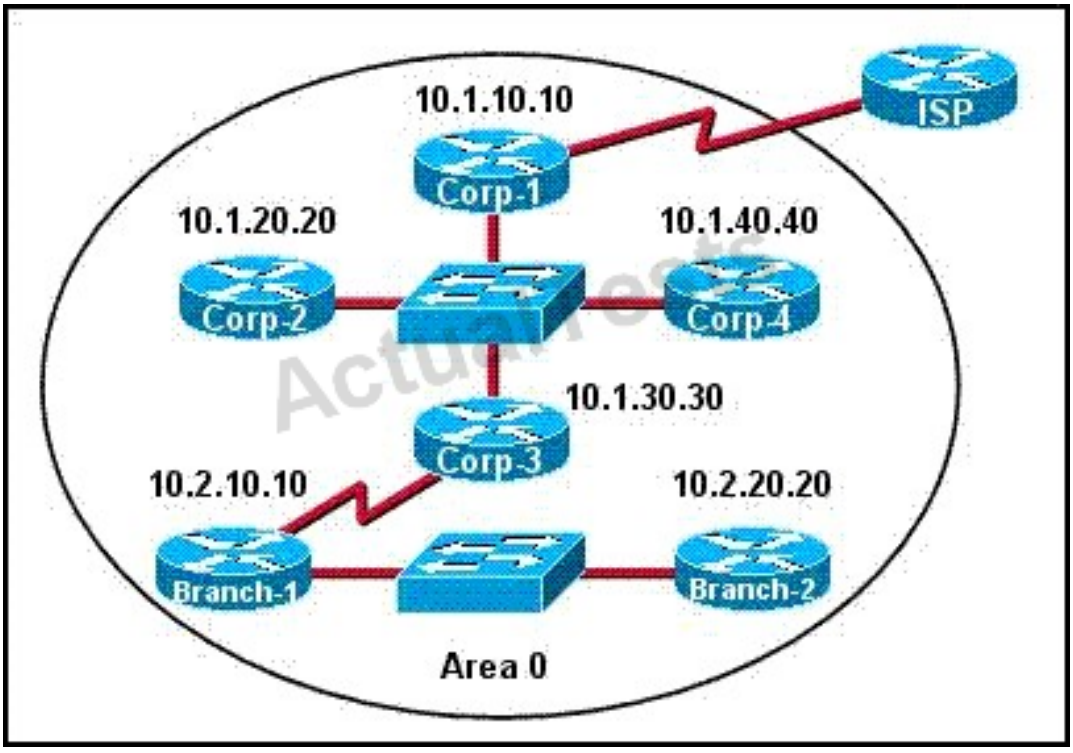
A. Configure port Fa0/1 to accept connections only from the static IP address of the server.
B. Employ a proprietary connector type on Fa0/1 that is incompatible with other host connectors.
C. Configure the MAC address of the server as a static entry associated with port Fa0/1.
D. Bind the IP address of the server to its MAC address on the switch to prevent other hosts from spoofing the server IP address.
E. Configure port security on Fa0/1 to reject traffic with a source MAC address other than that of the server.
F. Configure an access list on the switch to deny server traffic from entering any port other than Fa0/1.

Answer: C,E

Explanation:

QUESTION NO: 187

The internetwork infrastructure of company XYZ consists of a single OSPF area as shown in the graphic. There is concern that a lack of router resources is impeding internetwork performance. As part of examining the router resources, the OSPF DRs need to be known. All the router OSPF priorities are at the default and the router IDs are shown with each router. Which routers are likely to have been elected as DR? (Choose two.)



A. Corp-1

B. Corp-2
C. Corp-3
D. Corp-4
E. Branch-1
F. Branch-2

Answer: D,F

Explanation:

There are 2 segments on the topology above which are separated by Corp-3 router. Each segment will have a DR so we have 2 DRs.

To select which router will become DR they will compare their router-IDs. The router with highest (best) router-ID will become DR. The router-ID is chosen in the order below:

+ The highest IP address assigned to a loopback (logical) interface.

+ If a loopback interface is not defined, the highest IP address of all active router's physical interfaces will be chosen.

In this question, the IP addresses of loopback interfaces are not mentioned so we will consider IP addresses of all active router's physical interfaces. Router Corp-4 (10.1.40.40) & Branch-2 (10.2.20.20) have highest "active" IP addresses so they will become DRs.

QUESTION NO: 188

At which layers of the OSI model do WANs operate? (Choose two.)

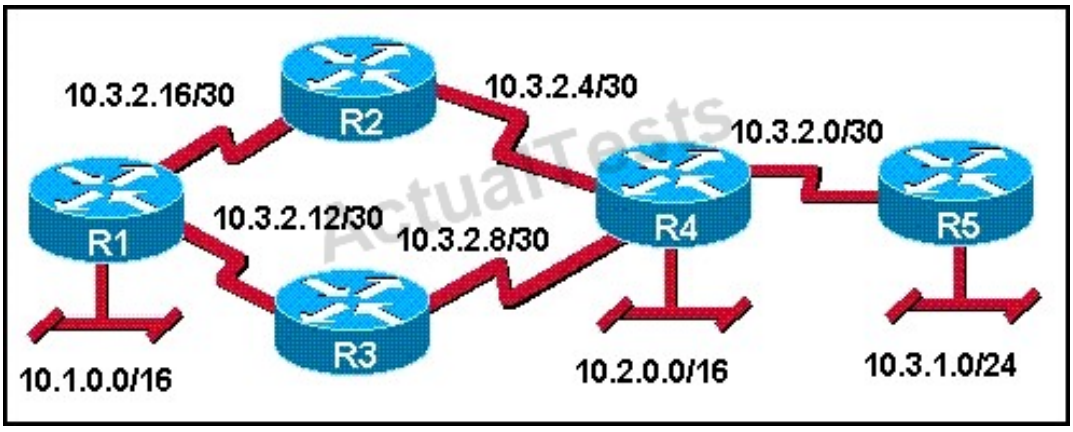
A. application layer
B. session layer
C. transport layer
D. network layer
E. datalink layer
F. physical layer

Answer: E,F

Explanation:

QUESTION NO: 189

Which routing protocols can be used within the enterprise network shown in the diagram? (Choose three.)

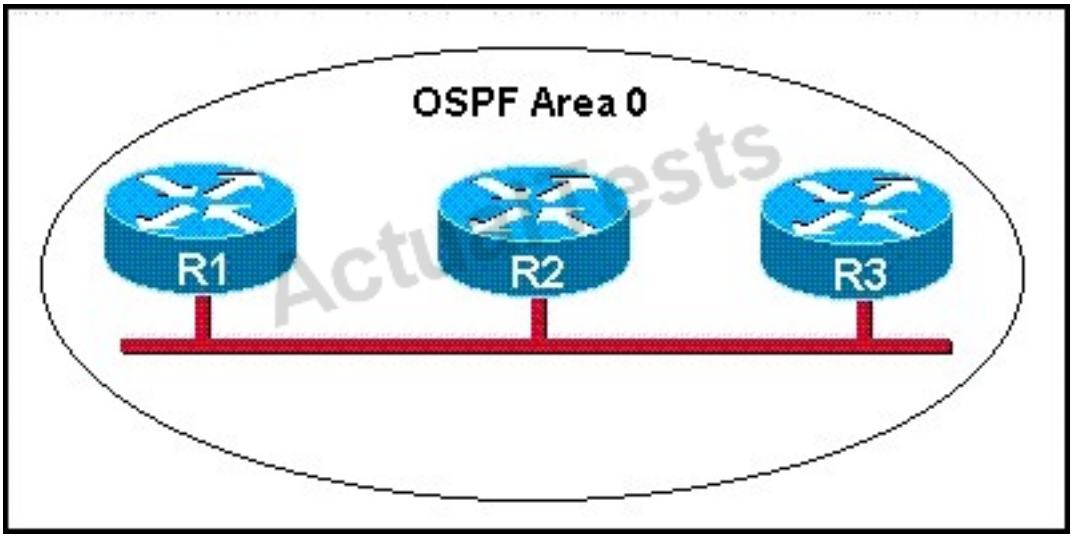


A. RIP v1
B. RIPv2
C. IGRP
D. OSPF
E. BGP
F. EIGRP

Answer: B,D,F
Explanation:

QUESTION NO: 190

Refer to the graphic. R1 is unable to establish an OSPF neighbor relationship with R3. What are possible reasons for this problem? (Choose two.)



A. All of the routers need to be configured for backbone Area 1.
B. R1 and R2 are the DR and BDR, so OSPF will not establish neighbor adjacency with R3.
C. A static route has been configured from R1 to R3 and prevents the neighbor adjacency from

being established.
D. The hello and dead interval timers are not set to the same values on R1 and R3.
E. EIGRP is also configured on these routers with a lower administrative distance.
F. R1 and R3 are configured in different areas.

Answer: D,F
Explanation:
This question is to examine the conditions for OSPF to create neighborhood.
So as to make the two routers become neighbors, each router must be matched with the following items:
1. The area ID and its types;
2. Hello and failure time interval timer;
3. OSPF Password (Optional);

QUESTION NO: 191

Which statements are true about EIGRP successor routes? (Choose two.)

A. A successor route is used by EIGRP to forward traffic to a destination.
B. Successor routes are saved in the topology table to be used if the primary route fails.
C. Successor routes are flagged as "active" in the routing table.
D. A successor route may be backed up by a feasible successor route.
E. Successor routes are stored in the neighbor table following the discovery process.

Answer: A,D
Explanation:
The DUAL finite state machine embodies the decision process for all route computations.

It tracks all routes advertised by all neighbors. The distance information, known as a metric, is used by DUAL to select efficient loop free paths.

DUAL selects routes to be inserted into a routing table based on feasible successors. A successor is a neighboring router used for packet forwarding that has a least cost path to a destination that is guaranteed not to be part of a routing loop. When there are no feasible successors but there are neighbors advertising the destination, a recomputation must occur. This is the process where a new successor is determined. The amount of time it takes to recompute the route affects the convergence time.

Even though the recomputation is not processor-intensive, it is advantageous to avoid recomputation if it is not necessary. When a topology change occurs, DUAL will test for feasible

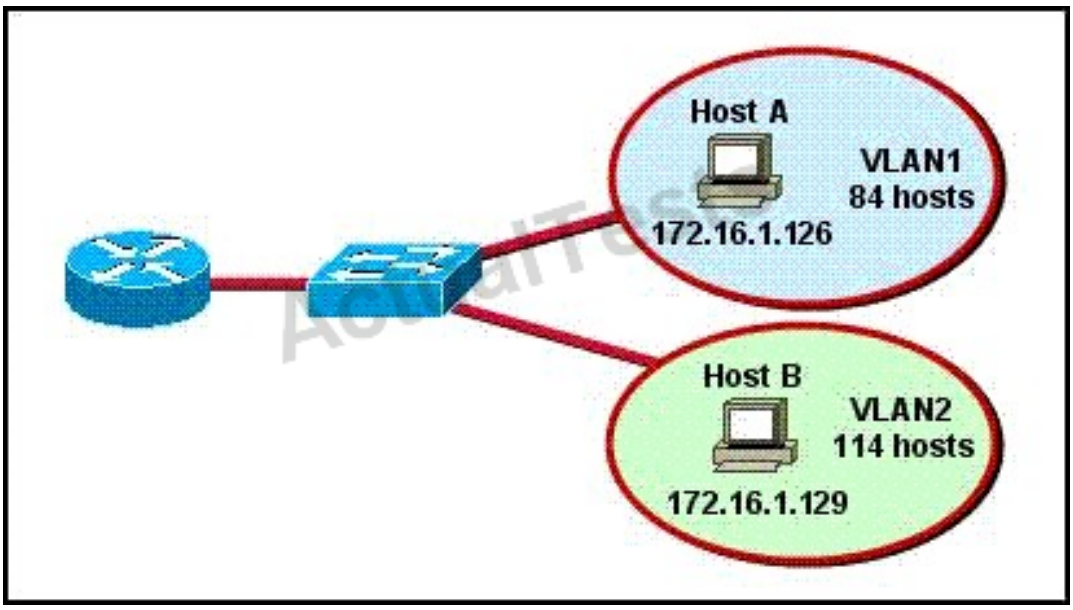
successors. If there are feasible successors, it will use any it finds in order to avoid any unnecessary recomputation. Feasible successors are defined in more detail later in this document.

Feasible Successors
A destination entry is moved from the topology table to the routing table when there is a feasible successor. All minimum cost paths to the destination form a set. From this set, the neighbors that have an advertised metric less than the current routing table metric are considered feasible successors.

Feasible successors are viewed by a router as neighbors that are downstream with respect to the destination. These neighbors and the associated metrics are placed in the forwarding table.

QUESTION NO: 192

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.)



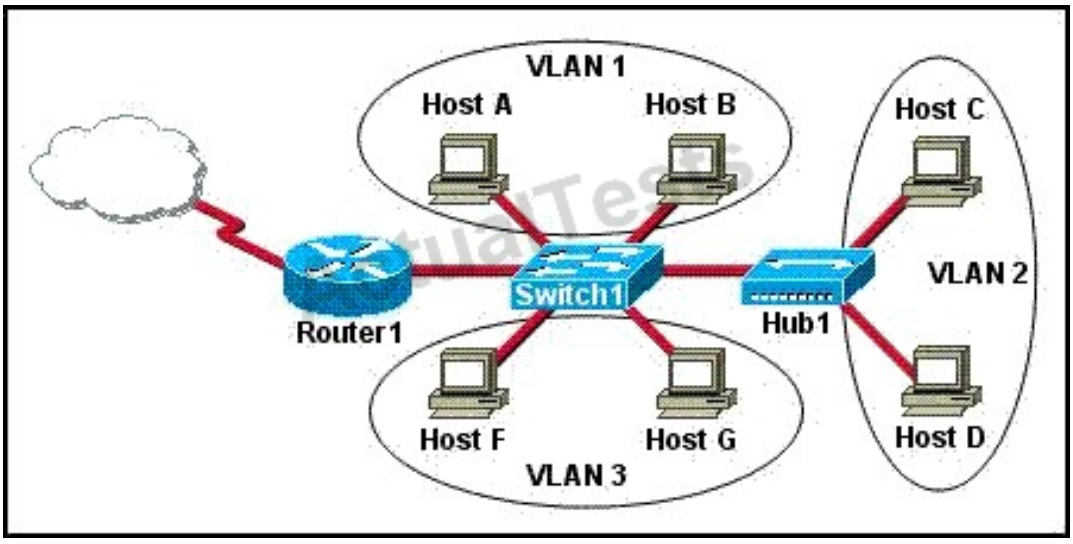
A. The subnet mask in use is 255.255.255.192.
B. The subnet mask in use is 255.255.255.128.
C. The IP address 172.16.1.25 can be assigned to hosts in VLAN1
D. The IP address 172.16.1.205 can be assigned to hosts in VLAN1
E. The LAN interface of the router is configured with one IP address.
F. The LAN interface of the router is configured with multiple IP addresses.

Answer: B,C,F

Explanation:

QUESTION NO: 193

Refer to the diagram. Which three statements describe the router port configuration and the switch port configuration as shown in the topology? (Choose three.)



A. The Router1 WAN port is configured as a trunking port.
B. The Router1 port connected to Switch1 is configured using subinterfaces.
C. The Router1 port connected to Switch1 is configured as 10 Mbps.
D. The Switch1 port connected to Router1 is configured as a trunking port.
E. The Switch1 port connected to Host B is configured as an access port.
F. The Switch1 port connected to Hub1 is configured as full duplex.

Answer: B,D,E
Explanation:
There are two types of links in switched network:
Access link or access port belongs to a single VLAN and frames will be forwarded only to this VLAN. Access link often provides connection between switches, between switches and PCs or other devices. In the above figure, the port connecting Switch1to Host B should be configured as access port.
Trunk link or trunk port is by default a member of all the VLANs that exist on the switch and carry traffic for all those VLANs between the switches, between switches and routers or specific servers. In this question, the port connecting Switch1 to Router1 should be configured as the trunk port.
The main difference between trunk link and access link is that switch will send some VLAN information out through trunk link instead of access link.

QUESTION NO: 194

Which routing protocols will support the following IP addressing scheme? (Choose three.)

Network 1 - 192.168.10.0 /26

Network 2 - 192.168.10.64 /27

Network 3 - 192.168.10.96 /27

Network 4 - 192.168.10.128 /30

Network 5 - 192.168.10.132 /30

A. RIP version 1
B. RIP version 2
C. IGRP
D. EIGRP
E. OSPF

Answer: B,D,E
Explanation:

QUESTION NO: 195

Refer to the partial command output shown. Which two statements are correct regarding the router hardware? (Choose two.)

```
System image file is "flash:c2600-do3s-mz.120-5.T1"

cisco 2621 (MPC860) processor (revision 0x600) with 53248K/12288K
bytes of memory

Processor board ID JAD05280307 (3536592999)
M860 processor: part number 0, mask 49
Bridging software.
X.25 software, Version 3.0.0.
2 FastEthernet/IEEE 802.3 interface(s)
2 Serial(sync/async) network interface(s)
2 Low-speed serial(sync/async) network interface(s)
16 terminal line(s)

32K bytes of non-volatile configuration memory.
16384K bytes of processor board System flash (Read/write)
```

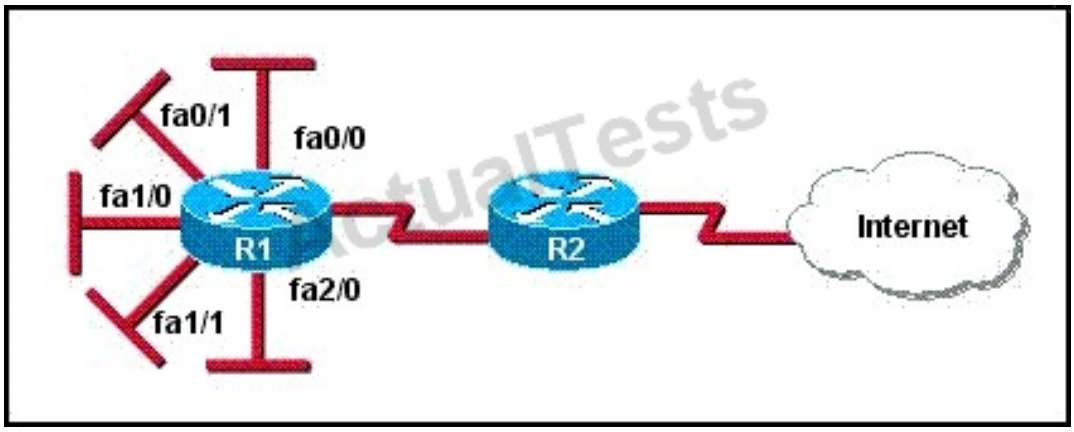
A. Total RAM size is 32 KB.

B. Total RAM size is 16384 KB (16 MB).
C. Total RAM size is 65536 KB (64 MB).
D. Flash size is 32 KB.
E. Flash size is 16384 KB (16 MB).
F. Flash size is 65536 KB (64 MB).

Answer: C,E
Explanation:

QUESTION NO: 196

The Ethernet networks connected to router R1 in the graphic have been summarized for router R2 as 192.1.144.0/20. Which of the following packet destination addresses will R2 forward to R1, according to this summary? (Choose two.)



A. 192.1.159.2
B. 192.1.160.11
C. 192.1.138.41
D. 192.1.151.254
E. 192.1.143.145
F. 192.1.1.144

Answer: A,D
Explanation:
This question is about route summary.
Example of route summary calculation
The routing table stores the following networks:
172.16.12.0/24
172.16.13.0/24
172.16.14.0/24
172.16.15.0/24

Routing protocols summarize or aggregate routes based on shared network numbers within the network. To calculate the summarized route of the router, it is necessary to determine how many bits on the left of those addresses are the same. The steps are shown below:
Step onE. Convert addresses to binary format and align them.
Step two: Find out the identical last bit of all addresses.
Step threE. Calculate how many bits are the same. The summarized route is an IP address with a slash, which will be helpful.

172.16.12.0/24= 172.16.000011 00.00000000
172.16.13.0/24= 172.16.000011 01.00000000
172.16.14.0/24= 172.16.000011 10.00000000
172.16.15.0/24= 172.16.000011 11.00000000
172.16.15.255/24= 172.16.000011 11.11111111

The first 22 bits of IP addresses 172.16.12.0---172.16.15.255 are identical, so the best summarized route is 172.16.12.0/22.
Using route summary can reduce the routing items on the summarized router to decrease the memory occupied and network traffic generated by routing protocol.

Route summary implementation:
A. The bits on the left of multiple addresses must be identical.
B. Routing protocol should select route according to the 32-bit IP address and the prefix length of the maximum 32 bit address.
C. Routing update must contain 32-bit IP address and the prefix length (subnet mask)

QUESTION NO: 197

The show interfaces serial 0/0 command resulted in the following output. Which three are possible reasons for this interface status? (Choose three.)

```
Router# show interfaces serial 0/0
Serial0/0 is up, line protocol is down
  Hardware is HD64570
  Internet address is 192.168.100.1/24
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive set (10 sec)
```

What are possible causes for this interface status? (Choose three.)

A. The interface is shut down.
B. No keep-alive messages are received.
C. The clock rate is not set.
D. No loopback address is set.
E. No cable is attached to the interface.
F. There is a mismatch in the encapsulation type.

Answer: B,C,F

Explanation:

Based on the information provided in the exhibit, we know that Serial0/0 is up, line protocol is down, usually there are three states:

1. serial0/0 up, line protocol is up The interface is up and the link protocol is up.
2. serial0/0 down, line protocol is down The interface is down and there is something wrong with the physical layer .

QUESTION NO: 198

Which of the following describe private IP addresses? (Choose two.)

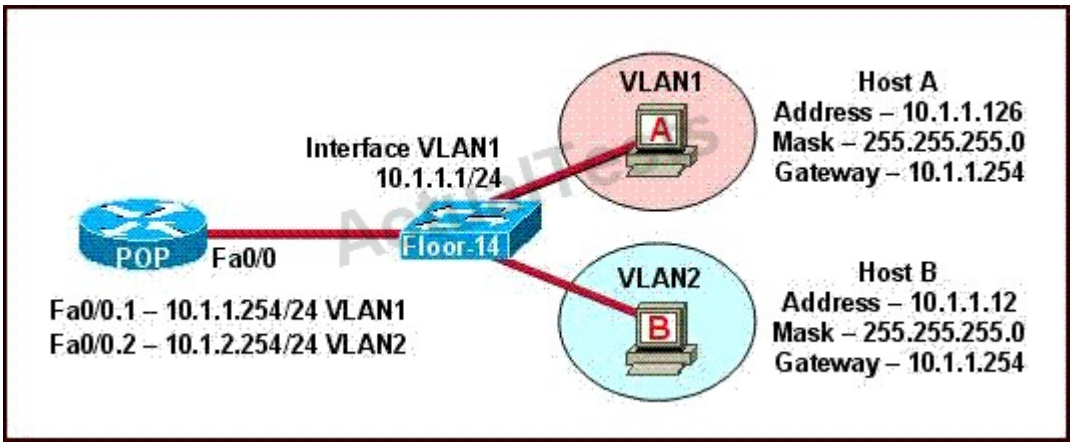
A. addresses chosen by a company to communicate with the Internet
B. addresses that cannot be routed through the public Internet
C. addresses that can be routed through the public Internet
D. a scheme to conserve public addresses
E. addresses licensed to enterprises or ISPs by an Internet registry organization

Answer: B,D

Explanation:

QUESTION NO: 199

Refer to the exhibit.



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.

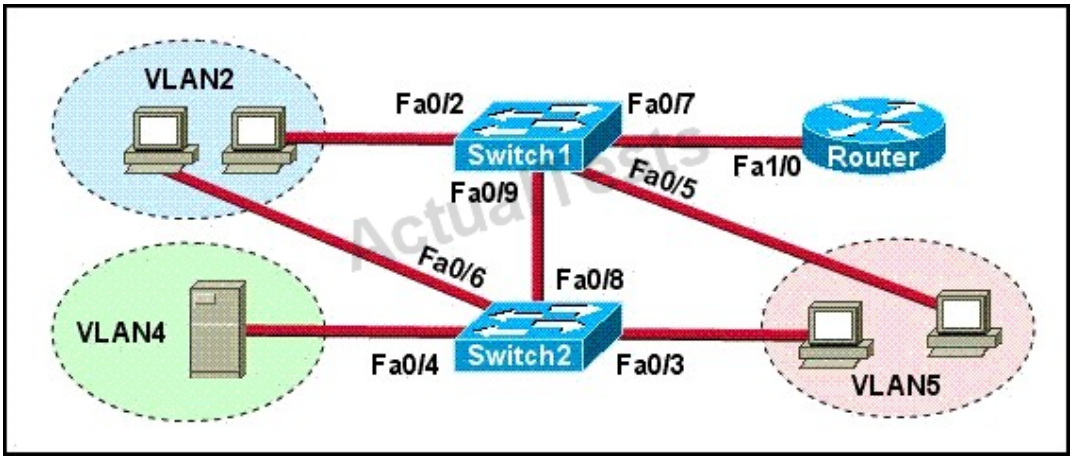
Answer: B,D

Explanation:

The switch 1 is configured with two VLANs: VLAN1 and VLAN2.
The IP information of member Host A in VLAN1 is as follows:
Address : 10.1.1.126
Mask : 255.255.255.0
Gateway : 10.1.1.254
The IP information of member Host B in VLAN2 is as follows:
Address : 10.1.1.12
Mask : 255.255.255.0
Gateway : 10.1.1.254
The configuration of sub-interface on router 2 is as follows:
Fa0/0.1 -- 10.1.1.254/24 VLAN1
Fa0/0.2 -- 10.1.2.254/24 VLAN2
It is obvious that the configurations of the gateways of members in VLAN2 and the associated network segments are wrong. The layer3 addressing information of Host B should be modified as follows:
Address : 10.1.2.X
Mask : 255.255.255.0

QUESTION NO: 200

A network associate is trying to understand the operation of the FLD Corporation by studying the network in the exhibit. The associate knows that the server in VLAN 4 provides the necessary resources to support the user hosts in the other VLANs. The associate needs to determine which interfaces are access ports. Which interfaces are access ports? (Choose three.)



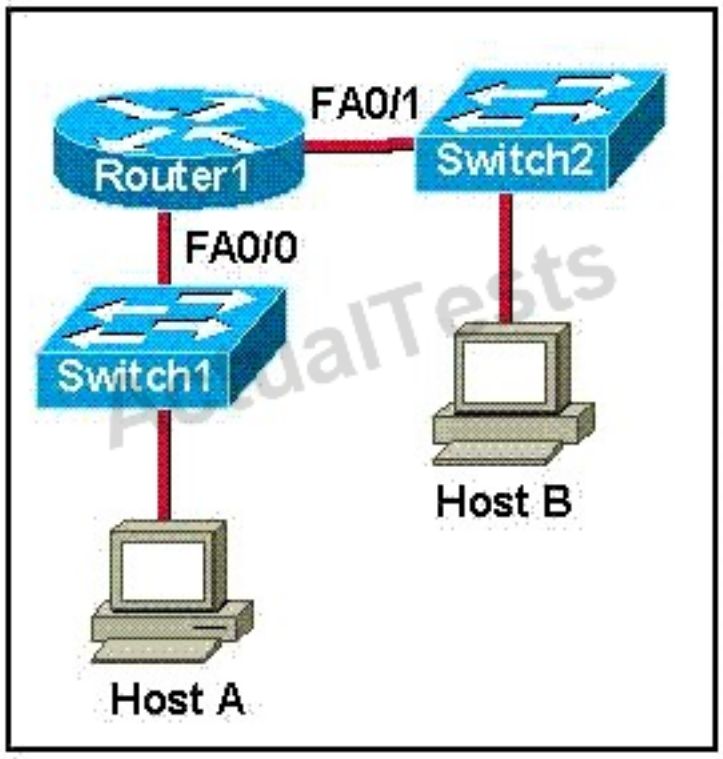
A. Switch1 - Fa 0/2
B. Switch1 - Fa 0/9
C. Switch2 - Fa 0/3
D. Switch2 - Fa 0/4
E. Switch2 - Fa 0/8
F. Router - Fa 1/0

Answer: A,C,D
Explanation:

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QUESTION NO: 201

Refer to the exhibit. Which destination addresses will Host A use to send data to Host B? (Choose two.)



A. the IP address of Switch1
B. the IP address of Router1 Fa0/0
C. the IP address of HostB
D. the MAC address of Switch1
E. the MAC address of Router1 Fa0/0
F. the MAC address of HostB

Answer: C,E

Explanation:

QUESTION NO: 202

The network security 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? (Choose two.)

A. Switch1(config-if)# switchport port-security violation shutdown
B. Switch1(config)# mac-address-table secure
C. Switch1(config-if)# switchport port-security maximum 1
D. Switch1(config)# access-list 10 permit ip host
E. Switch1(config-if)# ip access-group 10

Answer: A,C

Explanation: Explanation

Catalyst switches offer the port security feature to control port access based on MAC addresses. To configure port security on an access layer switch port, begin by enabling it with the following interface configuration command:

Switch(config-if)# switchport port-security

Next, you must identify a set of allowed MAC addresses so that the port can grant them access. You can explicitly configure addresses or they can be dynamically learned from port traffic. On each interface that uses port security, specify the maximum number of MAC addresses that will be allowed access using the following interface configuration commanD.

Switch(config-if)# switchport port-security maximum max-addr

Finally, you must define how each interface using port security should react if a MAC address is in violation by using the following interface configuration command:

Switch(config-if)# switchport port-security violation {shutdown | restrict | protect}

A violation occurs if more than the maximum number of MAC addresses are learned, or if an unknown (not statically defined) MAC address attempts to transmit on the port. The switch port takes one of the following configured actions when a violation is detected:

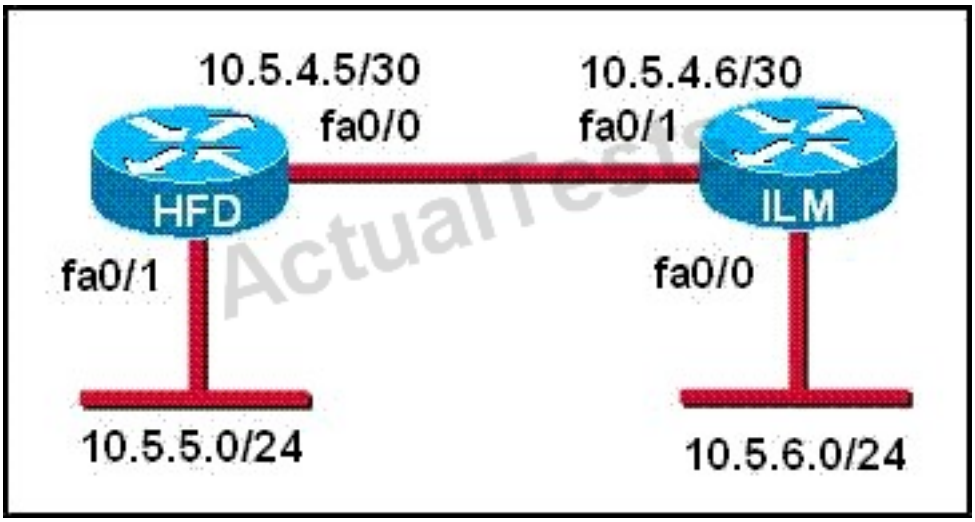
shutdown—The port is immediately put into the errdisable state, which effectively shuts it down. It must be re-enabled manually or through errdisable recovery to be used again.

restrict—The port is allowed to stay up, but all packets from violating MAC addresses are dropped. The switch keeps a running count of the number of violating packets and can send an SNMP trap and a syslog message as an alert of the violation.

protect—The port is allowed to stay up, as in the **restrict** mode. Although packets from violating addresses are dropped, no record of the violation is kept.

QUESTION NO: 203

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

Explanation:

A static route is a route that is created manually by a network administrator. The opposite of a static route is a dynamic route. Dynamic routes are created by routing protocols. Static routes have advantages and disadvantages as compares to dynamic routes.
To add a static route on a Cisco router, use the `ip route` command.

QUESTION NO: 204

What should be done prior to backing up an IOS image to a TFTP server? (Choose three.)

A. Make sure that the server can be reached across the network.
B. Check that authentication for TFTP access to the server is set.
C. Assure that the network server has adequate space for the IOS image.
D. Verify file naming and path requirements.
E. Make sure that the server can store binary files.
F. Adjust the TCP window size to speed up the transfer.

Answer: A,C,D

Explanation:

This question is to examine the Cisco IOS management.

Prior to backing up an IOS image to a TFTP server, the following actions should be taken:
Ensure the accessibility between the TFTP server and the device.
Use the show version command to examine the IOS information to ensure that the network server has adequate space for the IOS image.
So we choose A, C, D.

QUESTION NO: 205

Which are valid modes for a switch port used as a VLAN trunk? (Choose three.)

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

Answer: B,C,D
Explanation:

QUESTION NO: 206

The network 172.25.0.0 has been divided into eight equal subnets. Which of the following IP addresses can be assigned to hosts in the third subnet if the ip subnet-zero command is configured on the router? (Choose three.)

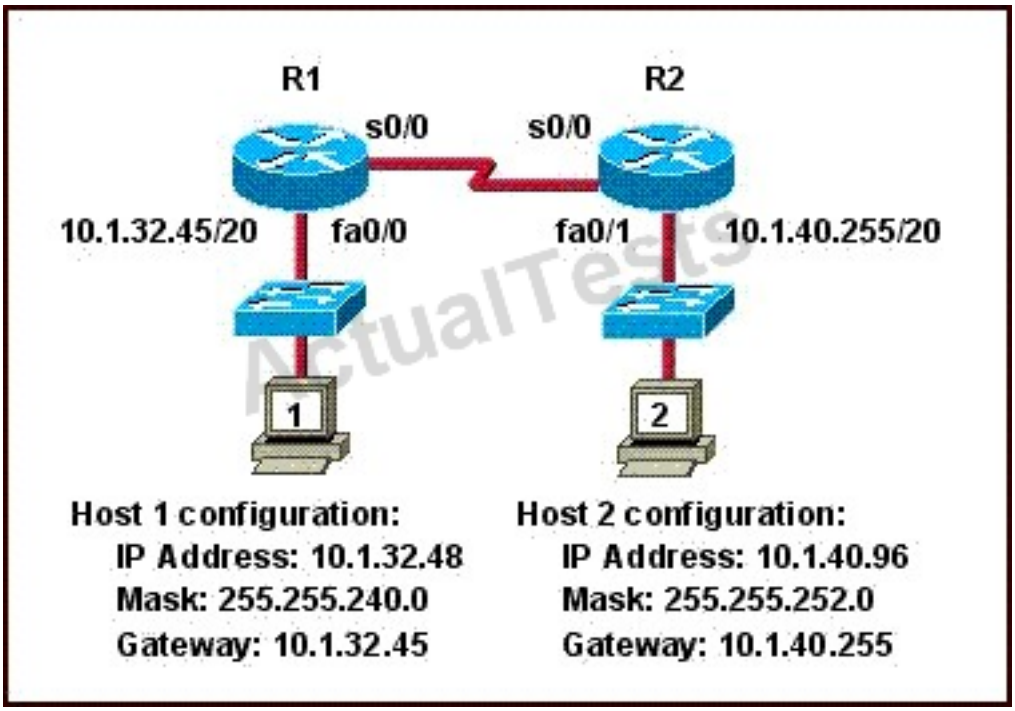
A. 172.25.78.243
B. 172.25.98.16
C. 172.25.72.0
D. 172.25.94.255
E. 172.25.96.17
F. 172.25.100.16

Answer: A,C,D
Explanation:
If we divide the address 172.25.0.0 in 8 subnets, the resulting subnets will be
1. 172.25.0.0
2. 172.25.32.0
3. 172.25.64.0 This is the third subnet

4. 172.25.96.0
5. 172.25.128.0
6. 172.25.160.0
7. 172.25.192.0
8. 172.25.224.0

QUESTION NO: 207

Refer to the graphic. Host 1 cannot receive packets from Host 2. Assuming that RIP v1 is the routing protocol in use, what is wrong with the IP configuration information shown? (Choose two.)



A. The fa0/1 interface of router R2 has been assigned a broadcast address.
B. The fa0/1 network on router R2 overlaps with the LAN attached to R1.
C. Host 2 has been assigned the incorrect subnet mask.
D. Host 1 has been configured with the 255.255.248.0 subnet mask.
E. Host 2 on router R2 is on a different subnet than its gateway.

Answer: B,C

Explanation:

QUESTION NO: 208

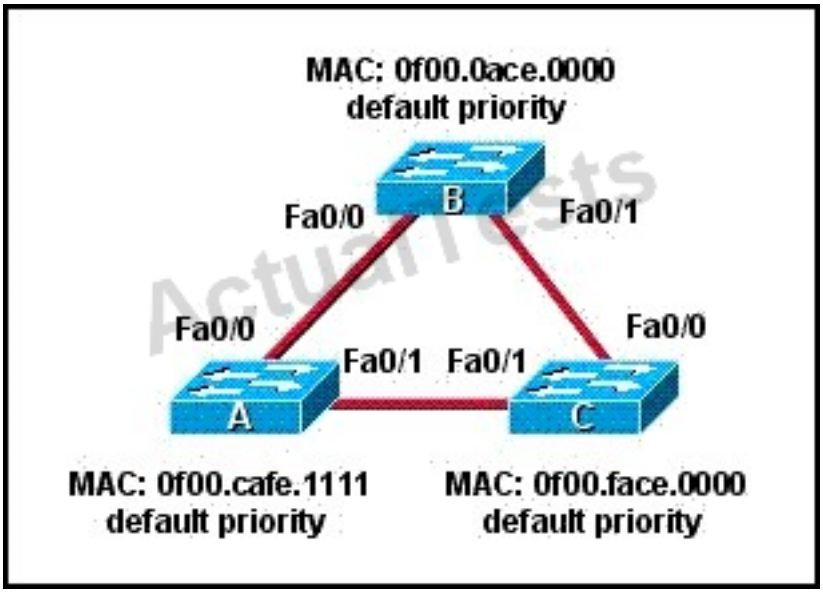
What are three valid reasons to assign ports to VLANs on a switch? (Choose three.)

A. to make VTP easier to implement
B. to isolate broadcast traffic
C. to increase the size of the collision domain
D. to allow more devices to connect to the network
E. to logically group hosts according to function
F. to increase network security

Answer: B,E,F
Explanation:
VLAN has the following advantages:
1. Restrict broadcast domain. That is to say each VLAN is a Broadcast domain, which saves bandwidth and improves the network performance.
2. Enhance the LAN security. Datagrams in different VLANs transmit separately, that is to say users in one VLAN can't directly communicate with users in other VLANs, if they want to communicate, devices such as routers and layer3 switches are required.
3. Establish a virtual working group flexibly. VLAN can group different users into different working team regardless of their physical location, which makes network establishment and maintenance more flexible.

QUESTION NO: 209

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.)



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

Explanation:

This question is to check the spanning tree election problem.
1.First, select the root bridge, which can be accomplished by comparing the bridge ID, the smallest will be selected. Bridge-id= bridge priority + MAC address. The three switches in the figure all have the default priority, so we should compare the MAC address, it is easy to find that SwitchB is the root bridge.
2.Select the root port on the non-root bridge, which can be completed through comparing root path cost. The smallest will be selected as the root port.
3.Next, select the Designated Port. First, compare the path cost, if the costs happen to be the same, then compare the BID, still the smallest will be selected. Each link has a DP. Based on the exhibit above, we can find DP on each link. The DP on the link between SwitchA and SwitchC is SwitchA'Fa0/1, because it has the smallest MAC address.

QUESTION NO: 210

Which statements describe two of the benefits of VLAN Trunking Protocol? (Choose two.)

A. VTP allows routing between VLANs.
B. VTP allows a single switch port to carry information to more than one VLAN.
C. VTP allows physically redundant links while preventing switching loops.
D. VTP simplifies switch administration by allowing switches to automatically share VLAN configuration information.
E. VTP helps to limit configuration errors by keeping VLAN naming consistent across the VTP domain.
F. VTP enhances security by preventing unauthorized hosts from connecting to the VTP domain.

Answer: D,E

Explanation:

VTP has the following benefits:
1.VTP keeps VLAN configuration consistency across the network (all switches in a network use the same set of VLAN database).
2.VLANs are trunked over mixed media.

3.Accurate tracking and monitoring of VLANs.

QUESTION NO: 211

What are two results of entering the Switch(config)# vtp mode client command on a Catalyst switch? (Choose two.)

A. The switch will ignore VTP summary advertisements.
B. The switch will forward VTP summary advertisements.
C. The switch will process VTP summary advertisements.
D. The switch will originate VTP summary advertisements.
E. The switch will create, modify and delete VLANs for the entire VTP domain.

Answer: B,C
Explanation:
Server Mode Once VTP is configured on a Cisco switch, the default mode used is Server Mode. In any given VTP management domain, at least one switch must be in Server Mode. When in Server Mode, a switch can be used to add, delete, and modify VLANs, and this information will be passed to all other switches in the VTP management domain.

Client Mode When a switch is configured to use VTP Client Mode, it is simply the recipient of any VLANs added, deleted, or modified by a switch in Server Mode within the same management domain. A switch in VTP client mode cannot make any changes to VLAN information.

Transparent Mode A switch in VTP Transparent Mode will pass VTP updates received by switches in Server Mode to other switches in the VTP management domain, but will not actually process the contents of these messages. When individual VLANs are added, deleted, or modified on a switch running in transparent mode, the changes are local to that particular switch only, and are not passed to other switches in the VTP management domain.

QUESTION NO: 212

A network administrator issues the ping 192.168.2.5 command and successfully tests connectivity to a host that has been newly connected to the network. Which protocols were used during the test? (Choose two.)

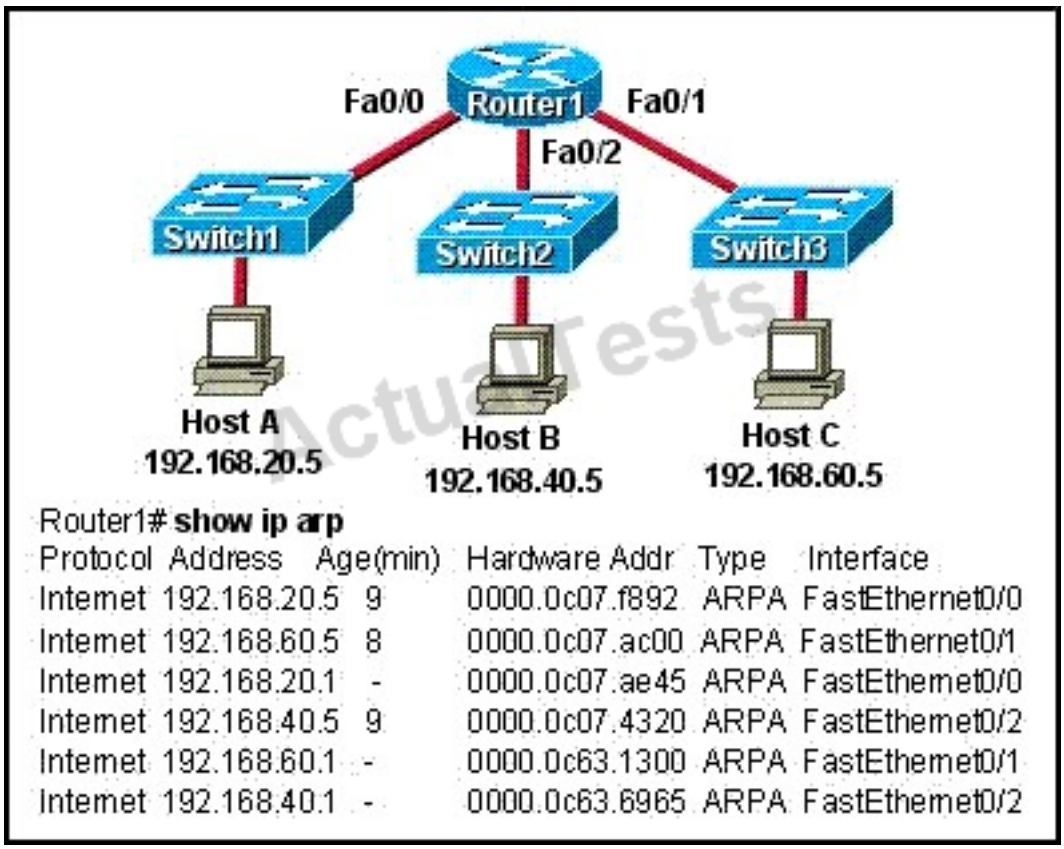
A. ARP

B. CDP
C. DHCP
D. DNS
E. ICMP

Answer: A,E
Explanation:

QUESTION NO: 213

Refer to the exhibit. Host A is to send data to Host B. How will Router1 handle the data frame received from Host A? (Choose three.)



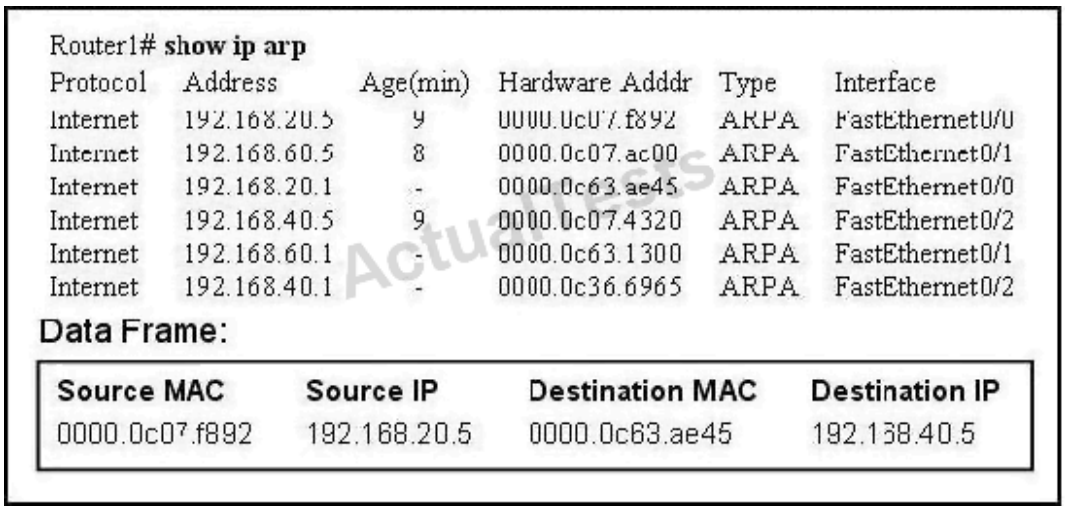
A. Router1 will strip off the source MAC address and replace it with the MAC address on the forwarding FastEthernet interface.
B. Router1 will strip off the source IP address and replace it with the IP address on the forwarding FastEthernet interface.
C. Router1 will strip off the destination MAC address and replace it with the MAC address of Host B.
D. Router1 will strip off the destination IP address and replace it with the IP address of Host B.
E. Router1 will forward the data frame out interface FastEthernet0/1.
F. Router1 will forward the data frame out interface FastEthernet0/2.

Answer: A,C,F

Explanation:

QUESTION NO: 214

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



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

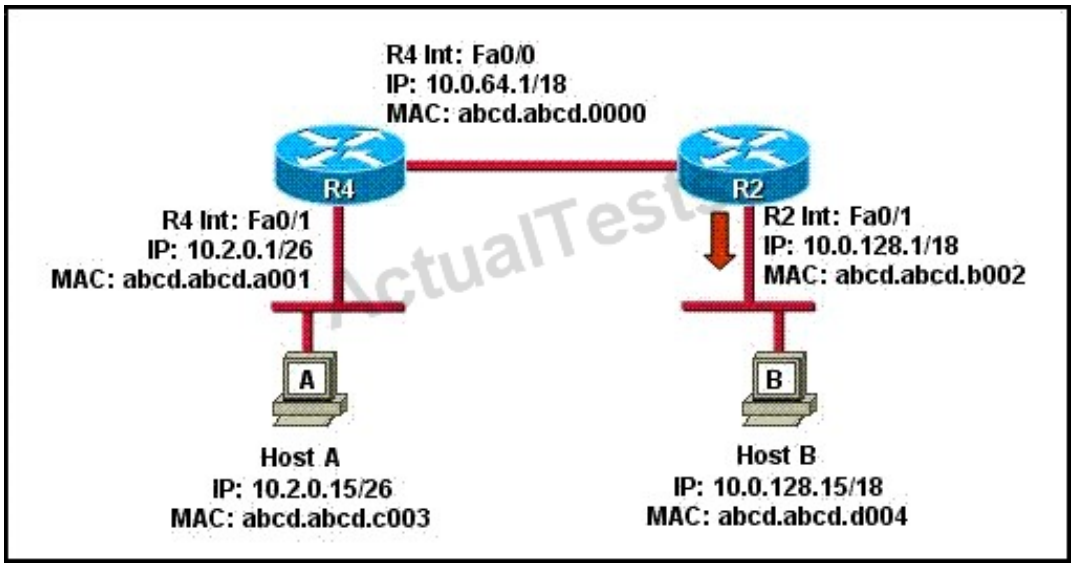
A. Router1 will strip off the source MAC address and replace it with the MAC address 0000.0c36.6965.
B. Router1 will strip off the source IP address and replace it with the IP address 192.168.40.1.
C. Router1 will strip off the destination MAC address and replace it with the MAC address 0000.0c07.4320.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

Explanation:

QUESTION NO: 215

Refer to the exhibit. Host A pings Host B. What source MAC address and source IP address are contained in the frame as the frame leaves R2 destined for host B?



A. abcd.abcd.a001
B. abcd.abcd.b002
C. abcd.abcd.c003
D. 10.2.0.15
E. 10.0.64.1
F. 10.0.128.15

Answer: B,D

Explanation:

QUESTION NO: 216

Refer to the exhibit. A network associate has configured OSPF with the command:

City(config-router)# network 192.168.12.64 0.0.0.63 area 0

City#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
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#

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

Explanation:

QUESTION NO: 217

A Catalyst 2950 needs to be reconfigured. What steps will ensure that the old configuration is erased? (Choose three.)

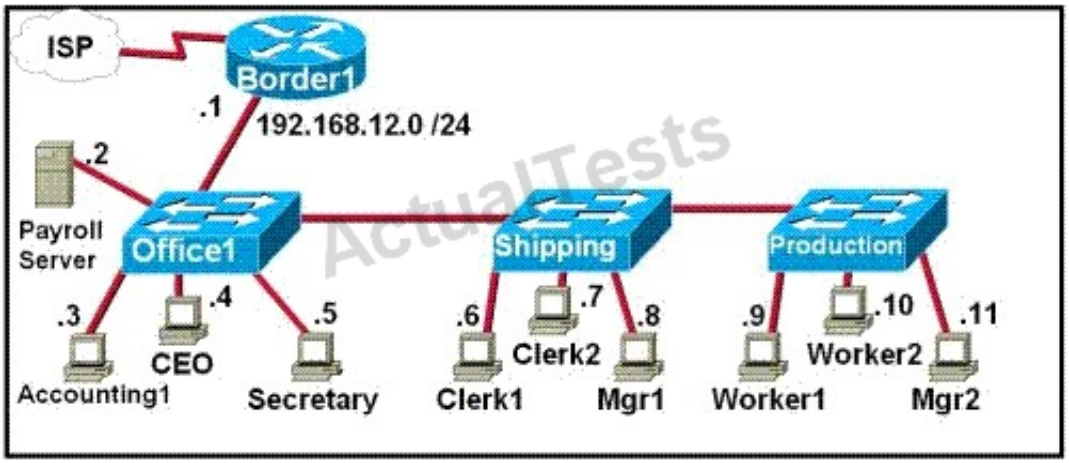
A. Erase flash.
B. Restart the switch.
C. Delete the VLAN database.
D. Erase the running configuration.
E. Erase the startup configuration.
F. Modify the configuration register.

Answer: B,C,E

Explanation:

QUESTION NO: 218

Refer to the exhibit. The FMJ manufacturing company is concerned about unauthorized access to the Payroll Server. The Accounting1, CEO, Mgr1, and Mgr2 workstations should be the only computers with access to the Payroll Server. What two technologies should be implemented to help prevent unauthorized access to the server? (Choose two.)



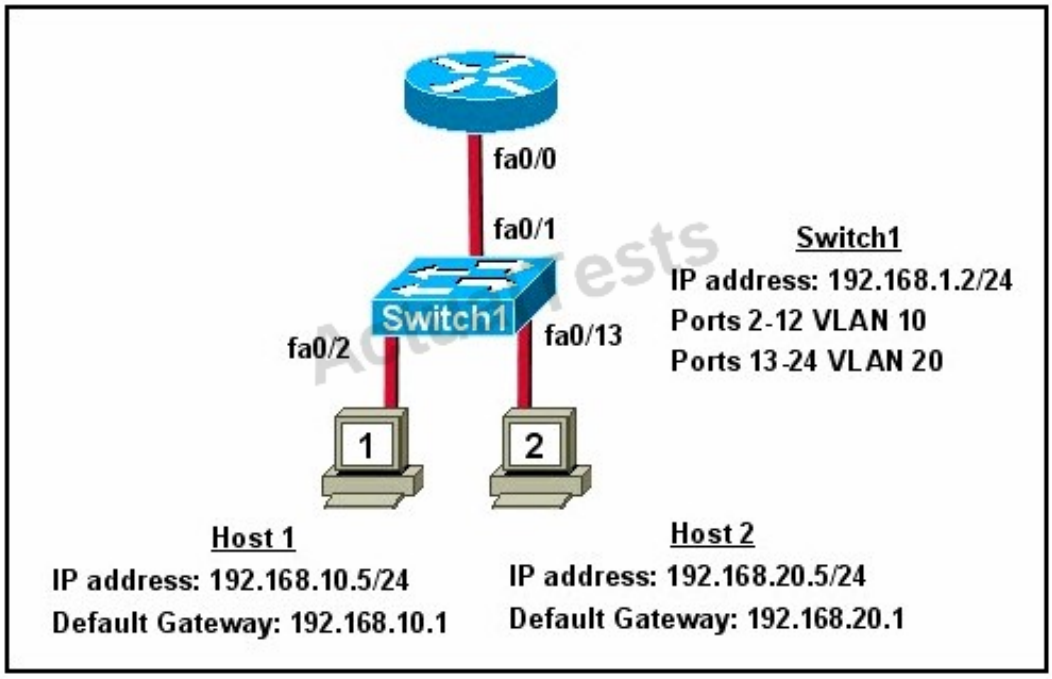
A. access lists
B. encrypted router passwords
C. STP
D. VLANs
E. VTP
F. wireless LANs

Answer: A,D

Explanation:

QUESTION NO: 219

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 shut down
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)# 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

Explanation:

QUESTION NO: 220

Which three Layer 2 encapsulation types would be used on a WAN rather than a LAN? (Choose three.)

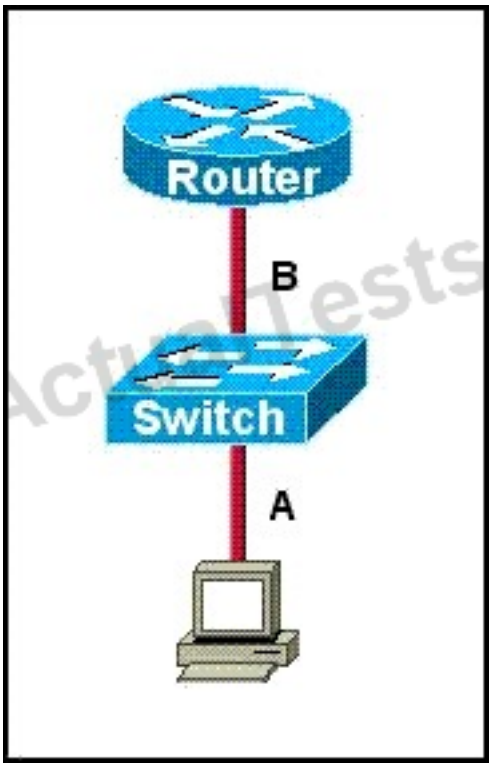
A. HDLC
B. Ethernet
C. Token Ring
D. PPP
E. FDDI
F. Frame Relay

Answer: A,D,F

Explanation:
On each WAN link, data is encapsulated into frame before being transmitted over the WAN link. In order to implement the accurate protocol, it is required to configure the correct type of layer2 encapsulation. The selection of the protocol depends on the WAN technology and the communication devices being used.

QUESTION NO: 221

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
Explanation:

QUESTION NO: 222

The following output was shown on router R:

```
R  10.10.10.8 [120/2] via  10.10.10.6,  00:00:25, Serial0/1
```

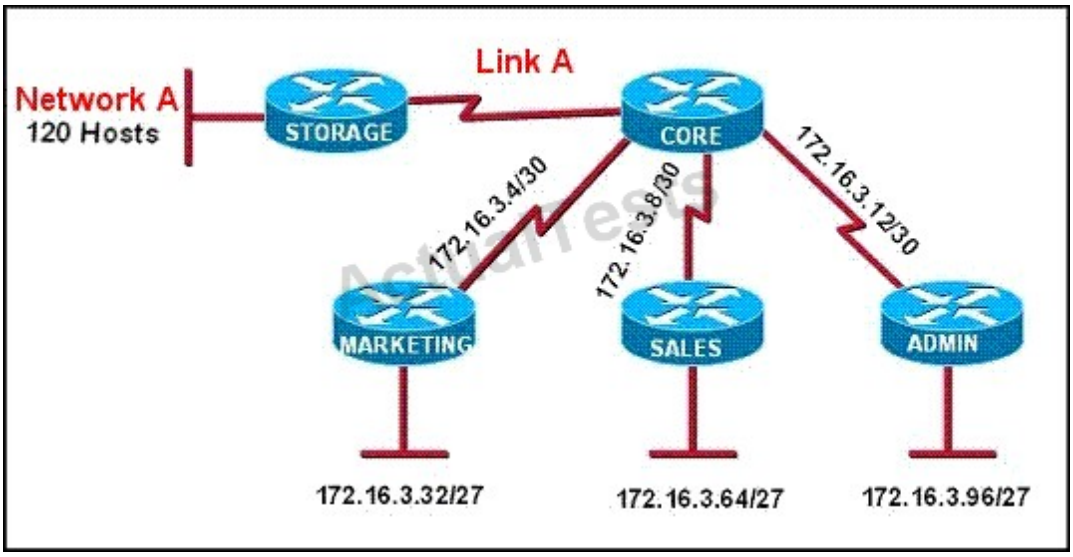
Based on the information shown above, what can be determined from the line of show ip route output shown in the exhibit? (Choose two)

A. The next routing update can be expected in 35 seconds.
B. The IP address 10.10.10.6 is configured on S0/1.
C. The IP address 10.10.10.8 is configured on S0/1.
D. This route is using the default administrative distance.
E. The 10.10.10.8 network is two hops away from this router.

Answer: D,E
Explanation:

QUESTION NO: 223

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
Explanation:

QUESTION NO: 224

Which two subnetworks would be included in the summarized address of 172.31.80.0 /20? (Choose two.)

A. 172.31.17.4/30
B. 172.31.51.16/30
C. 172.31.64.0/18
D. 172.31.80.0 /22
E. 172.31.92.0/22
F. 172.31.192.0/18

Answer: D,E
Explanation:

QUESTION NO: 225

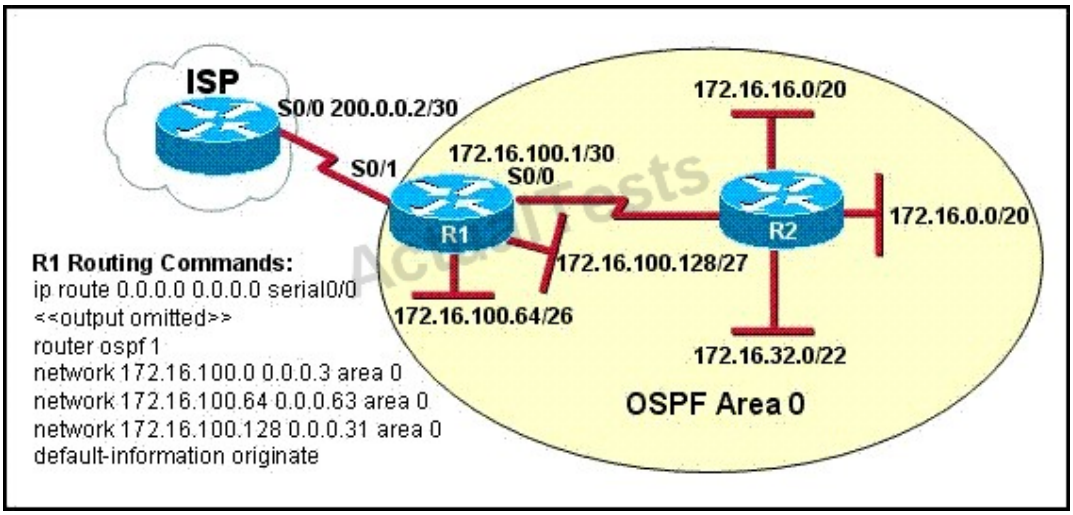
The network administrator has discovered that the power supply has failed on a switch in the company LAN and that the switch has stopped functioning. It has been replaced with a Cisco Catalyst 2950 series switch. What must be done to ensure that this new switch becomes the root bridge on the network?

A. Lower the bridge priority number.
B. Change the MAC address of the switch.
C. Increase the VTP revision number for the domain.
D. Lower the root path cost on the switch ports.
E. Assign the switch an IP address with the lowest value.

Answer: A
Explanation:

QUESTION NO: 226

Refer to the exhibit. Assume that all of the router interfaces are operational and configured correctly. How will router R2 be affected by the configuration of R1 that is shown in the exhibit?



A. Router R2 will not form a neighbor relationship with R1.
B. Router R2 will obtain a full routing table, including a default route, from R1.
C. R2 will obtain OSPF updates from R1, but will not obtain a default route from R1.
D. R2 will not have a route for the directly connected serial network, but all other directly connected networks will be present, as well as the two Ethernet networks connected to R1.

Answer: B
Explanation:

QUESTION NO: 227

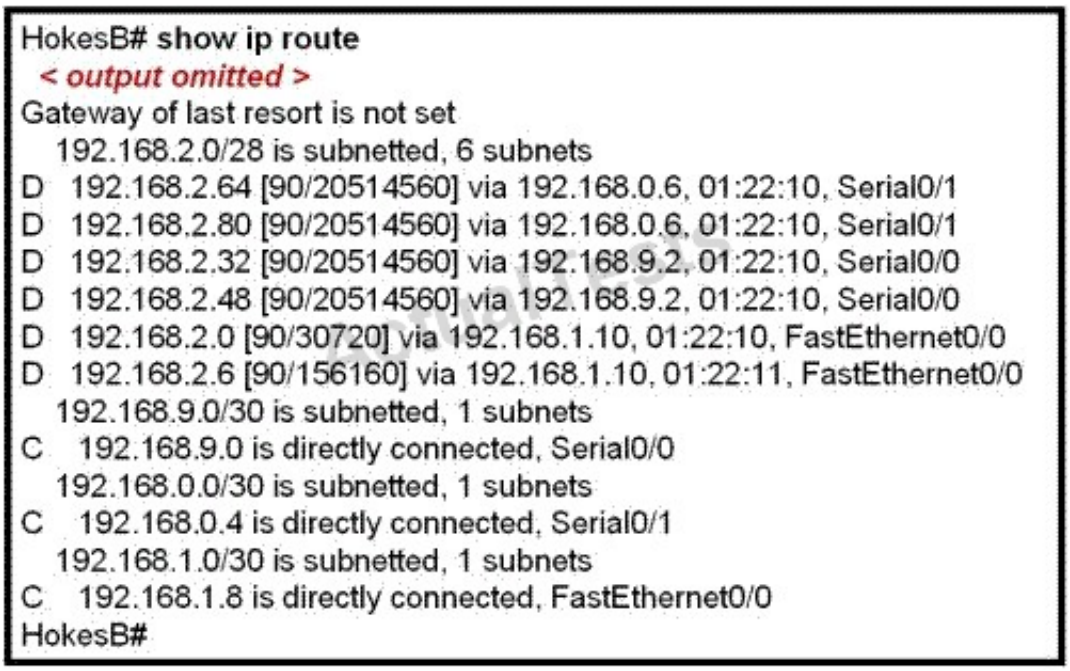
Which three IP addresses can be assigned to hosts if the subnet mask is /27 and subnet zero is usable? (Choose three.)

A. 10.15.32.17
B. 17.15.66.128
C. 66.55.128.1
D. 135.1.64.34
E. 129.33.192.192
F. 192.168.5.63

Answer: A,C,D
Explanation:

QUESTION NO: 228

Refer to the exhibit. A packet with a source IP address of 192.168.2.4 and a destination IP address of 10.1.1.4 arrives at the HokesB router. What action does the router take?

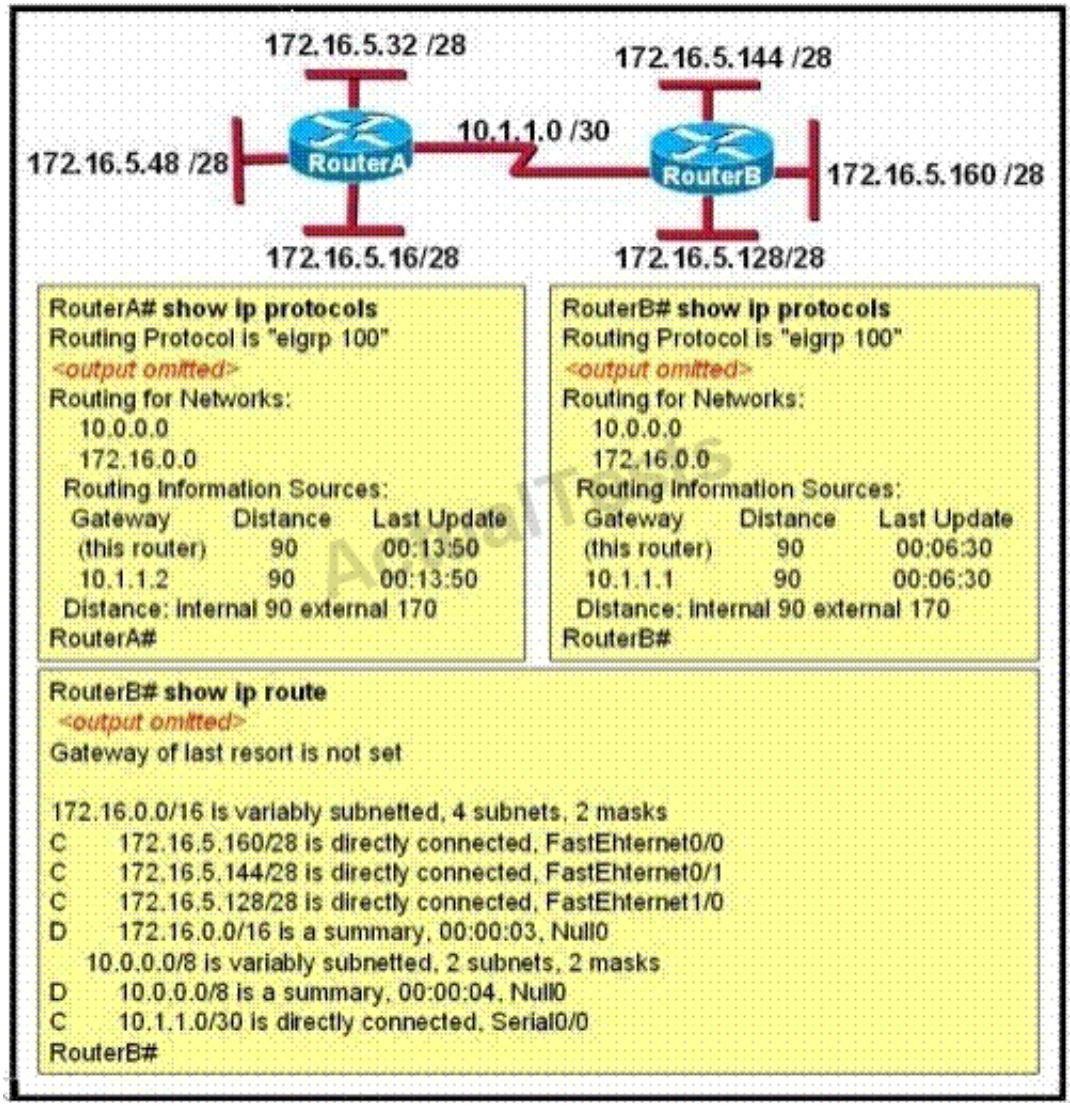


A. forwards the received packet out the Serial0/0 interface
B. forwards a packet containing an EIGRP advertisement out the Serial0/1 interface
C. forwards a packet containing an ICMP message out the FastEthernet0/0 interface
D. forwards a packet containing an ARP request out the FastEthernet0/1 interface

Answer: C
Explanation:

QUESTION NO: 229

Refer to the exhibit. From RouterA, a network administrator is able to ping the serial interface of RouterB but unable to ping any of the subnets attached to RouterB. Based on the partial outputs in the exhibit, what could be the problem?



A. EIGRP does not support VLSM.
B. The EIGRP network statements are incorrectly configured.
C. The IP addressing on the serial interface of RouterA is incorrect.
D. The routing protocol has summarized on the classful boundary.
E. EIGRP has been configured with an invalid autonomous system number.

Answer: D

Explanation:

QUESTION NO: 230

What are three characteristics of the OSPF routing protocol? (Choose three.)

A. It converges quickly.
B. OSPF is a classful routing protocol.
C. It uses cost to determine the best route.

D. It uses the DUAL algorithm to determine the best route.
E. OSPF routers send the complete routing table to all directly attached routers.
F. OSPF routers discover neighbors before exchanging routing information.

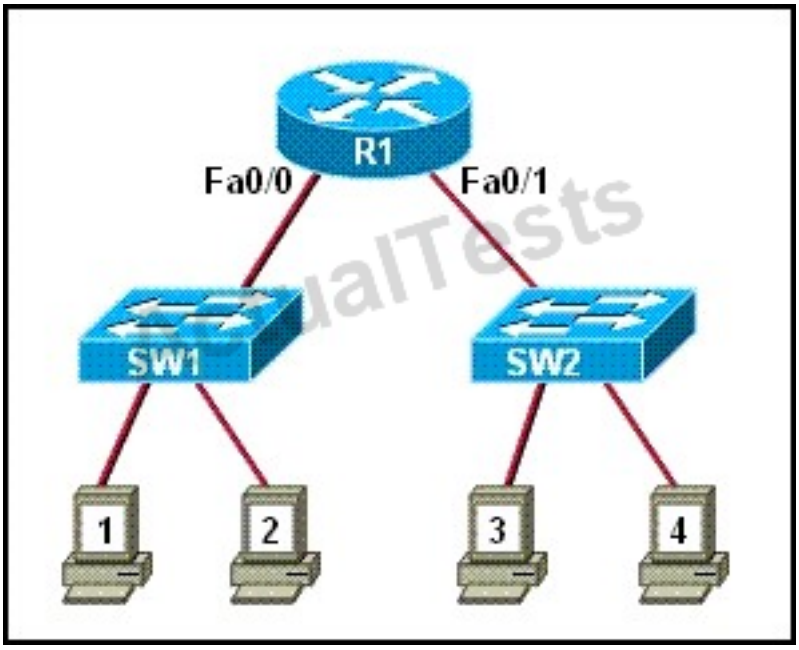
Answer: A,C,F

Explanation:

OSPF builds routing tables based solely on the destination IP address found in IP packets. It was designed to support variable-length subnet masking (VLSM, CIDR). OSPF detects changes in the topology, such as link failures, very quickly and converges on a new loop-free routing structure within seconds. For this, each OSPF router collects link-state information to construct the entire network topology of so-called areas from which it computes the shortest path tree for each route using a method based on Dijkstra's algorithm. The link-state information is maintained on each router as a link-state database (LSDB) which is a tree-image of the network topology. Identical copies of the LSDB are periodically updated through flooding on all routers in each OSPF-aware area (region of the network included in an OSPF area type - see "Area types" below). By convention, area 0 represents the core or "backbone" region of an OSPF-enabled network, and other OSPF area numbers may be designated to serve other regions of an enterprise (large, business) network - however every additional OSPF area must have a direct or virtual connection to the backbone OSPF area. The backbone area has the identifier 0.0.0.0. Inter-area routing goes via the backbone.

QUESTION NO: 231

Refer to the exhibit. SW1 and SW2 have default configurations. What will happen if host 1 sends a broadcast?



A. Hosts 2, 3, and 4 will receive the broadcast.
B. Hosts 1, 2, 3, and 4 will receive the broadcast.
C. Host 2 and the Fa0/0 interface of R1 will receive the broadcast.
D. Hosts 1, 2 and the Fa0/0 interface of R1 will receive the broadcast.
E. Hosts 1, 2, 3, 4 and interface Fa0/0 of R1 will receive the broadcast.
F. Hosts 2, 3, 4, and interfaces Fa0/0 and Fa0/1 of R1 will receive the broadcast.

Answer: C
Explanation:

QUESTION NO: 232

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
Explanation:

QUESTION NO: 233

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
Explanation:
In computing, a physical address, also real address, or binary address, is the memory address that is electronically (in the form of binary number) presented on the computer address bus

circuitry in order to enable the data bus to access a particular storage cell of main memory.
In a computer with virtual memory, the term physical address is used mostly to differentiate from a virtual address. In particular, in computers utilizing memory management unit (MMU) to translate memory addresses, the virtual and physical address refer to address before and after MMU translation, respectively.

QUESTION NO: 234

As a frame leaves a Layer 3 device, the Layer 2 encapsulation information is changed from what it was when it entered the device. For what two reasons can this happen? (Choose two.)

A. The data is moving from 10BASE-TXto 100BASE-TX.
B. The WAN encapsulation type has changed.
C. The data format has changed from analog to digital.
D. The source and destination hosts are in the same subnet.
E. The source and destination MAC addresses have changed.

Answer: B,E
Explanation:

QUESTION NO: 235

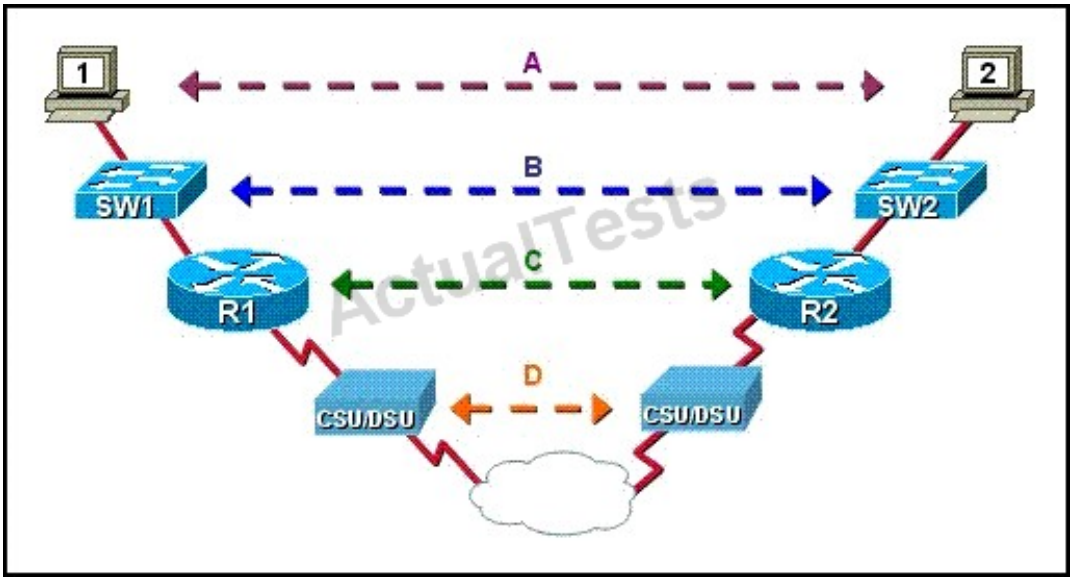
Which two statements are true regarding EIGRP? (Choose two.)

A. Passive routes are in the process of being calculated by DUAL
B. EIGRP supports VLSM, route summarization, and routing update authentication.
C. EIGRP exchanges full routing table information with neighboring routers with every update.
D. If the feasible successor has a higher advertised distance than the successor route, it becomes the primary route.
E. A query process is used to discover a replacement for a failed route if a feasible successor is not identified from the current routing information.

Answer: B,E
Explanation:

QUESTION NO: 236
Refer to the exhibit. In the communication between host 1 and host 2 over the point-to-point WAN,

which protocol or technology is represented by dashed line A?

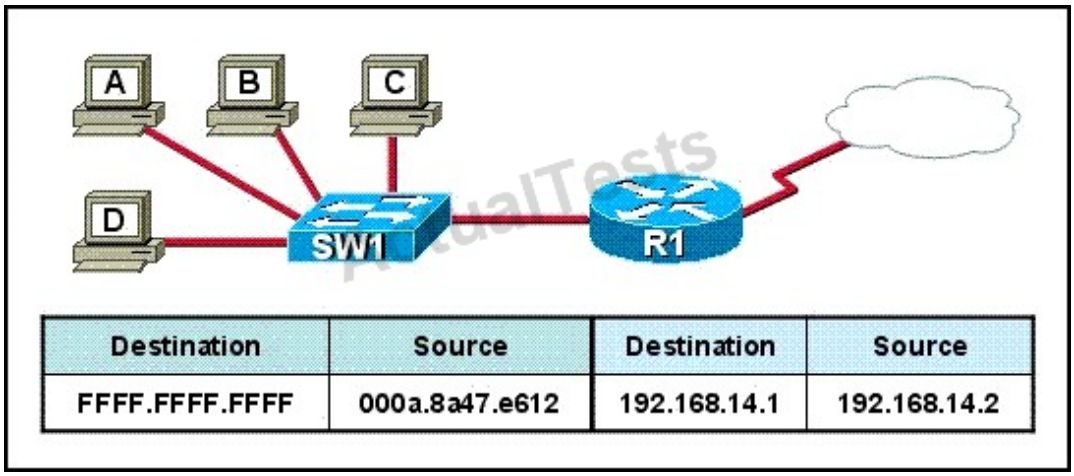


A. IP
B. T1
C. ppp
D. IEEE 802.3

Answer: A
Explanation:
This question is to examine knowledge point about WAN connectivity. The communication between two host computers is based on network layer; therefore their communication is actually IP communication, Generally, IEEE 802.2 refers to Ethernet. T1/E1 represents two data transmission speed standards. T1 is a North American Standard, which support 1.544Mbps dedicated circuit telephone data transmission. It is made of 24 autonomous channels and transmission speed of each one is 64kpbs, which can use simultaneously to transmit voice and data. PPP(Point-to-Point Protocol) is a link layer protocol which is designed simple link circuit such as transmit data between coequal cells. This link circuit supplies duplex operation and transmit data packet in order. The purpose of the design is mainly about creating point-to-point connection through dial-up or autonomous channels to transmit data, making it the common solution of connection between different host computers,network bridges and routers.

QUESTION NO: 237

Refer to the exhibit. The switch in the graphic has a default configuration and the MAC table is fully populated. In addition, this network is operating properly. The graphic represents selected header information in a frame leaving host A. What can be concluded from this information?



Destination	Source	Destination	Source
FFFF.FFFF.FFFF	000a.8a47.e612	192.168.14.1	192.168.14.2

A. The MAC address of host A is FFFF.FFFF.FFFF.
B. The router will forward the packet in this frame to the Internet.
C. The switch will only forward this frame to the attached router interface.
D. All devices in this LAN except host A will pass the packet to Layer 3.

Answer: D
Explanation:

QUESTION NO: 238

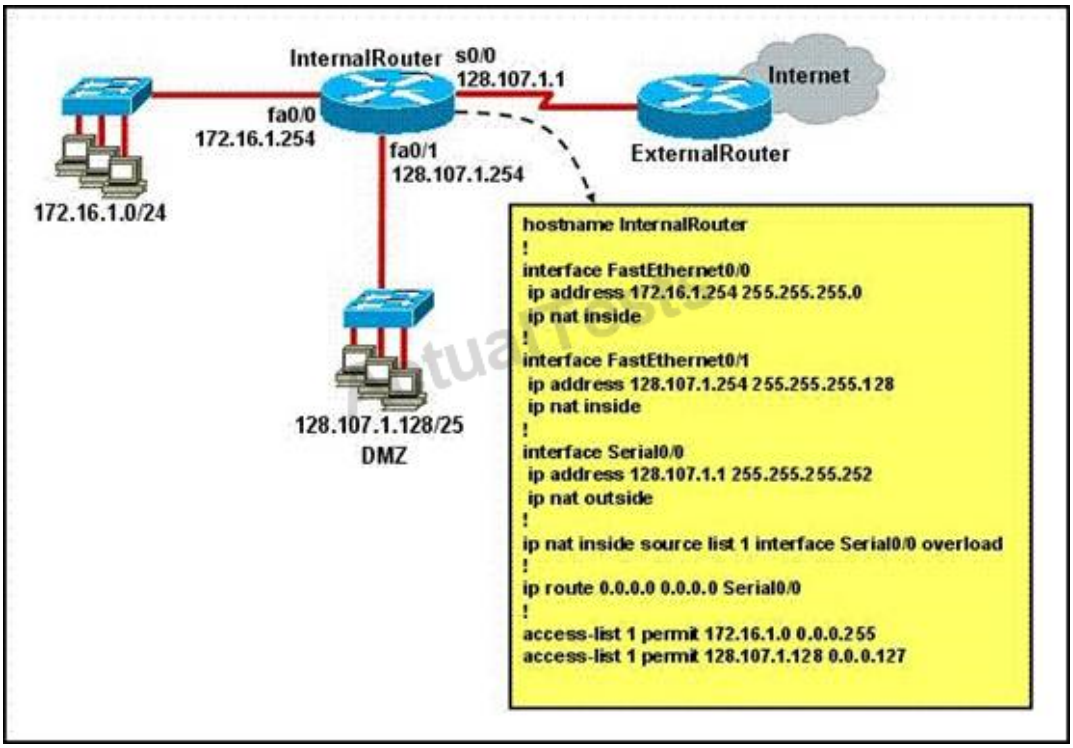
What is an appropriate use of a default route?

A. to provide routing to a local web server
B. to provide routing from an ISP to a stub network
C. to provide routing that will override the configured dynamic routing protocol
D. to provide routing to a destination that is not specified in the routing table and which is outside the local network

Answer: D
Explanation:

QUESTION NO: 239

Refer to the exhibit. A junior network engineer has prepared the exhibited configuration file. What two statements are true of the planned configuration for interface fa0/1? (Choose two.)



A. The two FastEthernet interfaces will require NAT configured on two outside serial interfaces.
B. Address translation on fa0/1 is not required for DMZ Devices to access the Internet.
C. The fa0/1 IP address overlaps with the space used by s0/0.
D. The fa0/1 IP address is invalid for the IP subnet on which it resides.
E. Internet hosts may not initiate connections to DMZ Devices through the configuration that is shown.

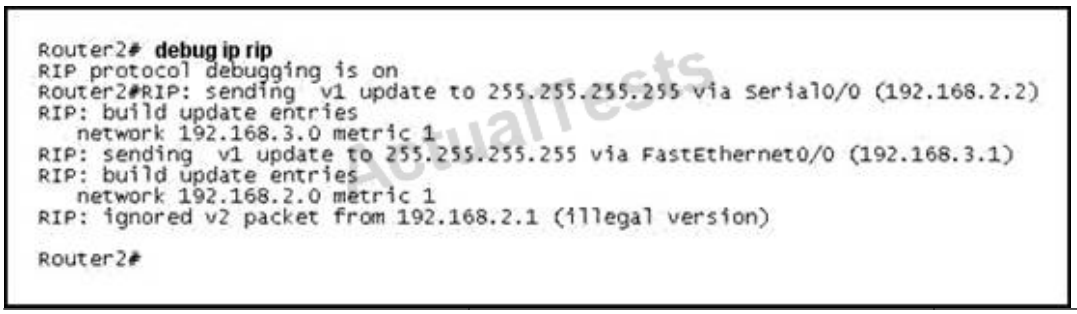
Answer: B,E

Explanation:

The address configured on DMZ device is 128.107.1.128/225 which belongs to the public address. NAT is not required for Public address DMZ to directly access the Internet.

QUESTION NO: 240

Refer to the exhibit. Two routers have just been configured by a new technician. All interfaces are up. However, the routers are not sharing their routing tables. What is the problem?



A. Split horizon is preventing Router2 from receiving routing information from Router1.
B. Router1 is configured for RIP version 2, and Router2 is configured for RIP version 1.
C. Router1 has an ACL that is blocking RIP version 2.
D. There is a physical connectivity problem between Router1 and Router2.
E. Router1 is using authentication and Router2 is not.

Answer: B
Explanation:

QUESTION NO: 241

A medium-sized company has a Class C IP address. It has two Cisco routers and one non-Cisco router. All three routers are using RIP version 1. The company network is using the block of 198.133.219.0/24. The company has decided it would be a good idea to split the network into three smaller subnets and create the option of conserving addresses with VLSM. What is the best course of action if the company wants to have 40 hosts in each of the three subnets?

A. Convert all the routers to EIGRP and use 198.133.219.32/27,198.133.219.64/27, and 198.133.219.92/27 as the new subnetworks.
B. Maintain the use of RIP version 1 and use 198.133.219.32/27,198.133.219.64/27, and 198.133.219.92/27 as the new subnetworks.
C. Convert all the routers to EIGRP and use 198.133.219.64/26,198.133.219.128/26, and 198.133.219.192/26 as the new subnetworks.
D. Convert all the routers to RIP version 2 and use 198.133.219.64/26, 198.133.219.128/26, and 198.133.219.192/26 as the new subnetworks.
E. Convert all the routers to OSPF and use 198.133.219.16/28,198.133.219.32/28, and 198.133.219.48/28 as the new subnetworks.
F. Convert all the routers to static routes and use 198.133.219.16/28,198.133.219.32/28, and 198.133.219.48/28 as the new subnetworks.

Answer: D
Explanation:
This company implemented the routing protocol RIP version 1 at the start, but RIP version2 is the best choice for it due to small-scale, first, it needs less configuration when modifying, which will least affect the network; second, RIP version2 supports classless routing, fully satisfying the requirements.

QUESTION NO: 242

Refer to the exhibit. Why has this switch not been elected the root bridge for VLAN1?

```
Switch# show spanning-tree vlan 1
VLAN0001
  Spanning tree enabled protocol 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 FWD 38        128.1    P2p
Fa0/11           Altn BLK 57        128.1    P2p
Fa0/13           Desg FWD 38        128.1    P2p
```

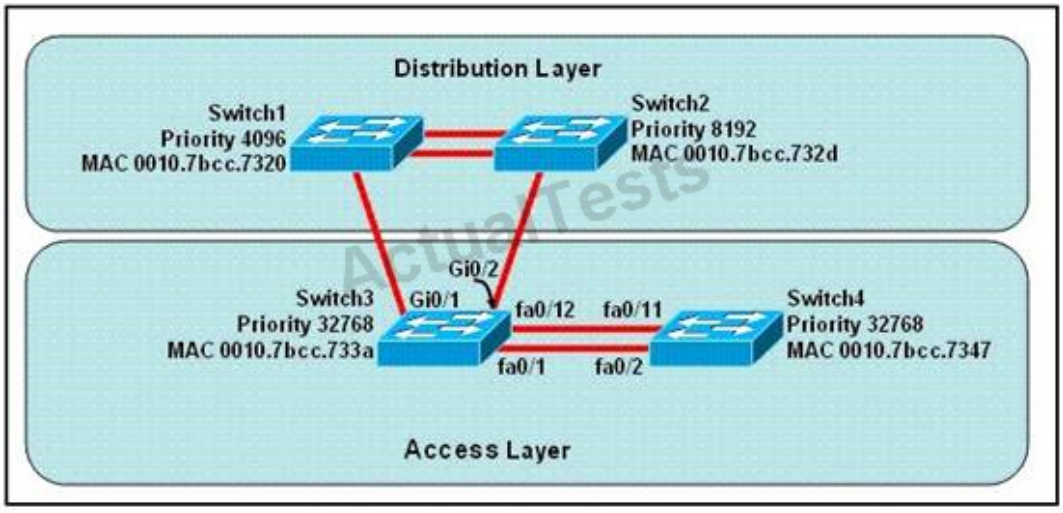
A. It has more than one interface that is connected to the root network segment.
B. It is running RSTP while the elected root bridge is running 802.1 d spanning tree.
C. It has a higher MAC address than the elected root bridge.
D. It has a higher bridge ID than the elected root bridge.

Answer: D

Explanation:

QUESTION NO: 243

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
F. Switch3, port Gi0/2

Answer: C

Explanation:

QUESTION NO: 244

Refer to the exhibit. How many paths can the EIGRP routing process use to forward packets from HQ_Router to a neighbor router?

```
HQ_Router# show ip protocols
Routing Protocol is "eigrp 109"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Default networks flagged in outgoing updates
  Default networks accepted from incoming updates
  EIGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0
  EIGRP maximum hopcount 100
  EIGRP maximum metric variance 3
  Redistributing: eigrp 109
  EIGRP NSF-aware route hold timer is 240s
  Automatic network summarization is not in effect
  Maximum path: 4
  Routing for Networks:
    20.10.10.0/24
    172.30.10.0/24
    192.168.1.0
  Routing Information Sources:
    Gateway         Distance      Last Update
    192.168.1.1           90      00:13:12
    172.16.10.2           90      01:13:06
  Distance: internal 90 external 170

HQ_Router#
```

A. two equal-cost paths
B. two unequal-cost paths
C. three equal-cost paths
D. three unequal-cost paths
E. four equal-cost paths
F. four unequal-cost paths

Answer: F

Explanation:

QUESTION NO: 245

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
Explanation:
In the interface configuration mode, the command switchport port-security mac-address sticky enables sticky learning. When entering this command, the interface converts all the dynamic secure MAC addresses to sticky secure MAC addresses.

QUESTION NO: 246

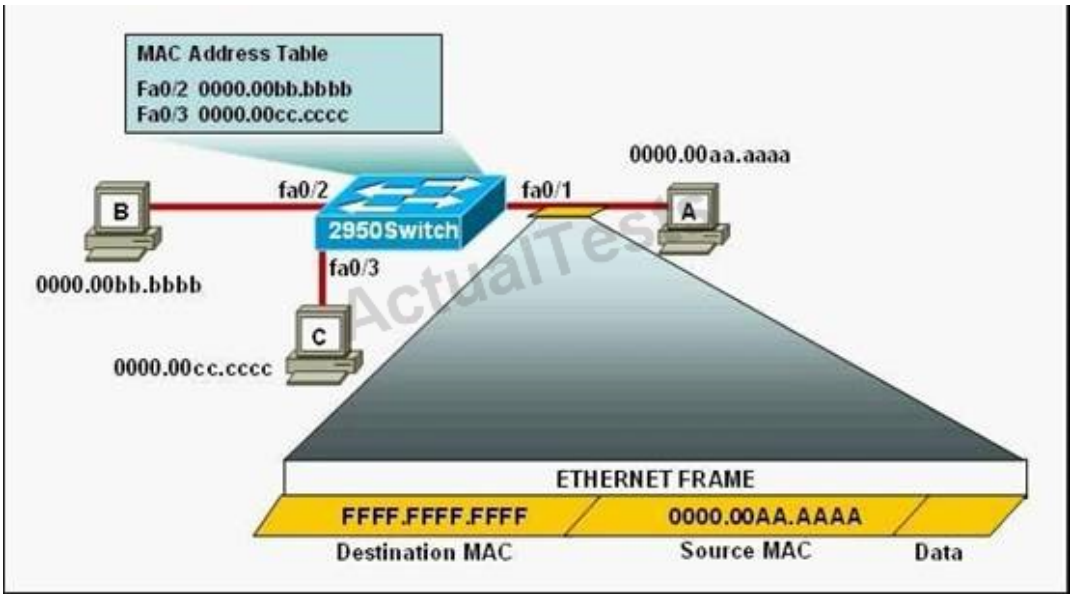
Refer to the exhibit. The following commands are executed on interface fa0/1 of 2950Switch.

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

Explanation:

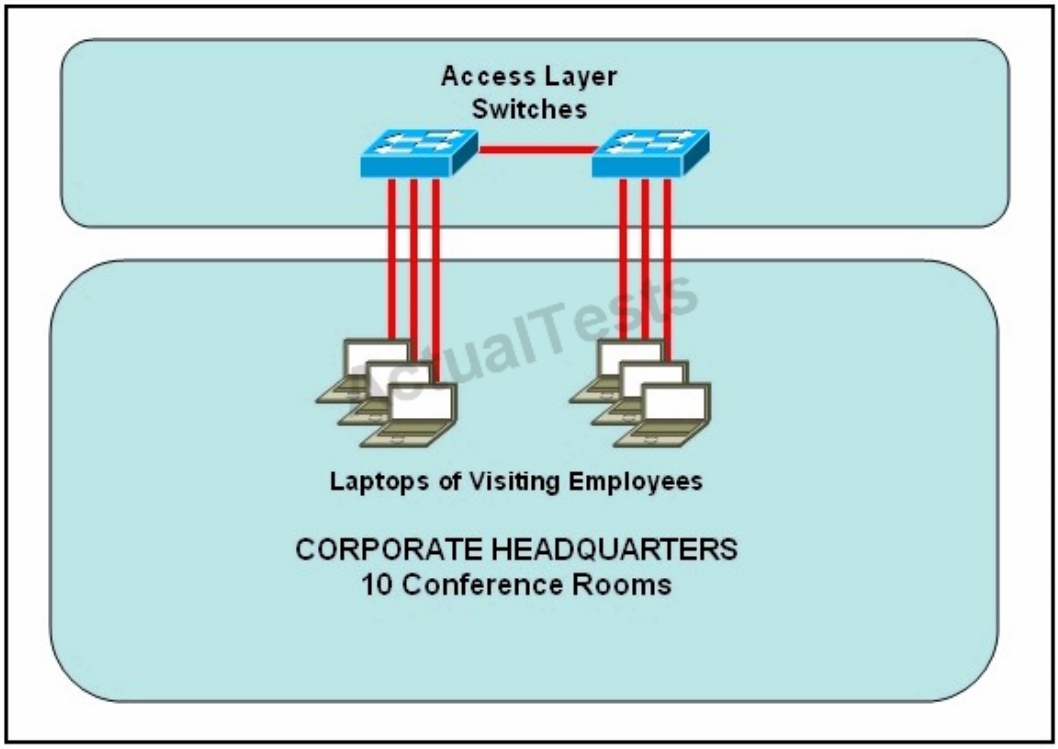
The configuration shown here is an example of port security, specifically port security using sticky addresses. You can use port security with dynamically learned and static MAC addresses to restrict a port's ingress traffic by limiting the MAC addresses that are allowed to send traffic into the port. When you assign secure MAC addresses to a secure port, the port does not forward ingress traffic that has source addresses outside the group of defined addresses. If you limit the number of secure MAC addresses to one and assign a single secure MAC address, the device attached to that port has the full bandwidth of the port.

Port security with sticky MAC addresses provides many of the same benefits as port security with static MAC addresses, but sticky MAC addresses can be learned dynamically. Port security with sticky MAC addresses retains dynamically learned MAC addresses during a link-down condition.

QUESTION NO: 247

Refer to the exhibit. Some 2950 series switches are connected to the conference area of the corporate headquarters network. The switches provide two to three jacks per conference room to host laptop connections for employees who visit the headquarters office. When large groups of employees come from other locations, the network administrator often finds that hubs have been connected to wall jacks in the conference area although the ports on the access layer switches were not intended to support multiple workstations.

What action could the network administrator take to prevent access by multiple laptops through a single switch port and still leave the switch functional for its intended use?



A. Configure static entries in the switch MAC address table to include the range of addresses used by visiting employees.
B. Configure an ACL to allow only a single MAC address to connect to the switch at one time.
C. Use the mac-address-table 1 global configuration command to limit each port to one source MAC address.
D. Implement Port Security on all interfaces and use the port-security maximum 1 command to limit port access to a single MAC address.
E. Implement Port Security on all interfaces and use the port-security mac-address sticky command to limit access to a single MAC address.
F. Implement Port Security at global configuration mode and use the port-security maximum 1 command to allow each switch only one attached hub.

Answer: D

Explanation:

QUESTION NO: 248

Running both IPv4 and IPv6 on a router simultaneously is known as what?

A. 4to6 routing
B. 6to4 routing
C. binary routing
D. dual-stack routing
E. NextGen routing

Answer: D
Explanation:
The knowledge point of this question is IPv6 address translation. At present, there are three transition mechanisms:
Dual-Stack
Tunneling
Translation
Dual-Stack allows users to use both IPv4 and IPv6, supporting both IPv4 and IPv6 while sharing most of the code.
Tunneling establishes communication by allowing two IPv6 hosts to use the existing IPv4 infrastructure to carry IPv6 packets. The current network protocols, such as WWW, FTP and Email, exist in IPv4 network. Transition mechanism will allow users on IPv6 network to access resources on IPv4,it is a vital technology.

QUESTION NO: 249

What are three IPv6 transition mechanisms? (Choose three.)

A. 6to4 tunneling
B. VPN tunneling
C. GRE tunneling
D. ISATAP tunneling
E. PPP tunneling
F. Teredo tunneling

Answer: A,D,F
Explanation:

The key to a successful IPv6 transition is compatibility with the large installed base of IPv4 hosts and routers. Maintaining compatibility with IPv4 while deploying IPv6 will streamline the task of transitioning the Internet to IPv6. This specification defines a set of mechanisms that IPv6 hosts and routers may implement in order to be compatible with IPv4 hosts and routers.
The mechanisms in this document are designed to be employed by IPv6 hosts and routers that need to interoperate with IPv4 hosts and utilize IPv4 routing infrastructures. We eXPect that most nodes in the Internet will need such compatibility for a long time to come, and perhaps even indefinitely. However, IPv6 may be used in some environments where interoperability with IPv4 is not required. IPv6 nodes that are designed to be used in such environments need not use or even implement these mechanisms. The mechanisms specified here includE.
- Dual IP layer (also known as Dual Stack): A technique for providing complete support for both Internet protocols -- IPv4 and IPv6 -- in hosts and routers.
- Configured tunneling of IPv6 over IPv4: Point-to-point tunnels made by encapsulating IPv6 packets within IPv4 headers to carry them over IPv4 routing infrastructures.
- IPv4-compatible IPv6 addresses: An IPv6 address format that employs embedded IPv4 addresses.

QUESTION NO: 250

Identify the four valid IPv6 addresses. (Choose four.)

A. ::
B. ::192:168:0:1
C. 2000::
D. 2001:3452:4952:2837::
E. 2002:c0a8:101::42
F. 2003: deaD. beef:4dad:23:46:bB. 101

Answer: A,B,E,F
Explanation:
IPv6 addresses are normally written as eight groups of four hexadecimal digits, where each group is separated by a colon (:). For example, 2001:0db8:85a3:0000:0000:8a2e:0370:7334 is a valid IPv6 address. To shorten the writing and presentation of addresses, several simplifications to the notation are permitted.
Any leading zeros in a group may be omitted; thus, the given example becomes 2001:db8:85a3:0:0:8a2e:370:7334 One or any number of consecutive groups of 0 value may be replaced with two colons (::): 2001:db8:85a3::8a2e:370:7334
This substitution with double-colon may be performed only once in an address, because multiple occurrences would lead to ambiguity. For example, the illegal address notation 2001::FFD3::57ab,

could represent
2001:0:0:0:0:FFD3:0:57ab
2001:0:0:0:FFD3:0:0:57ab
2001:0:0:FFD3:0:0:0:57ab and
2001:0:FFD3:0:0:0:0:57ab

Using the double-colon reduction the localhost (loopback) address, fully written as 0000:0000:0000:0000:0000:0000:0000:0001, may be reduced to ::1 and the undetermined IPv6 address (zero value), i.e., all bits are zero, is simply ::.
For example, the addresses below are all valid and equivalent:

2001:0db8:0000:0000:0000:0000:1428:57ab
2001:0db8:0000:0000:0000::1428:57ab
2001:0db8:0:0:0:0:1428:57ab
2001:0db8:0:0::1428:57ab
2001:0db8::1428:57ab
2001:db8::1428:57ab

QUESTION NO: 251

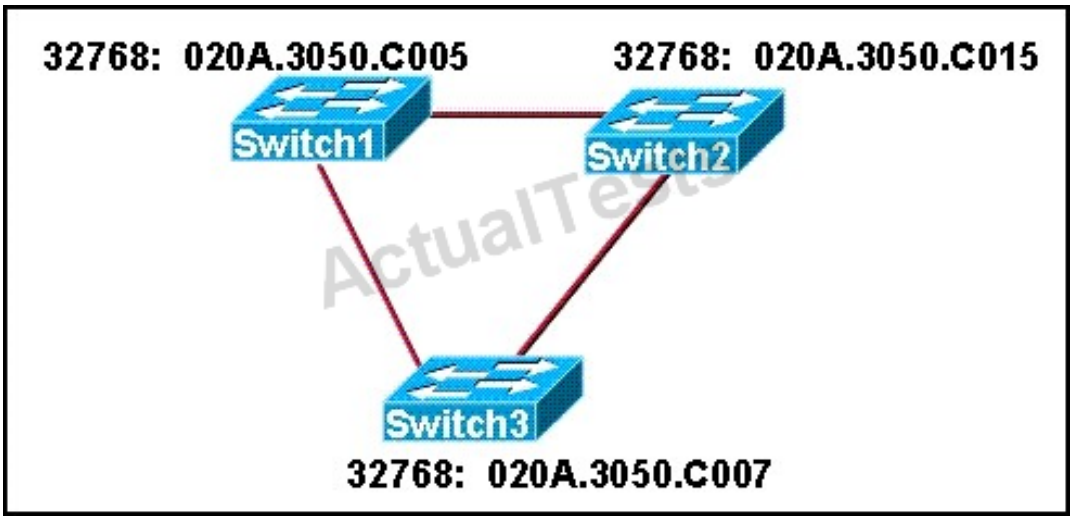
Refer to the following protocols, which one can create a secure terminal connection to a remote network device?

A. ARP
B. SSH
C. Telnet
D. wep
E. SNMPv1
F. SNMPv2

Answer: B
Explanation:

QUESTION NO: 252

Refer to the exhibit. A network administrator wants Switch3 to be the root bridge. What could be done to ensure Switch3 will be the root?



A. Configure the IP address on Switch3 to be higher than the IP addresses of Switch1 and Switch2.
B. Configure the priority value on Switch3 to be higher than the priority values of Switch 1 and Switch2.
C. Configure the BID on Switch3 to be lower than the BIDs of Switch1 and Switch2.
D. Configure the MAC address on Switch3 to be higher than the Switch1 and Switch2 MAC addresses.
E. Configure a loopback interface on Switch3 with an IP address lower than any IP address on Switch1 and Switch2.

Answer: C
Explanation:

QUESTION NO: 253

What is the maximum data rate specified for IEEE 802.11b WLANs?

A. 10Mbps
B. 11Mbps
C. 54Mbps
D. 100Mbps

Answer: B
Explanation:

QUESTION NO: 254

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

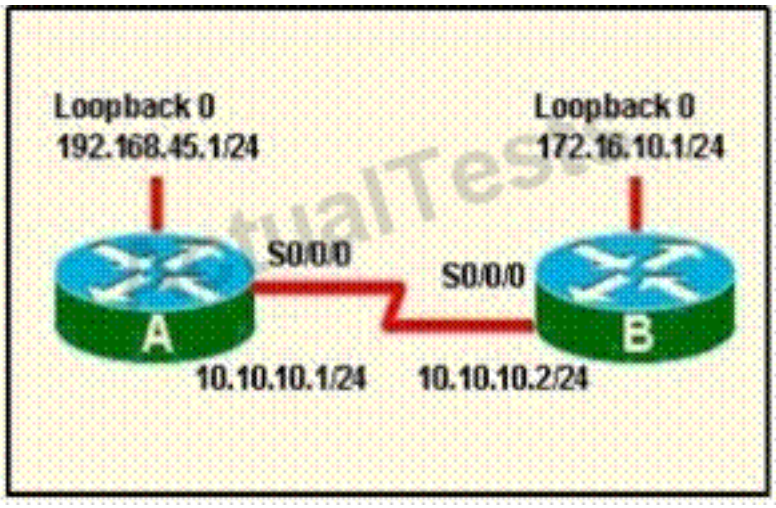
A. by encrypting all passwords passing through the router
B. by encrypting passwords in the plain text configuration file
C. by requiring entry of encrypted passwords for access to the device
D. by configuring an MD5 encrypted key to be used by routing protocols to validate routing exchanges
E. by automatically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

Answer: B

Explanation:

QUESTION NO: 255

Refer to the exhibit. When running OSPF, What would cause router A not to form an adjacency with router B?



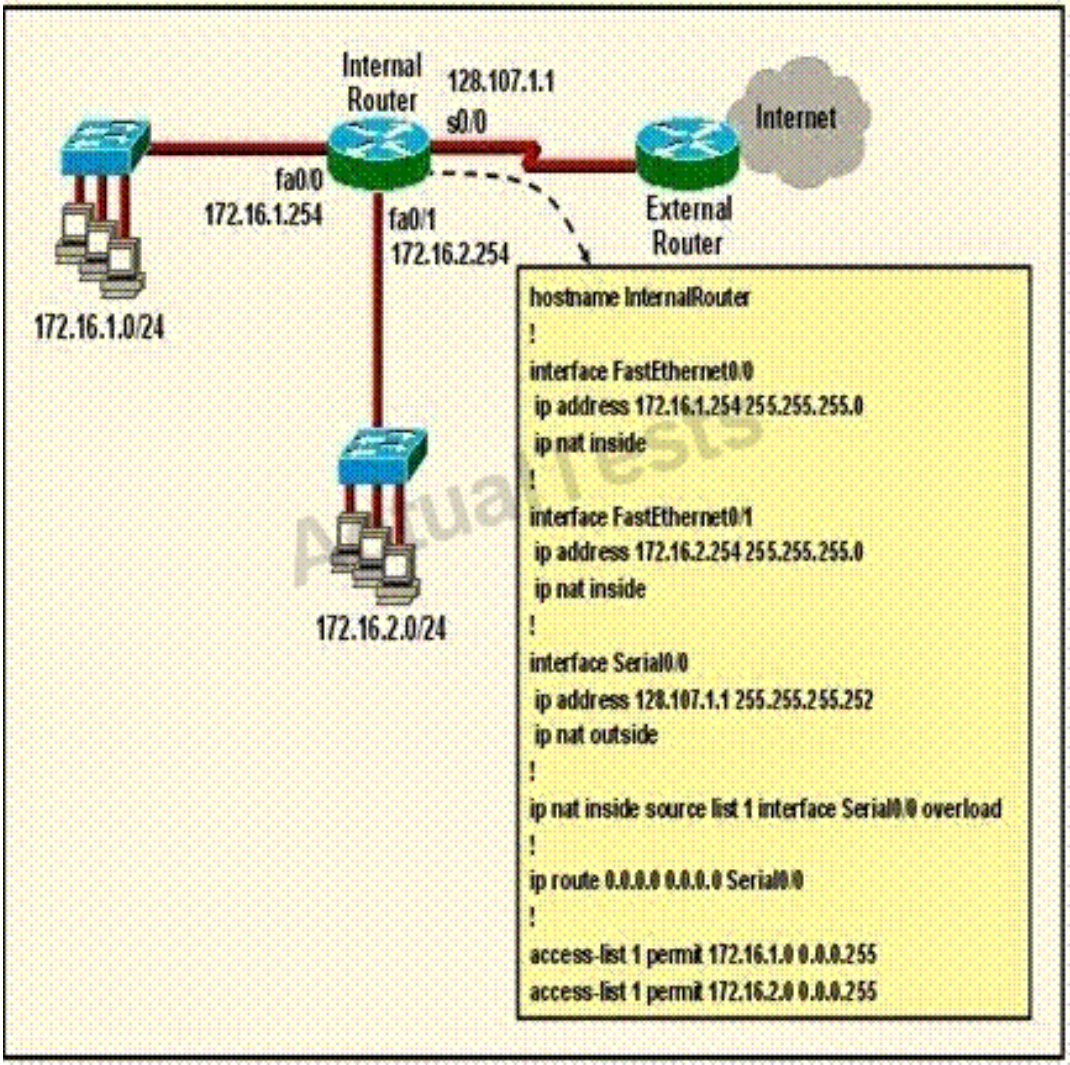
A. The loopback addresses are on different subnets.
B. The values of the dead timers on the routers are different.
C. Route summarization is enabled on both routers.
D. The process identifier on router A is different than the process identifier on router B.

Answer: B

Explanation:

QUESTION NO: 256

Refer to the exhibit. What statement is true of the configuration for this network?



Based on the information shown above, Which of the following correctly describe the configuration for this network?

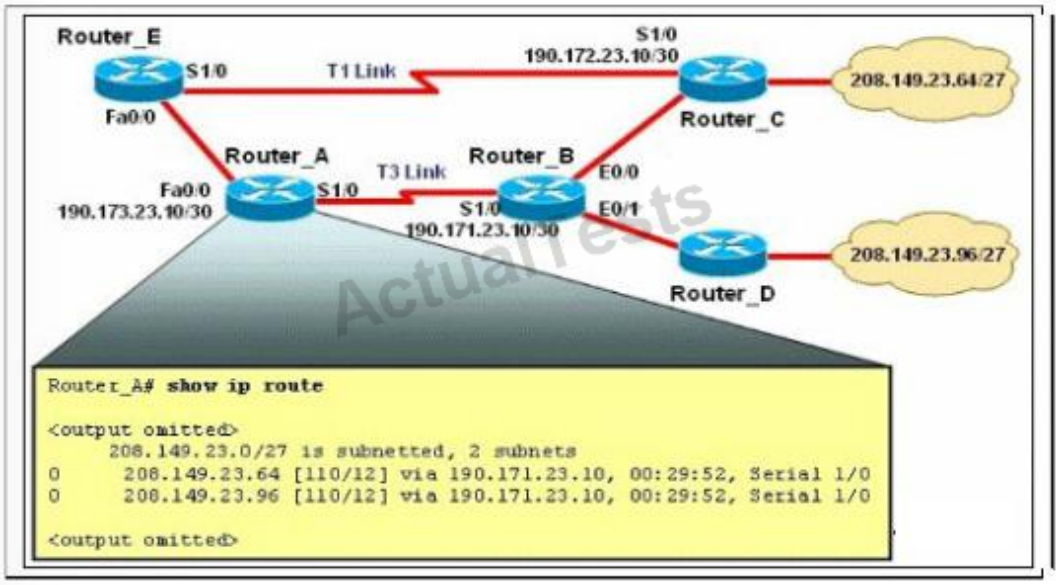
A. The configuration that is shown provides inadequate outside address space for translation of the number of inside addresses that are supported.
B. Because of the addressing on interface FastEthemet0/1, the Serial0/0 interface address will not support the NAT configuration as shown.
C. The number 1 referred to in the ip nat inside source command references access-list number1.
D. External Router must be configured with static routers to networks 172.16.2.0/24.

Answer: C

Explanation:

QUESTION NO: 257

Refer to the exhibit. The network is converged.After link-state advertisements are received from Router_A, what information will Router_E contain in its routing table for the subnets 208.149.23.64 and 208.149.23.96?



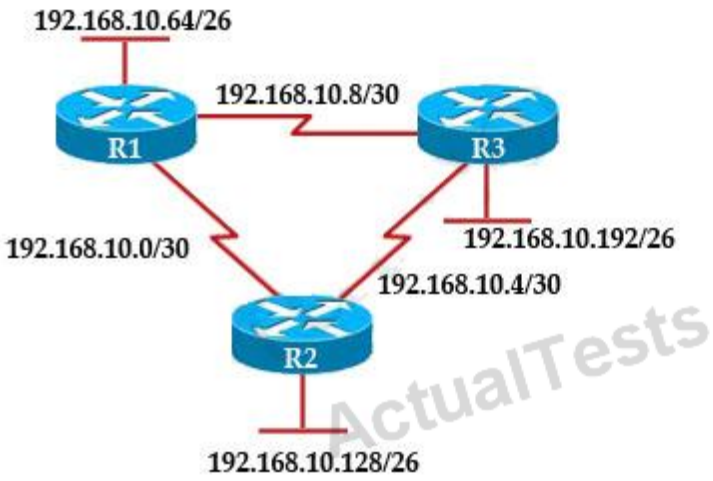
A. 208.149.23.64[110/13] via 190.173.23.10,00:00:07, FastEthemet0/0
208.149.23.96[110/13] via 190.173.23.10,00:00:16, FastEthemet0/0
B. 208.149.23.64[110/1] via 190.172.23.10,00:00:07, Serial1/0
208.149.23.96[110/3] via 190.173.23.10,00:00:16, FastEthemet0/0
C. 208.149.23.64[110/13] via 190.173.23.10,00:00:07, Serial1/0
208.149.23.96[110/13] via 190.173.23.10,00:00:16, Serial1/0
208.149.23.96[110/13] via 190.173.23.10,00:00:16, FastEthemet0/0
D. 208.149.23.64[110/3] via 190.172.23.10,00:00:07, Serial1/0
208.149.23.96[110/3] via 190.173.23.10,00:00:16, Serial1/0

Answer: A

Explanation:

QUESTION NO: 258

Refer to 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?




```
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, Serial 0/1
C 192.168.10.8/30 is directly connected, Serial 0/0
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, Serial 0/1
```

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

Answer: D

Explanation:

QUESTION NO: 259

Refer to the exhibit. Switch port FastEthernet 0/24 on ALSwitch1 will be used to create an IEEE 802.1Q-compliant trunk to another switch. Based on the output shown, what is the reason the truck does not form, even though the proper cabling has been attached?

```
ALSwitch1# show running-config
«output omitted»
interface FastEthernet0/24 no ip address
«output omitted»
ALSwitch1# show interfaces FastEthernet0/24 switchport
Name: Fa0/24
Switchport: Enable
Administrative Mode: static access
Operation Mode: static access
Administrative Trunking Encapsulation: dot1q
Operation Trunking Encapsulation: native
Negotiation of Trunking: Off
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Operation 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)
Aplliance trust: none
```

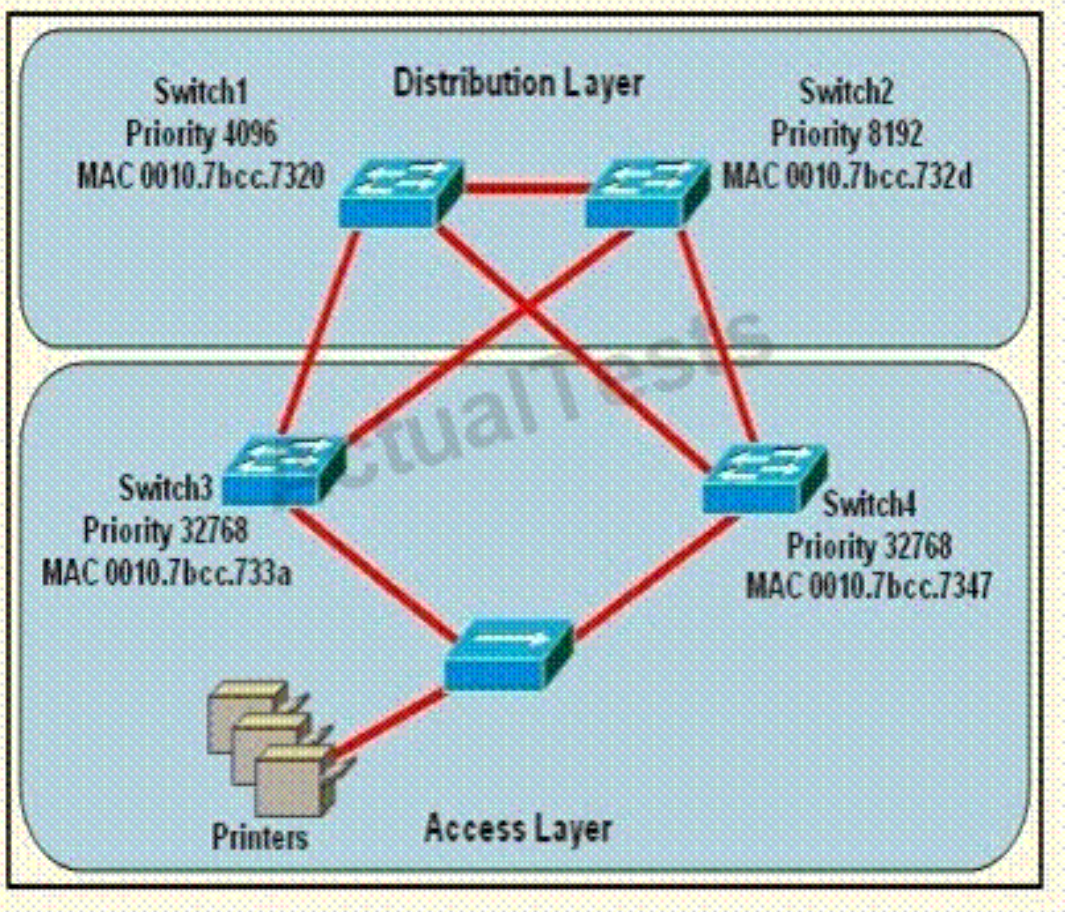
ActualTests

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
Explanation:

QUESTION NO: 260

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

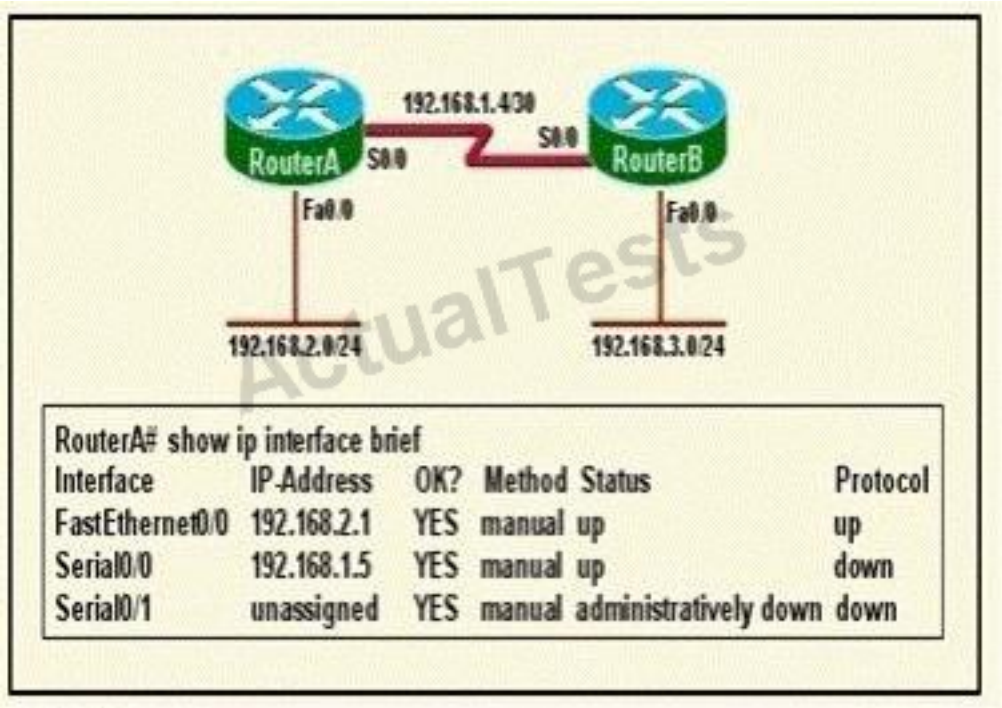
Answer: C

Explanation:

Printers are connected by hubs. Decide the switch that provides the spanning-tree designated port role between Switch3 and Switch4. They have the same priority 32768. Compare their MAC addresses. Switch3 with a smaller MAC address will provide a designated port for printers.

QUESTION NO: 261

An administrator issues the command ping 127.0.0.1 from the command line prompt on a PC.If a reply is received, what does this confirm?



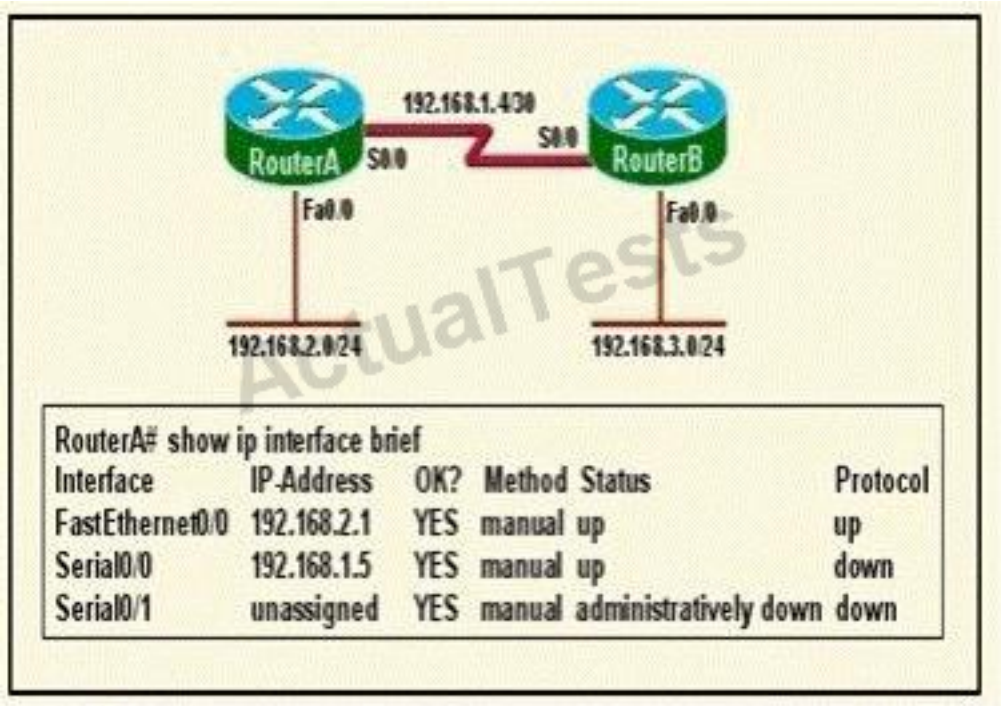
A. The PC has connectivity with a local host.
B. The PC has connectivity with a Layer 3 device.
C. The PC has a default gateway correctly configured
D. The PC has connectivity up to Layer 5 of the OSI model.
E. The PC has the TCP/IP protocol stack correctly installed.

Answer: E

Explanation:

QUESTION NO: 262

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)



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
Explanation:

QUESTION NO: 263

What is the default routing update period for RIPv2?

A. 15 seconds
B. 30 Seconds
C. 180 Seconds
D. 240 Seconds

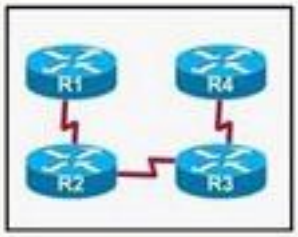
Answer: B
Explanation:
The fact that RIP only records one route for each destination requires RIP to actively maintain the integrity of the routing tables, which can be achieved by asking all active RIP routers to broadcast contents of routing table to adjacent RIP routers in a fixed time interval. All received updated

information automatically replaces the information included in the routing table.
RIP maintains routing table depending on three timers.
Update timer.
Routing-timeout timer.
Routing-refresh timer.
Update timer can be used to update initialized routing table on a node. Each RIP node only uses one update timer. On the contrary, both routing-timeout timer and routing-refresh timer are that each router maintains one.
RIP router triggers update every 30 seconds. Update timer is used to record the amount of time. Once the time is up, RIP node will produce a series of datagrams including its own routing table.

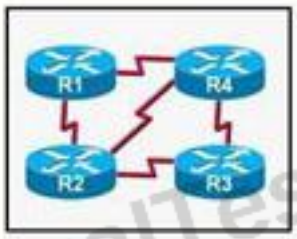
QUESTION NO: 264

A network administrator is designing a new corporate internetwork. The corporation is concerned about downtime due to link failure and also about link costs. Which topology will provide some redundancy to increase reliability for all sites but will cost less than a fully redundant topology?

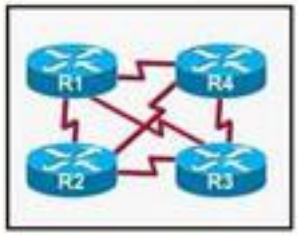
A.



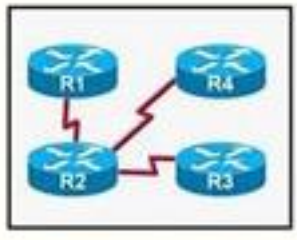
B.



C.



D.



A. Exhibit A
B. Exhibit B
C. Exhibit C
D. Exhibit D

Answer: B

Explanation:

QUESTION NO: 265

Which type of attack is characterized by flood of packet that are requesting a TCP connection to a server?

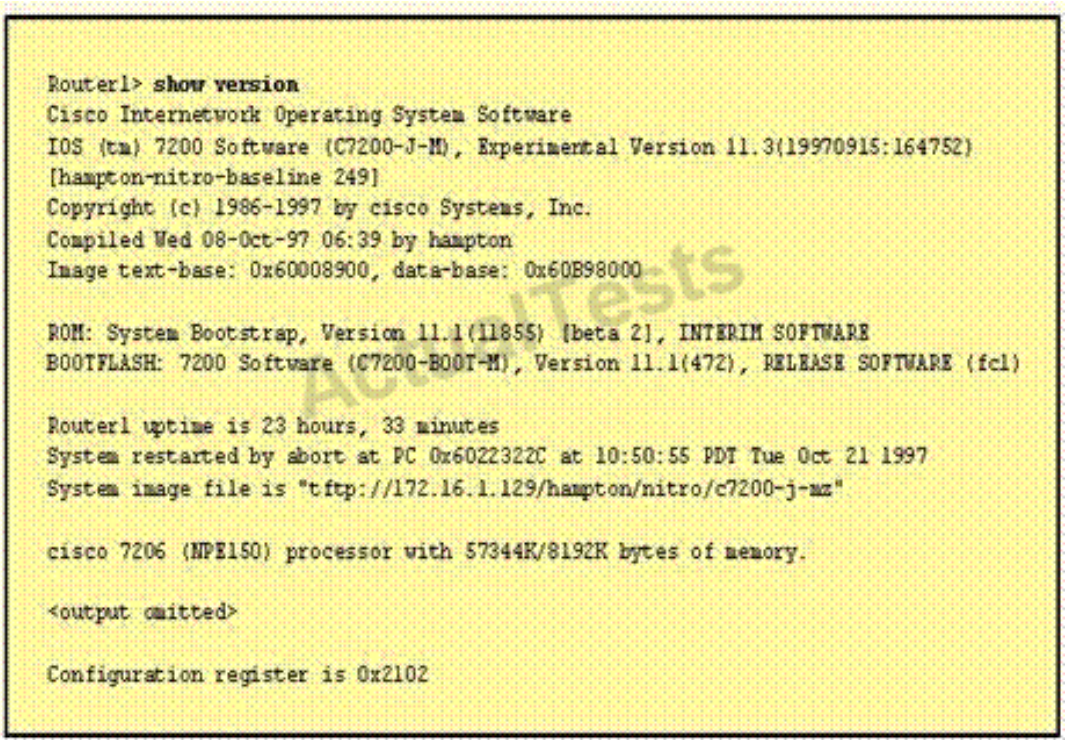
A. denial of service
B. brute force
C. reconnaissance
D. Trojan horse

Answer: A

Explanation:

QUESTION NO: 266

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



A. Router1 has specific boot system commands 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

Explanation:

The loading sequence of CISCO IOS is as follows:
Booting up the router and locating the Cisco IOS
1. POST (power on self test)
2. Bootstrap code executed
3. Check Configuration Register value (NVRAM) which can be modified using the config-register command

0 = ROM Monitor mode
1 = ROM IOS
2 - 15 = startup-config in NVRAM

4. Startup-config filE. Check for boot system commands (NVRAM)
If boot system commands in startup-config
a. Run boot system commands in order they appear in startup-config to locate the IOS
b. [If boot system commands fail, use default fallback sequence to locate the IOS (Flash, TFTP, ROM)?]
If no boot system commands in startup-config use the default fallback sequence in locating the IOS:

a. Flash (sequential)
b. TFTP server (netboot)
c. ROM (partial IOS) or keep retrying TFTP depending upon router model
5. If IOS is loaded, but there is no startup-config file, the router will use the default fallback sequence for locating the IOS and then it will enter setup mode or the setup dialogue.

QUESTION NO: 267

What is the purpose using the traceroute command?

A. to map all the devices on a network
B. to display the current TCP/IP configuration values
C. to see how a device MAC address is mapped to its IP address
D. to see the path a packet will take when traveling to a specified destination
E. to display the MTU values for each router in a specified network path from source to a

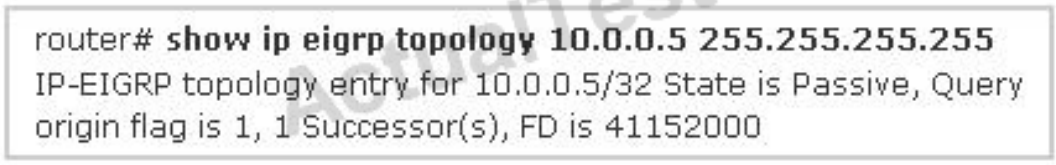
destination.

Answer: D

Explanation:

QUESTION NO: 268

Refer to the exhibit. Given the output from the show ip eigrp topology command, which router is the feasible successor?



A.

```
10.1.0.1 (Serial0), from 10.1.0.1, Send flag is 0×0
Composite metric is (46152000/41640000), Route is Internal
Vector metric:
Minimum bandwidth is 64 Kbit
Total delay is 45000 Microseconds
Reliability is 255/255
Load is 1/255
Minimum MTU is 1500
Hop count is 2
```

B.

```
10.0.0.2 (Serial0.1), from 10.0.0.2, Send flag is 0×0
Composite metric is (53973248/128256), Route is Internal
Vector Metric:
Minimum bandwidth is 48 Kbit
Total delay is 25000 Microseconds
Reliability is 255/255
Load is 1/255
Minimum MTU is 1500
Hop count is 1
```

ActualTests

C.

```
10.1.0.3 (Serial0), from 10.1.0.3, Send flag is 0×0
Composite metric is (46866176/46354176), Route is Internal
Vector metric:
Minimum bandwidth is 56 Kbit
Total delay is 45000 microseconds
Reliability is 255/255
Load is 1/255
Minimum MTU is 1500
Hop count is 2
```

D.

```
10.1.1.1 (Serial0.1), from 10.1.1.1, Send flag is 0×0
Composite metric is (46763776/46251776), Route is External
Vector metric:
Minimum bandwidth is 56 Kbit
Total delay is 41000 microseconds
Reliability is 255/255
Load is 1/255
Minimum MTU is 1500
Hop count is 2
```

A. Exhibit A
B. Exhibit B

C. Exhibit C
D. Exhibit D

Answer: B

Explanation:

The AD of the feasible successor must be smaller than the FD of successor. From the output provided in the exhibit, we know that the FD of successor is 41152000.
In the option A, the AD is 41640000
In the option B , the AD is 128256
In the option C, the AD is 46354176
In the option D, the AD is 46251776.
Through comparison, we know that only the AD in option B is smaller than FD, so B can be used as feasible successor.

Successor: A successor for a particular destination is a next hop router that satisfies these two conditions:

it provides the least distance to that destination
it is guaranteed not to be a part of some routing loop
The first condition can be satisfied by comparing metrics from all neighboring routers that advertise that particular destination, increasing the metrics by the cost of the link to that respective neighbor, and selecting the neighbor that yields the least total distance. The second condition can be satisfied by testing a so-called Feasibility Condition for every neighbor advertising that destination. There can be multiple successors for a destination, depending on the actual topology.

The successors for a destination are recorded in the topology table and afterwards they are used to populate the routing table as next-hops for that destination.
Feasible successor: A feasible successor for a particular destination is a next hop router that satisfies this condition:

it is guaranteed not to be a part of some routing loop
This condition is also verified by testing the Feasibility Condition.
Thus, every successor is also a feasible successor. However, in most references about EIGRP the term "feasible successor" is used to denote only those routers which provide a loop-free path but which are not successors (i.e. they do not provide the least distance). From this point of view, for a reachable destination there is always at least one successor, however, there might not be any feasible successors.

A feasible successor provides a working route to the same destination, although with a higher distance. At any time, a router can send a packet to a destination marked "Passive" through any of its successors or feasible successors without alerting them in the first place, and this packet will be

delivered properly. Feasible successors are also recorded in the topology table.
AD : Advertised Distance (AD) is the distance to a particular destination as reported by a router to its neighbors. This distance is sometimes also called a Reported Distance and is equal to the current lowest total distance through a successor.
FD. A Feasible Distance (FD) is the lowest known distance from a router to a particular destination since the last time the route went from Active to Passive state. It can be expressed in other words as a historically lowest known distance to a particular destination. While a route remains in Passive state, the FD is updated only if the actual distance to the destination decreases, otherwise it stays at its present value. On the other hand, if a router needs to enter Active state for that destination, the FD will be updated with a new value after the router transitions back from Active to Passive state. This is the only case when the FD can be increased. The transition from Active to Passive state in effect marks the start of a new history for that route.

QUESTION NO: 269

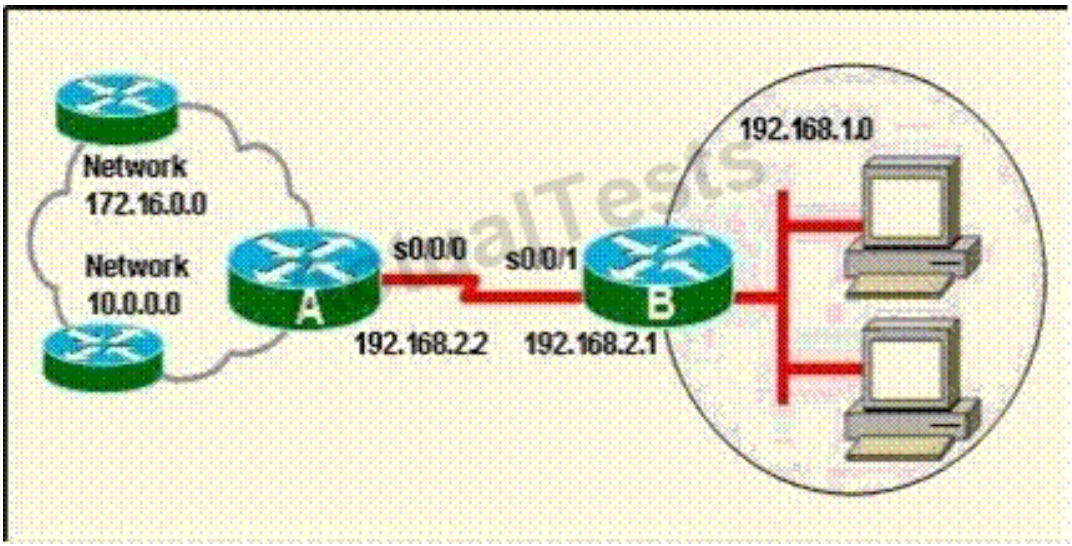
The output of the show frame-relay pvc command shows"PVC STATUS=INACTIVE". What does this mean?

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
Explanation:

QUESTION NO: 270

Refer to the exhibit. Which command will create a default route on Router B to reach all networks beyond routerA?



A. ip route 0.0.0.0 0.0.0.0 192.168.2.2
B. ip route 192.168.1.0 255.255.255.0 192.168.2.1
C. ip route 192.168.1.0 255.255.255.0 s0/0/0
D. ip route 10.0.0.0 255.255.255.0 s0/0/0
E. ip route 0.0.0.0 255.255.255.0 192.168.2.2

Answer: A
Explanation:

QUESTION NO: 271

Which of the following IP addresses can be assigned to host devices? (Choose two)

A. 205.7.8.32/27
B. 191.168.10.2/23
C. 127.0.0.1
D. 224.0.0.10
E. 203.123.45.47/28
F. 10.10.0.0/13

Answer: B,F
Explanation:

We can’t assign the Broadcast address, Network ID, Loopback, Multicast address on host.
A is incorrect because it is a Network ID of /27 subnet
B is correct and can be assigned to host
C is incorrect because it is loopback address
D is incorrect because it is multicast address

E is incorrect because it is broadcast address of 202.123.45.32/28 subnet

F is correct because IP address from 10.10.0/13 can be assigned to host

QUESTION NO: 272

What is a valid reason for a switch to deny port access to new devices when port security is enabled?

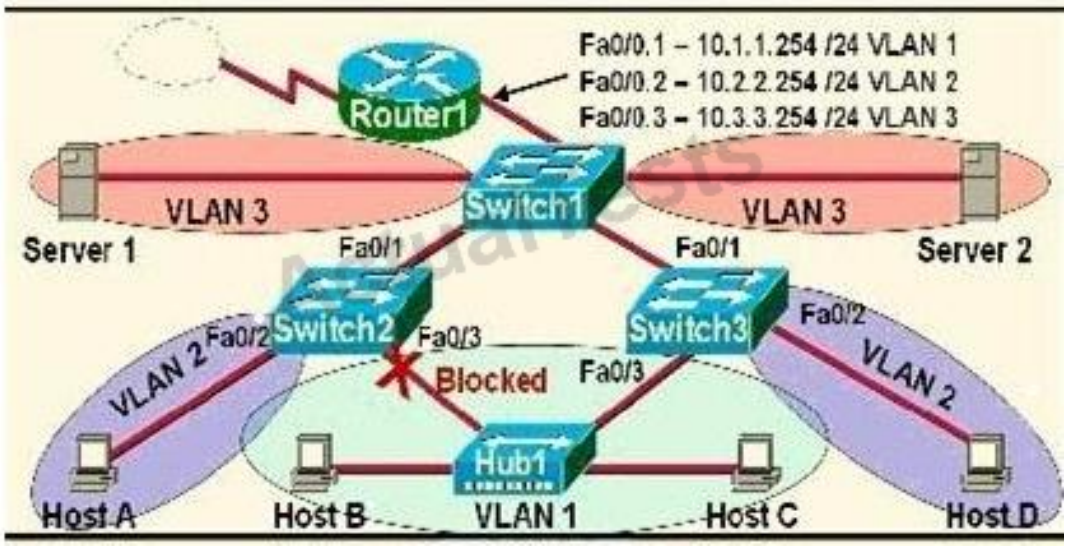
A. The denied MAC addresses have already been learned or configured on another secure interface in the same VLAN.
B. The denied MAC addresses are statically configured on the port.
C. The minimum MAC threshold has been reached.
D. The absolute aging times for the denied MAC addresses have expired.

Answer: A

Explanation:

QUESTION NO: 273

Which statement is correct about the internetwork shown in the diagram?



A. Switch 2 is the root bridge.
B. Spanning Tree is not running.
C. Host D and Server 1 are in the same network.
D. No collisions can occur in traffic between Host B and Host C.

E. If Fa0/0 is down on Router1, Host A cannot access Server1.
F. If Fa0/1 is down on Switch3, Host C cannot access Server 2.

Answer: E

Explanation:

QUESTION NO: 274

Which statement is correct regarding the operation of DHCP?

A. A DHCP client uses a ping to detect address conficts.
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.

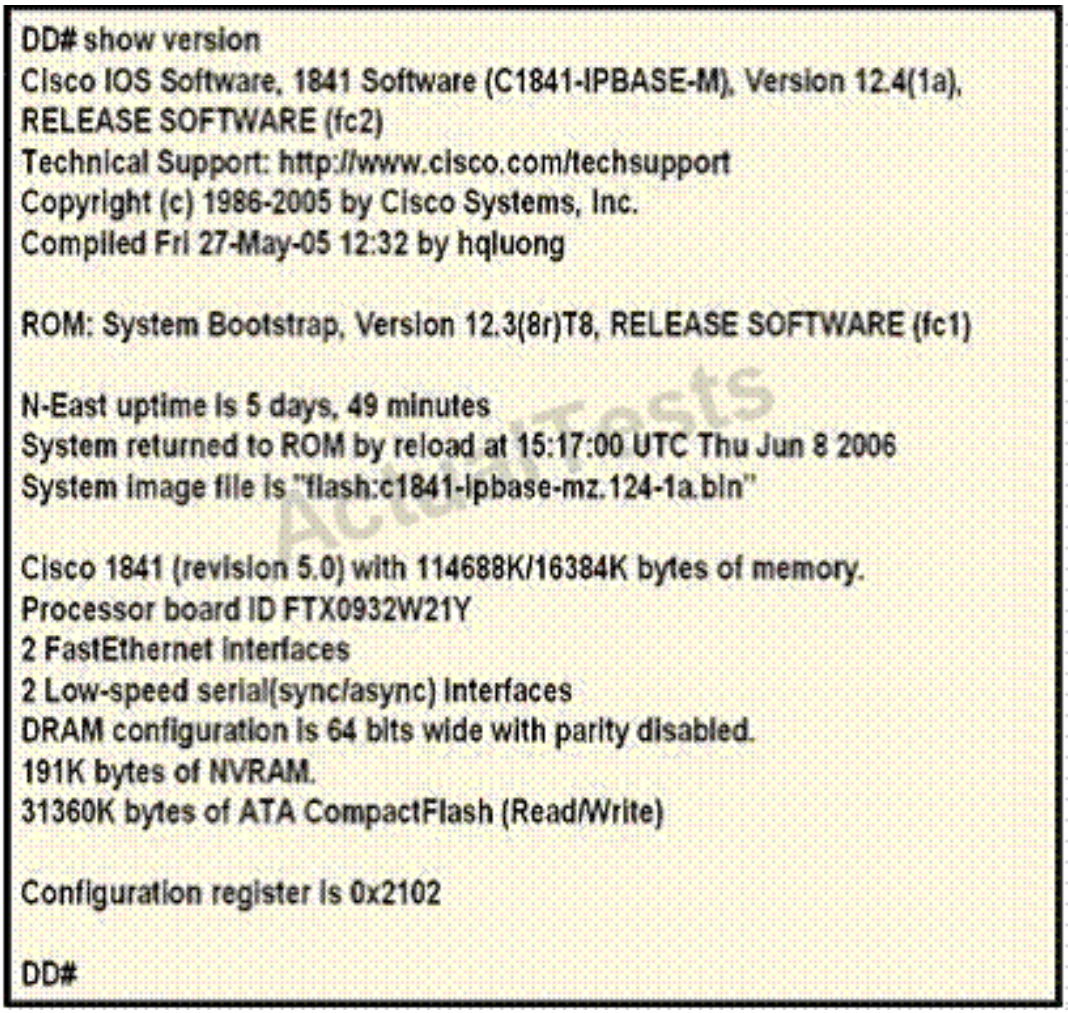
Answer: D

Explanation:

An address conflict occurs when two hosts use the same IP address. During address assignment, DHCP checks for conflicts using ping and gratuitous ARP. If a conflict is detected, the address is removed from the pool. The address will not be assigned until the administrator resolves the conflict.
Reference: http://www.cisco.com/en/US/docs/ios/12_1/iproute/configuration/guide/1cddhcp.html.

QUESTION NO: 275

Refer to the diagram. What is the largest configuration file that can be stored on this router?



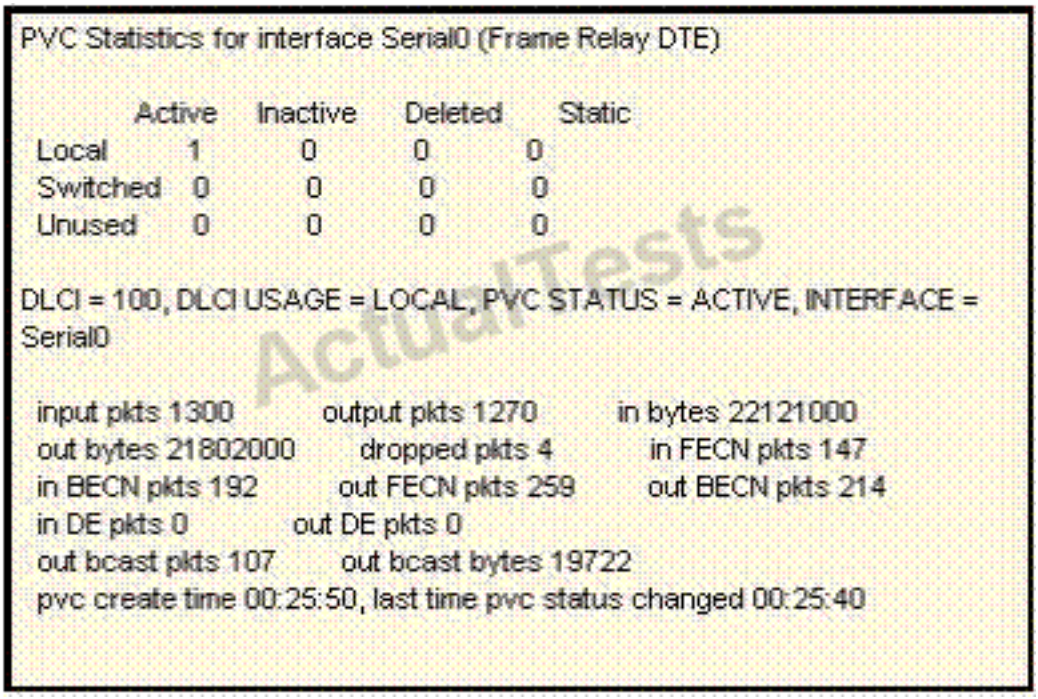
A. 191K bytes
B. 16384K bytes
C. 31369K bytes
D. 114688K bytes

Answer: A

Explanation:

QUESTION NO: 276

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

Explanation:

QUESTION NO: 277

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 10Mb/s switch port.
B. This is a 100Mb/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

Explanation:

QUESTION NO: 278

A network administrator needs to allow only one Telnet connection to a router. For anyone viewing the configuration 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-listl permit 192.168.1.0.0.0.0.255
line vty0 4
login
password cisco
access-class 1
B. enable password secret
line vty0
login
password cisco
C. service password-encryption
line vty1
login
password cisco
D. service password-encryption
line vty0 4
login
password cisco

Answer: C

Explanation:

Only one VTY connection is allowed which is exactly what's requested.

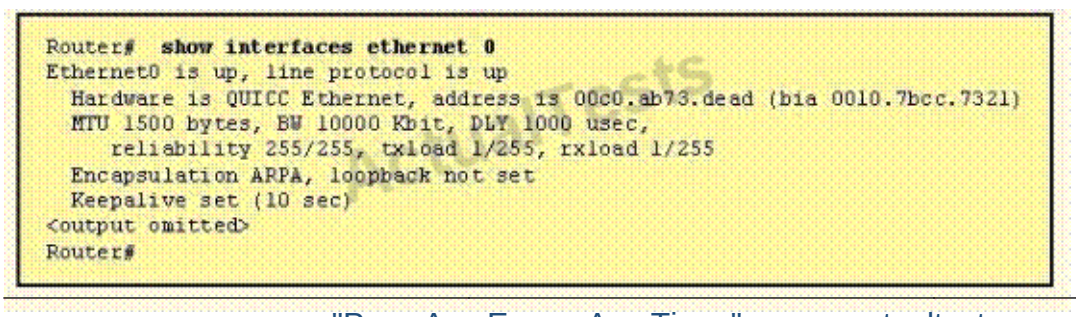
Incorrect answer: commanD.

line vty0 4

would enable all 5 vty connections.

QUESTION NO: 279

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

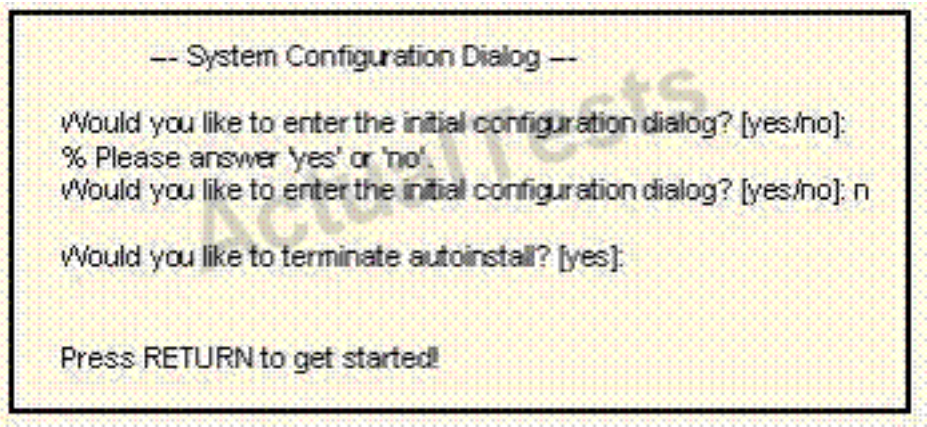


A. The maximum number of bytes that can traverse this interface per second is 1500.
B. The minimum segment size that can traverse this interface is 1500 bytes.
C. The maximum segment size that can traverse this interface is 1500 bytes.
D. The minimum packet size that can traverse this interface is 1500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

QUESTION NO: 280

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



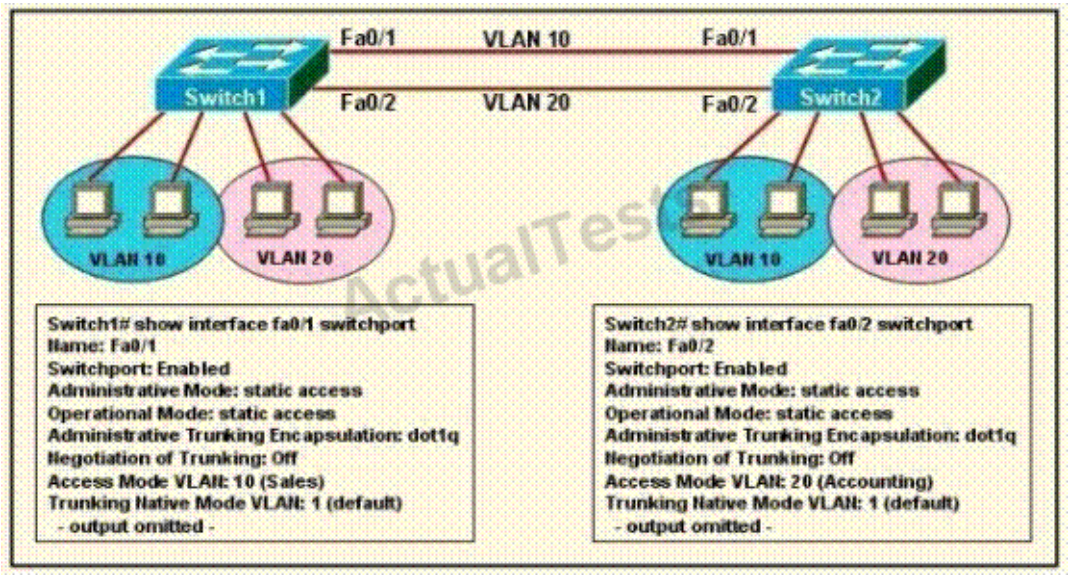
A. The network administrator failed to save the configuration.
B. The configuration register is set to 0*2100.
C. The boot system flash command is missing from the configuration.
D. The configuration register is set to 0*2102.
E. The router is configured with the boot system startup command.

Answer: A
Explanation:

QUESTION NO: 281

Refer to the exhibit. An organization connects two locations, supporting two VLANs, through two

switches as shown. Inter-VLAN communication is not required. The network is working properly and there is full connectivity. The organization needs to add additional VLANs, so it has been decided to implement VTP. Both switches are configured as VTP servers in the same VTP domain. VLANs added to Switch1 are not learned by Switch2. Based on this information and the partial configurations in the exhibit, what is the problem?



A. Switch2 should be configured as a VTP client.
B. VTP is Cisco proprietary and requires a different trunking encapsulation.
C. A router is required to route VTP advertisements between the switches.
D. STP has blocked one of the links between the switches, limiting connectivity.
E. The links between the switches are access links.

Answer: E

Explanation:

A trunk link is a special connection; the key difference between an ordinary connection (access port) and a trunk port is that although an Access port is only in one VLAN at a time, a trunk port has the job of carrying traffic for all VLANs from one switch to another. Any time you connect a switch to another switch and want to make sure that all VLANs will be carried across the switches, you want to make it a trunk.

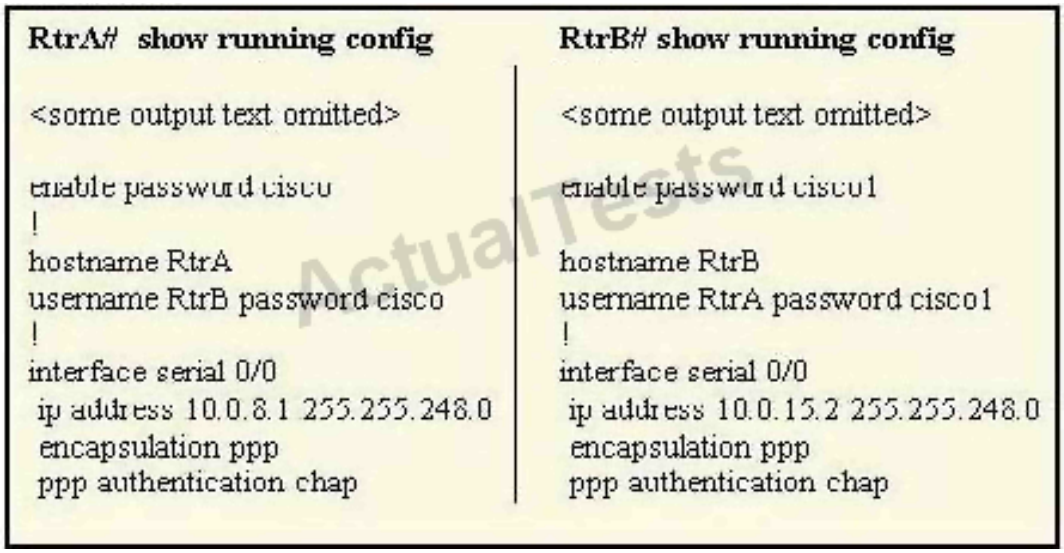
To carry on the data frames for all VLANs, you need to create the Trunk link on switch port as well as you need to select the encapsulation type.

Switchport mode trunk
Switchport trunk encapsulation dot1q or isl

In the above topology the switches are connected on access ports. Making them trunk ports should solve this issue.

QUESTION NO: 282

The administrator is unable to establish connectivity between two Cisco routers. Upon reviewing the command output of both routers, what is the most likely cause of the problem?



RtrA# show running config	RtrB# show running config
<some output text omitted>	<some output text omitted>
enable password cisco	enable password cisco1
!	
hostname RtrA	hostname RtrB
username RtrB password cisco	username RtrA password cisco1
!	!
interface serial 0/0	interface serial 0/0
ip address 10.0.8.1 255.255.248.0	ip address 10.0.15.2 255.255.248.0
encapsulation ppp	encapsulation ppp
ppp authentication chap	ppp authentication chap

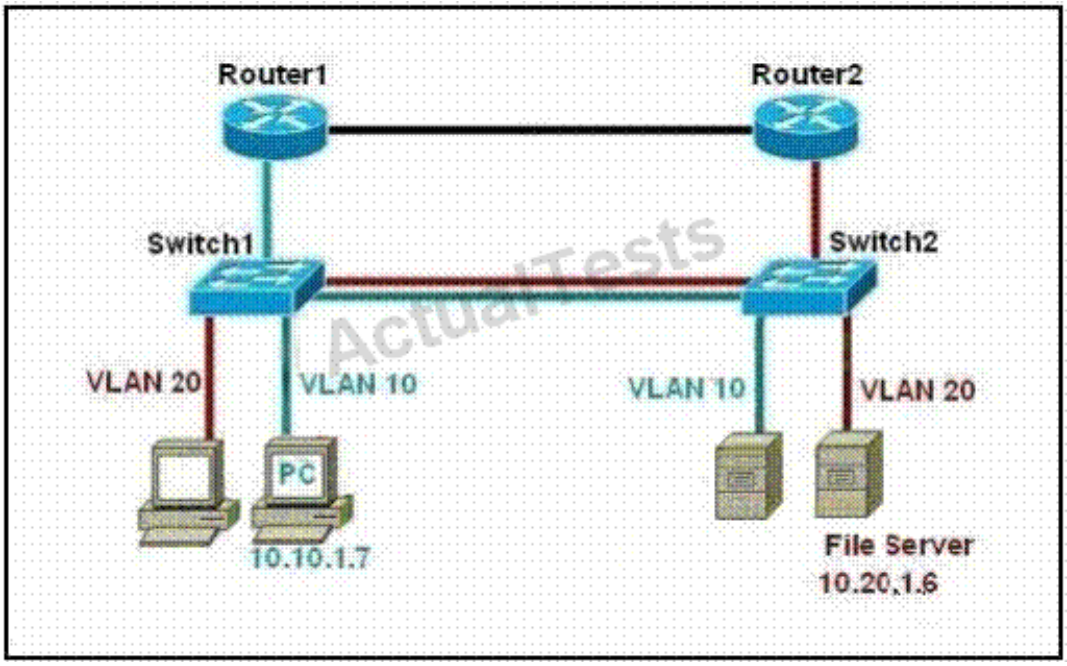
ActualTests

A. Authentication needs to be changed to PAP for both routers.
B. Serial ip addresses of routers are not on the same subnet.
C. Username/password is incorrectly configured.
D. Router names are incorrectly configured.

Answer: C
Explanation:

QUESTION NO: 283

Refer to the exhibit. The network manager is evaluating the efficiency of the current network design. RIPv2 is enabled on all Layer 3 devices in the network. What network devices participate in passing traffic from the PC at 10.10.1.7 to the File Server at 10.20.1.6 in the order that they will forward traffic from source to destination?



A. Switch1, Switch2
B. Switch 1, Router1, Switch1, Switch2
C. Switch1, Router1, Router2, Switch2
D. Switch1, Switch2, Router2, Switch2

Answer: C
Explanation:

QUESTION NO: 284

Acknowledgements, sequencing, and flow control are characteristics of which OSI layer?

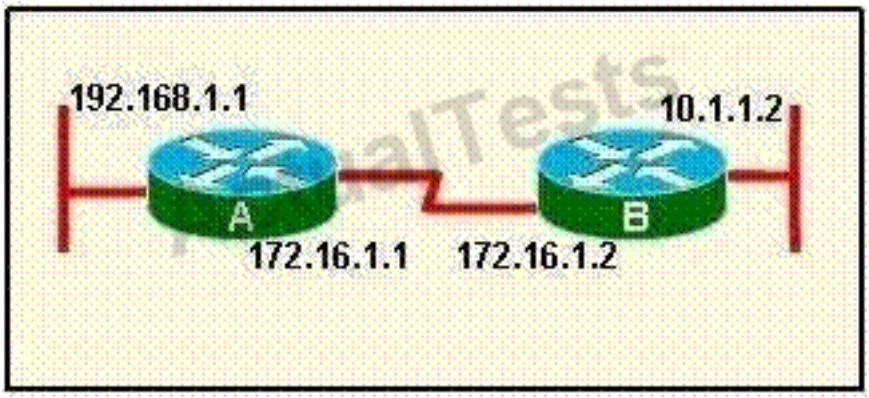
A. Layer2
B. Layer3
C. Layer4
D. Layers
E. Layet6
F. Layer7

Answer: C
Explanation:
Layer 2 data link layer: This layer implements data sub-frame and deals with flow control. The layer also designates topology and provides hardware addressing;
Layer 3 network layer: This layer creates links between two nodes by addressing, including the routing and data trunking through interconnected network;
Layer 4 transport layer: routine data transmission, connected or non-connected, Includes full-

duplex or half-duplex, flow control and error recovery services;

QUESTION NO: 285

Refer to the exhibit. Router A has interfaces with addresses 192.168.1.1 and 172.16.1.1.Router B,which is connected to router A over a serial link, has interfaces with address 172.16.1.2 and 10.1.1.2.



Which sequence of commands will configure RIPv2 on router B?

A.
B(config)# router rip
B(config-router)#version 2
B(config-router)# network 172.16.0.0
B(config-router)# network 10.0.0.0
B(config-router)# end
B.
B(config)# router rip 2
B(config-router)# network 172.16.0.0
B(config-router)# network 10.0.0.0
B(config-router)# end
C.
B(config)# router rip
B(config-router)#version 2
B(config-router)# network 172.16.0.0
B(config-router)#network 192.168.1.0
B(config-router)#end
D.
B(config)# router rip version 2
B(config-router)# network 172.16.0.0
B(config-router)# network 10.0.0.0

B(config-router)#end

Answer: A

Explanation:

The Routing Information Protocol (RIP) is a relatively old, but still commonly used, interior gateway protocol (IGP) created for use in small, homogeneous networks. It is a classical distance-vector routing protocol. RIP is documented in RFC 1058.

RIP uses broadcast User Datagram Protocol (UDP) data packets to exchange routing information. The Cisco IOS software sends routing information updates every 30 seconds; this process is termed advertising. If a router does not receive an update from another router for 180 seconds or more, it marks the routes served by the non-updating router as being unusable. If there is still no update after 240 seconds, the router removes all routing table entries for the non-updating router.

The metric that RIP uses to rate the value of different routes is hop count. The hop count is the number of routers that can be traversed in a route. A directly connected network has a metric of zero; an unreachable network has a metric of 16. This small range of metrics makes RIP an unsuitable routing protocol for large networks.

If the router has a default network path, RIP advertises a route that links the router to the pseudonetwork 0.0.0.0. The network 0.0.0.0 does not exist; RIP treats 0.0.0.0 as a network to implement the default routing feature. The Cisco IOS software will advertise the default network if a default was learned by RIP, or if the router has a gateway of last resort and RIP is configured with a default metric.

RIP sends updates to the interfaces in the specified networks. If an interface's network is not specified, it will not be advertised in any RIP update.

Cisco's implementation of RIP Version 2 supports plain text and MD5 authentication, route summarization, classless interdomain routing (CIDR), and variable-length subnet masks (VLSMs).

Enable RIP
To enable RIP, use the following commands, starting in global configuration mode:
Step Command Purpose
1 router rip Enable a RIP routing process,which places you in router configuration mode.
2 network Associate a network with a RIP routing process.
network-number

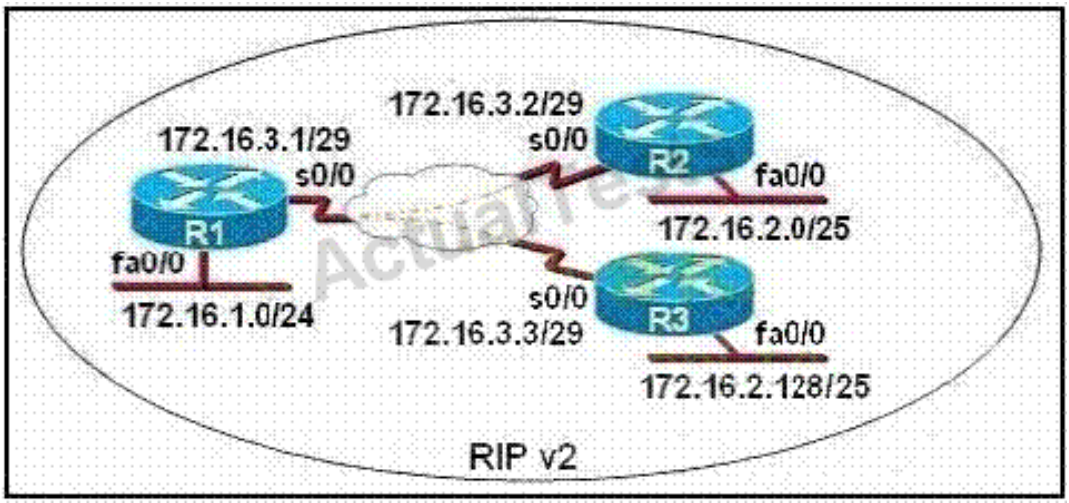
Because RIP is normally a broadcast protocol, in order for RIP routing updates to reach nonbroadcast networks, you must configure the Cisco IOS software to permit this exchange of routing information. To do so, use the following command in router configuration mode:
Command Purpose

neighbor ip-address Define a neighboring router with which to exchange routing information.

By default, the software receives RIP Version 1 and Version 2 packets, but sends only Version 1 packets. You can configure the software to receive and send only Version 1 packets. Alternatively, you can configure the software to receive and send only Version 2 packets. To do so, use the following command in router configuration mode:
Command Purpose

QUESTION NO: 286

Refer to the exhibit. S0/0 on R1 is configured as a multipoint interface to communicate with R2 and R3 in this hub-and-spoke Frame Relay topology. While testing this configuration, a technician notes that pings are successful from hosts on the 172.16.1.0/24 network to hosts on both the 172.16.2.0/25 and 172.16.2.128/25 networks. However, pings between hosts on the 172.16.2.0/25 and 172.16.2.128/25 networks are not successful. What could explain this connectivity problem?



A. The RIP v2 dynamic routing protocol cannot be used across a Frame Relay network.
B. The ip subnet-zero command has been issued on the R1 router.
C. Split horizon is preventing R2 from learning about the R3 networks and R3 from learning about the R2 networks.
D. The 172.16.3.0/29 network used on the Frame Relay links is creating a discontiguous network between the R2 and R3 router subnetworks.
E. The 172.16.2.0/25 and 172.16.2.128/25 networks are overlapping networks that can be seen by R1, but not between R2 and R3.

Answer: C

Explanation:

Under normal circumstances, the router that is connected to the broadcast IP network and uses

the distance vector routing protocol will use split horizon mechanism to avoid routing loop. Split horizon is a technology to avoid routing loop and speed up the routing convergence. The router may receive the routing information sent by itself which is useless, split horizon will not advertise the routing update information back received from the terminal , while it will advertise those routes that will not be cleared because of the endless counting .It can be simply interpreted that the route learnt by a router from one interface will not be sent through the same interface .
For the non-broadcast network (such as Frame -Relay and High Speed Switched Data Services), the effect of split horizon is not ideal. So, we can use the following commands to disable or enable split horizon.
ip split-horizon to enable split horizon

QUESTION NO: 287

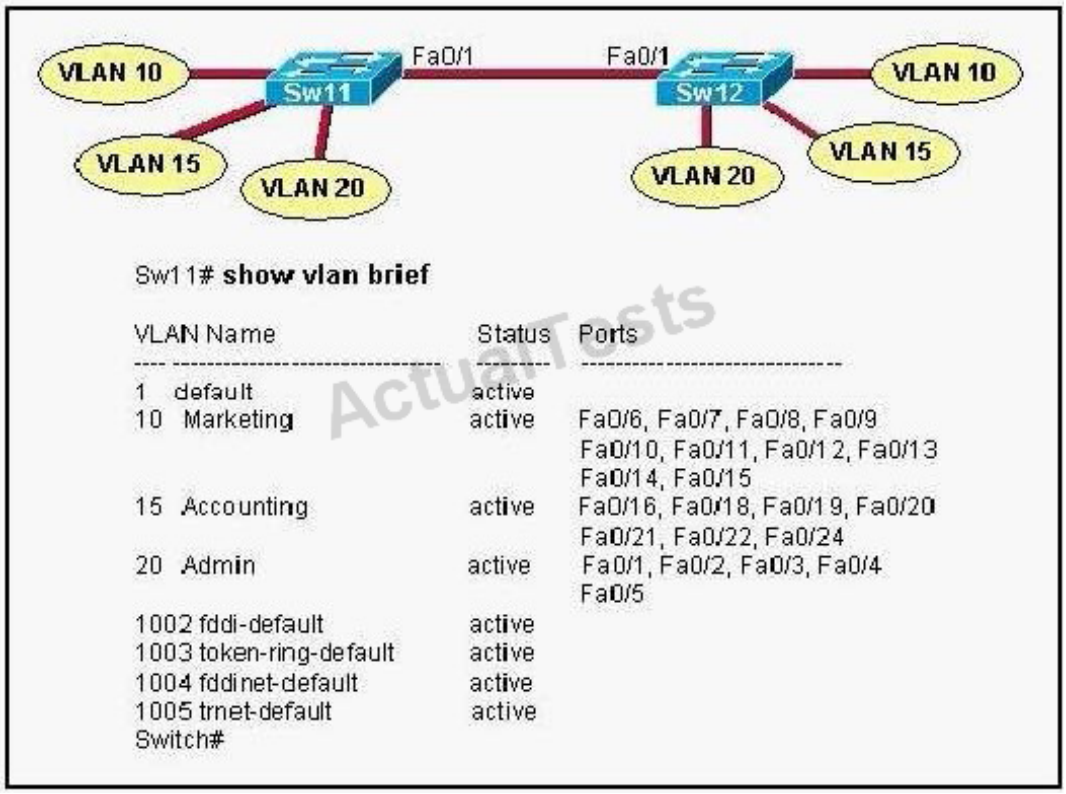
A network administrator is verifying the configuration of a newly installed host by establishing an FTP connection to a remote server. What is the highest layer of the protocol stack that the network administrator is using for this operation?

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

Answer: A
Explanation:

QUESTION NO: 288

Refer to the topology and router output shown in the exhibit. 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 least 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 Sw1 2.

Answer: B

Explanation:

QUESTION NO: 289

You have finished physically installing an access point on the ceiling at your office. At a minimum, which parameter must be configured on the access point in order to allow a wireless client to operate on it?

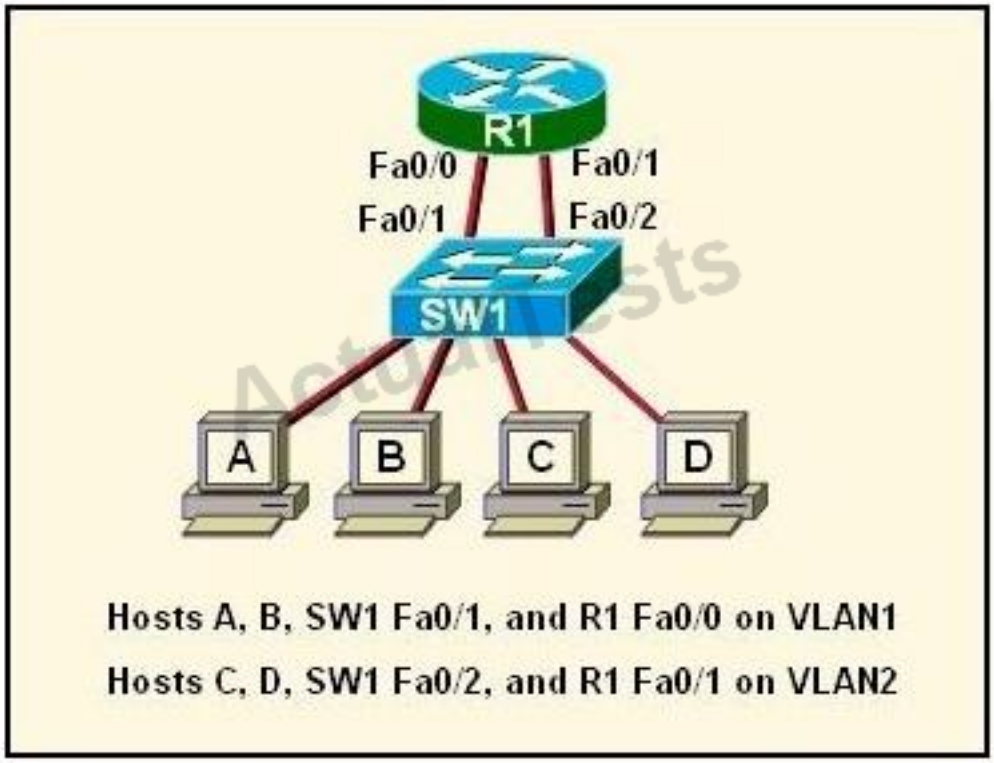
A. AES
B. PSK
C. SSID
D. tkip
E. wep

Answer: C

Explanation:

QUESTION NO: 290

Refer to the exhibit. A network administrator needs to add a new VLAN, named VLAN3, to the network shown. Unfortunately, there is not another FastEthernet interface on R1 to connect to the new VLAN3. Which approach is the most cost effective solution for this problem?



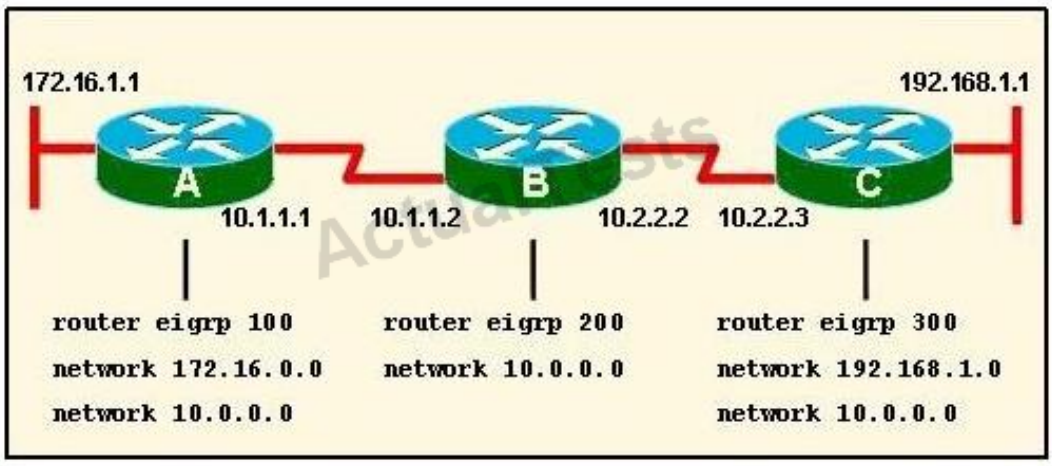
A. Purchase a new FastEthernet module and install it on R1.
B. Replace R1 with a new router that has at least three FastEthernet interfaces.
C. Configure a second switch to support VLAN3 with a VLAN trunk between SW1 and the new switch.
D. Configure a single VLAN trunk between R1 and SW1 and configure a subinterface on the R1 interface for each VLAN.
E. Connect another router to a serial interface of R1. Use a FastEthernet interface on the new router for VLAN3.

Answer: D

Explanation:

QUESTION NO: 291

Refer to the exhibit. When running EIGRP, what is required for RouterA to exchange routing updates with RouterC?



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 Router A and Router C
D. Router B needs to have two network statements, one for each connected network

Answer: A

Explanation:

This question is to examine the understanding of the interaction between EIGRP routers.

The following information must be matched so as to create neighborhooD.

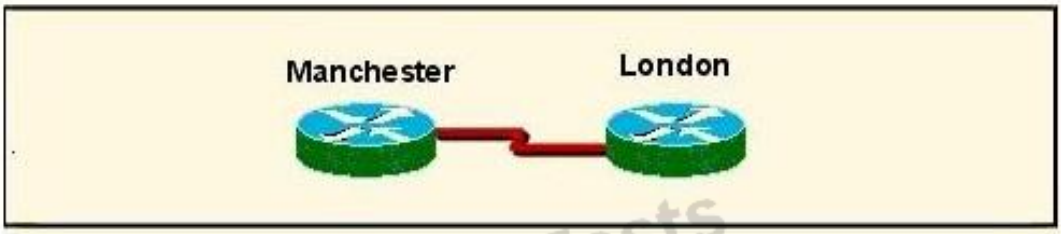
EIGRP routers to establish, must match the following information:

1. AS Number;

2. K value.

QUESTION NO: 292

Refer to the exhibit. The two exhibit 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>
```

ActualTests

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
Explanation:

QUESTION NO: 293

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 0xFafter each of its first three bytes

Answer: D
Explanation:

QUESTION NO: 294

Refer to the exhibit. After a RIP route is marked invalid on Router_1, how much time will elapse before that route is removed from the routing table?

```
Router_1# show ip protocols
Routing Protocol is "rip"
  Sending updates every 30 seconds, next due in 8 seconds
  Invalid after 180 seconds, hold down 180, flushed after 240
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  <output omitted>

Router_1#
```

A. 30 seconds
B. 60 seconds
C. 90 seconds
D. 180 seconds
E. 240 seconds

Answer: B

Explanation:

QUESTION NO: 295

Refer to the exhibit. A network associate has configured the internetwork that is shown in the exhibit, but has failed to configure routing properly. Which configuration will allow the hosts on the Branch LAN to access resources on the HQ LAN with the least impact on router processing and WAN bandwidth?



A. HQ(config)# router rip
HQ(config-router)# network 192.168.2.0

HQ(config-router)# network 172.16.0.0
Branch(config)# router rip
Branch (config-router)# network 192.168.1.0
Branch (config-router)# network 192.168.2.0
B. HQ(config)# router eigrp 56
HQ(config-router)# network 192.168.2.4
HQ(config-router)# network 172.16.25.0
Branch(config)# router eigrp 56
Branch (config-router)# network 192.168.1.0
Branch (config-router)# network 192.168.2.4
C. HQ(config)# router ospf 1
HQ(config-router)# network 192.168.2.4 0.0.0.3 area 0
HQ(config-router)# network 172.16.25.0 0.0.0.255 area 0
Branch(config)# router ospf 1
Branch (config-router)# network 192.168.1.0 0.0.0.255 area 0
Branch (config-router)# network 192.168.2.4 0.0.0.3 area 0
D. HQ(config)# ip route 192.168.1.0 255.255.255.0 192.168.2.5
Branch(config)# ip route 172.16.25.0 255.255.255.0 192.168.2.6

Answer: D

Explanation:

Static routes can be used to allow Branch LAN to access resources on the HQ LAN with the least impact on router processing and WAN bandwidth.

Compared with dynamic routes, static routes have the following advantages:

1. Control
2. Easy configuration
3. Less WAN bandwidth

QUESTION NO: 296

Which additional configuration step is necessary in order to connect to an access point that has SSID broadcasting disabled?

A. Set the SSID value in the client software to public.
B. Configure open authentication on the AP and the client.
C. Set the SSID value on the client to the SSID configured on the AP.
D. Configure MAC address filtering to permit the client to connect to the AP.

Answer: C

Explanation:

QUESTION NO: 297

What is one reason that WPA encryption is preferred over WEP?

A. A WPA key is longer and requires more special characters than the WEP key.
B. The access point and the client are manually configured with different WPA key values.
C. WPA key values remain the same until the client configuration is changed.
D. The values of WPA keys can change dynamically while the system is used.

Answer: D
Explanation:
WEP is security mechanism that encrypts grouping information between Access Point and Client in "RC4" mode. Password is easily cracked. The encryption key that WEP uses includes the 40 bits (104 bits) general key that both receiver and sender predefined, and the 24 bits encryption key (IV key) that sender defined for each group. However, in order to tell communication object the IV key, IV key is embedded in the grouping information directly and sent out without encryption. If wiretapping, collecting some certain IV key grouping information and then analyze, even secret general key will be worked out.

QUESTION NO: 298

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
Explanation: Explanation
Below is an example of the show ip eigrp neighbors command. The retransmit interval (Smooth Round Trip Timer – SRTT) and the queue counts (Q count, which shows the number of queued EIGRP packets) for the adjacent routers are listed:

```
Router1# show ip eigrp neighbors
Address         Interface  Holdtime  Uptime    Q      Seq  SRTT RTO
                           (secs)    (h:m:s)   Count  Num  (ms)  (ms)
192.168.1.2     Se0        13        01:10:20  106    636  0     30
```

untitled

QUESTION NO: 299

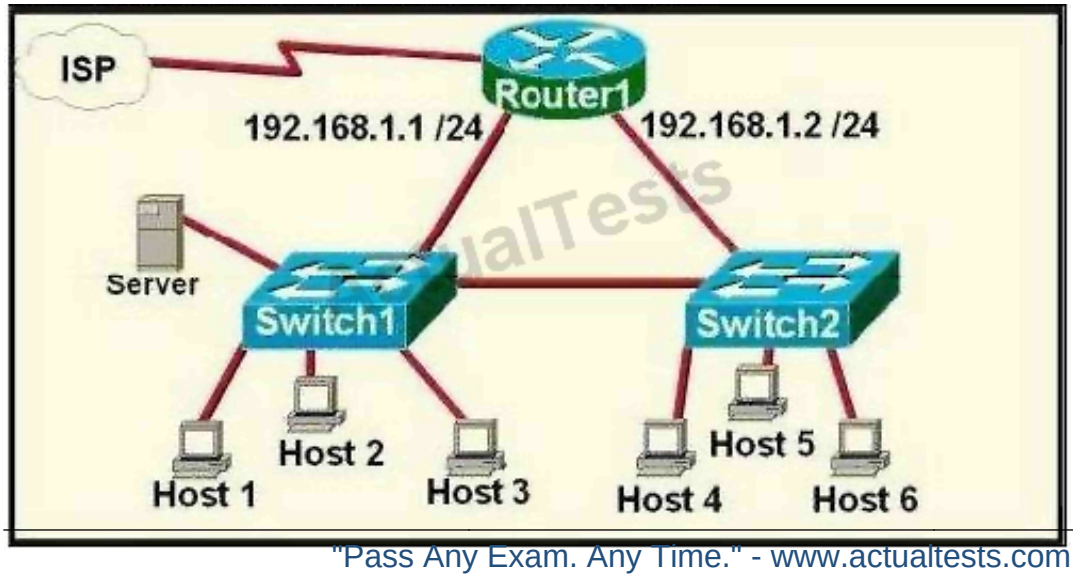
All WAN links inside the ABC University network use PPP with CHAP for authentication security. Which command will display the CHAP authentication process as it occurs between two routers in the network?

A. show CHAP authentication
B. show interface serial0
C. debug PPP authentication
D. debug CHAP authentication
E. show ppp authentication chap

Answer: C
Explanation:

QUESTION NO: 300

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?



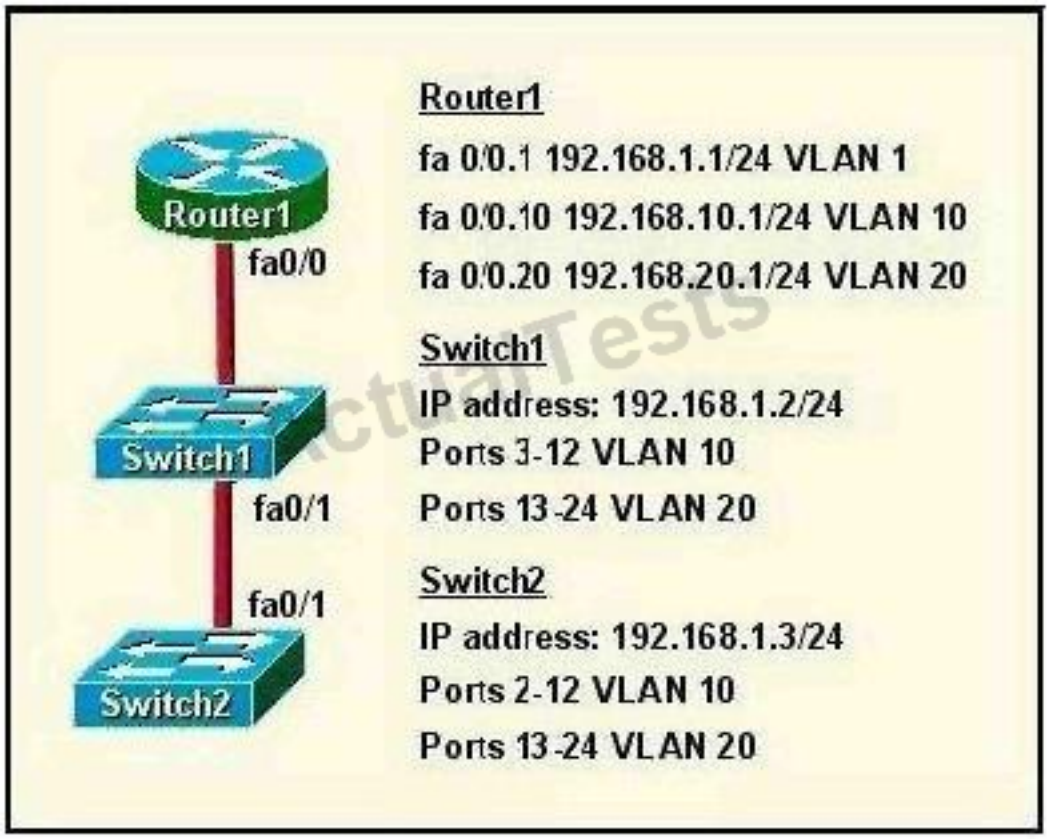
A. This design will function as intended.
B. Spanning-tree will need to be used.
C. The router will not accept the addressing scheme.
D. The connection between switches should be a trunk.
E. The router interfaces must be encapsulated with the 802.1 Q protocol

Answer: C
Explanation:

Topic 4, Volume D

QUESTION NO: 301

Refer to the exhibit. How should the FastEthernet0/1 ports 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-it)#switchport mode access

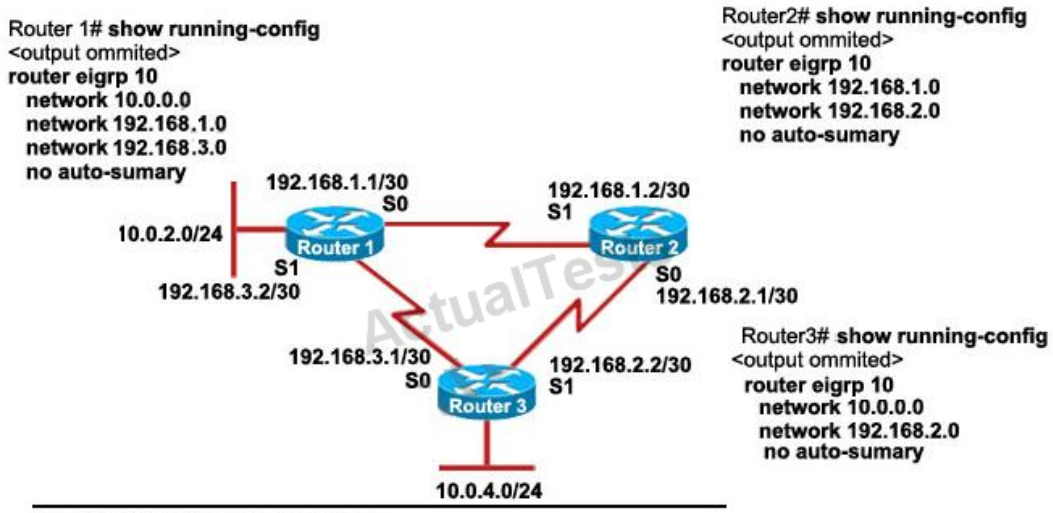
SwitchX(config-it)#switchport access vlan 1
D. SwitchX(config)#interface fastethernet 0/1 SwitchX(config-if)#switchport mode trunk
SwitchX(config-it)#switchport trunk vlan 1 SwitchX(config-if)#switchport trunk vlan 10
SwitchX(config-it)#switchport trunk vlan 20

Answer: B

Explanation:

QUESTION NO: 302

IP addresses and routing for the network are configured as shown in the exhibit. The network administrator issues the show ip eigrp neighbors command from Router1 and receives the output shown below the topology. Which statement is true?



Router1# show ip eigrp neighbors

Address	Interface	Holdtime (secs)	Uptime (h:m:s)	Q Count	Seq Num	SRTT (ms)	RTO (ms)
192.168.1.2	Se0	13	01:10:20	106	636	0	30

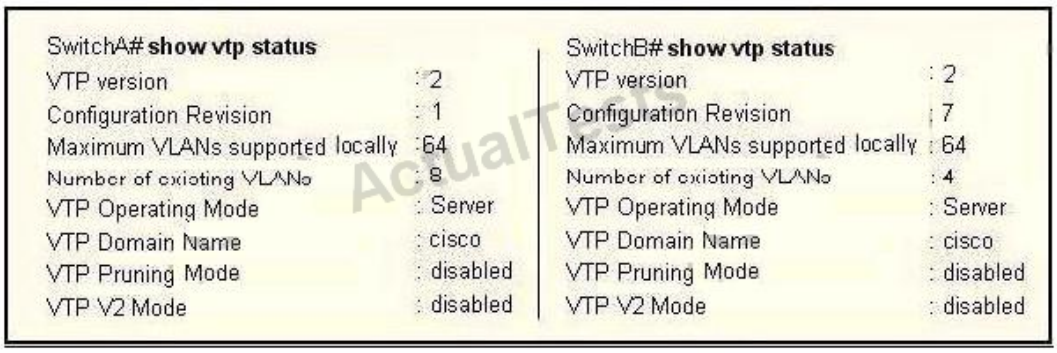
A. It is normal for Router1 to show one active neighbor at a time to prevent routing loops.
B. Routing is not completely configured on Router3.
C. The IP addresses are not configured properly on the Router1 and Router3 interfaces.
D. The no auto-summary command configured on the routers prevents Router1 and Router2 from forming a neighbor relationship.

Answer: B

Explanation:

QUESTION NO: 303

Refer to the exhibit. After SwitchB was added to the network, VLAN connectivity problems started to occur. What caused this problem?



SwitchA# **show vtp status**		SwitchB# **show vtp status**	
VTP version	: 2	VTP version	: 2
Configuration Revision	: 1	Configuration Revision	: 7
Maximum VLANs supported locally	:64	Maximum VLANs supported locally	: 64
Number of existing VLANs	: 8	Number of existing VLANs	: 4
VTP Operating Mode	: Server	VTP Operating Mode	: Server
VTP Domain Name	: cisco	VTP Domain Name	: cisco
VTP Pruning Mode	: disabled	VTP Pruning Mode	: disabled
VTP V2 Mode	: disabled	VTP V2 Mode	: disabled

A. Both switches are in server mode in the same domain.
B. The revision number of SwitchB was higher than the revision number of SwitchA.
C. SwitchA was not rebooted prior to adding SwitchB to the network.
D. V2-mode is not enabled.
E. VTP pruning is not activated, so the new paths in the network have not been recalculated.

Answer: B

Explanation:

QUESTION NO: 304

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 (pricrity 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
```

Which of the following correctly describe? (Choose three.)

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. This switch must be the root bridge for all VLANs on this switch.

Answer: C,E,F

Explanation:

Answer “All ports will be in a state of discarding, learning, or forwarding.” is incorrect because spanning tree is utilizing RSTP. The new RSTP states are Disabled, Blocking, Listening, Learning, Forwarding.

QUESTION NO: 305

The Company network is shown below:



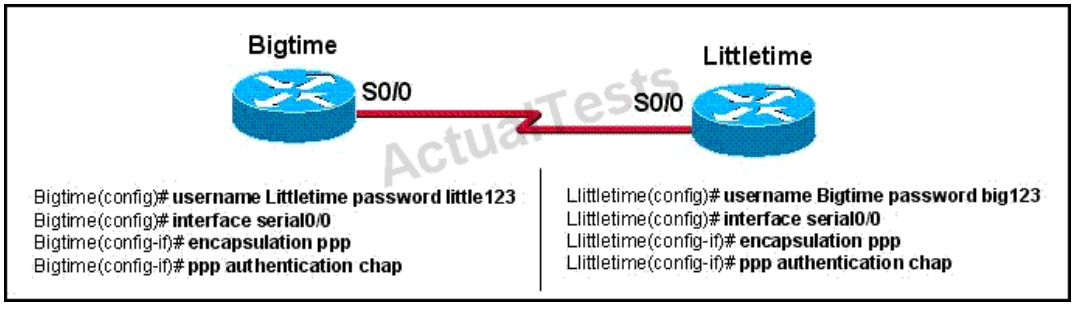
Based on the information shown above, when the Company network administrator attempts to ping Host Company-PC2 from Host Company-PC1 and shown. What is a possible problem?

A. The link between Company1 and Company2 is down.
B. Interface Fa0/0 on Company2 is shutdown.
C. The link between Company2 and Company3 is down.
D. The default gateway on Company-PC1 is incorrect.

Answer: C
Explanation:

QUESTION NO: 306

Refer to the exhibit. 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

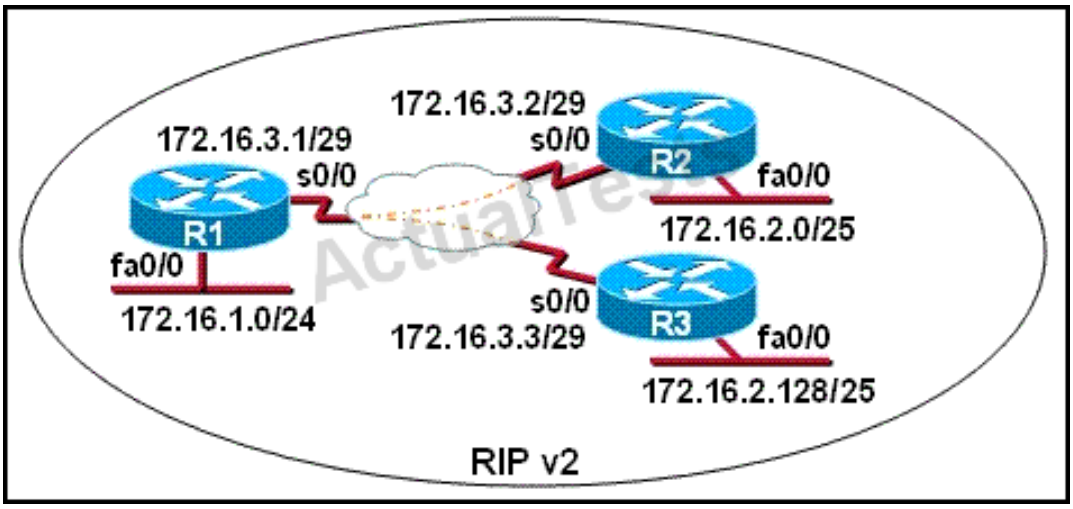
be configured to authenticate to each other.

Answer: B

Explanation:

QUESTION NO: 307

S0/0 on R1 is configured as a multipoint interface to communicate with R2 and R3 in the hub-and-spoke Frame Relay topology shown in the exhibit. Originally, static routes were configured between these routers to successfully route traffic between the attached networks. What will need to be done in order to use RIP v2 in place of the static routes?



A. Configure the no ip subnet-zero command on R1, R2, and R3.
B. Dynamic routing protocols such as RIP v2 cannot be used across Frame Relay networks.
C. Configure the s0/0 interface on R1 as two subinterfaces and configure point-to-point links to R2 and R3.
D. Change the 172.16.2.0/25 and 172.16.2.128/25 subnetworks so that at least two bits are borrowed from the last octet.
E. Change the network address configurations to eliminate the discontiguous 172.16.2.0/25 and 172.16.2.128/25 subnetworks.

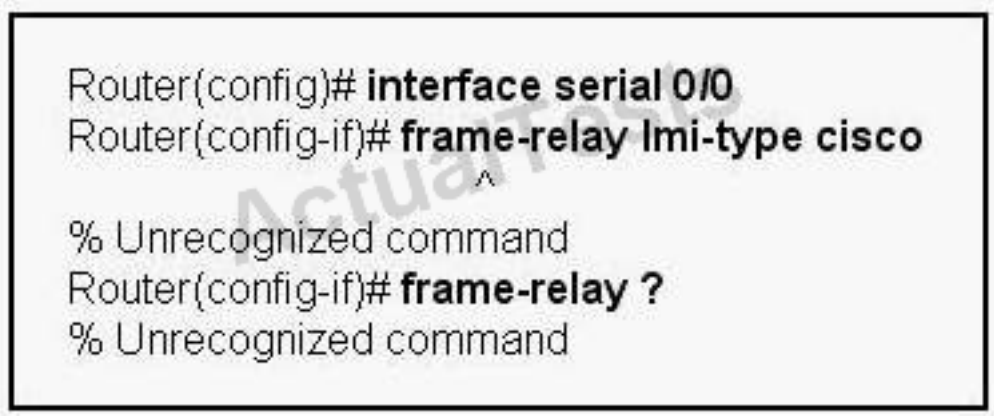
Answer: C

Explanation:

QUESTION NO: 308

Refer to the exhibit. A router interface is being configured for Frame Relay. However, as the exhibit shows, the router will not accept the command to configure the LMI type. What is the

problem?

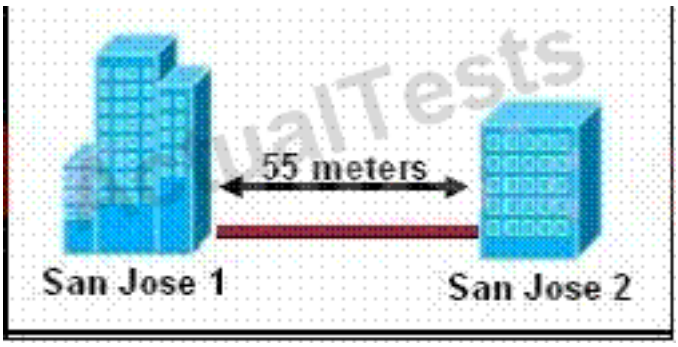


A. The interface does not support Frame Relay connections.
B. The interface does not have an IP address assigned to it yet.
C. The interface requires that the no shutdown command be configured first.
D. The interface requires that the encapsulation frame-relay command be configured first.

Answer: D
Explanation:

QUESTION NO: 309

Refer to the exhibit. Two buildings on the San Jose campus of a small company must be connected to use Ethernet with a bandwidth of at least 100 Mbps. The company is concerned about possible problems from voltage potential differences between the two buildings. Which media type should be used for the connection?



A. UTP cable
B. STP cable
C. coaxial cable
D. fiber optic cable

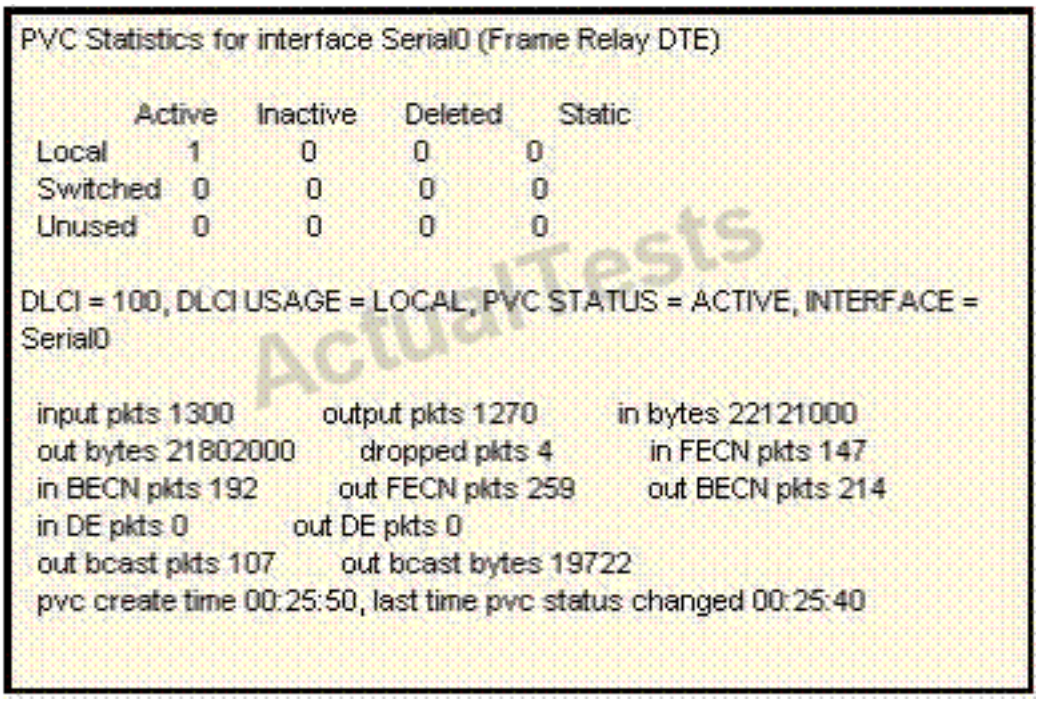
Answer: D

Explanation:

Current Ethernet technology typically comes via either copper UTP or fiber cables. In this scenario the distance between the buildings is only 55 meters so either copper or fiber could be used, as the distance limitation for 100M UTP Ethernet is 100 meters. However, fiber would be a better fit as it is not prone to errors that could occur due to the voltage potential differences. Because fiber is a dielectric material, it's not susceptible to electrical interference. FO-product vendors also claim that fiber systems make secure communications easier. Interference immunity and lack of emissions are givens in FO systems and in the fiber medium itself.

QUESTION NO: 310

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 DE packets 0

Answer: C
Explanation:

QUESTION NO: 311

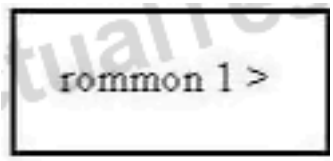
What can a network administrator utilize by using PPP Layer 2 encapsulation? (choose three)

A. quality of service
B. compression
C. authentication
D. VLAN support
E. multilink support
F. Quality of service

Answer: B,C,E
Explanation:
Compared to HDLC ,PPP has more features. Similar to HDLC, PPP defines a type of frame and how to communicate between PPP devices including the multiplexed networks and the data link layer protocols cross the same link. However, PPP has more characteristics as follows:
Perform the dynamic configuration of the link.
Allow for authentication.
Compress packet header.
Test the quality of the link.
Complete detecting and troubleshooting.
Allow for combining many PPP physical links into a single logical link.
PPP has 3 main components.
1.frame format
2.LCP(Link Control Protocol)

QUESTION NO: 312

Refer to the exhibit. A router boots to the prompt shown in the exhibit. What does this signify .and how should the network administrator respond?



A. This prompt signifies that the configuration file was not found in NVRAM. The network administrator should follow the prompts to enter a basic configuration.
B. This prompt signifies that the configuration file was not found in flash memory. The network administrator should use TFTP to transfer a configuration file to the router.
C. This prompt signifies that the IOS image in flash memory is invalid or corrupt. The network administrator should use TFTP to transfer an IOS image to the router.
D. This prompt signifies that the router could not authenticate the user. The network administrator should modify the IOS mage and reboot the router.

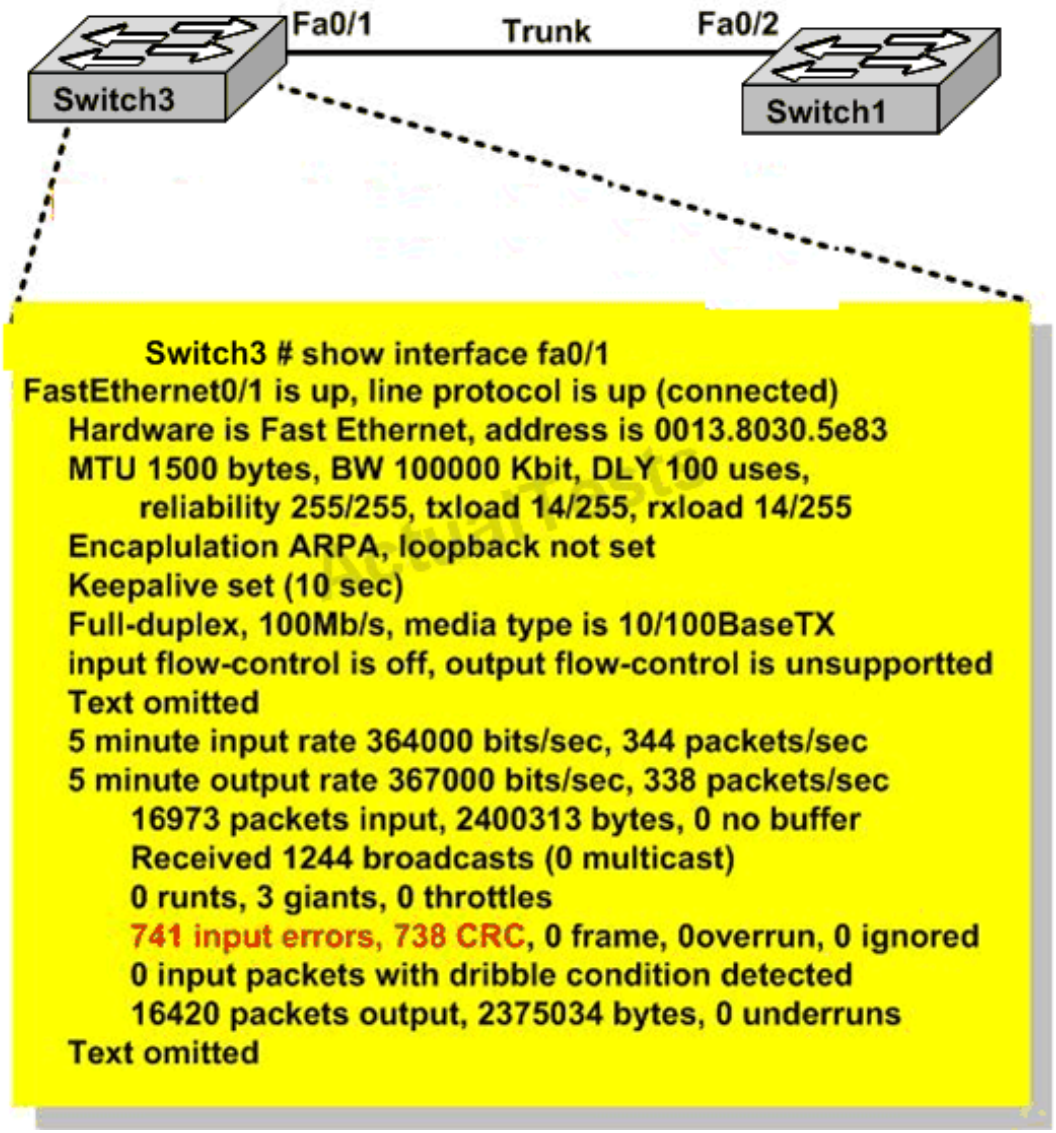
Answer: C

Explanation:

The default boot sequence for Cisco IOS softwarE. 1. NVRAM2. Flash (sequential) 3. TFTP server (network boot) 4. ROM (partial IOS) If a router boots up in ROM mode as shown in this example, it means that the router was unsuccessfully able to find a valid IOS to boot from, and a valid IOS image will need to be loaded onto it.

QUESTION NO: 313

Refer to the exhibit. Given this output for SWITCH3, what should the network administrator's next action be?



A. Check the trunk encapsulation mode for SWITCH3's fa0/1 port.
B. Check the trunk encapsulation mode for SWITCH1's fa0/2 port.
C. Check the duplex mode for SWITCH3's fa0/1 port.
D. Check the duplex mode for SWITCH1's fa0/2 port.

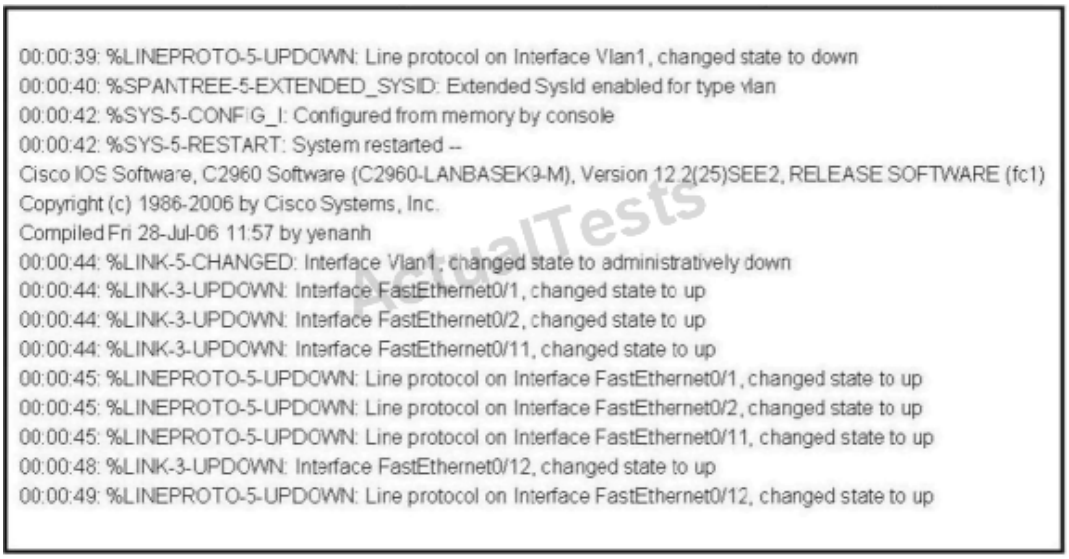
Answer: D

Explanation:

When operating at full-duplex, FCS, cyclic redundancy checks (CRC), alignment errors, and runt counters are probably minimal. If the link operates at full-duplex, the collision counter is not active. If the FCS, CRC, alignment, or runt counters increment, check for a duplex mismatch. Duplex mismatch is a situation in which the switch operates at full-duplex and the connected device operates at half-duplex, or the other way around. The result of a duplex mismatch is extremely slow performance, intermittent connectivity, and loss of connection. Other possible causes of data link errors at full-duplex are bad cables, a faulty switch port, or NIC software or hardware issues.

QUESTION NO: 314

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



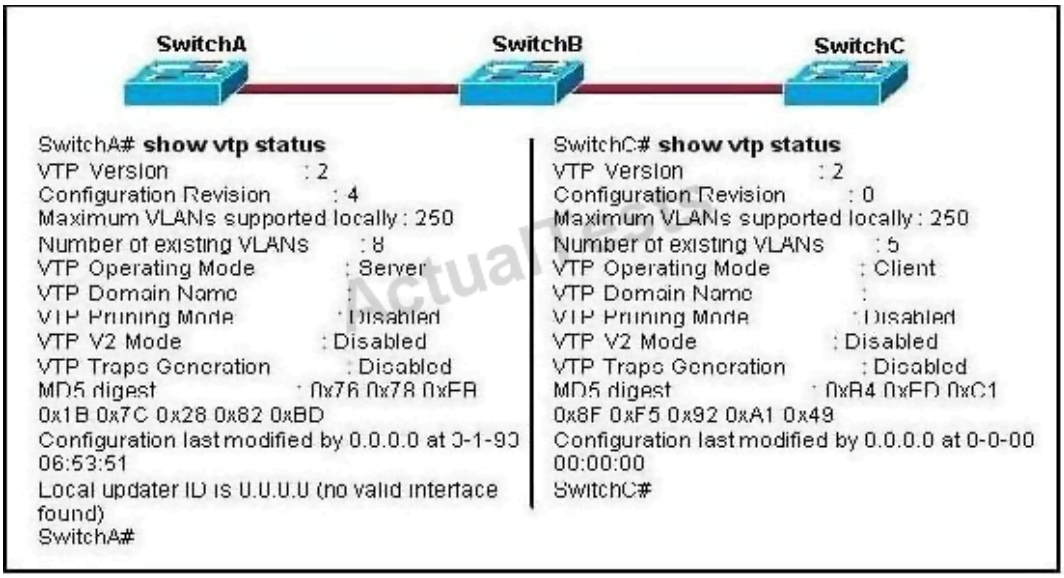
A. As FastEthernet0/12 will be the last to come up.it will not be blocked by STP.
B. Remote access management of this switch will not be possible without configuration change.
C. More VLANs will need to be created for this switch.
D. The switch will need a different IOS code in order to support VLANs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

Answer: B
Explanation:

Notice the line, which says “Interface VLAN1, changed state to administratively down”. This shows that VLAN1 is shut down. Hence remote management of this switch is not possible unless VLAN1 is brought back up. Since VLAN1 is the only interface shown in the output, you have to assume that no other VLAN interface has been configured with an IP Address.

QUESTION NO: 315

Refer to the exhibit. The three Catalyst 2950 switches have been configured for VTP. Trunking is properly configured and operational on all three switches. The show vlan command issued on SwitchC displays only the default VLANs. Based on the output from the show vtp status commands shown in the exhibit, why is this true?



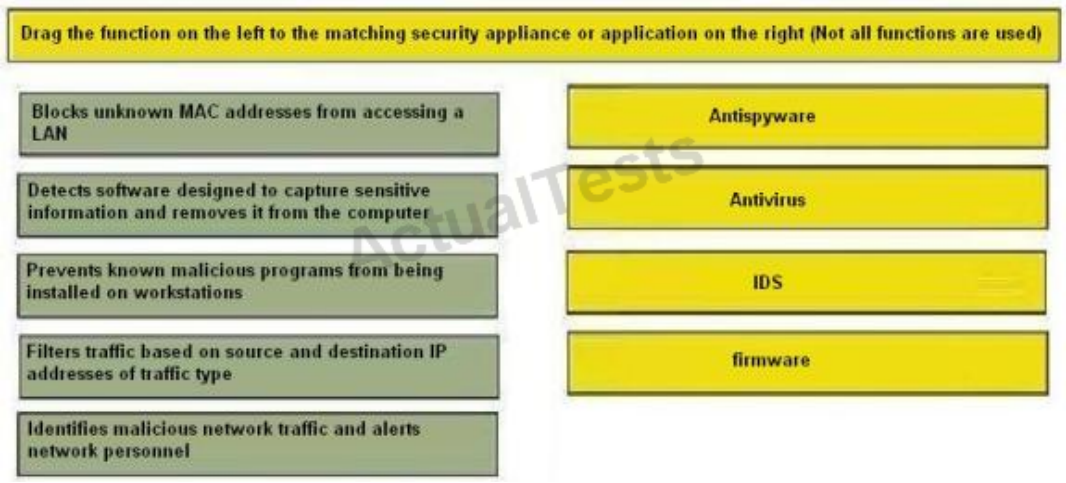
A. Only the default VLANs are configured on SwitchA.
B. SwitchA does not have a VTP domain name configured.
C. VTP pruning needs to be enabled on SwitchA.
D. SwitchC needs to have the VTP domain name configured.
E. SwitchB is in transparent mode.

Answer: B

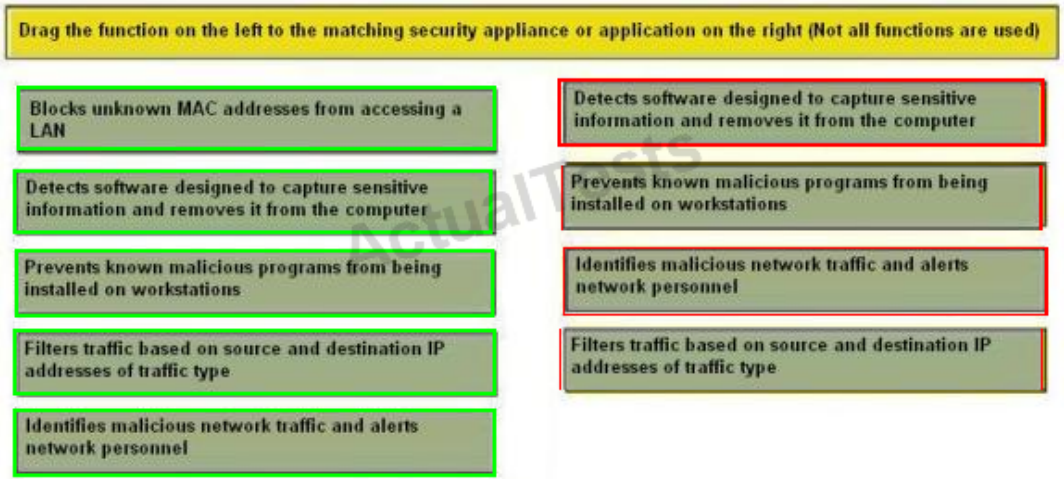
Explanation:

QUESTION NO: 316 DRAG DROP

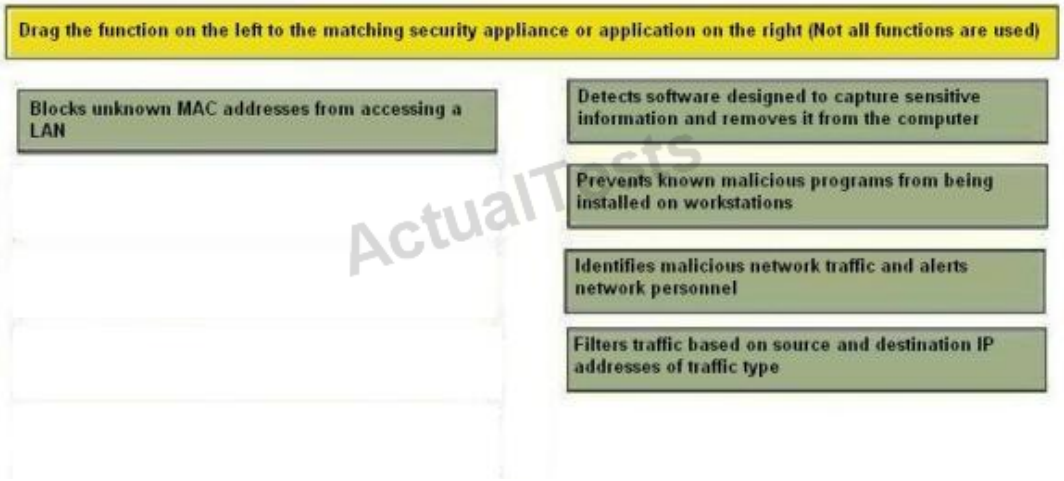
Drag the function on the left to the matching security appliance or application on the right. (Not all functions are used)



Answer:



Explanation:



QUESTION NO: 317 DRAG DROP

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 -- of preference category on the right.



Answer:



Explanation:



C:\Documents and Settings\RraAsShHIdD\Desktop\untitled.JPG

QUESTION NO: 318 DRAG DROP

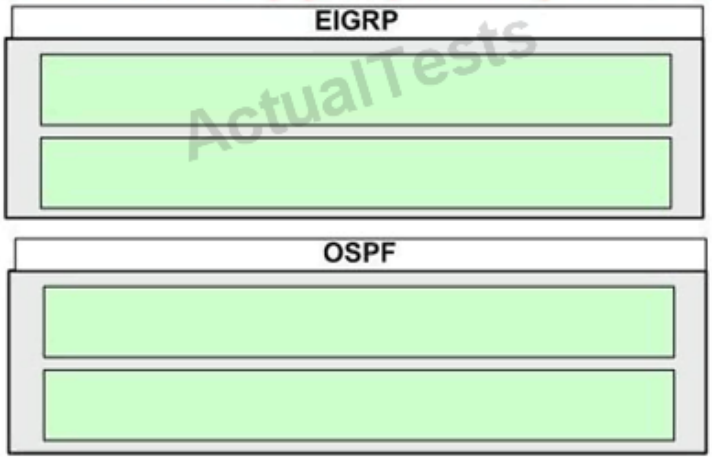
The above provides some descriptions, while the below provides some routing protocols. Drag the above items to the proper locations.

has a default administrative distance of 90

is vendor-specific

uses cost as its metric

elects a DR on each mutiaccess network



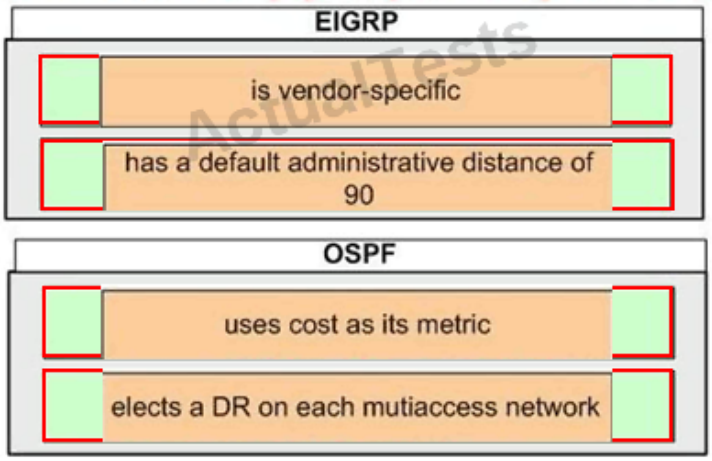
Answer:

has a default administrative distance of 90

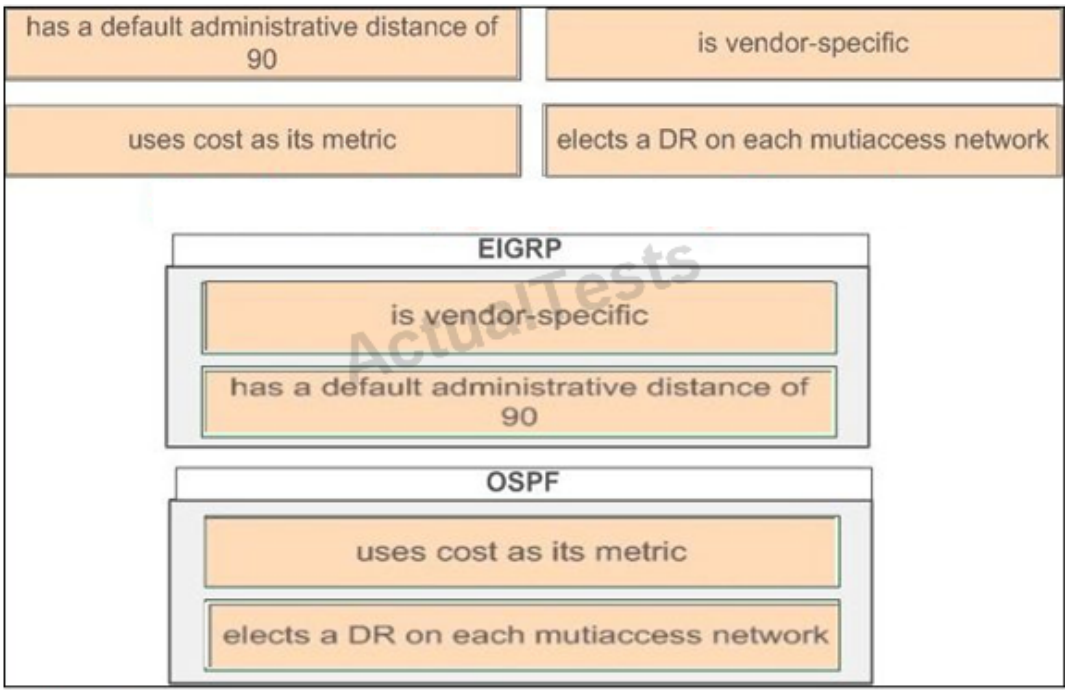
is vendor-specific

uses cost as its metric

elects a DR on each mutiaccess network

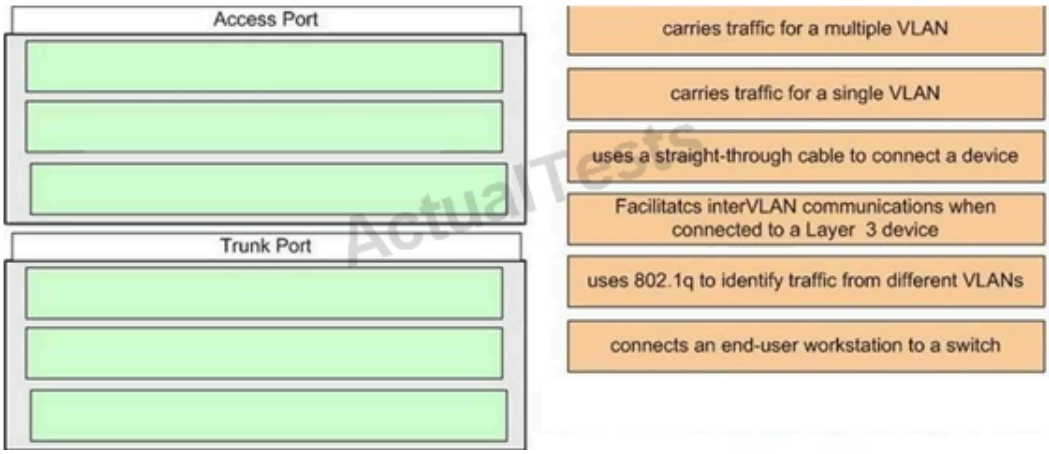


Explanation:

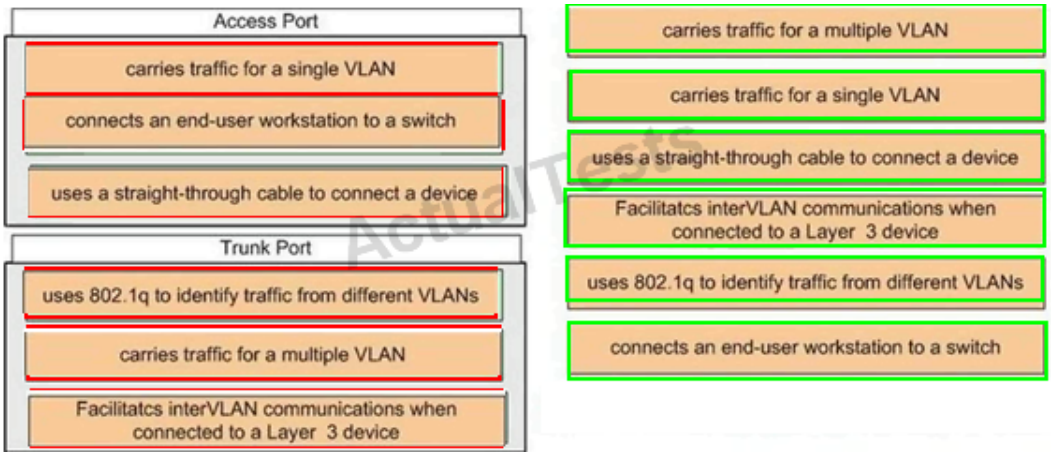


QUESTION NO: 319 DRAG DROP

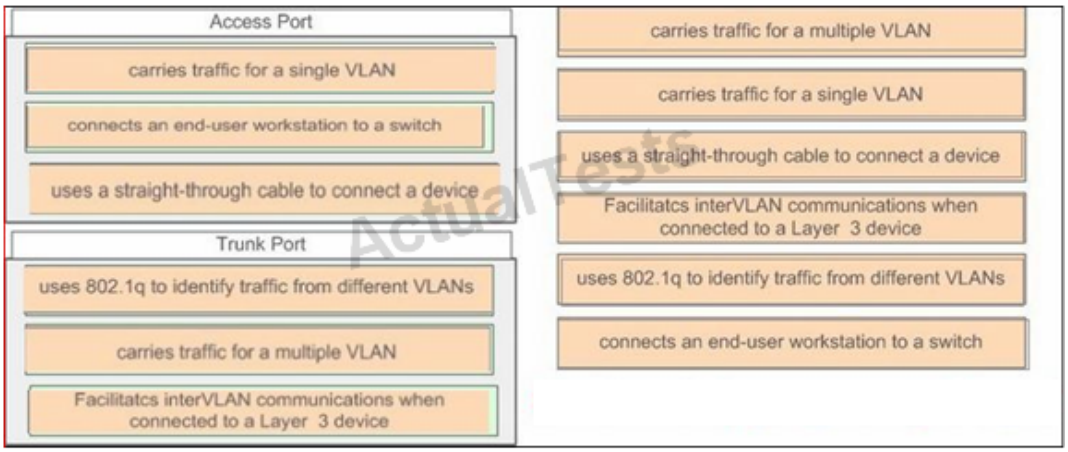
Drag the options on the right to the proper locations.



Answer:



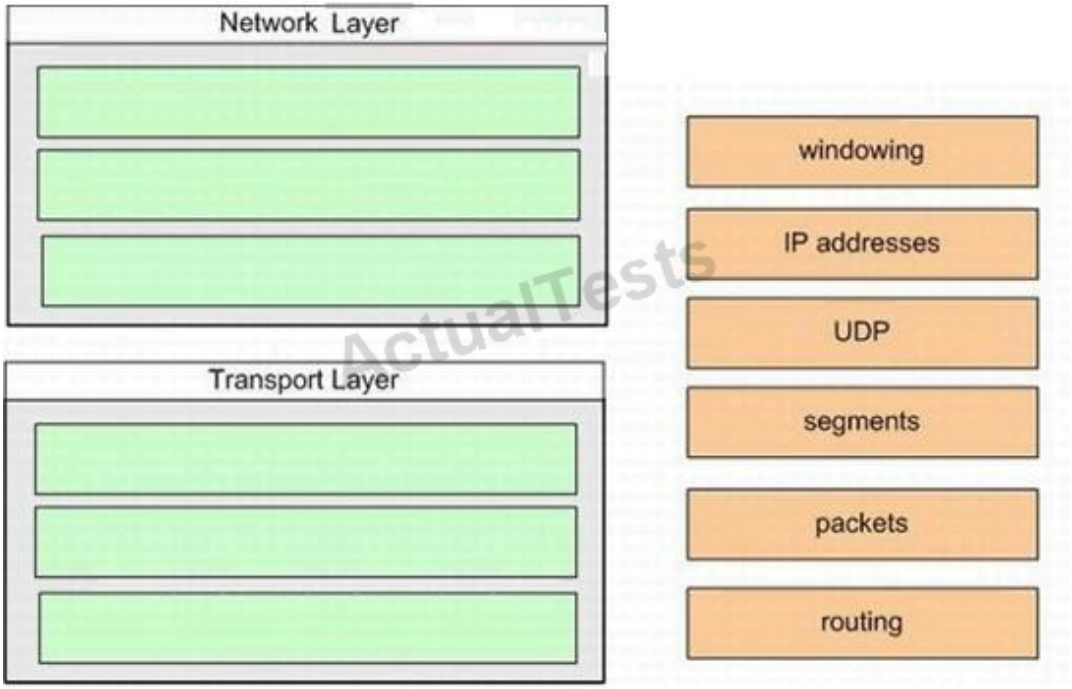
Explanation:



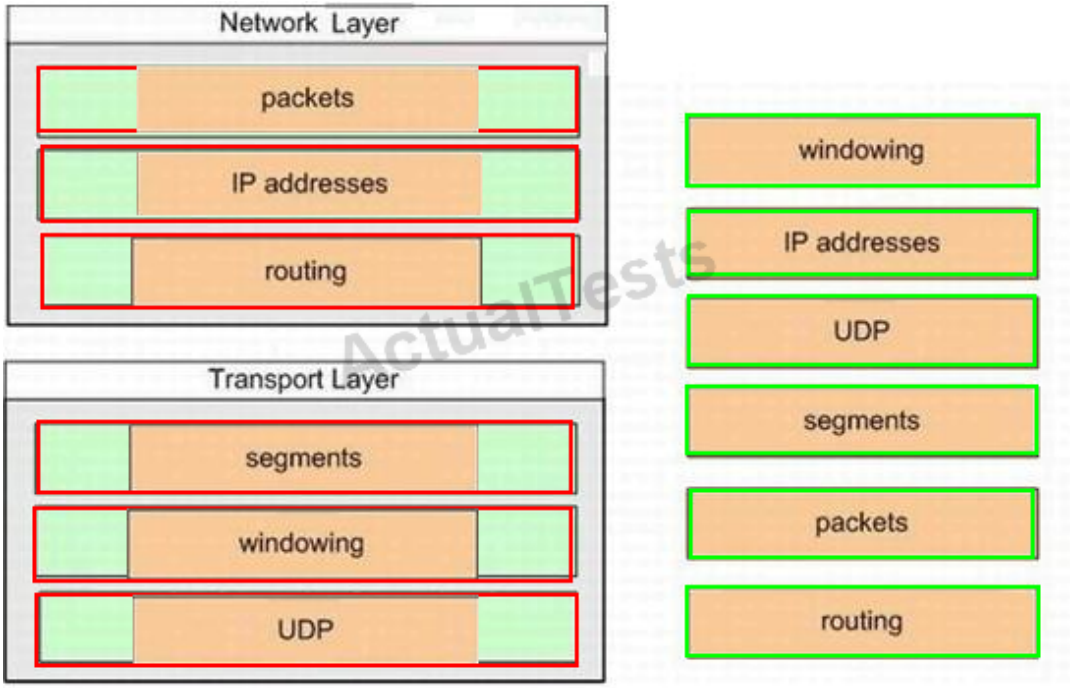
Trunking
VLANs are local to each switch's database, and VLAN information is not passed between switches.
Trunk links provide VLAN identification for frames traveling between switches.
Cisco switches have two Ethernet trunking mechanisms: ISL and IEEE 802.1Q.
Certain types of switches can negotiate trunk links.
Trunks carry traffic from all VLANs to and from the switch by default but can be configured to carry only specified VLAN traffic.

QUESTION NO: 320 DRAG DROP

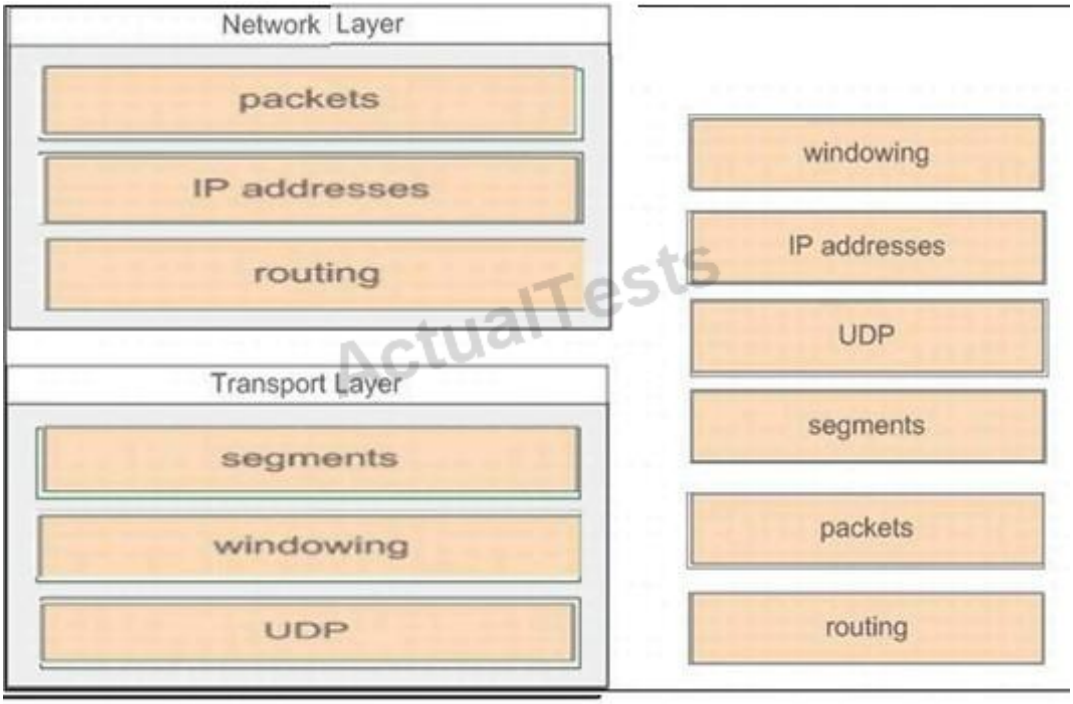
The left describes OSI layers, while the right provides some terms. Drag the items on the right to the proper locations.



Answer:

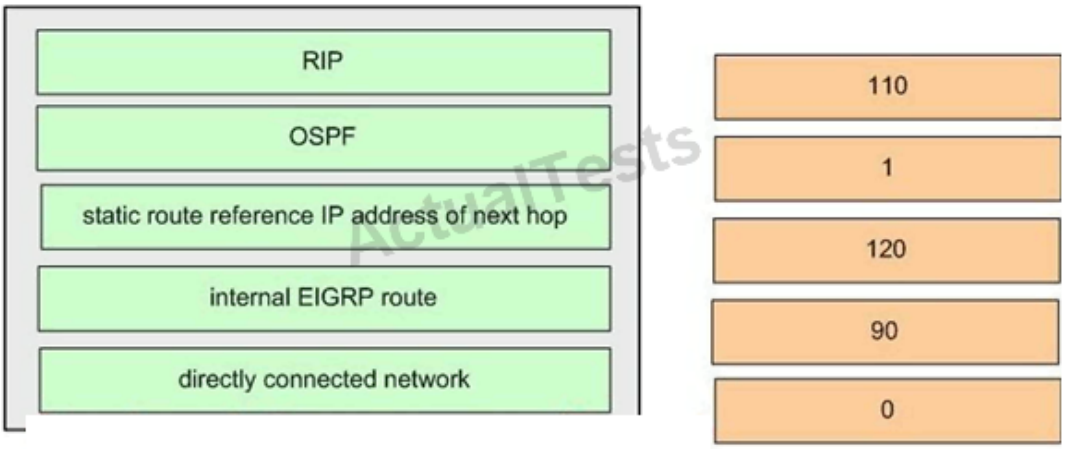


Explanation:

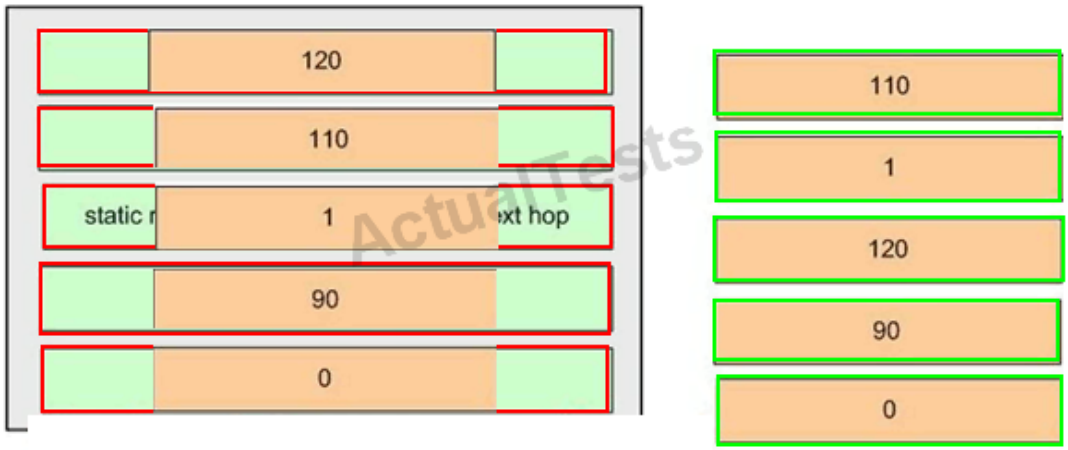


QUESTION NO: 321 DRAG DROP

The left provides some routing protocols, while the right gives several Cisco default administrator distances. Drag the items on the right to the proper locations.



Answer:

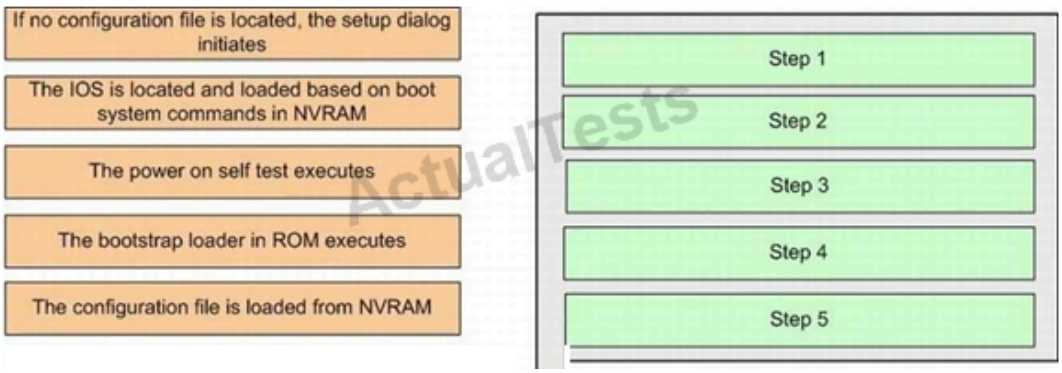


Explanation:

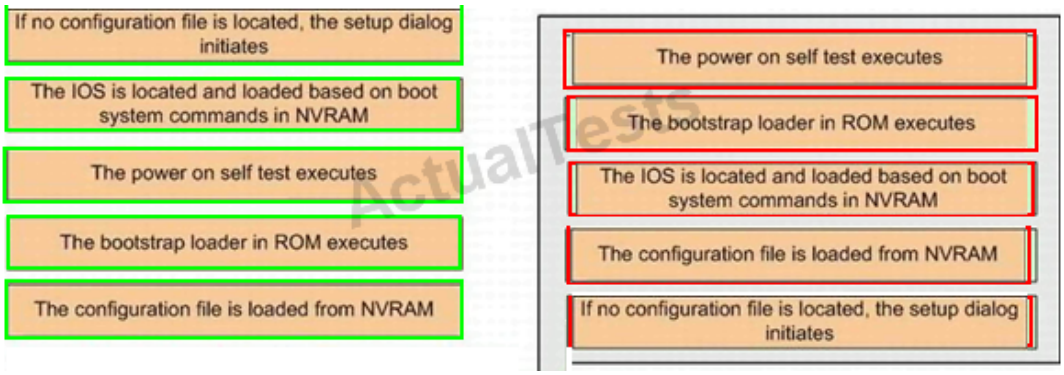


QUESTION NO: 322 DRAG DROP

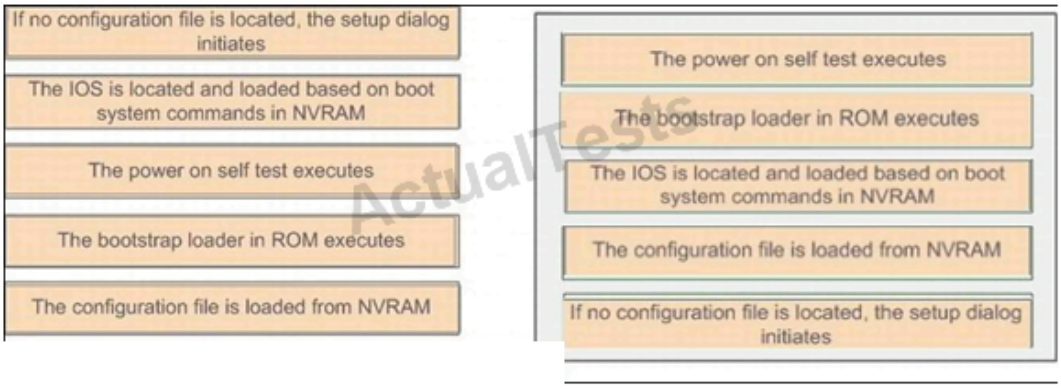
The left describes boot sequence, while the right describes the orders. Drag the items on the left to the proper locations.



Answer:



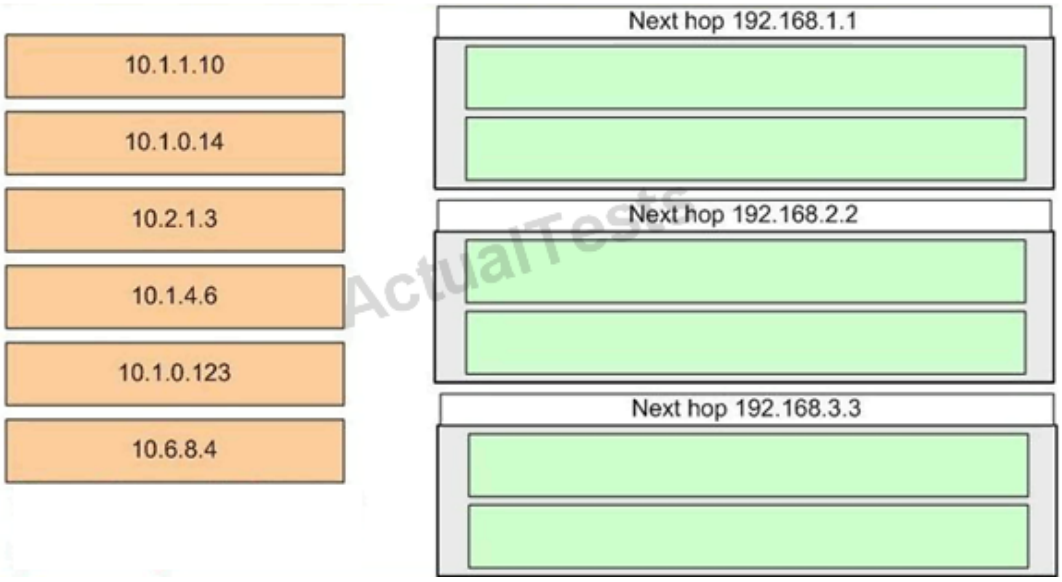
Explanation:



QUESTION NO: 323 DRAG DROP

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

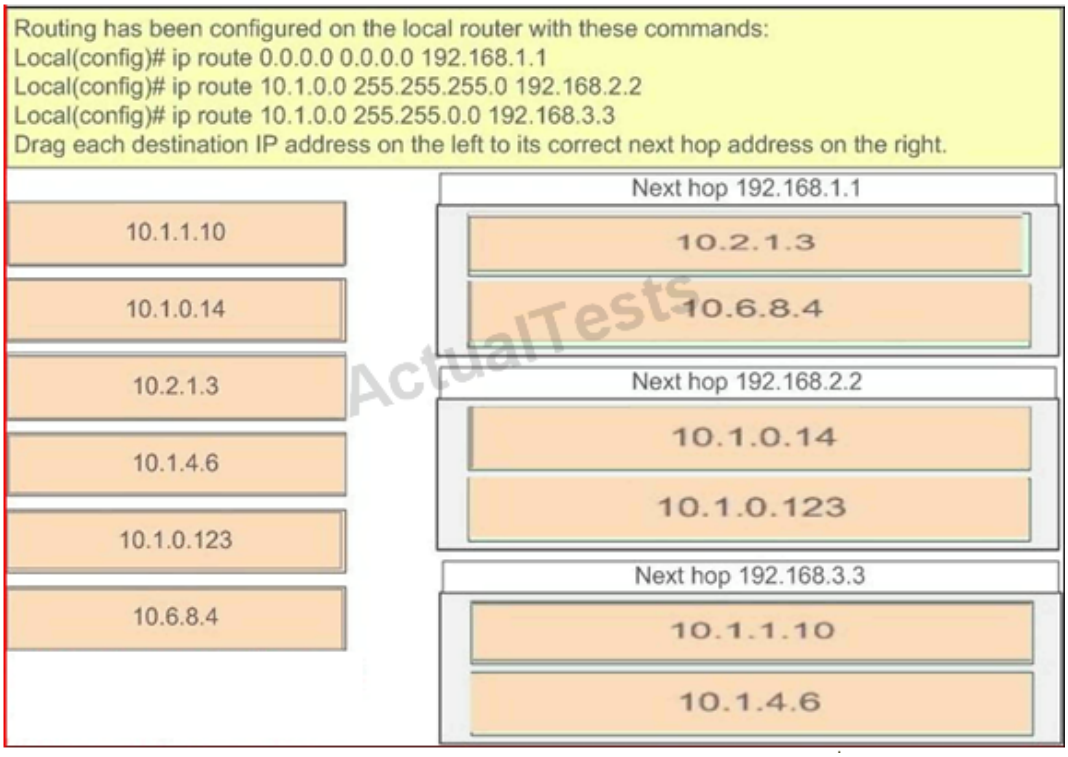
Routing has been configured on the local router with these commands:
Local(config)# ip route 0.0.0.0 0.0.0.0 192.168.1.1
Local(config)# ip route 10.1.0.0 255.255.255.0 192.168.2.2
Local(config)# ip route 10.1.0.0 255.255.0.0 192.168.3.3
Drag each destination IP address on the left to its correct next hop address on the right.



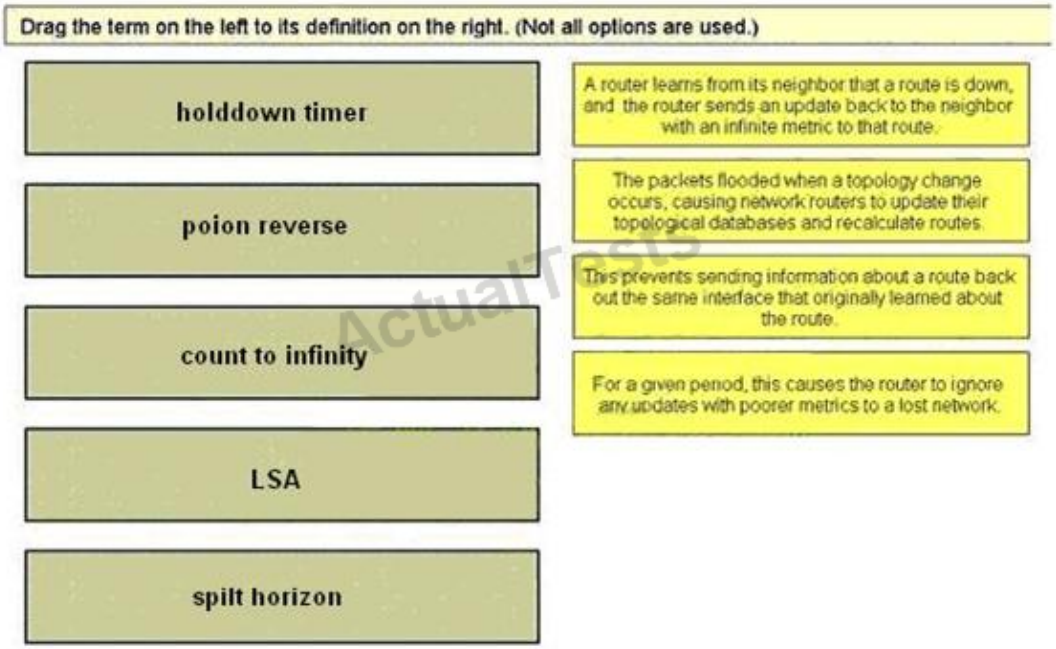
Answer:



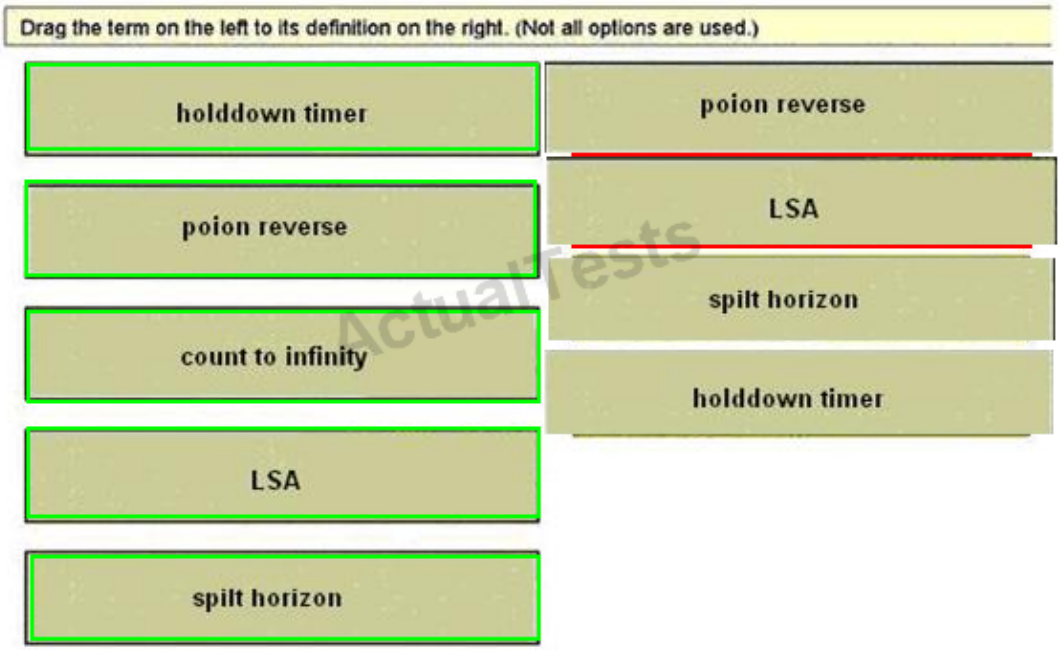
Explanation:



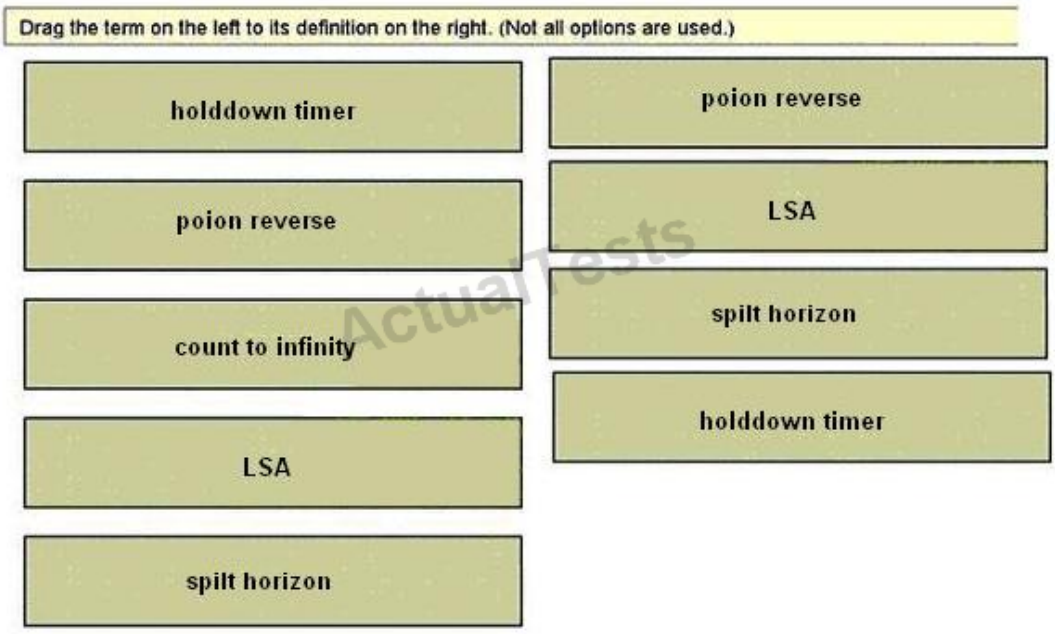
QUESTION NO: 324 DRAG DROP



Answer:



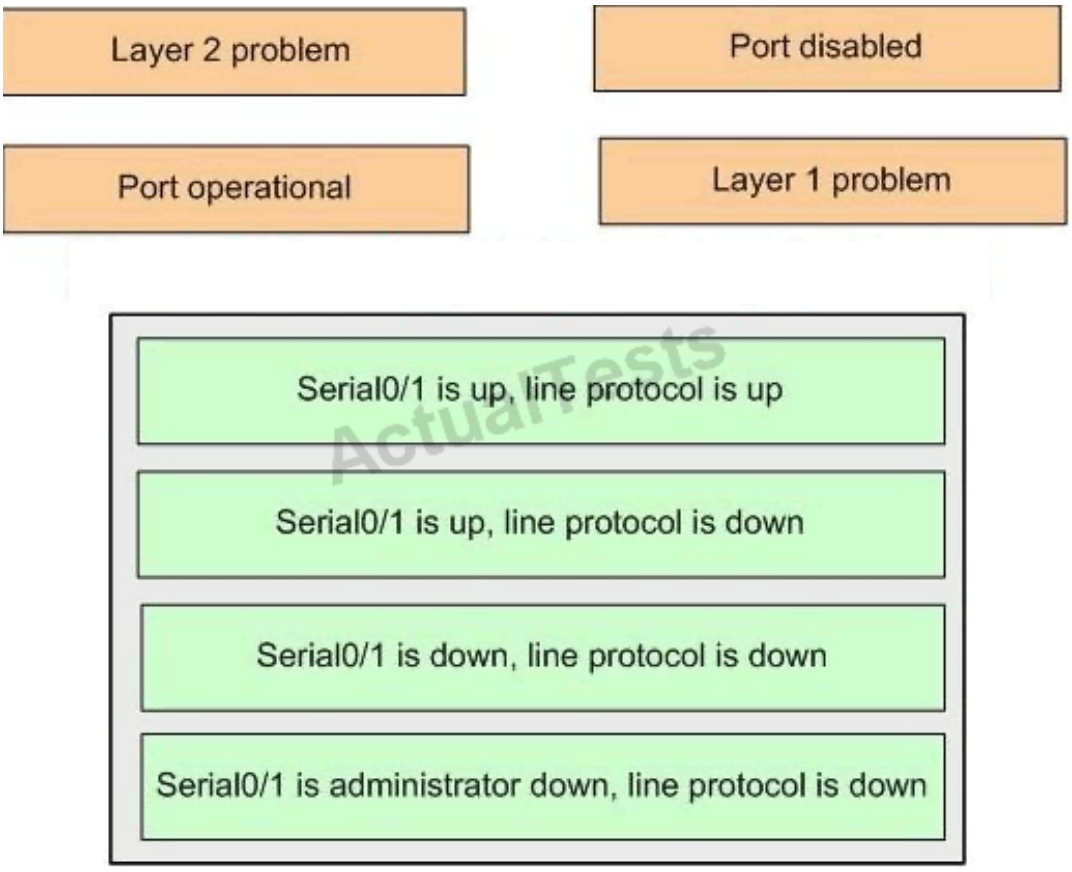
Explanation:



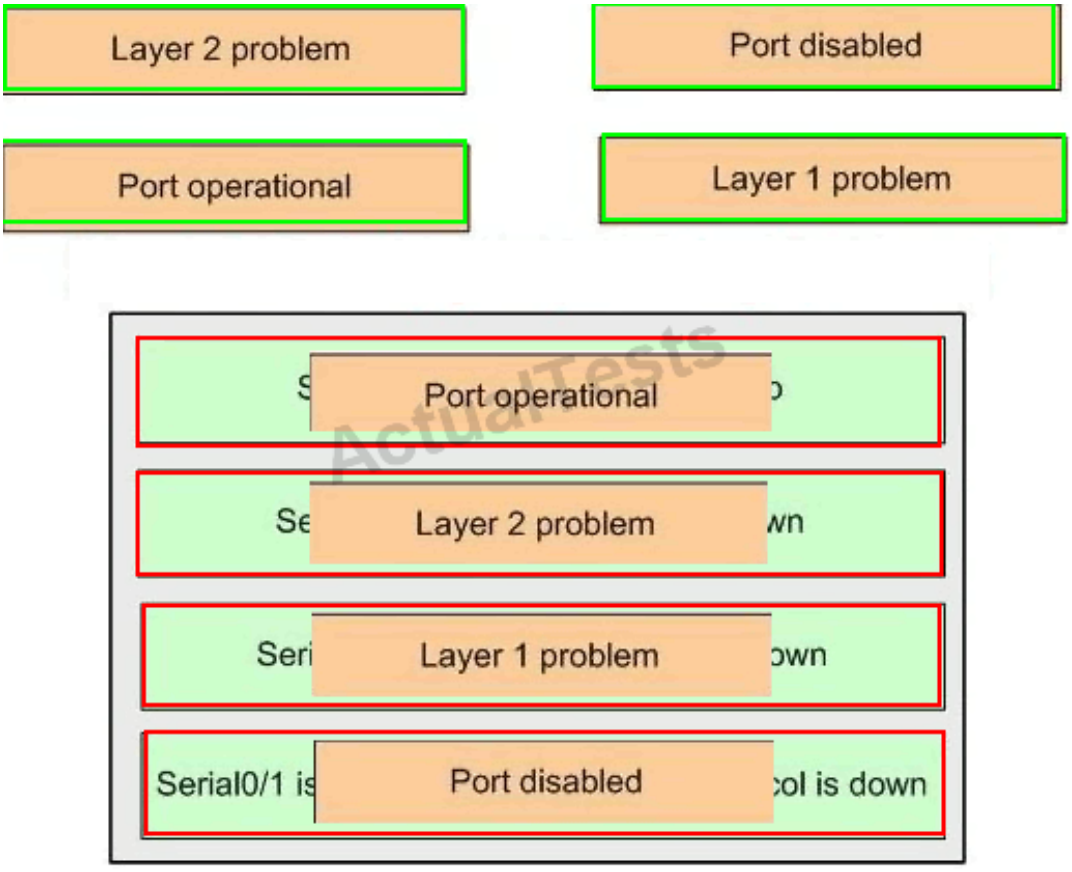
untitled

QUESTION NO: 325 DRAG DROP

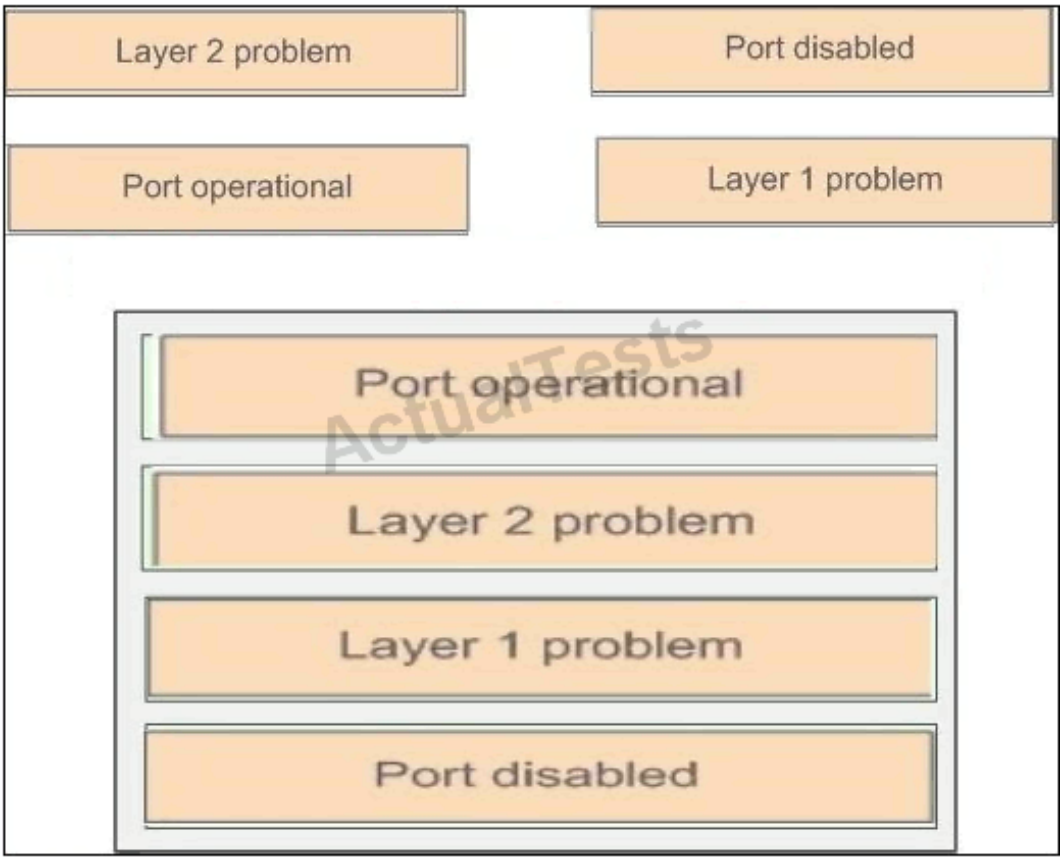
The above describes some categories, while the below provides their corresponding router output lines. Drag the above items to the proper locations.



Answer:

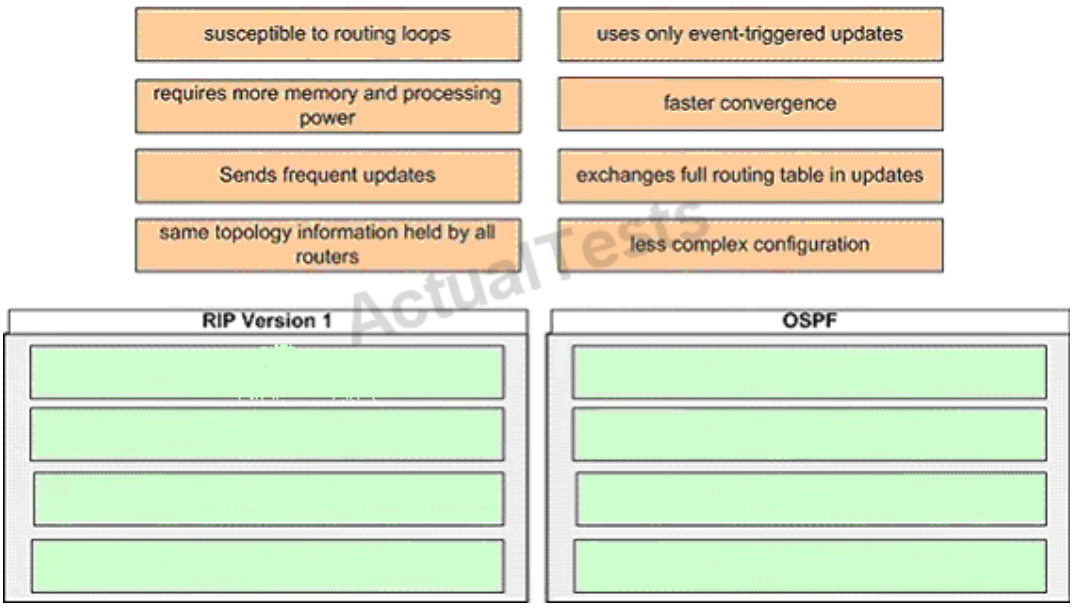


Explanation:

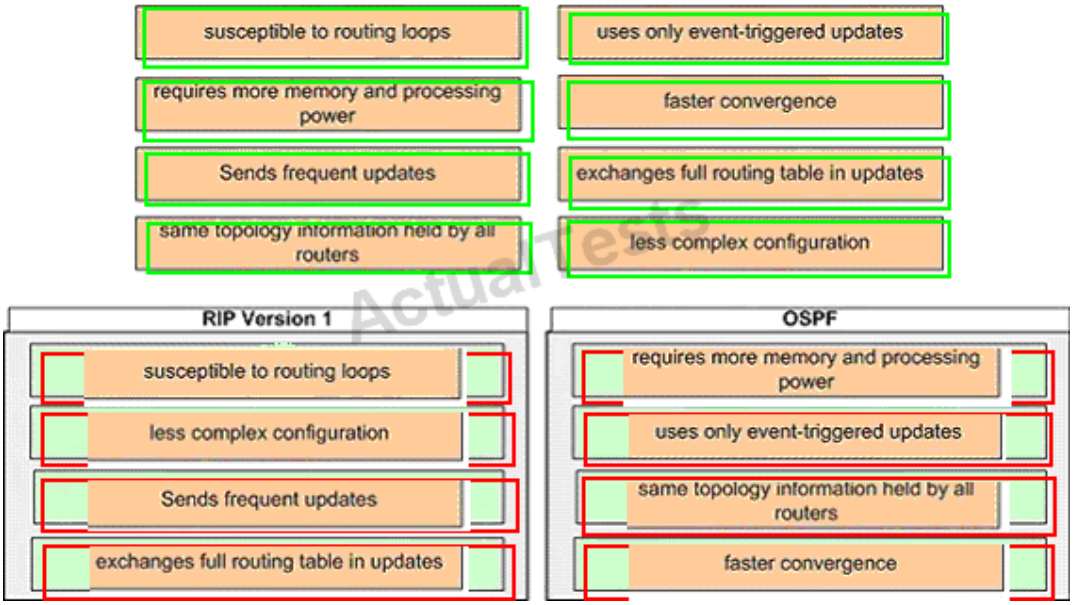


QUESTION NO: 326 DRAG DROP

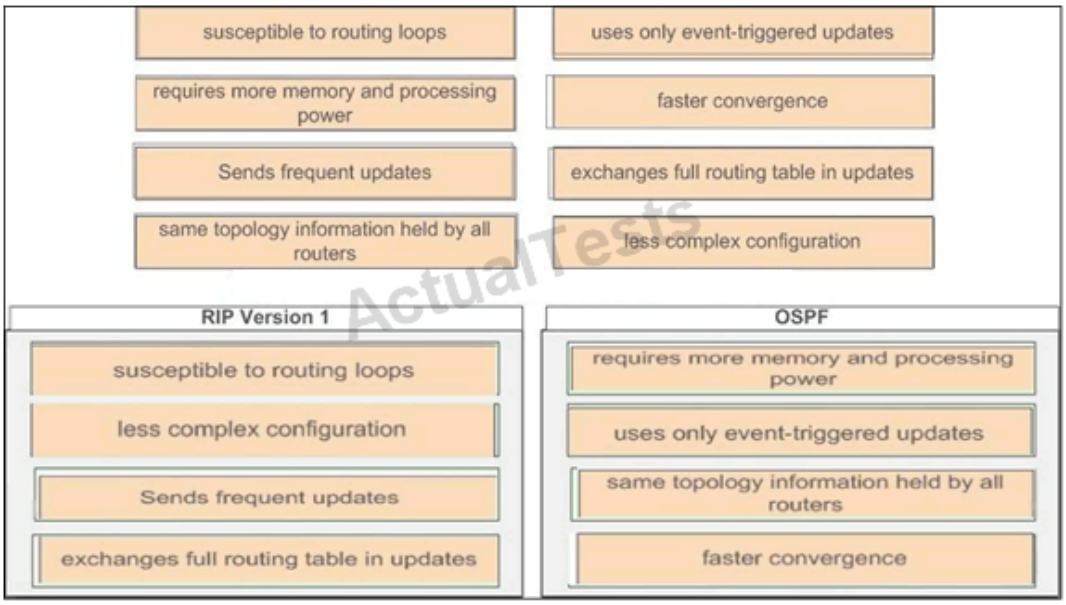
The above describes some features, while the below describes some routing protocols. Drag the above items to the proper locations.



Answer:

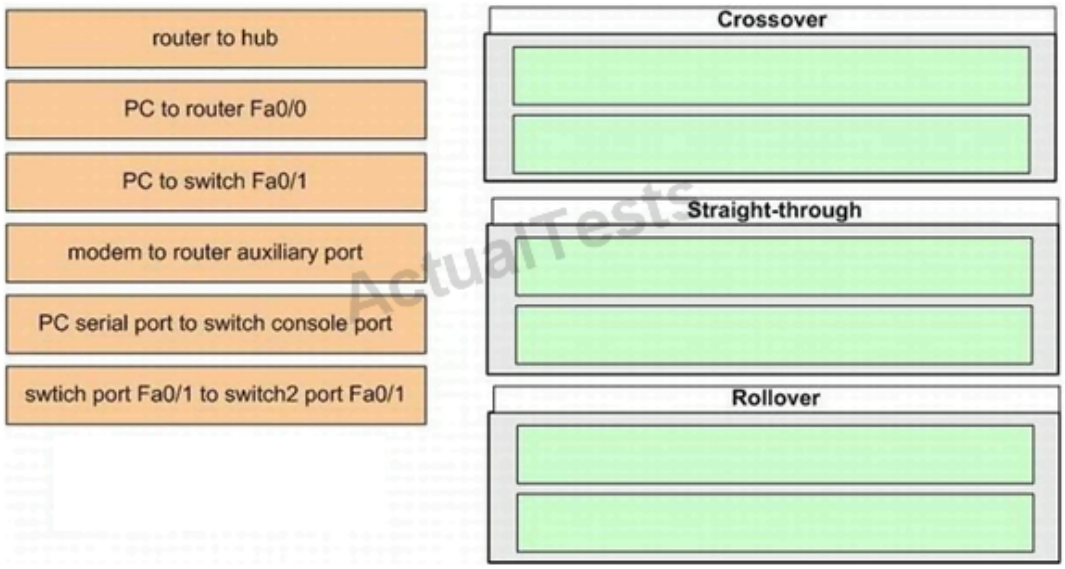


Explanation:

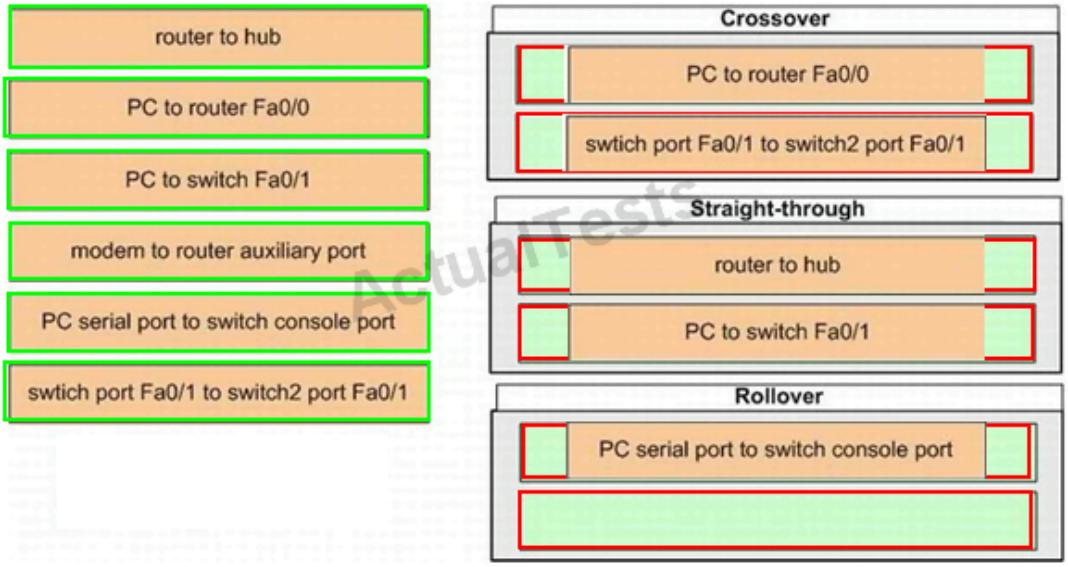


QUESTION NO: 327 DRAG DROP

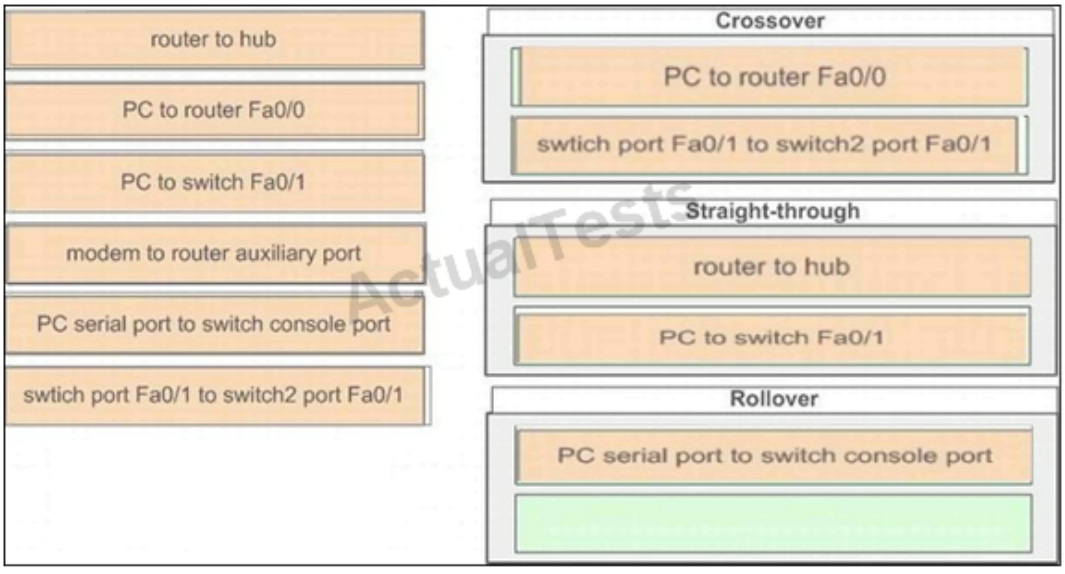
The left describes some types of connections, while the right describes some types of cables. Drag the items on the left to the proper locations.



Answer:

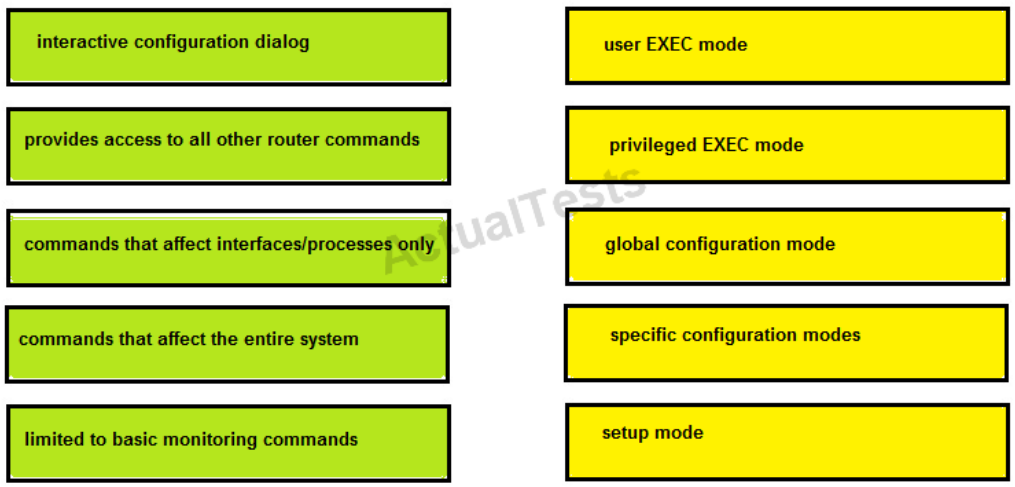


Explanation:

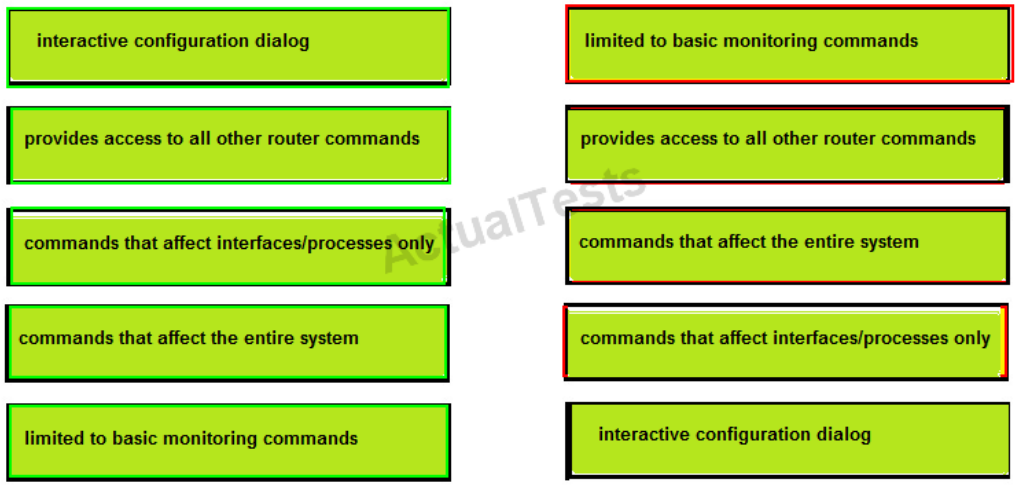


QUESTION NO: 328 DRAG DROP

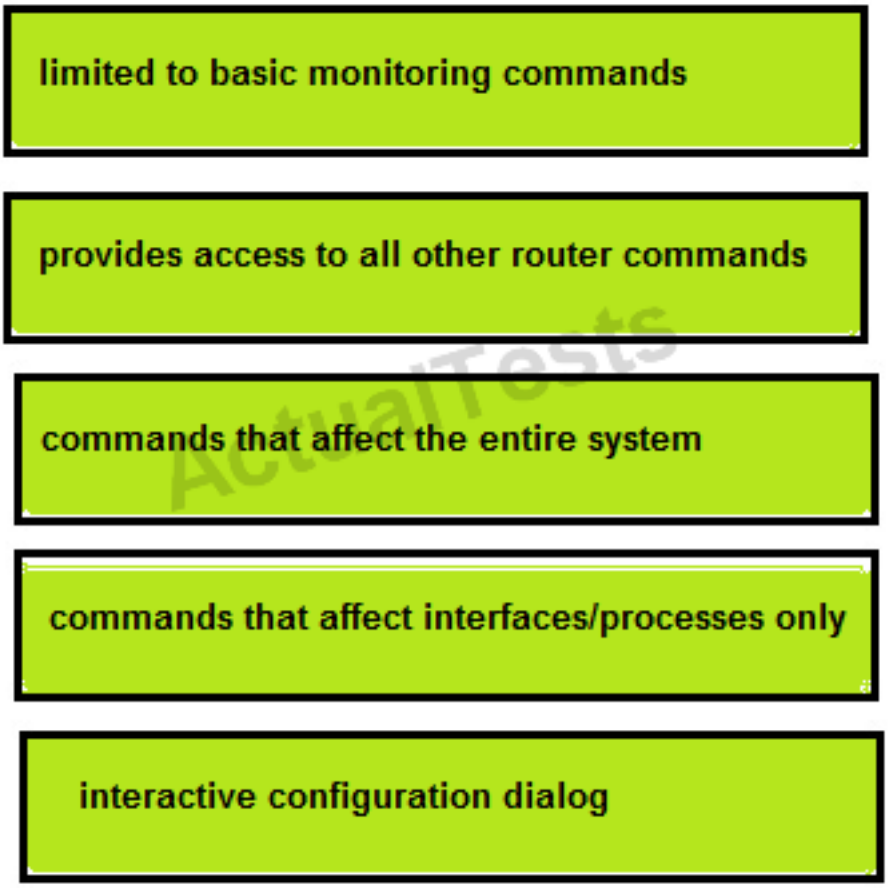
Exhibit: Drag the description on the left to the correct router mode on right.



Answer:

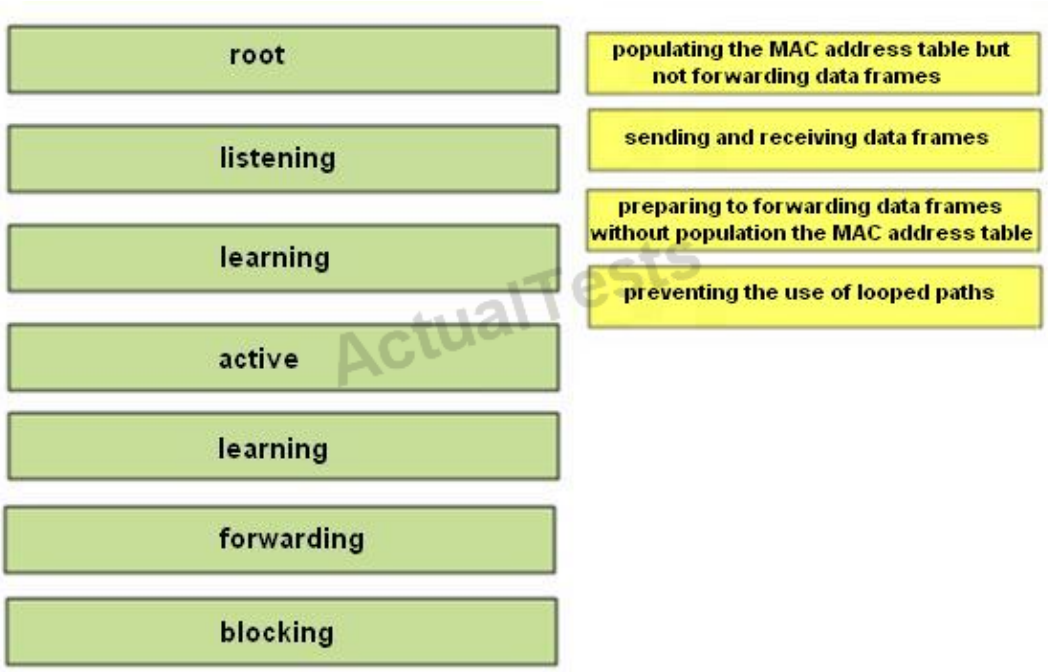


Explanation:

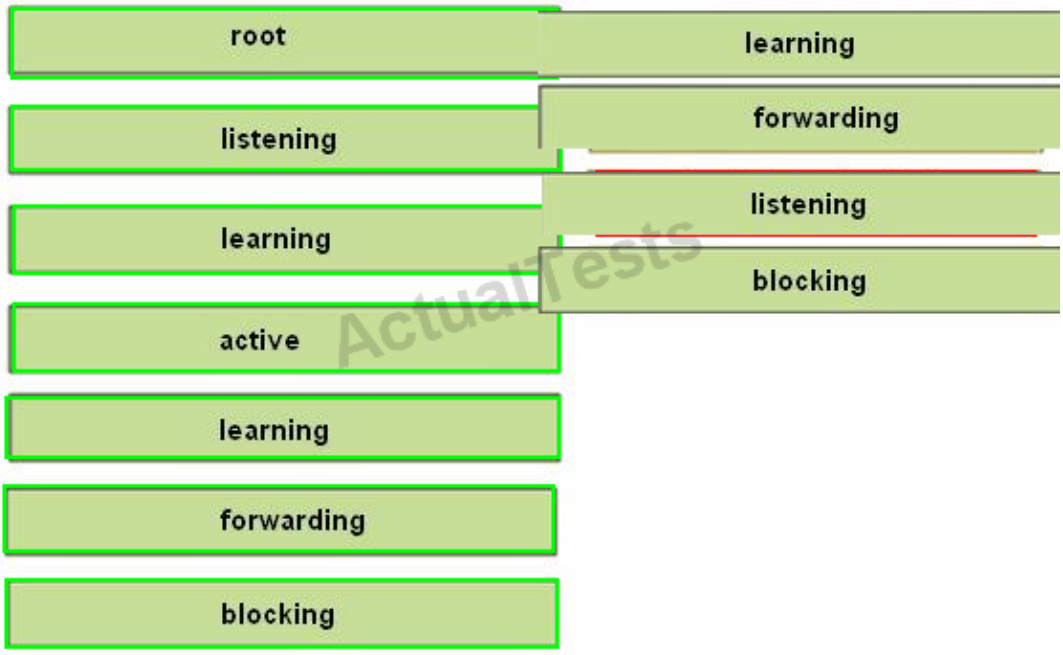


QUESTION NO: 329 DRAG DROP

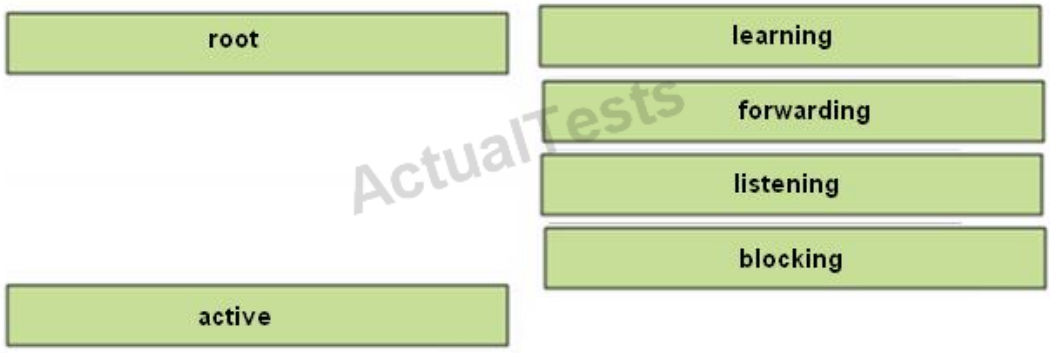
Place the Spanning-Tree Protocol port state on its function by dragging the state on the left to the correct target on the right. (Not all options on the left are used.)



Answer:



Explanation:

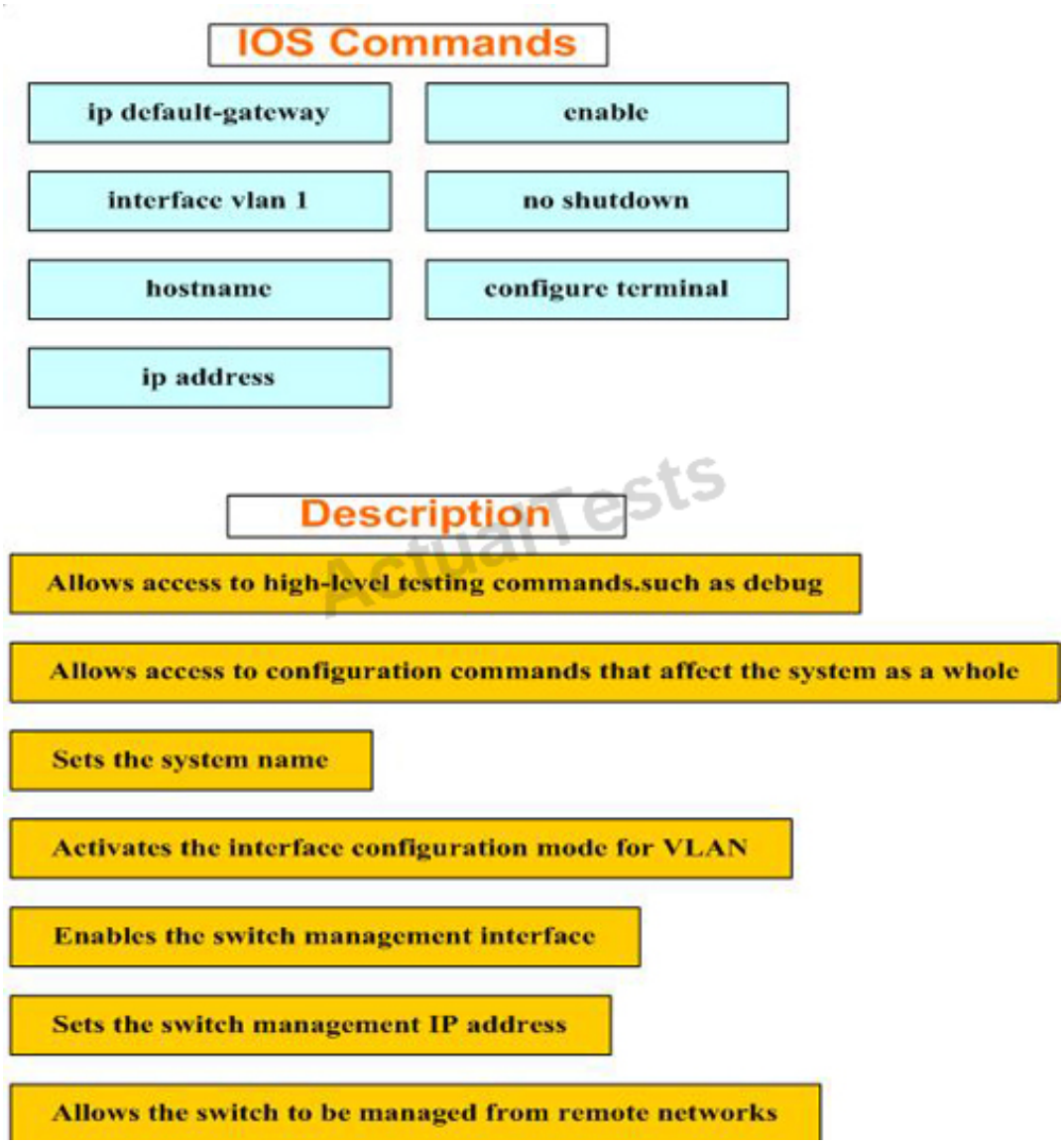


untitled

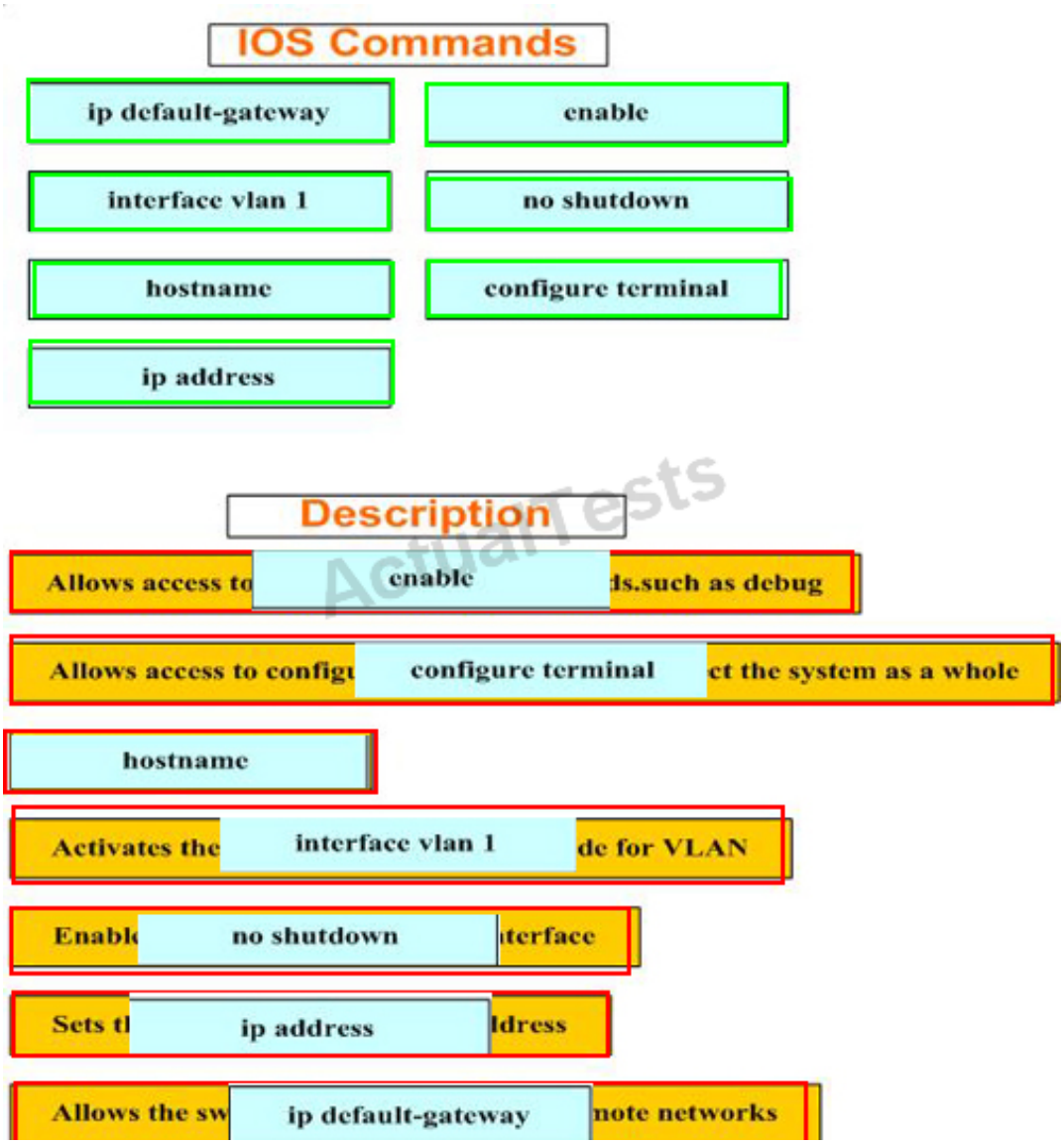
STP switch port states:
Blocking - A port that would cause a switching loop, no user data is sent or received but it may go into forwarding mode if the other links in use were to fail and the spanning tree algorithm determines the port may transition to the forwarding state. BPDU data is still received in blocking state.
Listening - The switch processes BPDUs and awaits possible new information that would cause it to return to the blocking state.
Learning - While the port does not yet forward frames (packets) it does learn source addresses from frames received and adds them to the filtering database (switching database)
Forwarding - A port receiving and sending data, normal operation. STP still monitors incoming BPDUs that would indicate it should return to the blocking state to prevent a loop.

QUESTION NO: 330 DRAG DROP

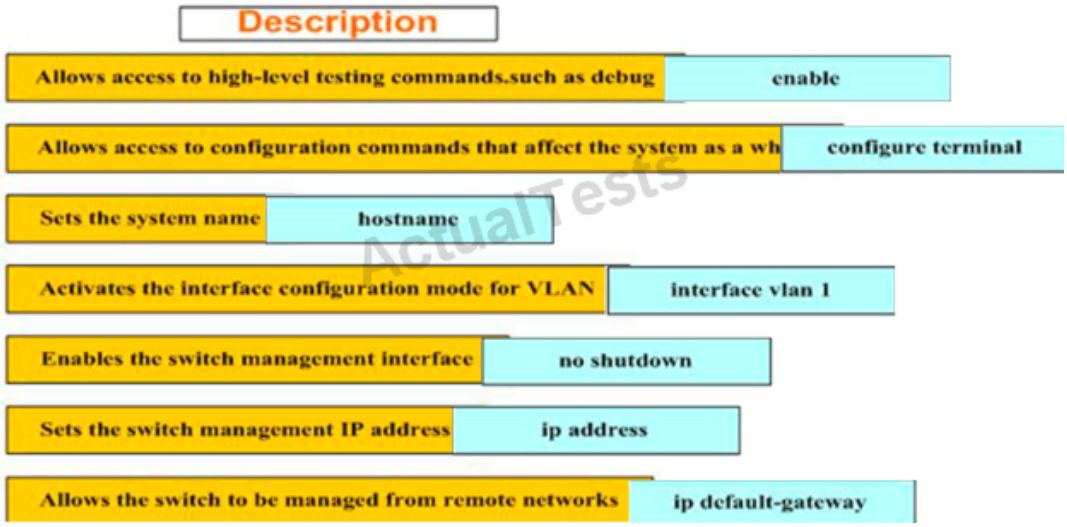
Drag the items to the proper locations.


IOS Commands
ip default-gateway
enable
interface vlan 1
no shutdown
hostname
configure terminal
ip address
Description
Allows access to high-level testing commands.such as debug
Allows access to configuration commands that affect the system as a whole
Sets the system name
Activates the interface configuration mode for VLAN
Enables the switch management interface
Sets the switch management IP address
Allows the switch to be managed from remote networks

Answer:



Explanation:



1. The high level testing commands such as debug that allow access should be conducted under

enable mode

2. Access to configuration commands under configure terminal

3. The command to set the system name is hostname

4. Configure vlan, interface vlan 1 may be used to configure details in vlan

5. Input no shutdown under interface configure mode to activate interface

6. Use command ip address to configure IP address, and sets the switch management

7. Use command ip default-gateway to configure default gateway

QUESTION NO: 331 DRAG DROP

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 user obtain internet access through the Headquarters router. The network interfaces in the topology are addressed as follows:

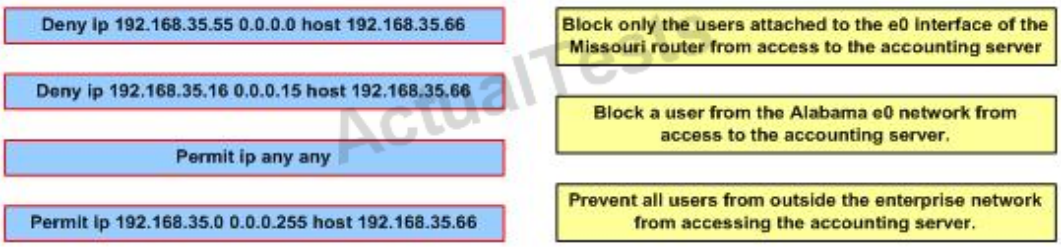
Missouri: e0-192.168.35.33/28;

AlabamA. e0-192.168.35.49/28

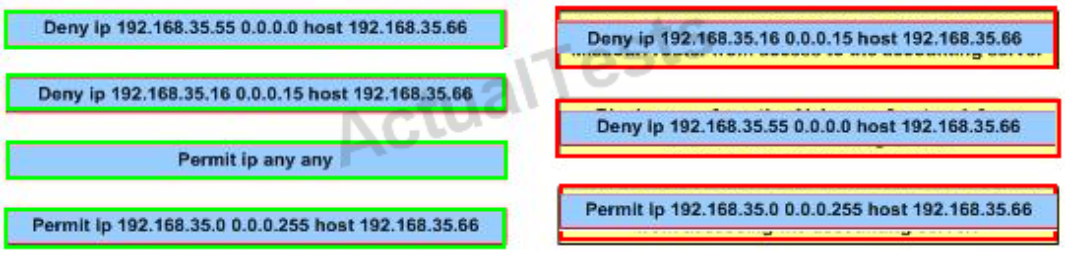
e1-192.168.35.65/28

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:

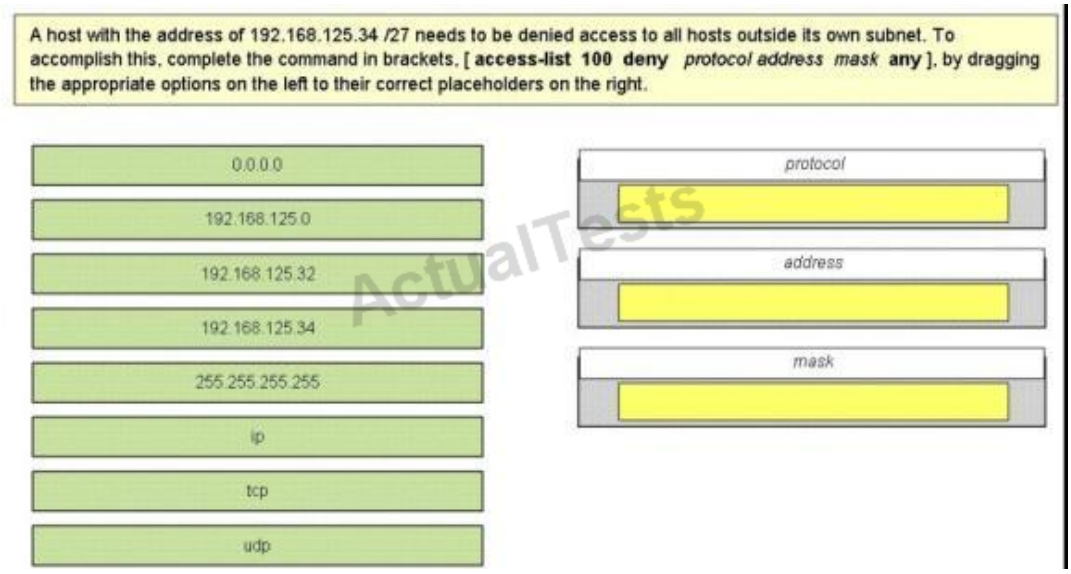


Explanation:

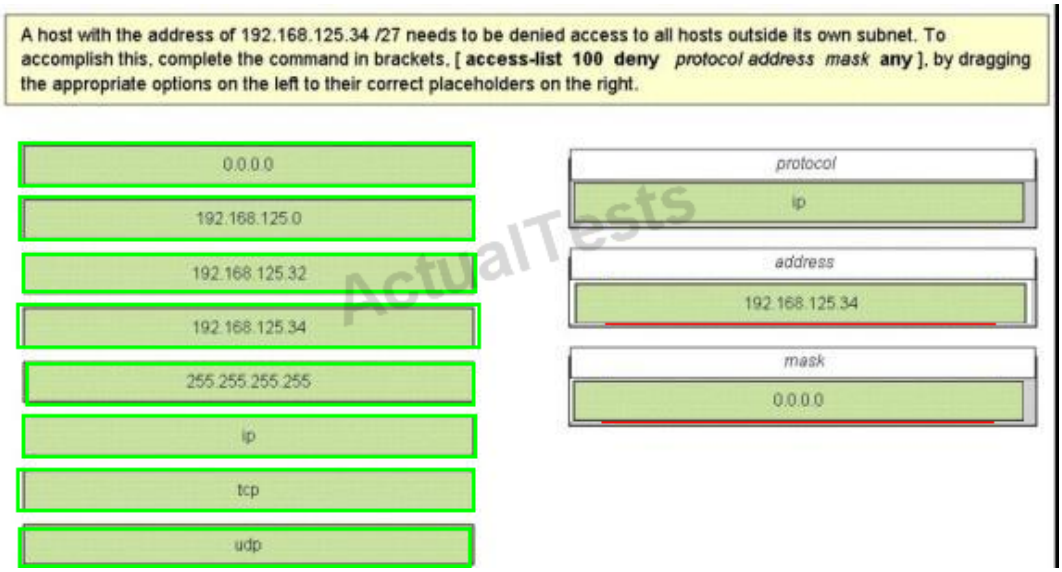


1) The wildcard mask of the command “deny ip 192.168.35.16 0.0.0.15 host 192.16.35.66 is 0.0.0.15, which is equal to network mask of 255.255.255.240 = /28. So the access list will deny all traffic from network 192.168.35.16/28 from accessing host 192.16.35.66, which is the IP address of accounting server.
2) The command “deny ip 192.168.35.55 0.0.0.0 host 192.168.35.66 will deny host 192.168.35.55, which is a user and belongs to interface e0 of Alabama router (192.168.35.49/28) from accessing accounting server.
3) Because there is an implicit “deny all” command at the end of each access list so the command “permit ip 192.168.35.0 0.0.0.255 host 192.168.35.66 will only let network 192.168.35.0/24 access accounting server whilst prevent traffic from other networks.

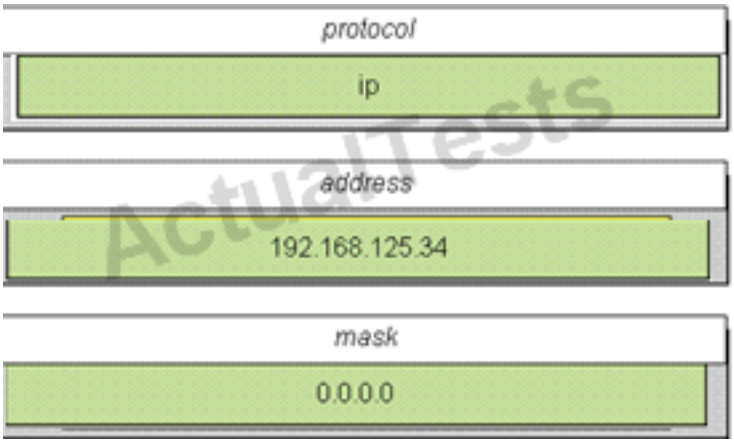
QUESTION NO: 332 DRAG DROP



Answer:

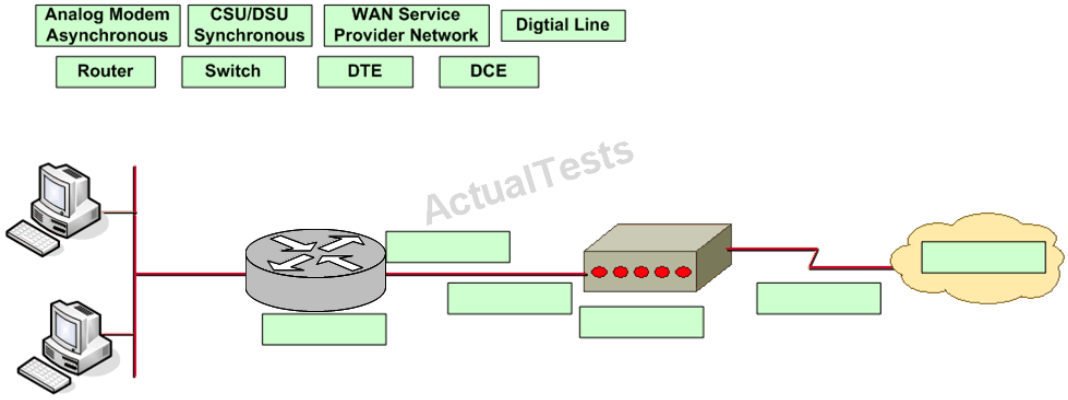


Explanation:

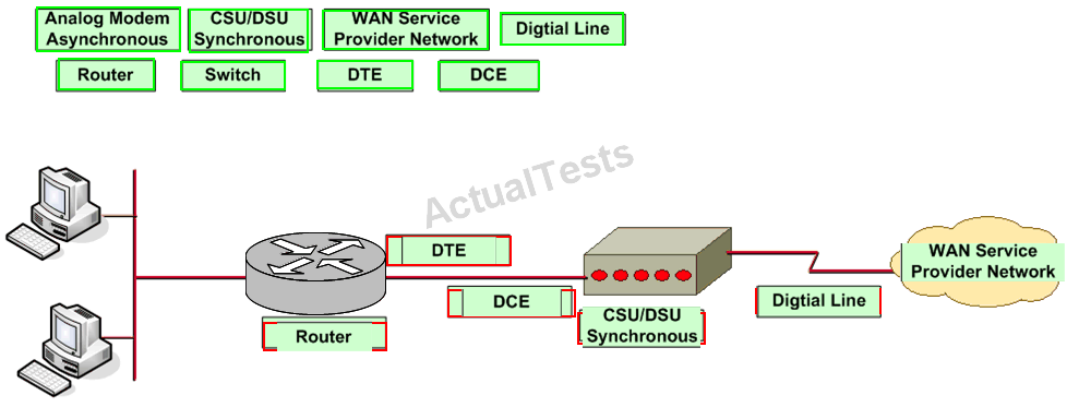


QUESTION NO: 333 DRAG DROP

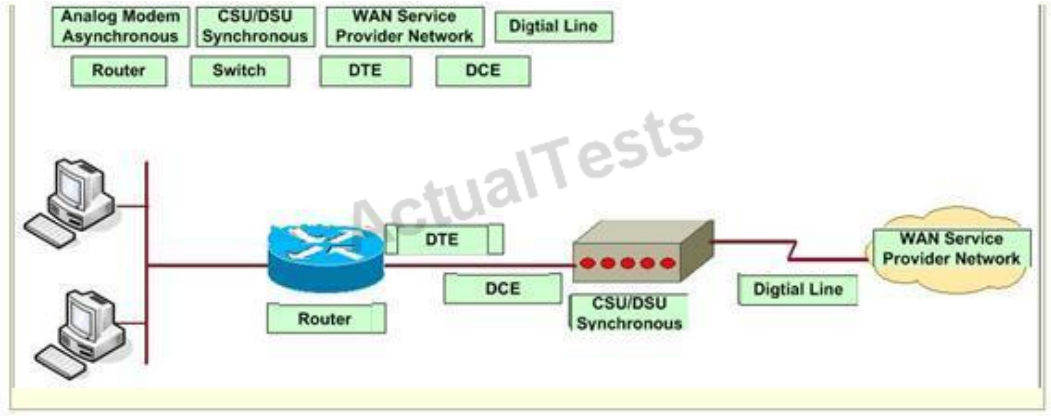
Refer to the exhibit. Complete this network diagram by dragging the correct device name of description name or description to the correct location. Not all the names or descriptions will be used.



Answer:



Explanation:



1

QUESTION NO: 334

How many hosts and submasks in 172.16. 0. 0/23 subnetted/27

A. 8 subnet 32hosts

B. 8 subnet 31 hosts
C. 16 subnet 30hosts
D. 16 subnet 32hosts

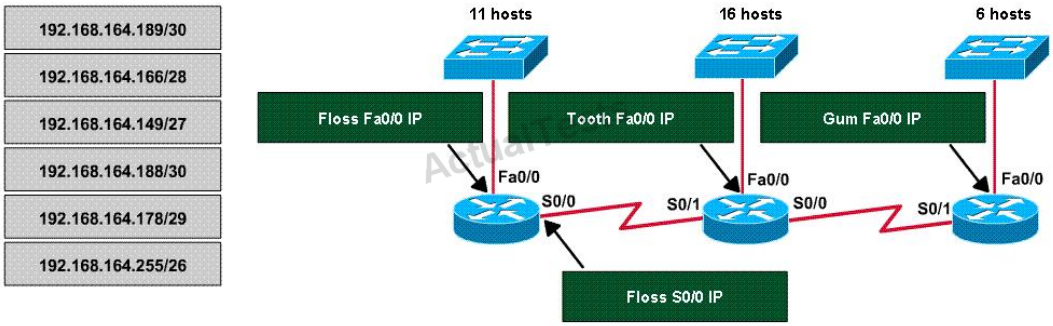
Answer: C
Explanation:

A network mask of /23 will provide for up to 512 IP addresses. A /27 will provide for up to 32 IP address (30 usuable hosts). 512/32 = 16 different network subnets.

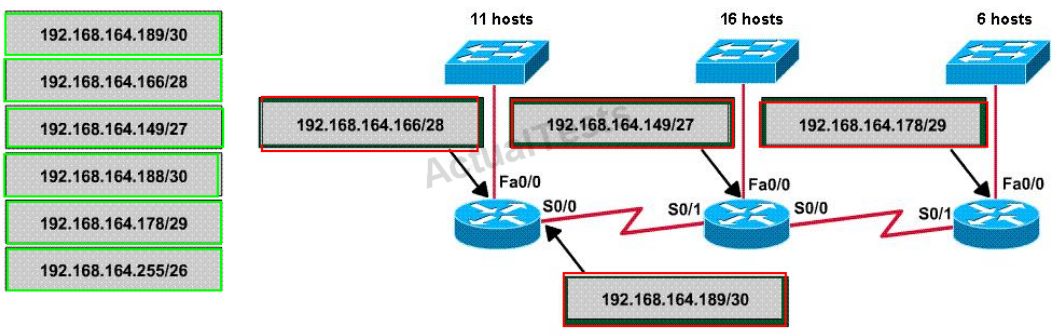
QUESTION NO: 335 DRAG DROP

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.

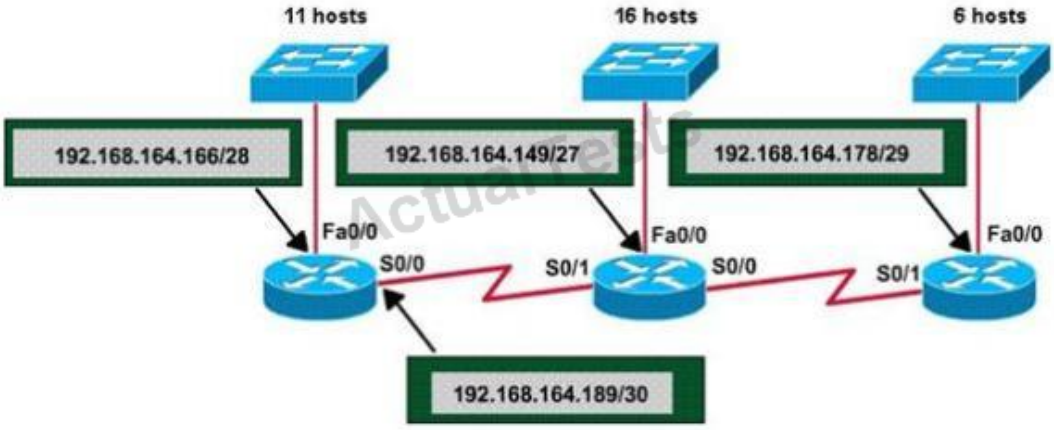
Exhibit:



Answer:

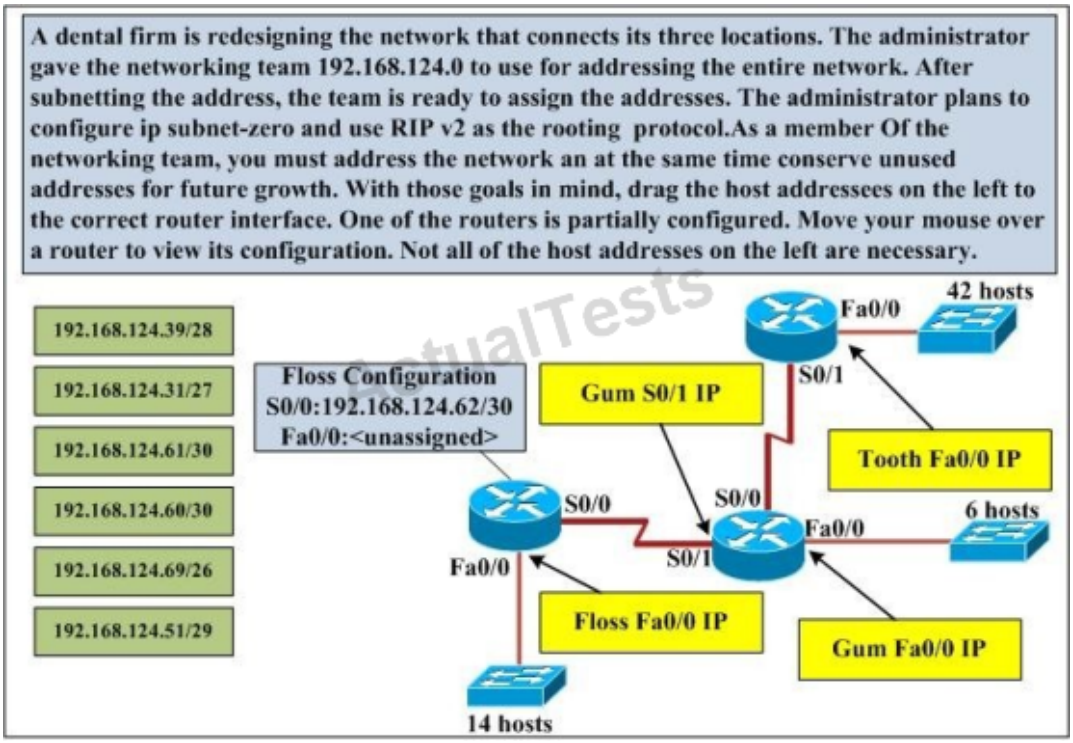


Explanation:

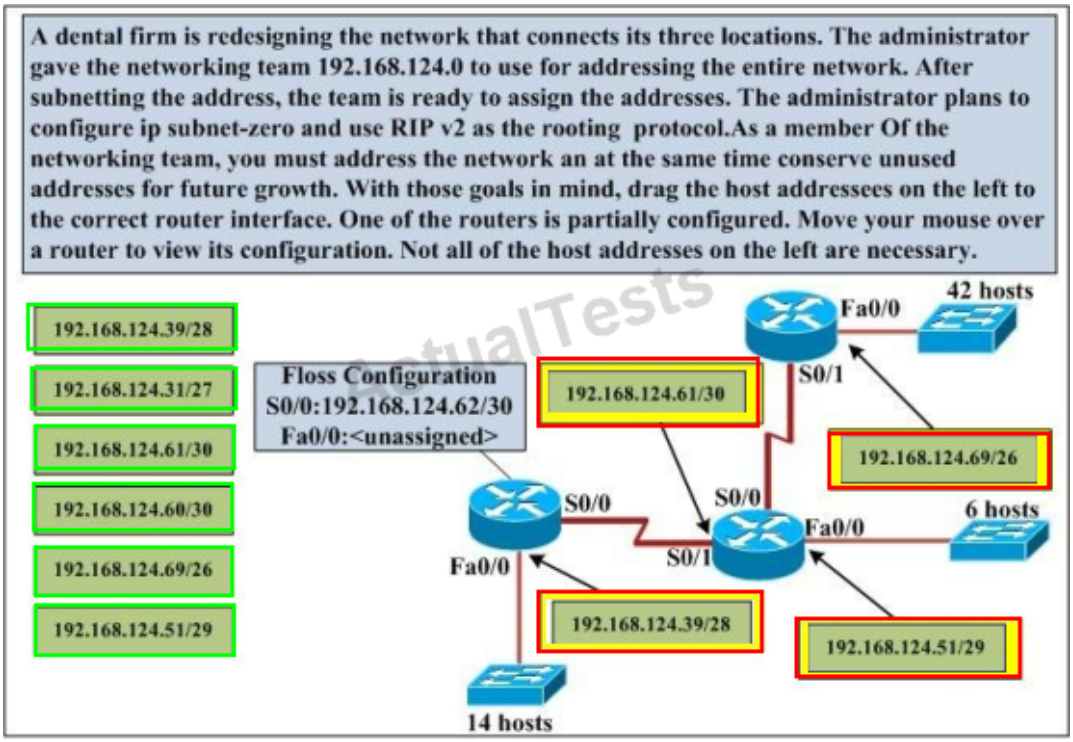


untitled

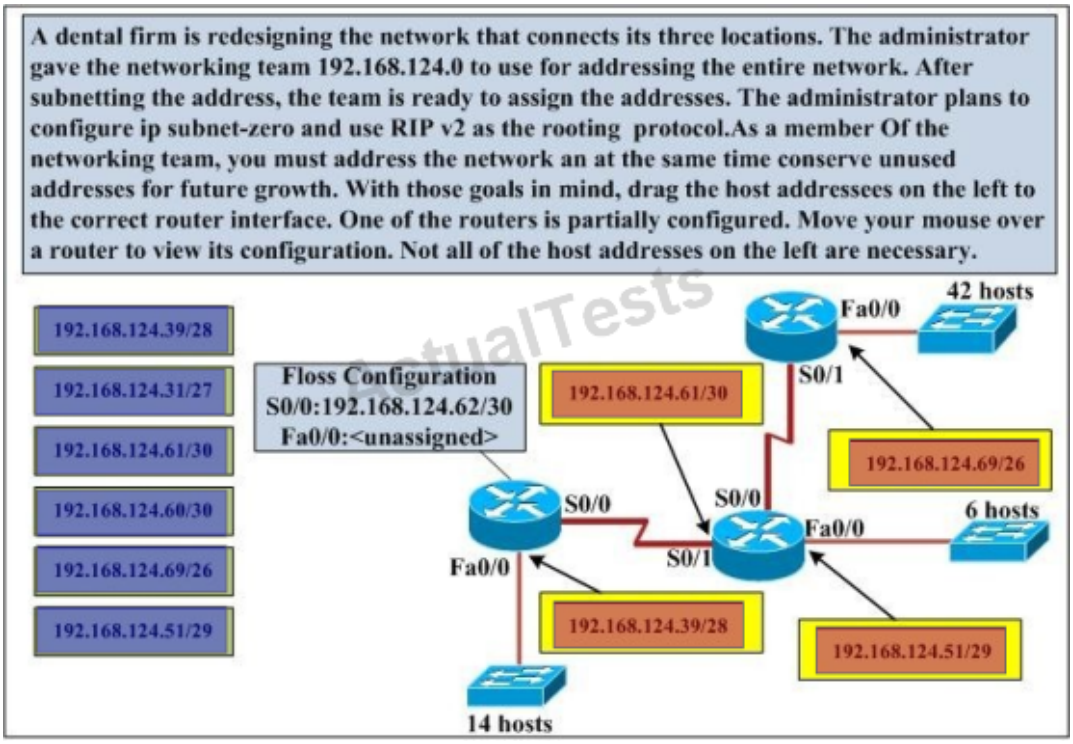
QUESTION NO: 336 DRAG DROP



Answer:



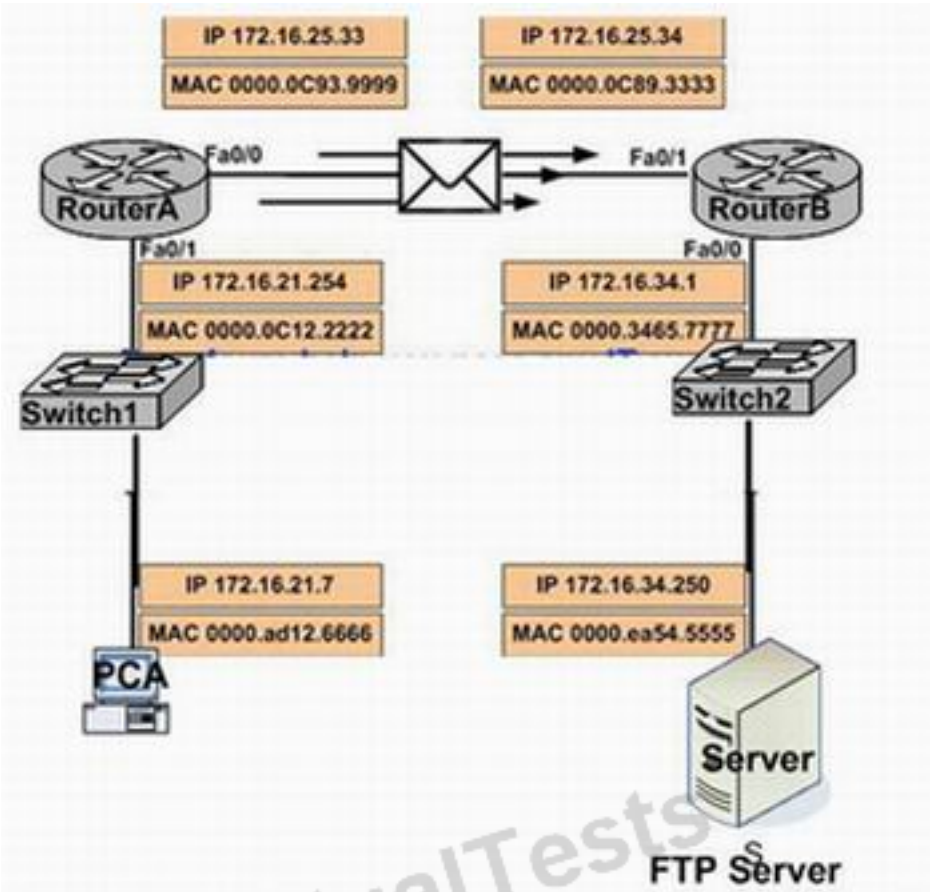
Explanation:



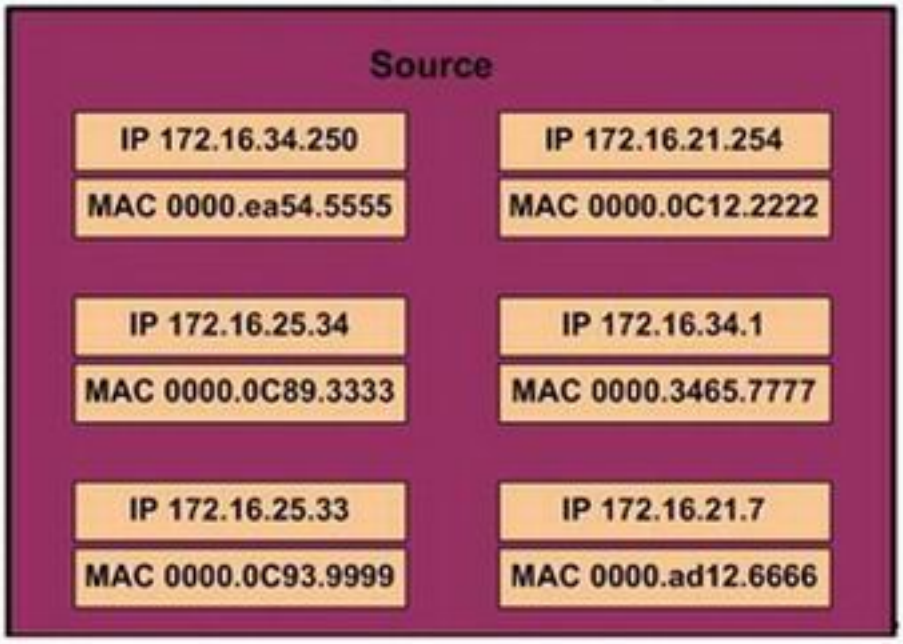
QUESTION NO: 337 DRAG DROP

Refer to the exhibit. PCA is sending packets to the FTP server. Consider the packets as they leave out interface Fa0/0 on RouterA towards RouterB.Drag the correct frame and packet address

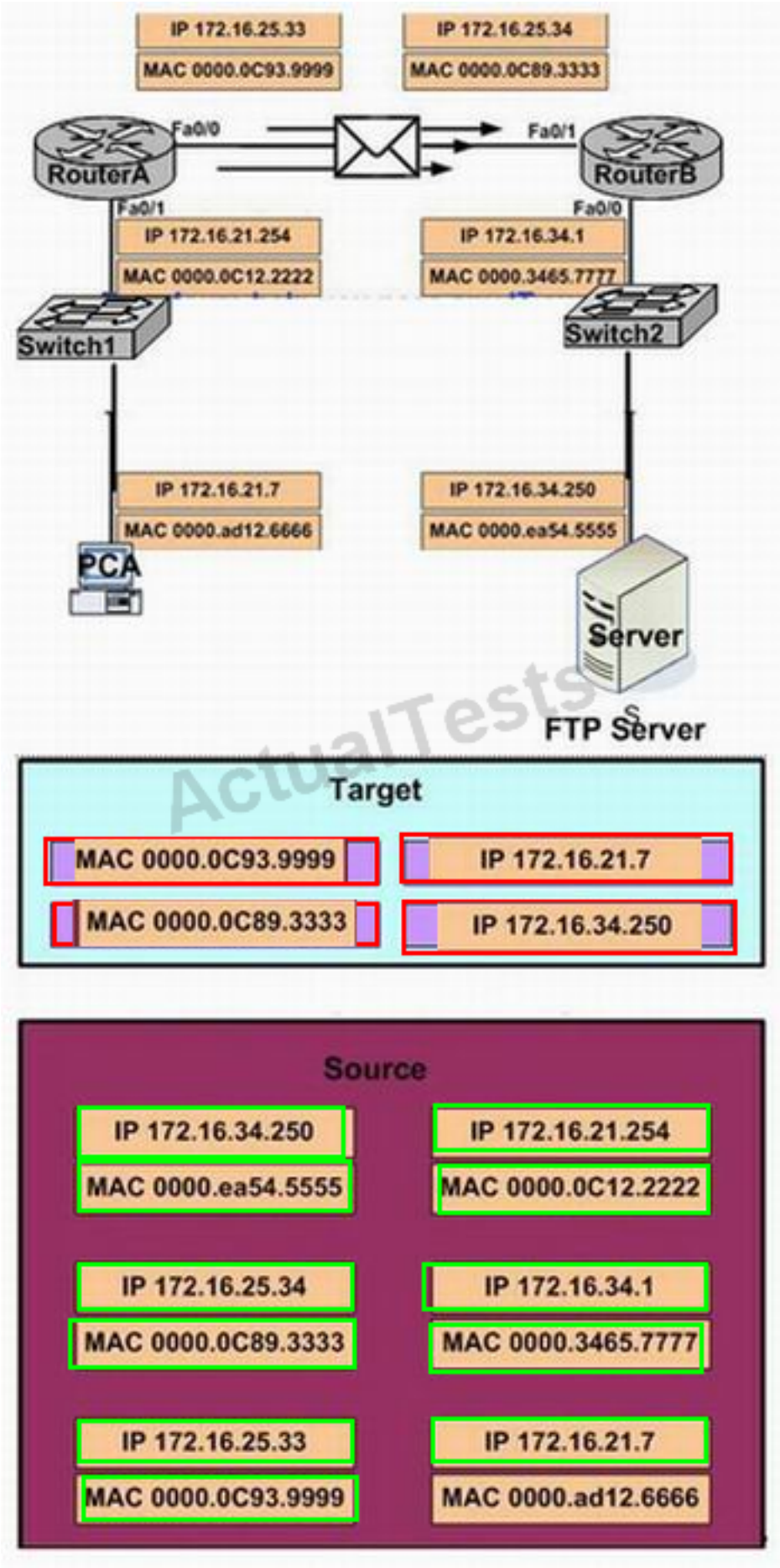
to their place in the table.



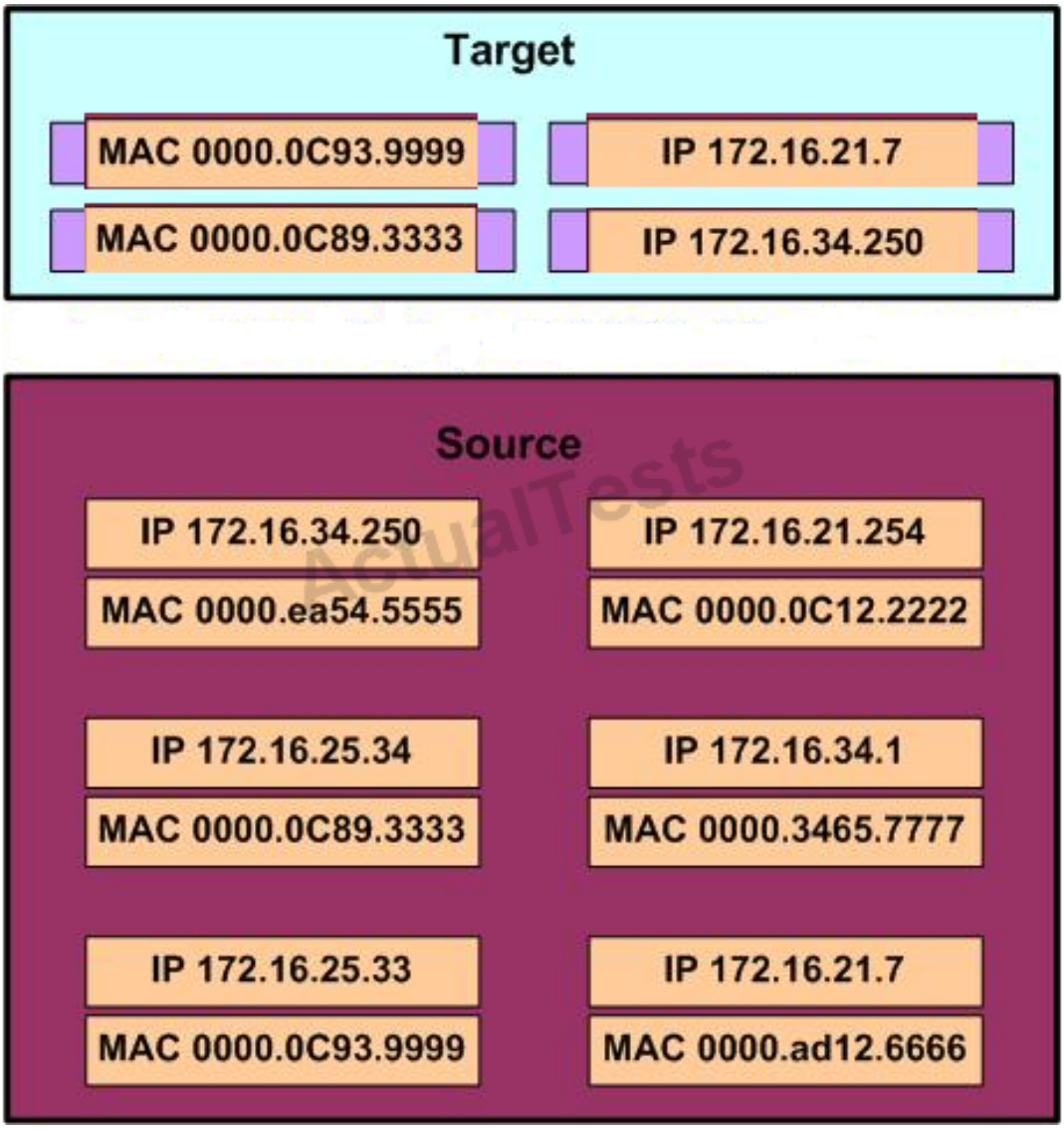




Answer:



Explanation:

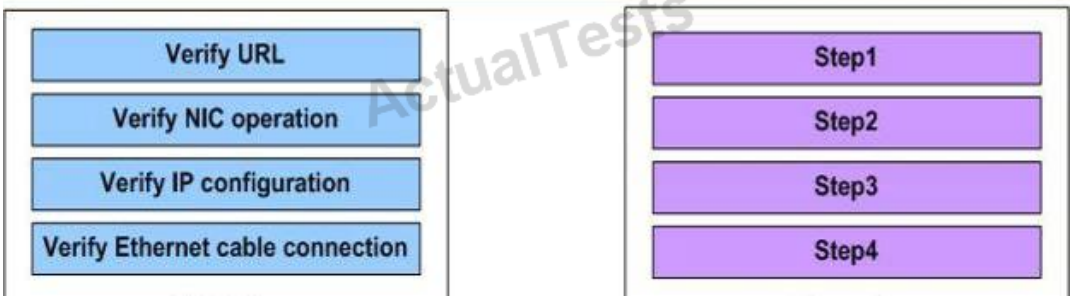


Source MAC : 0000.0c93.9999
Source IP : 172.16.21.7
Destination MAC : 0000.0c89.3333
Destination IP ; 172.16.34.250

QUESTION NO: 338 DRAG DROP

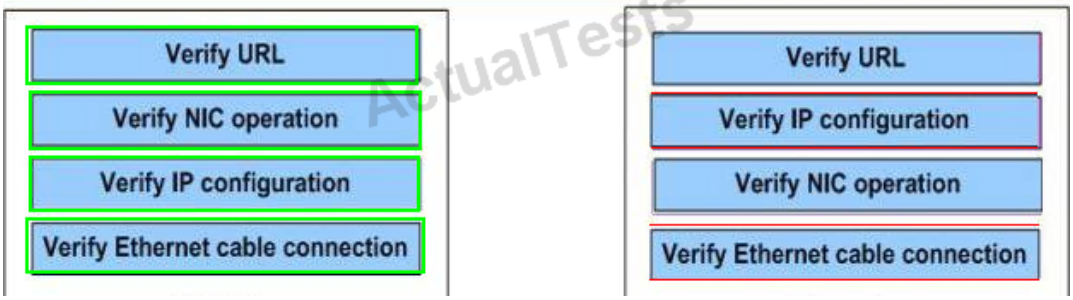
What kind of information can you deduce from an IOS image file name?

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



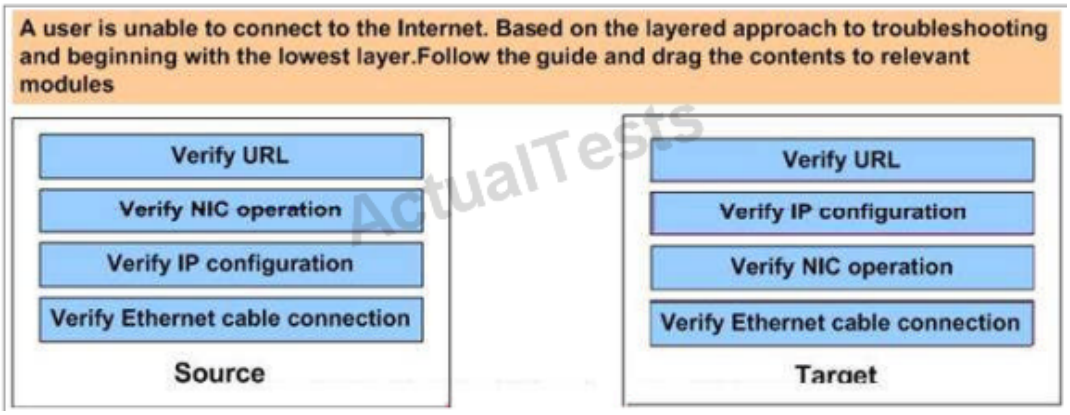
Answer:

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



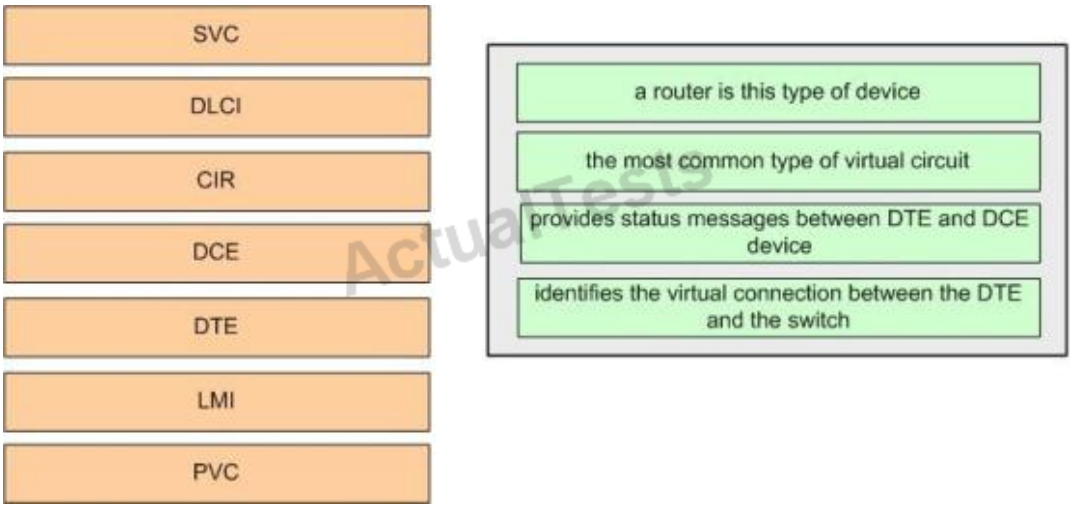
Explanation:

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

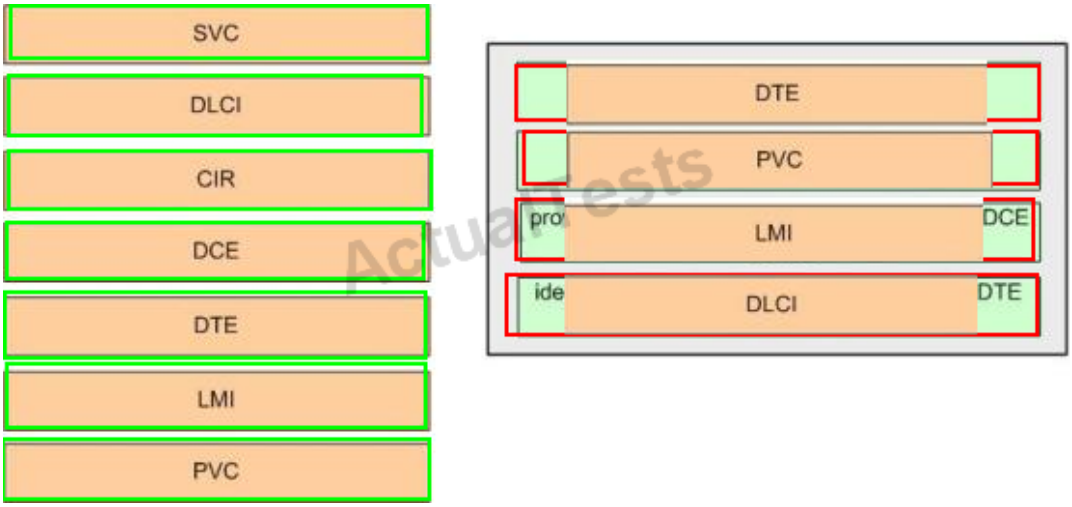


QUESTION NO: 339 DRAG DROP

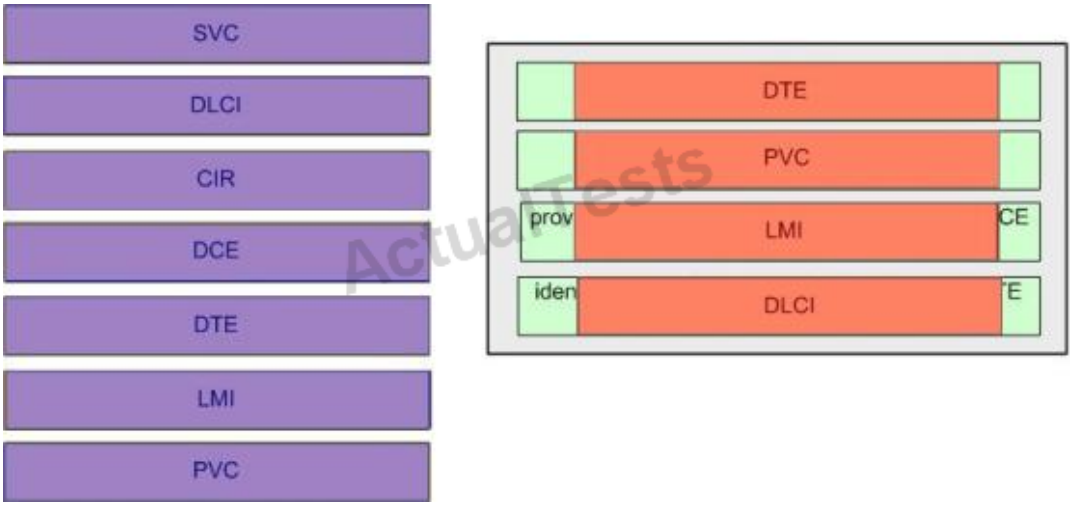
Drag the Frame Relay acronym on the left to match its definition on the right. (Not all acronyms are used.)



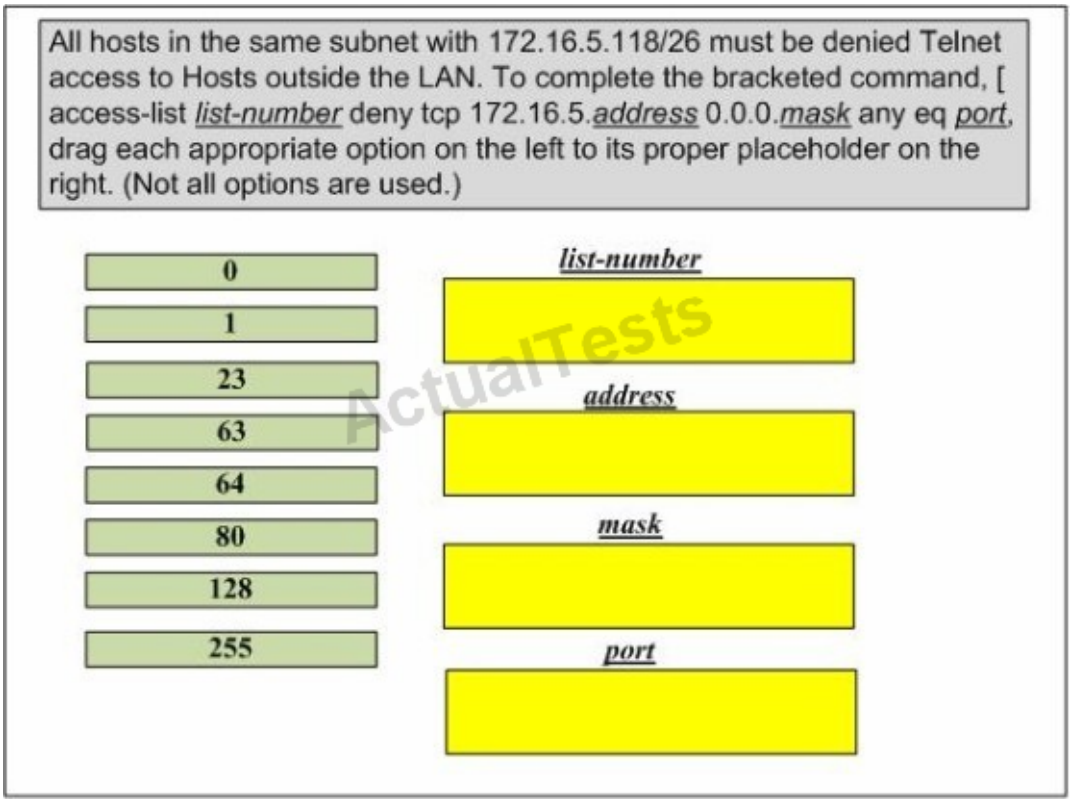
Answer:



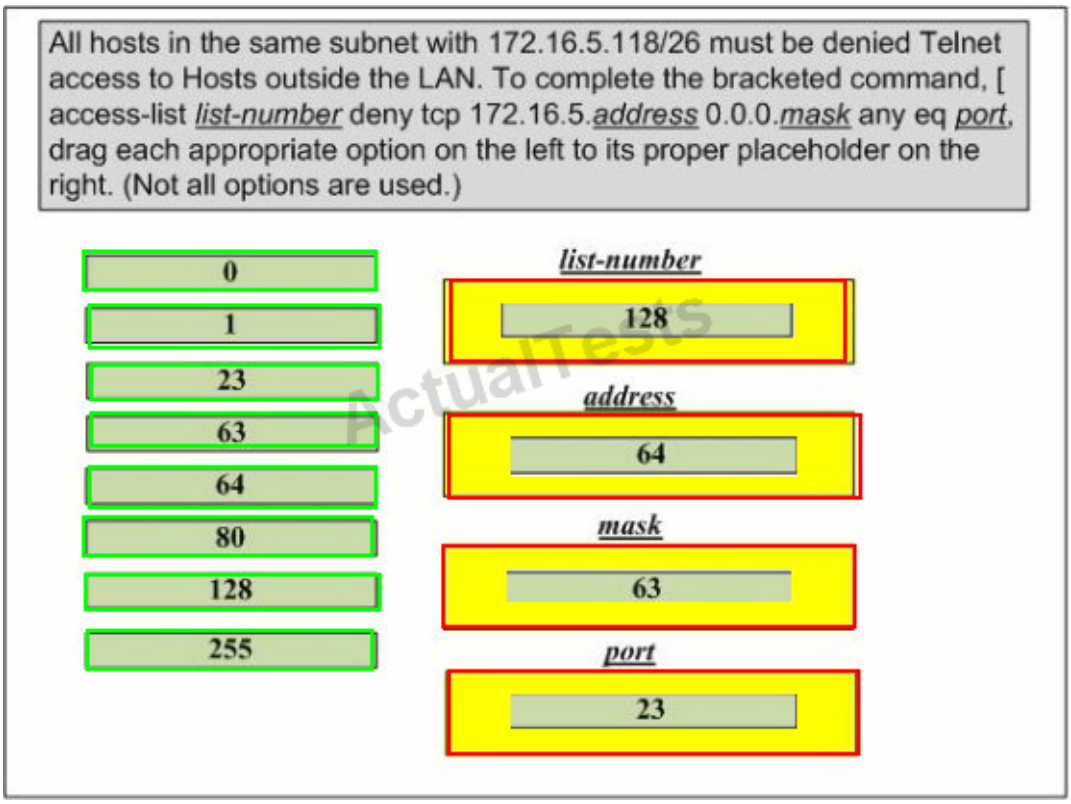
Explanation:



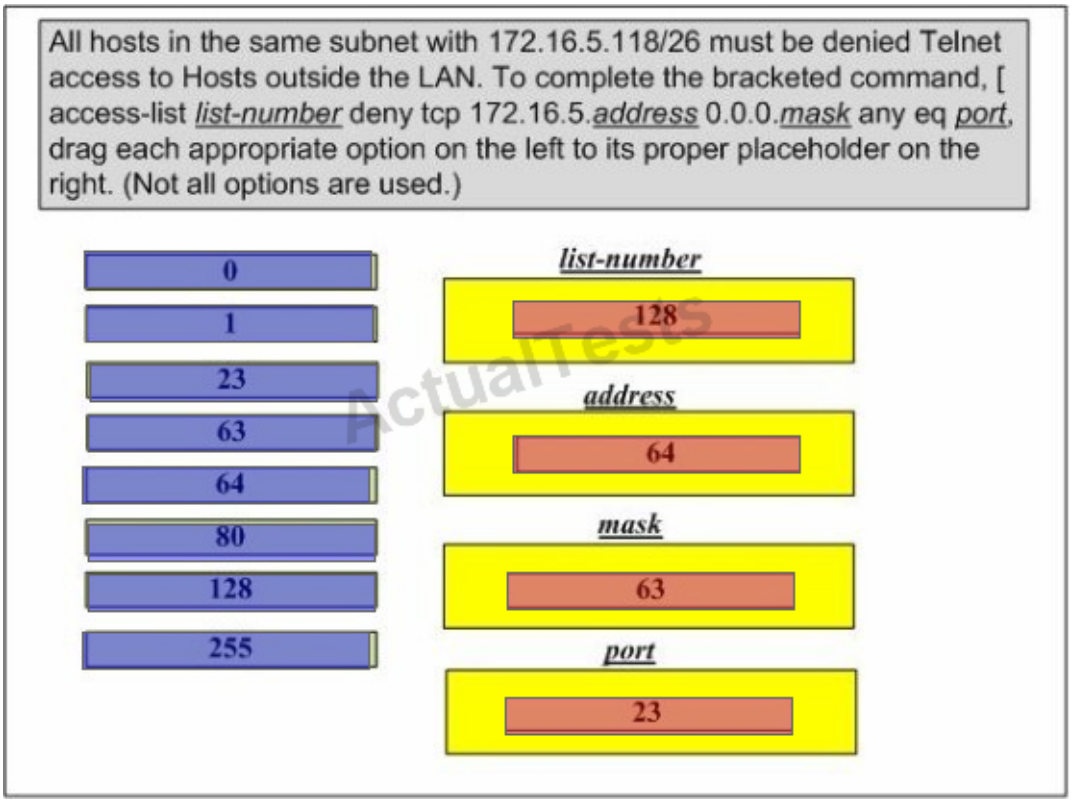
QUESTION NO: 340 DRAG DROP



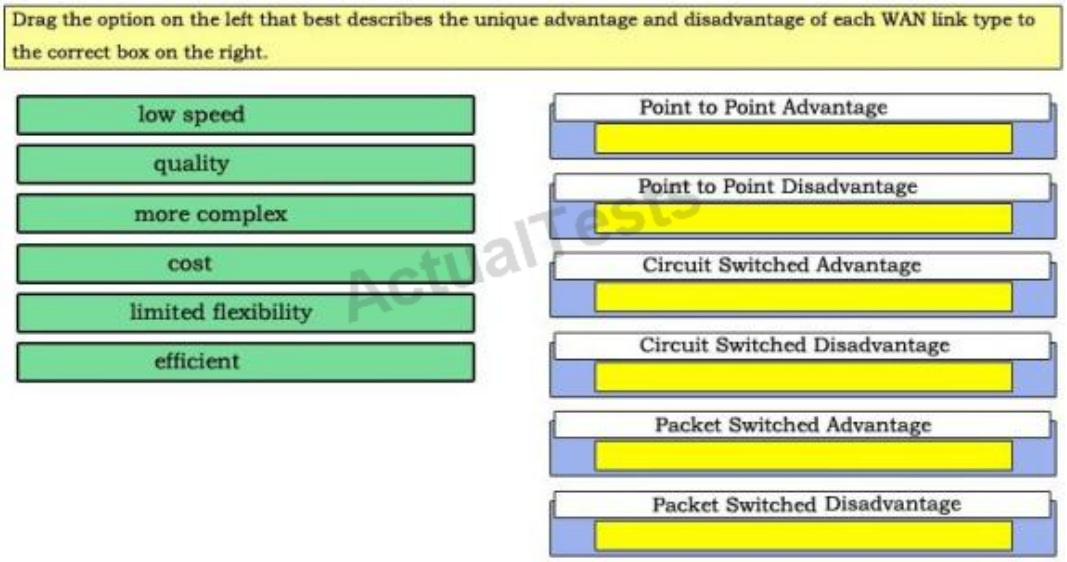
Answer:



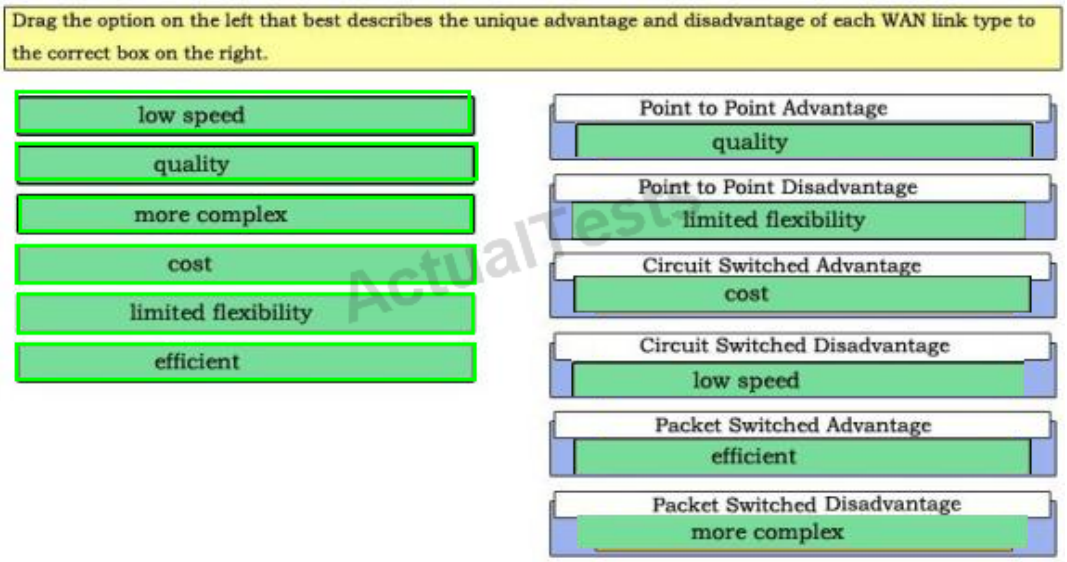
Explanation:



QUESTION NO: 341 DRAG DROP



Answer:

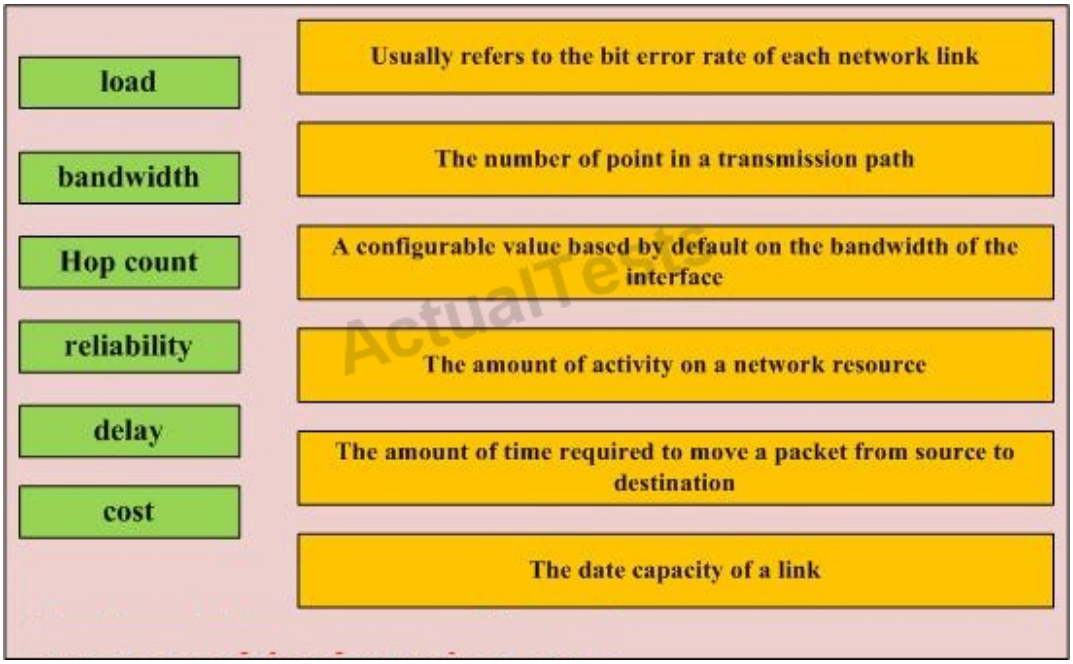


Explanation:

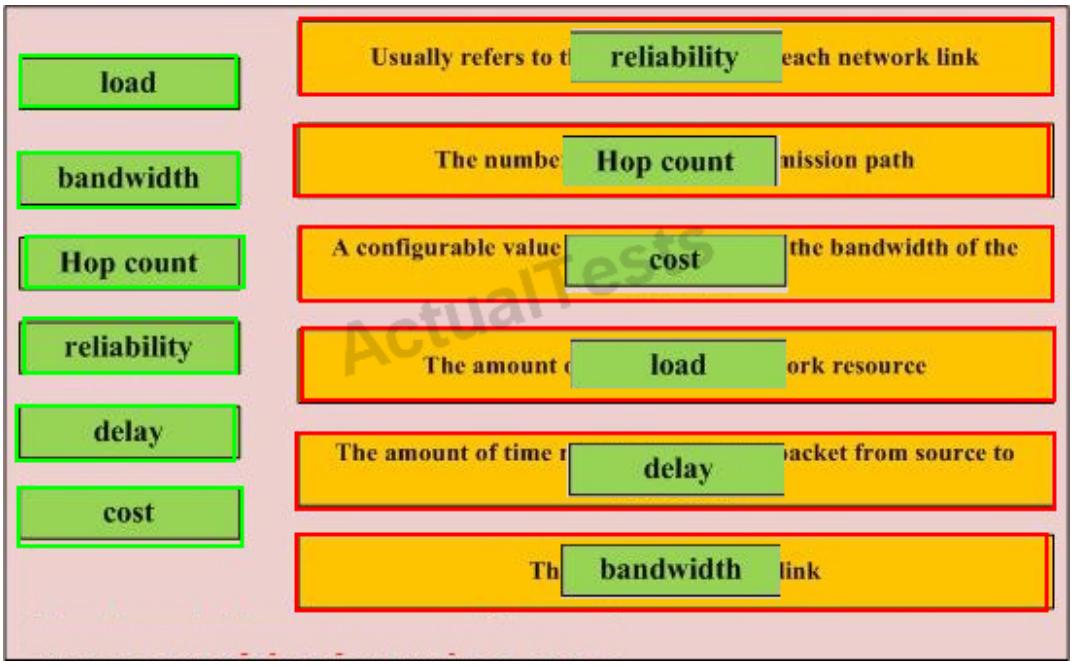
point to point - advantage quality point to point - disadvantage limited flexibility circuit switched - advantage cost circuit switched - disadvantage low speed packet switched - advantage efficient packet switched - disadvantage more complex

QUESTION NO: 342 DRAG DROP

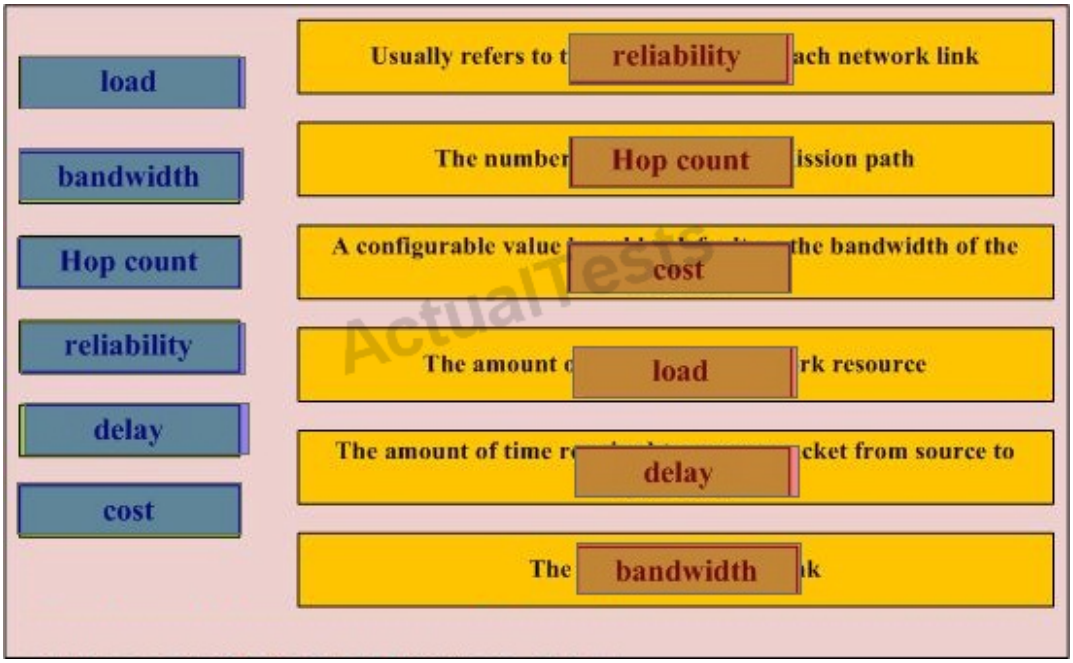
Drag and drop. Match the items on the left with its corresponding definition on the right.



Answer:



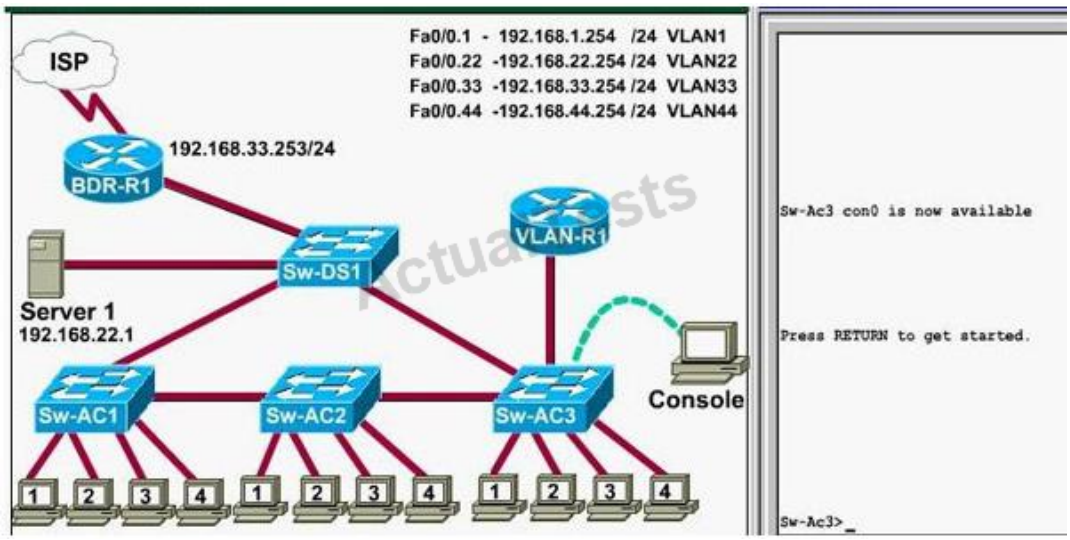
Explanation:



QUESTION NO: 343

This task requires you to use the CLI of Sw-AC3 to answer multiple-choice question below. This does not require any configuration. Refer the Explanation to see all the configuration details.

What ports on Sw-AC3 are operating as trunks? (Choose three)



Sw-AC3#show trunk

```
Sw-Ac3#show int trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1
Fa0/9       desirable    802.1q         trunking      1
Fa0/12      desirable    802.1q         trunking      1
```

A. Fa0/3
B. Fa0/9
C. Fa0/1
D. Fa0/12

Answer: A,B,D

Explanation: Use the **show interface trunk** command to determine the trunking status of a link and VLAN status. This command lists port, its mode, encapsulation and whether it is trunking. The image below shows how it works:

```
Sw-Ac3#show interface trunk

Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1
Fa0/9       desirable    802.1q         trunking      1
Fa0/12      desirable    802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/9       1-4094
Fa0/12      1-4094

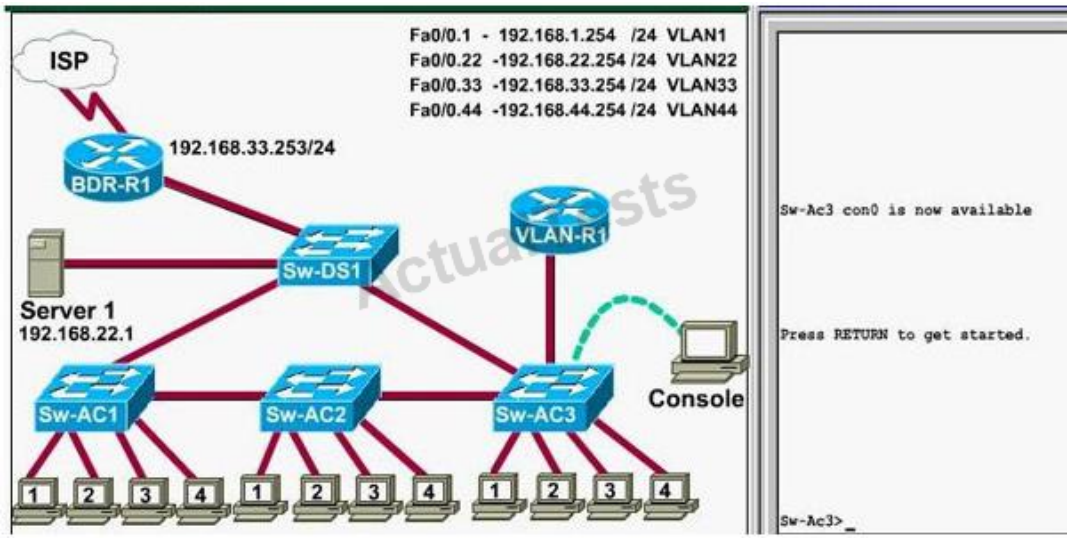
Port        Vlans allowed and active in management domain
Fa0/9       1
Fa0/12      1

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/9       1
Fa0/12      1
Sw-Ac3#
```

1

QUESTION NO: 344

This task requires you to use the CLI of Sw-AC3 to answer multiple-choice question below. This does not require any configuration. Refer the Explanation to see all the configuration details.



What kind of router is VLAN-R1?

A. 1720
B. 1841
C. 2611
D. 2620

Answer: D
Explanation: VLAN-R1 is the router directly connected to Sw-Ac3 switch, so we can use the **show cdp neighbors** command to see:

1. Neighbor Device ID : The name of the neighbor device;
2. Local Interface : The interface to which this neighbor is heard
3. Capability: Capability of this neighboring device - R for router, S for switch, H for Host etc.
4. Platform: Which type of device the neighbor is
5. Port ID. The interface of the remote neighbor you receive CDP information
6. HoldtimE. Decremental hold time in seconds

Sample output of *show cdp neighbors* command:

```
Sw-Ac3#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone

Device ID        Local Intrfce     Holdtme    Capability  Platform     Port ID
Sw-DS1           Fas 0/12          130           S I      WS-C2950G-   Fas 0/12
Sw-AC2           Fas 0/9           176           S I      WS-C2950T-   Fas 0/9
VLAN-R1          Fas 0/3           152           R        2620         Fas 0/0.1
```

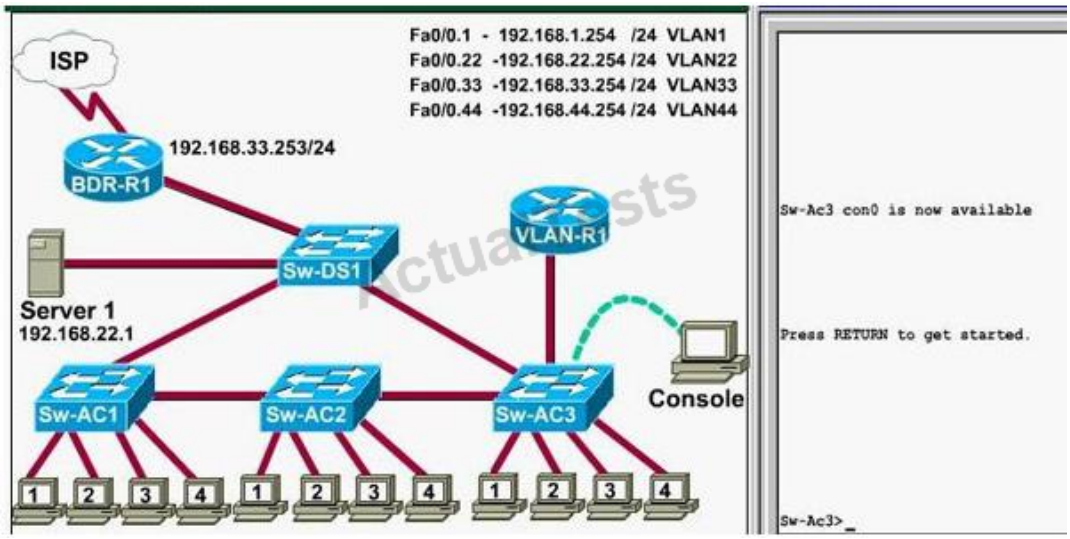
1

One thing I want to notice you is "Local Intrfce" in the image above refers to the local interface on the device you are running the "show cdp neighbors" command

QUESTION NO: 345

This task requires you to use the CLI of Sw-AC3 to answer multiple-choice question below. This does not require any configuration. Refer the Explanation to see all the configuration details.

What address should be configured as the default-gateway for the host connected to interface Fa0/4 of Sw-AC3?



Sw-AC3#show vlan

```
Sw-Ac3#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/16
22   Servers                          active
33   Management                       active    Fa0/1, Fa0/2, Fa0/5, Fa0/6, Fa0/7
44   Production                       active    Fa0/4, Fa0/8, Fa0/10, Fa0/11
99   no-where                         active    Fa0/13, Fa0/14, Fa0/15, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                F0/22, Fa0/23, Fa0/24
                                                 Gi0/1, Gi0/2
```

A. 192.168.1.254
B. 192.168.22.254
C. 192.168.44.254
D. 192.168.33.254

Answer: C

Explanation:

First we have to identify which VLAN interface Fa0/4 belongs to by the **show vlan** command

```
Sw-Ac3#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/16
22   Servers                          active
33   Management                       active    Fa0/1, Fa0/2, Fa0/5, Fa0/6, Fa0/7
44   Production                       active    Fa0/4, Fa0/8, Fa0/10, Fa0/11
99   no-where                         active    Fa0/13, Fa0/14, Fa0/15, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                F0/22, Fa0/23, Fa0/24
                                                 Gi0/1, Gi0/2
```

1

From the exhibit we know that VLAN 44 is configured on router using sub-interface Fa0/0.44 with IP address 192.168.44.254/24

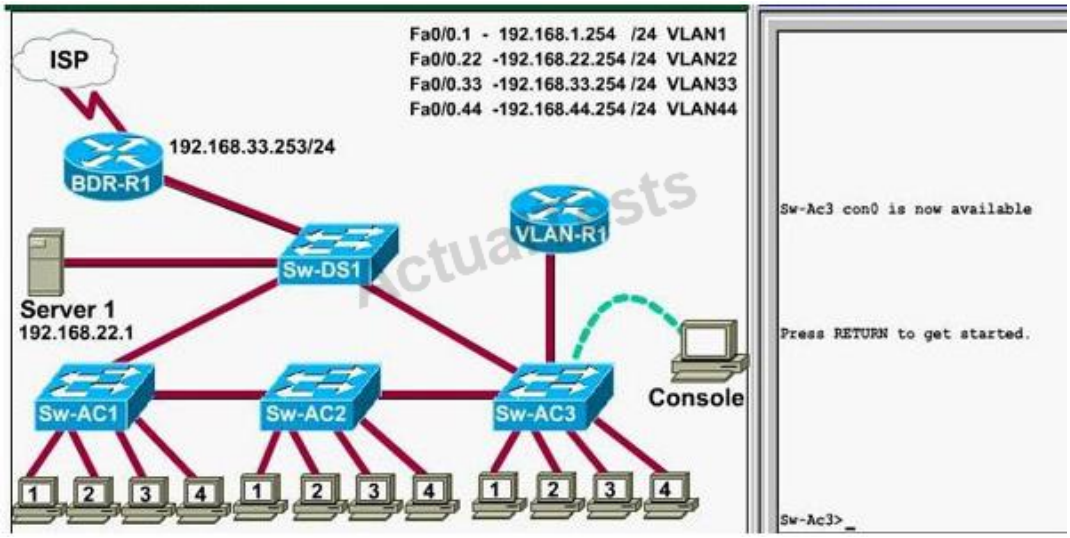


1

Therefore the default gateway of the host should be 192.168.44.254

QUESTION NO: 346

This task requires you to use the CLI of Sw-AC3 to answer multiple-choice question below. This does not require any configuration. Refer the Explanation to see all the configuration details.



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
Explanation:

First we check to see which ports the source mac-address and the destination mac-address belong to by using show mac-address-table command.

```
Sw-Ac3#show mac-address-table
          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----
 All    000f.2485.8900    STATIC      CPU
 All    0100.0ccc.cccc    STATIC      CPU
 All    0100.0ccc.cccd    STATIC      CPU
 All    0100.0cdd.dddd    STATIC      CPU
   1    0009.e8b2.c28c    DYNAMIC     Fa0/12
   1    000a.b7e9.8360    DYNAMIC     Fa0/3
   1    000f.2485.8b49    DYNAMIC     Fa0/9
  22    0009.e8b2.c28c    DYNAMIC     Fa0/12
  22    000a.b7e9.8360    DYNAMIC     Fa0/3
  22    0010.5a0c.ffba    DYNAMIC     Fa0/12
  33    0009.e8b2.c28c    DYNAMIC     Fa0/12
  33    000a.b7e9.8360    DYNAMIC     Fa0/3
  33    000c.ce8d.8860    DYNAMIC     Fa0/12
  33    0010.5a0c.fd86    DYNAMIC     Fa0/6
  33    0010.5a0c.feae    DYNAMIC     Fa0/12
  33    0010.5a0c.ff9f    DYNAMIC     Fa0/1
  44    0009.e8b2.c28c    DYNAMIC     Fa0/12
--More--
```

We notice that the source mac-address 0010.5a0c.fd86 is listed in the table and it belongs to Vlan 33 but we can't find the destination mac-address 000a.8a47.e612 in this table. In this case, the switch will flood to all ports of Vlan 33 and flood to all the trunk links, except the port it received this frame (port Fa0/6). Therefore from the output above, we can figure out it will flood this frame to Fa0/1, Fa0/3 and Fa0/12.

Please notice that the "show mac-address-table" command just lists information that was learned by the switch, it means that there can be other ports besides Fa0/1, Fa0/3 and Fa0/12 belong to Vlan 33. You can use the show vlan command to see which ports belong to vlan 33

```
Sw-Ac3#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/16
22   Servers                          active
33   Management                       active    Fa0/1, Fa0/2, Fa0/5, Fa0/6, Fa0/7
44   Production                       active    Fa0/4, Fa0/8, Fa0/10, Fa0/11
99   no-where                         active    Fa0/13, Fa0/14, Fa0/15, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                F0/22, Fa0/23, Fa0/24
                                                 Gi0/1, Gi0/2
```

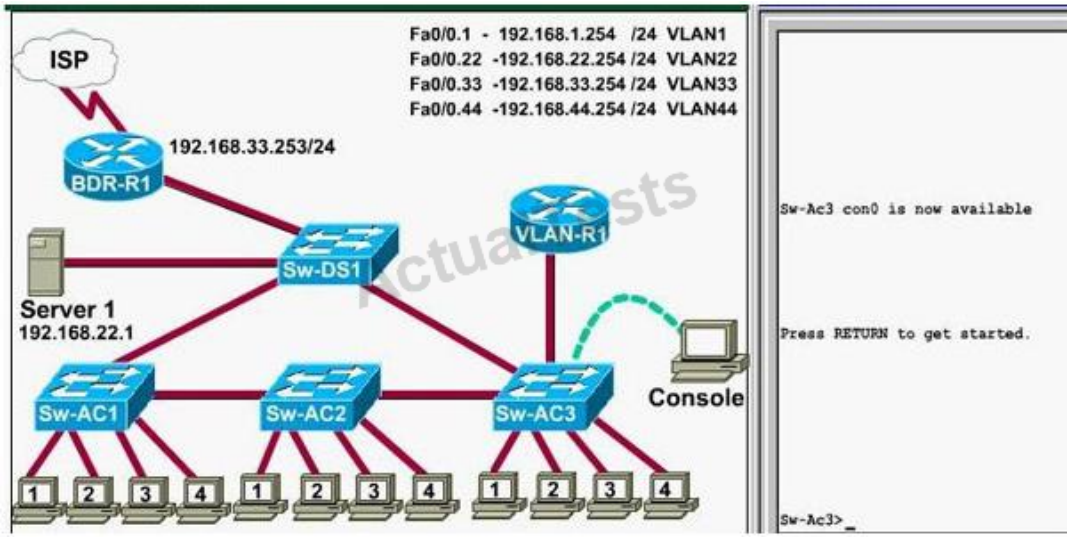
And we found other ports which belong to vlan 33, they are Fa0/2, Fa0/5 and Fa0/7. Our switch will flood the frame to these ports, too.

And we can check which trunk ports will receive this frame by the show interface trunk command

```
Sw-Ac3#show interface trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1
Fa0/9       desirable    802.1q         trunking      1
Fa0/12      desirable    802.1q         trunking      1
```

QUESTION NO: 347

This task requires you to use the CLI of Sw-AC3 to answer multiple-choice question below. This does not require any configuration. Refer the Explanation to see all the configuration details.



From which switch did SW-AC3 receive the VLAN information?

A. SW-DS1
B. SW-AC1
C. SW-AC2
D. SW-AC3(locally)

Answer: C

Explanation:

to view the VTP configuration information, use the show vtp status command

```
Sw-Ac3#show vtp status
VTP Version : 2
Configuration Revision : 5
Maximum VLANs supported locally : 255
Number of existing VLANs : 7
VTP Operating Mode : Client
VTP Domain Name : home-office
VTP Pruning Mode : Enabled
VTP V2 Mode : Disabled
VTP Traps Generation : Disabled
MD5 digest : 0x22 0x07 0xF2 0x3A 0xF1 0x28 0xA0 0x5D
Configuration last modified by 163.5.8.3 at 3-1-93 00:28:35
```

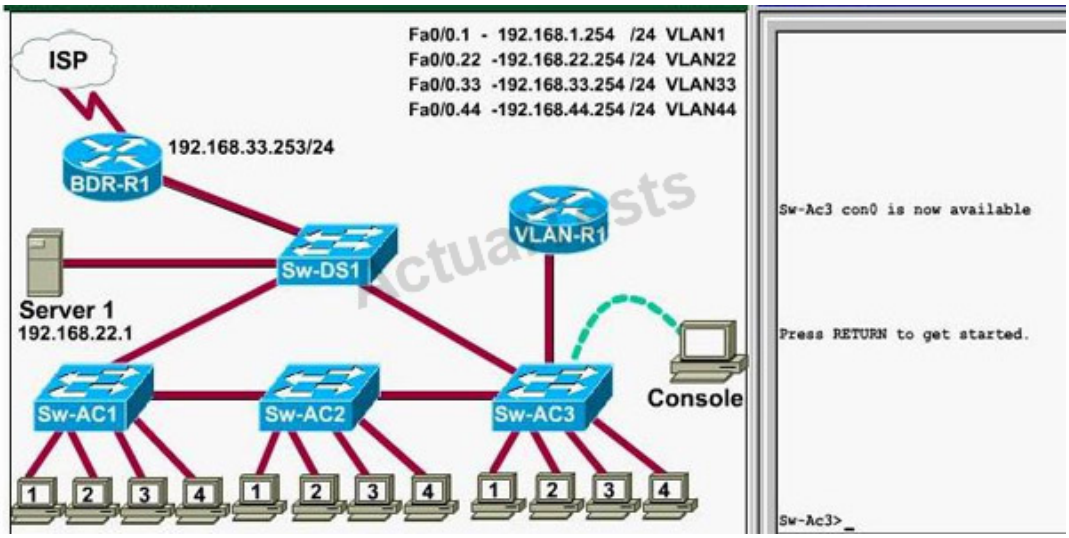
So we knew Sw-Ac3 received VLAN information from 163.5.8.3 (notice:the IP address may be different). Finally we use the show cdp neighbors detail to find out who 163.5.8.3 is:

```
Sw-Ac3#show cdp neighbor detail

<output omitted>
Device ID: Sw-AC2
Entry address(es):
IP address: 163.5.8.3
Platform: cisco 2950, Capabilities: Switch
Interface: FastEthernet, Port ID (outgoing port): FastEthernet Holdtime : 164 sec
Version :
<output omitted>
```

QUESTION NO: 348

This task requires you to use the CLI of Sw-AC3 to answer the multiple-choice question below. This does not require any configuration. Refer the Explanation to see all the configuration details.



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: D
Explanation: to find out which interface associated with a given MAC address, use the **show mac-address-table** command. It shows the learned MAC addresses and their associated interfaces. After entering this command, you will see a MAC address table like this:

```
Sw-Ac3#show mac-address-table
              Mac Address Table
------------------------------------------

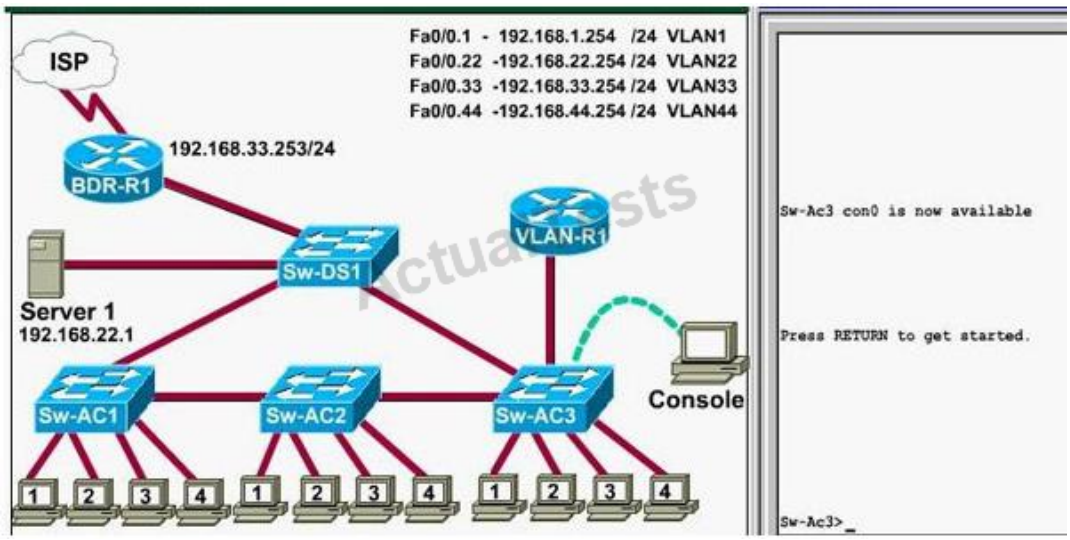
Vlan    Mac Address       Type        Ports
----    -----------       --------    -----
 All    000f.2485.8900    STATIC      CPU
 All    0100.0ccc.cccc    STATIC      CPU
 All    0100.0ccc.cccd    STATIC      CPU
 All    0100.0cdd.dddd    STATIC      CPU
   1    0009.e8b2.c28c    DYNAMIC     Fa0/12
   1    000a.b7e9.8360    DYNAMIC     Fa0/3
   1    000f.2485.8b49    DYNAMIC     Fa0/9
  22    0009.e8b2.c28c    DYNAMIC     Fa0/12
  22    000a.b7e9.8360    DYNAMIC     Fa0/3
  22    0010.5a0c.ffba    DYNAMIC     Fa0/8
  33    0009.e8b2.c28c    DYNAMIC     Fa0/12
  33    000a.b7e9.8360    DYNAMIC     Fa0/3
  33    000c.ce8d.8860    DYNAMIC     Fa0/12
  33    0010.5a0c.fd86    DYNAMIC     Fa0/6
  33    0010.5a0c.feae    DYNAMIC     Fa0/12
  33    0010.5a0c.ff9f    DYNAMIC     Fa0/1
  44    0009.e8b2.c28c    DYNAMIC     Fa0/12
--More--
```

1

From this table we can figure out that the MAC address 0010.5a0c.ffba is associated with interface Fa0/8

QUESTION NO: 349

This task requires you to use the CLI of Sw-AC3 to answer the multiple-choice question below. This does not require any configuration. Refer the Explanation to see all the configuration details.



Sw-AC3#show mac-address-table

```
Sw-Ac3#show mac-address-table
          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----
 All    000f.2485.8900    STATIC      CPU
 All    0100.0ccc.cccc    STATIC      CPU
 All    0100.0ccc.cccd    STATIC      CPU
 All    0100.0cdd.dddd    STATIC      CPU
   1    0009.e8b2.c28c    DYNAMIC     Fa0/12
   1    000a.b7e9.8360    DYNAMIC     Fa0/3
   1    000f.2485.8b49    DYNAMIC     Fa0/9
  22    0009.e8b2.c28c    DYNAMIC     Fa0/12
  22    000a.b7e9.8360    DYNAMIC     Fa0/3
  22    0010.5a0c.ffba    DYNAMIC     Fa0/12
  33    0009.e8b2.c28c    DYNAMIC     Fa0/12
  33    000a.b7e9.8360    DYNAMIC     Fa0/3
  33    000c.ce8d.8860    DYNAMIC     Fa0/12
  33    0010.5a0c.fd86    DYNAMIC     Fa0/6
  33    0010.5a0c.feae    DYNAMIC     Fa0/12
  33    0010.5a0c.ff9f    DYNAMIC     Fa0/1
  44    0009.e8b2.c28c    DYNAMIC     Fa0/12
--More--
```

Sw-AC3#show vlan

```
Sw-Ac3#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/16
22   Servers                          active
33   Management                       active    Fa0/1, Fa0/2, Fa0/5, Fa0/6, Fa0/7
44   Production                       active    Fa0/4, Fa0/8, Fa0/10, Fa0/11
99   no-where                         active    Fa0/13, Fa0/14, Fa0/15, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                F0/22, Fa0/23, Fa0/24
                                                 Gi0/1, Gi0/2
```

Sw-AC3#show int trunk

```
Sw-Ac3#show int trunk
Port        Mode         Encapsulation  Status       Native vlan
Fa0/3       on           802.1q         trunking      1
Fa0/9       desirable    802.1q         trunking      1
Fa0/12      desirable    802.1q         trunking      1
```

Out of which ports on Sw-AC3 will a frame be forwarded that has Source MAC address 0010.5a0c.fd86 and destination MAC address 000a.8a47.e612? (Choose three)

A. Fa0/1
B. Fa0/3
C. Fa0/12
D. Fa0/8
E. Fa0/4
F. Fa0/6
G. Fa0/7

Answer: A,B,C

Explanation:

First we check to see which ports the source mac-address and the destination mac-address belong to by using **show mac-address-table** command

```
Sw-Ac3#show mac-address-table
          Mac Address Table
-------------------------------------------

Vlan    Mac Address       Type        Ports
----    -----------       --------    -----
 All    000f.2485.8900    STATIC      CPU
 All    0100.0ccc.cccc    STATIC      CPU
 All    0100.0ccc.cccd    STATIC      CPU
 All    0100.0cdd.dddd    STATIC      CPU
   1    0009.e8b2.c28c    DYNAMIC     Fa0/12
   1    000a.b7e9.8360    DYNAMIC     Fa0/3
   1    000f.2485.8b49    DYNAMIC     Fa0/9
  22    0009.e8b2.c28c    DYNAMIC     Fa0/12
  22    000a.b7e9.8360    DYNAMIC     Fa0/3
  22    0010.5a0c.ffba    DYNAMIC     Fa0/12
  33    0009.e8b2.c28c    DYNAMIC     Fa0/12
  33    000a.b7e9.8360    DYNAMIC     Fa0/3
  33    000c.ce8d.8860    DYNAMIC     Fa0/12
  33    0010.5a0c.fd86    DYNAMIC     Fa0/6
  33    0010.5a0c.feae    DYNAMIC     Fa0/12
  33    0010.5a0c.ff9f    DYNAMIC     Fa0/1
  44    0009.e8b2.c28c    DYNAMIC     Fa0/12
--More--
```

1

We notice that the source mac-address 0010.5a0c.fd86 is listed in the table and it belongs to Vlan 33 but we can't find the destination mac-address 000a.8a47.e612 in this table. In this case, the switch will flood to all ports of Vlan 33 and flood to all the trunk links, except the port it received this frame (port Fa0/6).

Therefore from the output above, we can figure out it will flood this frame to Fa0/1, Fa0/3 and Fa0/12. Please notice that the "show mac-address-table" command just lists information that was learned by the switch, it means that there can be other ports besides Fa0/1, Fa0/3 and Fa0/12 belong to Vlan 33. You can use the **show vlan** command to see which ports belong to vlan 33

```
Sw-Ac3#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/16
22   Servers                          active
33   Management                       active    Fa0/1, Fa0/2, Fa0/5, Fa0/6, Fa0/7
44   Production                       active    Fa0/4, Fa0/8, Fa0/10, Fa0/11
99   no-where                         active    Fa0/13, Fa0/14, Fa0/15, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                F0/22, Fa0/23, Fa0/24
                                                 Gi0/1, Gi0/2
```

1

And we found other ports which belong to vlan 33, they are Fa0/2, Fa0/5 and Fa0/7. Our switch will flood the frame to these ports, too.

And we can check which trunk ports will receive this frame by the **show interface trunk** command

```
Sw-Ac3#show interface trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1
Fa0/9       desirable    802.1q         trunking      1
Fa0/12      desirable    802.1q         trunking      1
```

1

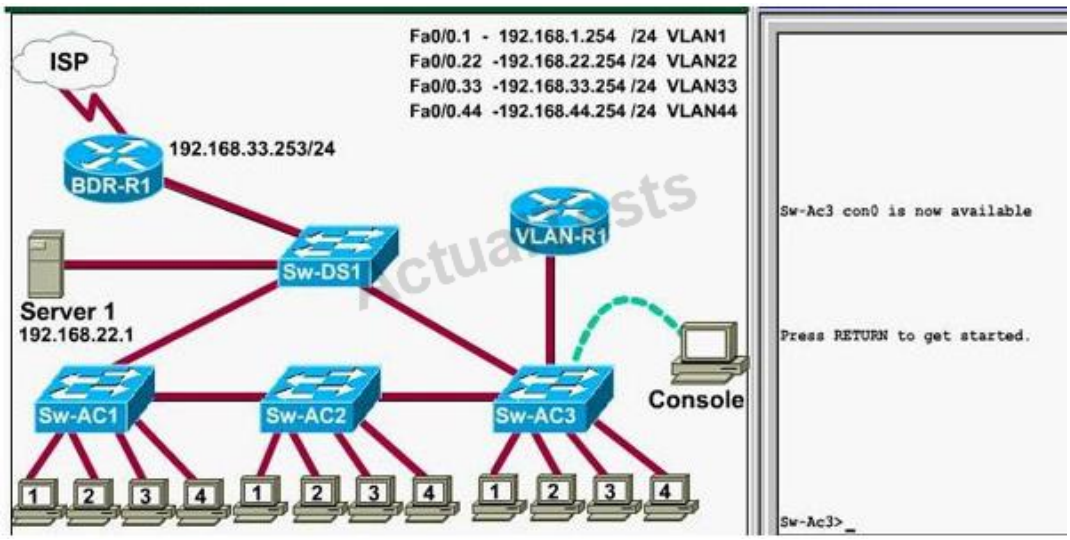
-> Port Fa0/9 will also receive this frame!

QUESTION NO: 350

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

Refer to the exhibit. SwX was taken out of the production network for maintenance.

It will be reconnected to the Fa0/16 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

```
SwX#show vlan
VLAN Name  Status   Ports
---- ----- -------- -------------------------------
1   default    active  Fa0/1, Fa0/2, Fa0/3
                       Fa0/4, Fa0/5, Fa0/6
                       Fa0/7, Fa0/8, Fa0/9
                       Fa0/10, Fa0/11, Fa0/12
                       Gi0/1, Gi0/2
2   students   active
3   admin      active
4   faculty    active
```

```
SwX#  show vtp stat
VTP Version              : 2
Configuration Revision   : 6
Maximum VLANs supported locally : 250
Number of existing VLANs : 8
VTP Operating Mode       : Server
VTP Domain Name          : home-office
VTP Pruning Mode         : Disabled
VTP V2 Mode              : Disabled
VTP Traps Generation     : Disabled
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
```

Sw-AC3#show vtp stat

```
Sw-Ac3#show vtp status
VTP Version                     :  2
Configuration Revision          :  5
Maximum VLANs supported locally :  250
Number of existing VLANs        :  9
VTP Operating Mode              :  Client
VTP Domain Name                 :  home-office
VTP Pruning Mode                :  Disabled
VTP V2 Mode                     :  Disabled
VTP Traps Generation            :  Disabled
MD5 digest                      :  0xD8 0xD8 0x38 0x22 0x98 0xE3 0xAC 0x65
Configuration last modified by 192.168.1.249 at 3-2-93 21:29:08
Sw-Ac3#
```

Sw-AC3#show vlan

```
Sw-Ac3#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/16
22   Servers                          active
33   Management                       active    Fa0/1, Fa0/2, Fa0/5, Fa0/6, Fa0/7
44   Production                       active    Fa0/4, Fa0/8, Fa0/10, Fa0/11
99   no-where                         active    Fa0/13, Fa0/14, Fa0/15, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                F0/22, Fa0/23, Fa0/24
                                                 Gi0/1, Gi0/2
1002 fddi-default                     act/unsup
1003 token-ring-default               act/unsup
1004 fddinet-default                  act/unsup
1005 trnet-default                    act/unsup
```

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,Managements,Production,and no-where will be removed from existing switches.

Answer: D

Explanation:

First we should view the VTP configuration of switch Sw-Ac3 by using the show vtp status command on Sw-Ac3

```
Sw-Ac3#show vtp status
VTP Version                     :   2
Configuration Revision          :   5
Maximum VLANs supported locally :   250
Number of existing VLANs        :   9
VTP Operating Mode              :   Client
VTP Domain Name                 :   home-office
VTP Pruning Mode                :   Disabled
VTP V2 Mode                     :   Disabled
VTP Traps Generation            :   Disabled
MD5 digest                      :   0xD8 0xD8 0x38 0x22 0x98 0xE3 0xAC 0x65
Configuration last modified by 192.168.1.249 at 3-2-93 21:29:08
Sw-Ac3#
```

1

Notice that its configuration revision number is 5 and VTP Domain Name is home-office Next, from the exhibit we know that SwX has a revision number of 6, which is greater than that of Sw-Ac3 switch, and both of them have same VTP Domain Name called "home-office".

```
SwX#show vlan
VLAN Name  Status   Ports
---- ----- ------ -------------------------------
1    default    active Fa0/1, Fa0/2, Fa0/3
                       Fa0/4, Fa0/5, Fa0/6
                       Fa0/7, Fa0/8, Fa0/9
                   Fa0/10, Fa0/11, Fa0/12
                   Gi0/1, Gi0/2
2    students   active
3    admin      active
4    faculty    active
```

```
SwX# show vtp stat
VTP Version                     : 2
Configuration Revision          : 6
Maximum VLANs supported locally : 250
Number of existing VLANs        : 8
VTP Operating Mode              : Server
VTP Domain Name                 : home-office
VTP Pruning Mode                : Disabled
VTP V2 Mode                     : Disabled
VTP Traps Generation            : Disabled
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
```

1

Therefore SwX will replace vlan information on other switches with its own information. We should check vlan information of Sw-Ac3 switch with show vlan command

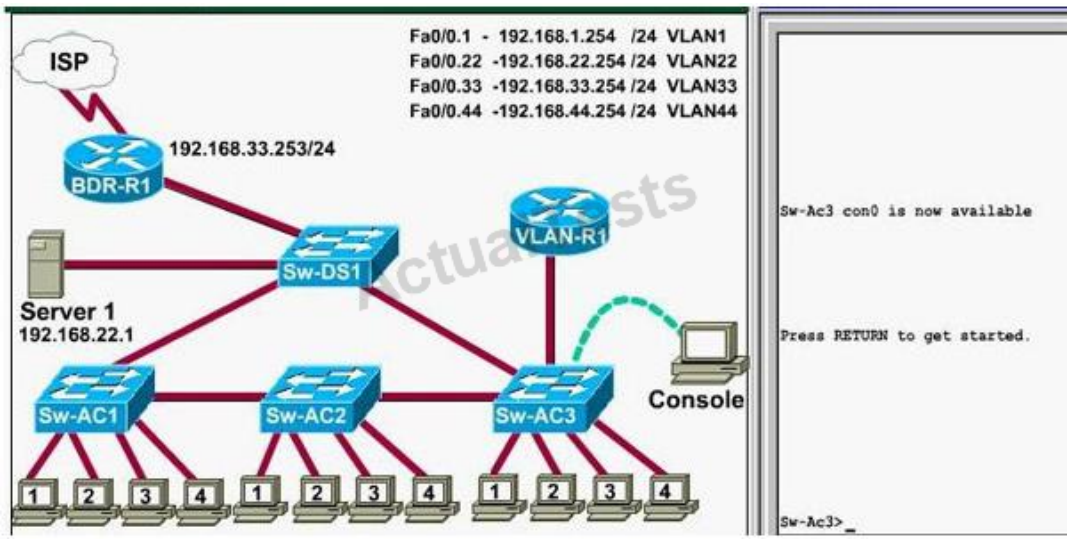
```
Sw-Ac3#show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/16
22   Servers                          active
33   Management                       active    Fa0/1, Fa0/2, Fa0/5, Fa0/6, Fa0/7
44   Production                       active    Fa0/4, Fa0/8, Fa0/10, Fa0/11
99   no-where                         active    Fa0/13, Fa0/14, Fa0/15, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                F0/22, Fa0/23, Fa0/24
                                                 Gi0/1, Gi0/2
1002 fddi-default                     act/unsup
1003 token-ring-default               act/unsup
1004 fddinet-default                  act/unsup
1005 trnet-default                    act/unsup
```

1

So the correct answer is D - The VLANs Servers, Management, Production and no-where will be removed from existing switches Please notice that in the real CCNA exam you may see a different configuration revision of Sw-Ac3 or of SwX. In general, which switch has a higher revision number it will become the updater and other switches will overwrite their current databases with the new information received from the updater (provided that they are on the same domain and that switch is not in transparent mode). Also, some recent comments have said that the new switch's VTP Operating Mode is Server but the answer is still the same.

QUESTION NO: 351

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



Which switch is the root bridge for VLAN 1?

A. SW-DS1
B. SW-AC1
C. SW-AC2
D. SW-AC3

Answer: A

Explanation:

First we use the show spanning-tree vlan 1 to view the spanning-tree information of VLAN 1

```
Sw-Ac3#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID     Priority    24577
              Address     0009.e8b2.c280
              Cost        19
              Port        12 (FastEthernet0/12)
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID   Priority    32769  (priority 32768 sys-id-ext 1)
              Address     000f.2485.8900
              Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time 300

Interface        Role Sts  Cost      Prio.Nbr   Type
---------------------------------------------------------------
Fa0/3            Desg FWD  19        128.3      P2p
Fa0/9            Desg FWD  19        128.9      P2p
Fa0/12           Root FWD  19        128.12     P2p
```

From the “Cost 19, we learn that the root switch is directly connected to the Sw-Ac3 switch over a 100Mbps Ethernet link

Notice that if you see all of the interface roles are Desg (designated) then you can confirm Sw-Ac3 switch is the root bridge for this VLAN (VLAN 1).

If you see there is at least one Root port in the interface roles then you can confirm Sw-Ac3 is not the root bridge because root bridge does not have root port. In this case, we notice that the root port on Sw-Ac3 switch is FastEthernet0/12, so we have to figure out which switch is associated with this port -> it is the root bridge. You can verify it with the show cdp neighbors command:

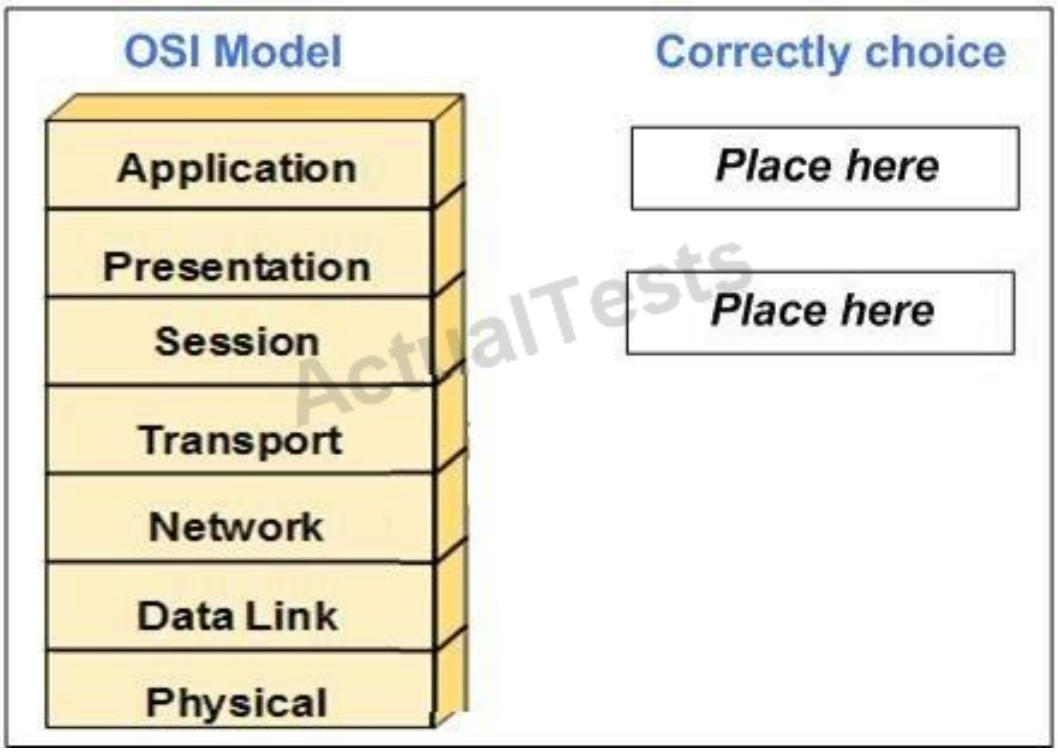
```
Sw-Ac3#show cdp neighbors
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone

Device ID        Local Intrfce     Holdtme    Capability  Platform      Port ID
Sw-DS1           Fas 0/12          130           S I   WS-C2950G-   Fas 0/12
Sw-AC2           Fas 0/9           176           S I   WS-C2950T-   Fas 0/9
VLAN-R1          Fas 0/3           152           R     2620         Fas 0/0.1
```

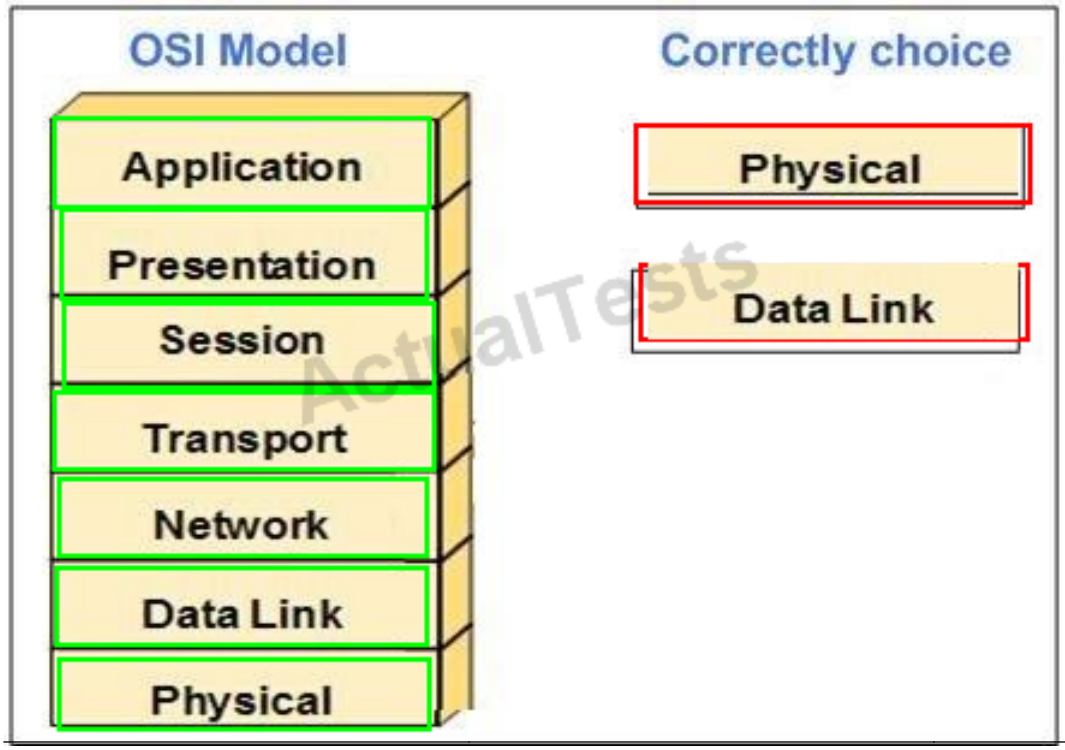
The “Local Intrfce” column refers to the interface on the switch running “show cdp neighbors” command. In this case, Sw-DS1 is associated with interface FastEthernet0/12 -> Sw-DS1 is the root bridge

QUESTION NO: 352 DRAG DROP

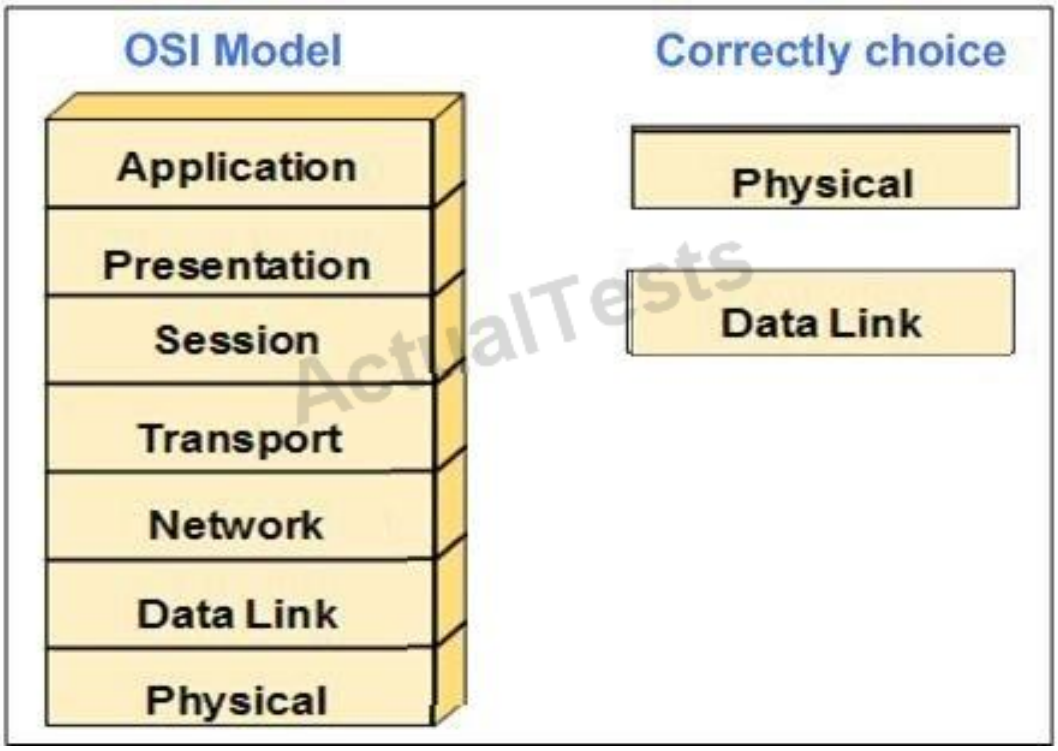
As a CCNA candidate, you are required to have a firm understanding of the OSI model. At which layers of the OSI model do Wide Area Networks operate? Please drag the items to the proper locations.



Answer:

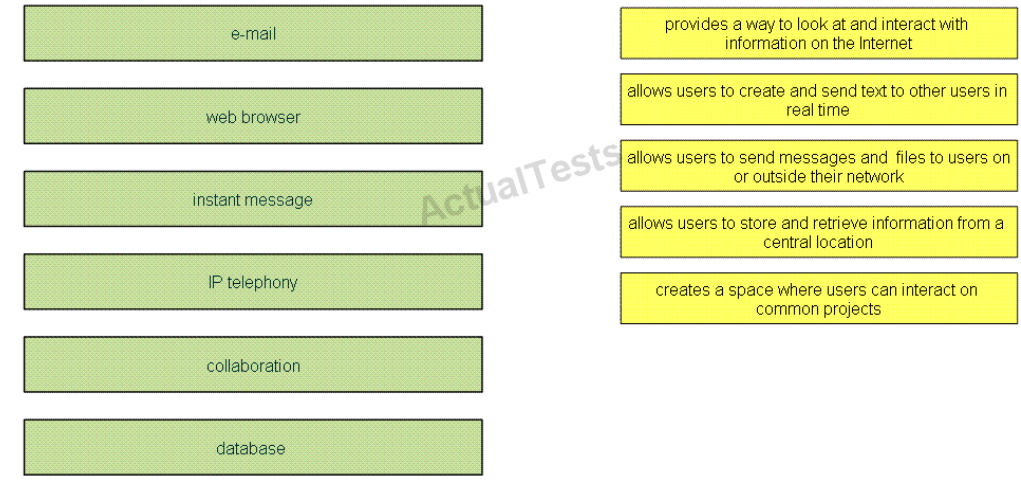


Explanation:



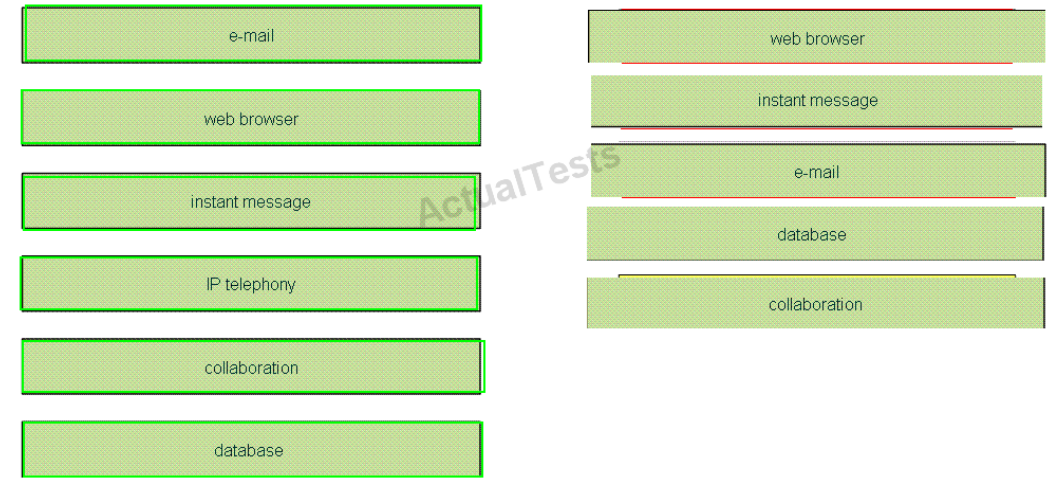
QUESTION NO: 353 DRAG DROP

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

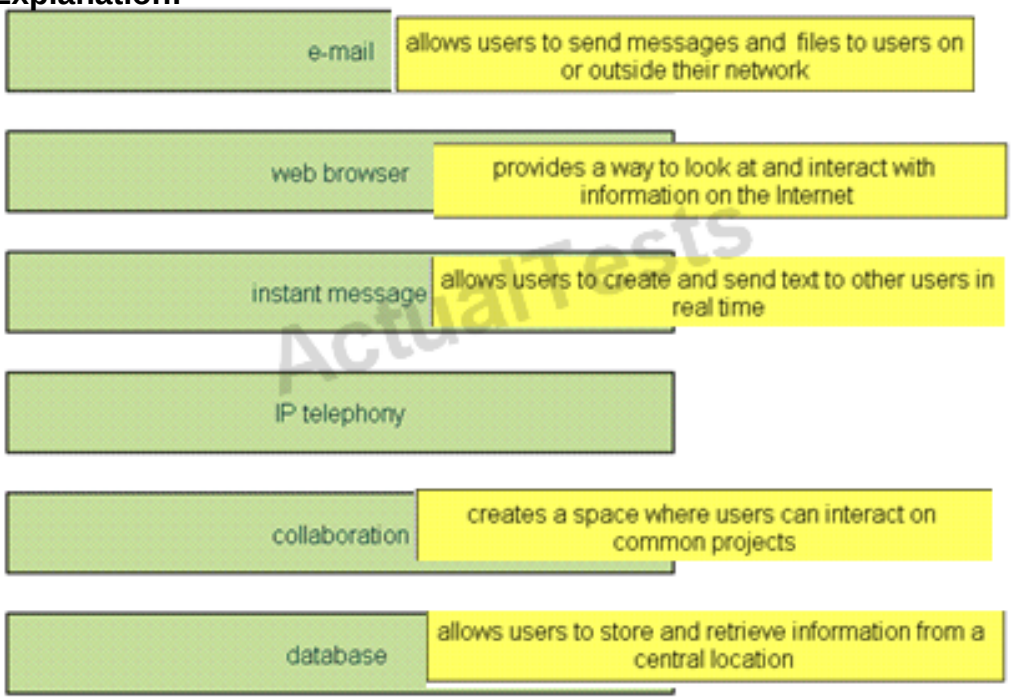


Answer:

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



Explanation:



QUESTION NO: 354 CORRECT TEXT

A network associate is adding security to the configuration of 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 an 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

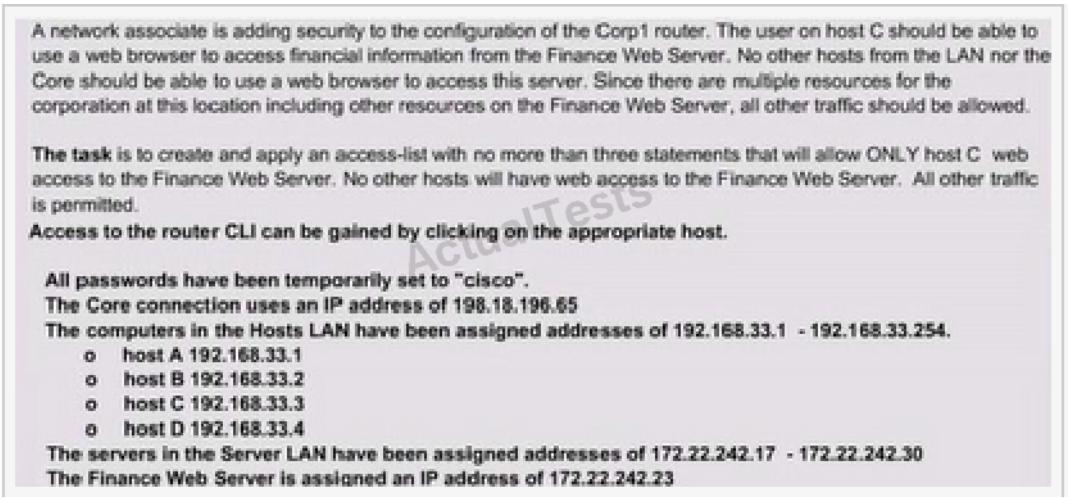
Host B 192.168.33.2

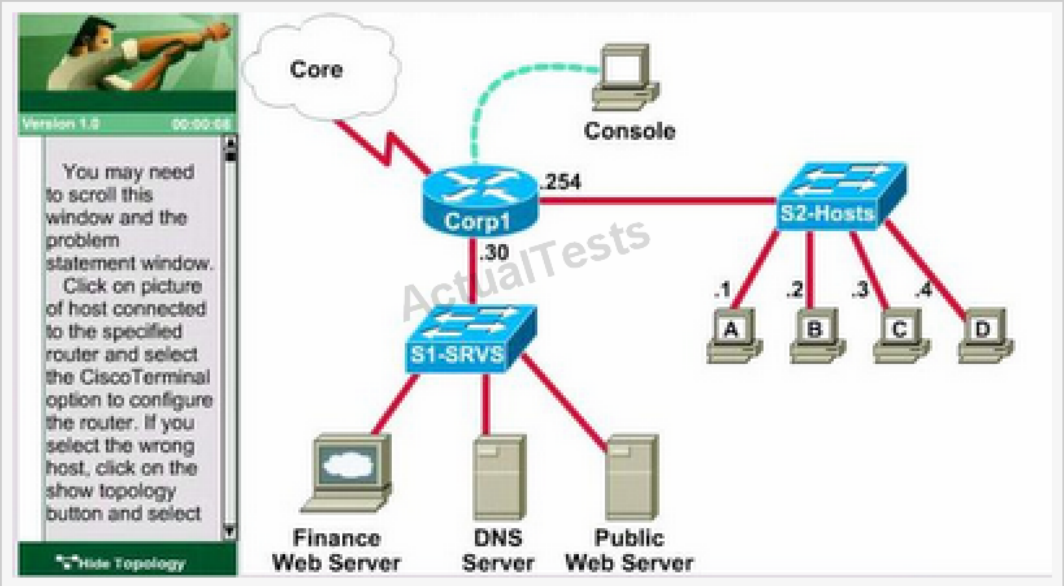
Host C 192.168.33.3

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.





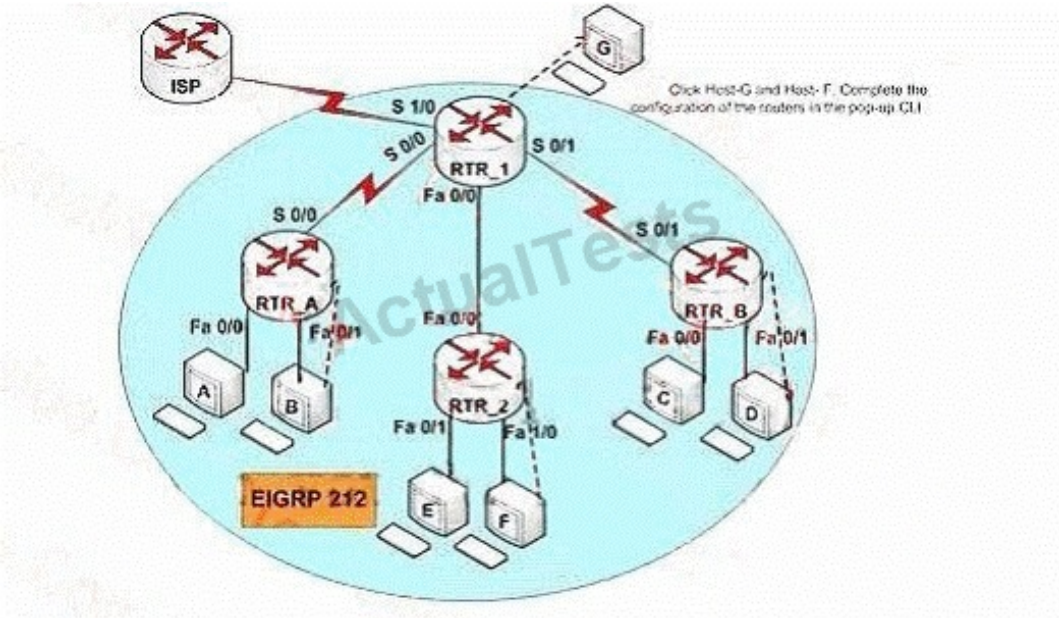
Answer: Select the console on Corp1 router
Configuring ACL
Corp1>enable
Corp1#configure terminal
comment: To permit only Host C (192.168.33.3){source addr} to access finance server address (172.22.242.23) {destination addr} on port number 80 (web)
Corp1(config)#access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80
comment: To deny any source to access finance server address (172.22.242.23) {destination addr} on port number 80 (web)
Corp1(config)#access-list 100 deny tcp any host 172.22.242.23 eq 80
comment: To permit ip protocol from any source to access any destination because of the implicit deny any any statement at the end of ACL.
Corp1(config)#access-list 100 permit ip any any
Applying the ACL on the Interface
comment: Check show ip interface brief command to identify the interface type and number by checking the IP address configured.
Corp1(config)#interface fa 0/1
If the ip address configured already is incorrect as well as the subnet mask. this should be corrected in order ACL to work
type this commands at interface mode :
no ip address 192.x.x.x 255.x.x.x (removes incorrect configured ipaddress and subnet mask)
Configure Correct IP Address and subnet mask :
ip address 172.22.242.30 255.255.255.240 (range of address specified going to server is given as 172.22.242.17 - 172.22.242.30)
comment: Place the ACL to check for packets going outside the interface towards the finance web server.
Corp1(config-if)#ip access-group 100 out

Corp1(config-if)#end
Important: To save your running config to startup before exit.
Corp1#copy running-config startup-config
Verifying the Configuration :
Step1: show ip interface brief command identifies the interface on which to apply access list.
Step2: Click on each host A,B,C & D . Host opens a web browser page , Select address box of the web browser and type the ip address of finance web server(172.22.242.23) to test whether it permits /deny access to the finance web Server .
Step 3: Only Host C (192.168.33.3) has access to the server . If the other host can also access then maybe something went wrong in your configuration . check whether you configured correctly and in order.
Step 4: If only Host C (192.168.33.3) can access the Finance Web Server you can click on NEXT button to successfully submit the ACL SIM.

QUESTION NO: 355 CORRECT TEXT

EIGRP

After adding RTR_2 router, no routing updates are being exchanged between RTR_1 and the new location. All other inter connectivity and internet accesses 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.



RTR_A#show run

!

!

interface FastEthernet0/0

ip address 192.168.60.97 255.255.255.240

!

interface FastEthernet0/1

ip address 192.168.60.113 255.255.255.240

!

interface Serial0/0

ip address 192.168.36.14 255.255.255.252

clockrate 64000

!

router eigrp 212

network 192.168.36.0

network 192.168.60.0

no auto-summary

!

RTR_A#show ip route

192.168.36.0/30 is subnetted, 1 subnets

C 192.168.36.12 is directly connected, Serial 0/0

192.168.60.0/24 is variably subnetted, 5 subnets, 2 masks

C 192.168.60.96/28 is directly connected, FastEthernet0/0

C 192.168.60.112/28 is directly connected, FastEthernet0/1

D 192.168.60.128/28 [90/21026560] via 192.168.36.13, 00:00:57, Serial 0/0

D 192.168.60.144/28 [90/21026560] via 192.168.36.13, 00:00:57, Serial 0/0

D 192.168.60.24/30 [90/21026560] via 192.168.36.13, 00:00:57, Serial 0/0

D* 198.0.18.0 [90/21026560] via 192.168.36.13, 00:00:57, Serial 0/0

****

RTR_2#show run

!

!

interface FastEthernet0/0

ip address 192.168.77.34 255.255.255.252

!

interface FastEthernet0/1

ip address 192.168.60.65 255.255.255.240

!

interface FastEthernet1/0

ip address 192.168.60.81 255.255.255.240

!

!

router eigrp 22

network 192.168.77.0

network 192.168.60.0

no auto-summary

!

RTR_2#show ip route

192.168.60.0/28 is variably subnetted, 2 subnets

C 192.168.60.80 is directly connected, FastEthernet1/0

C 192.168.60.64 is directly connected, FastEthernet0/1

192.168.77.0/30 is subnetted, 1 subnets

C 192.168.77.32 is directly connected, FastEthernet0/0

****

RTR_B#show run

!

interface FastEthernet0/0

ip address 192.168.60.129 255.255.255.240

!

interface FastEthernet0/1

ip address 192.168.60.145 255.255.255.240

!

interface Serial0/1

ip address 192.168.60.26 255.255.255.252

!

router eigrp 212

network 192.168.60.0

!

RTR_B#show ip route

192.168.60.0/24 is variably subnetted, 5 subnets, 2 masks

C 192.168.60.24/30 is directly connected, Serial0/1

C 192.168.60.128/28 is directly connected, FastEthernet0/0

C 192.168.60.144/28 is directly connected, FastEthernet0/1

D 192.168.60.96/28 [90/21026560] via 192.168.60.25, 00:00:57, Serial 0/1

D 192.168.60.112/28 [90/21026560] via 192.168.60.25, 00:00:57, Serial 0/1

192.168.36.0/30 is subnetted, 1 subnets

D 192.168.36.12 [90/21026560] via 192.168.60.25, 00:00:57, Serial 0/1

D* 198.0.18.0 [90/21026560] via 192.168.60.25, 00:00:57, Serial 0/1

****

RTR_1#show run

!

!

interface FastEthernet0/0

ip address 192.168.77.33 255.255.255.252

!

interface Serial1/0

ip address 198.0.18.6 255.255.255.0

!

!

interface Serial0/0

ip address 192.168.36.13 255.255.255.252

clockrate 64000

!

interface Serial0/1

ip address 192.168.60.25 255.255.255.252

clockrate 64000

!

!

router eigrp 212

network 192.168.36.0

network 192.168.60.0

network 192.168.85.0

network 198.0.18.0

no auto-summary

!

ip classless

ip default-network 198.0.18.0

ip route 0.0.0.0 0.0.0.0 198.0.18.5

ip http server

RTR_1#show ip route

192.168.36.0/30 is subnetted, 1 subnets

C 192.168.36.12 is directly connected, Serial 0/0

192.168.60.0/24 is variably subnetted, 5 subnets, 2 masks

C 192.168.60.24/30 is directly connected, Serial0/1

D 192.168.60.128/28 [90/21026560] via 192.168.60.26, 00:00:57, Serial 0/1

D 192.168.60.144/28 [90/21026560] via 192.168.60.26, 00:00:57, Serial 0/1

D 192.168.60.96/28 [90/21026560] via 192.168.36.14, 00:00:57, Serial 0/0

192.168.77.0/30 is subnetted, 1 subnets

C 192.168.77.32 is directly connected, FastEthernet0/0

C 192.0.18.0/24 is directly connected, Serial 1/0

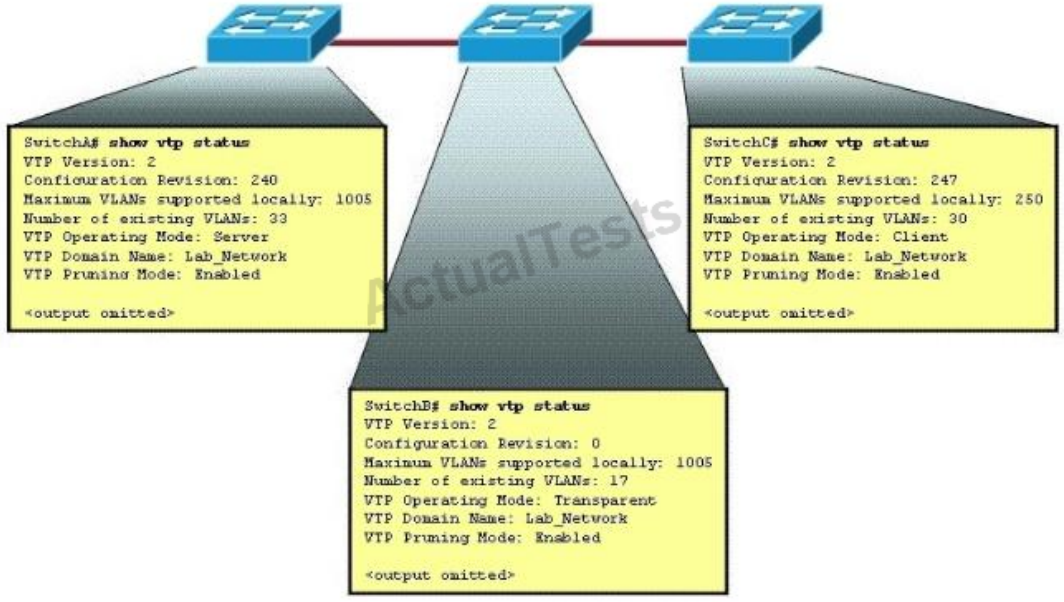
*S 0.0.0.0 via 198.0.18.5

Answer: Router2>enable
Router2#config t
Router2(config)#no router eigrp 22
Router2(config)#router eigrp 212

Router2(config-router)#network 192.16.60.0
Router2(config-router)#network 192.16.77.0
ROUTER1>enable
ROUTER1#config t
ROUTER1(config)#router eigrp 212
ROUTER1(config-router)#network 192.16.77.0
ROUTER1(config-router)#end
ROUTER1#copy run start

QUESTION NO: 356

Refer to the exhibit. The network administrator has discovered that the VLAN configuration of SwitchC is not synchronized with the rest of the switched network. Why is SwitchC not receiving VTP updates?



A. SwitchA supports a greater number of VLANs than does SwitchC.
B. SwitchC has fewer existing VLANs than does SwitchA.
C. SwitchC has a revision number higher than that being advertised.
D. SwitchC should be operating in VTP server mode to receive VTP updates.
E. SwitchB is not relaying VTP advertisements to SwitchC.
F. SwitchB should be operating in VTP server or client mode to relay VTP updates.

Answer: C

Explanation:

VTP revision number is to indicate the modified version that VTP configured is a 32-bit value, which begins with 0. If VLAN information changes, the revision number will plus 1 until 4294967295. Then circulate and then return 0, re-start and increase.

When the monitoring switch receives notices bigger than the revision number they stored, this notice will override the stored VLAN information, and thus it is very important to set the added revision number of the switch to default 0.
To set the revision number to default 0, the following methods may be useD.
1> change the mode of switch VTP to transparent mode, and then return to the server mode
2> make changes to switch VTP domain name, and revert to the original domain name

ReferencE.
http://www.cisco.com/en/US/tech/tk389/tk689/technologies_tech_note09186a0080094c52.shtml

QUESTION NO: 357

How many subnets can be gained by subnetting 172.17.32.0/23 into a /27 mask, and how many usable host addresses will there be per subnet?

A. 8 subnets, 31 hosts
B. 8 subnets, 32 hosts
C. 16 subnets, 30 hosts
D. 16 subnets, 32 hosts
E. A Class B address can’t be subnetted into the fourth octet.

Answer: C
Explanation:
A network mask of /23 will provide for up to 512 IP addresses. A /27 will provide for up to 32 IP address (30 usuable hosts). 512/32 = 16 different network subnets.

QUESTION NO: 358

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

A. In order for the router to use the new image as the default, it must be the only IOS image in flash.
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. The router cannot verify that the Cisco IOS image currently in flash is valid.

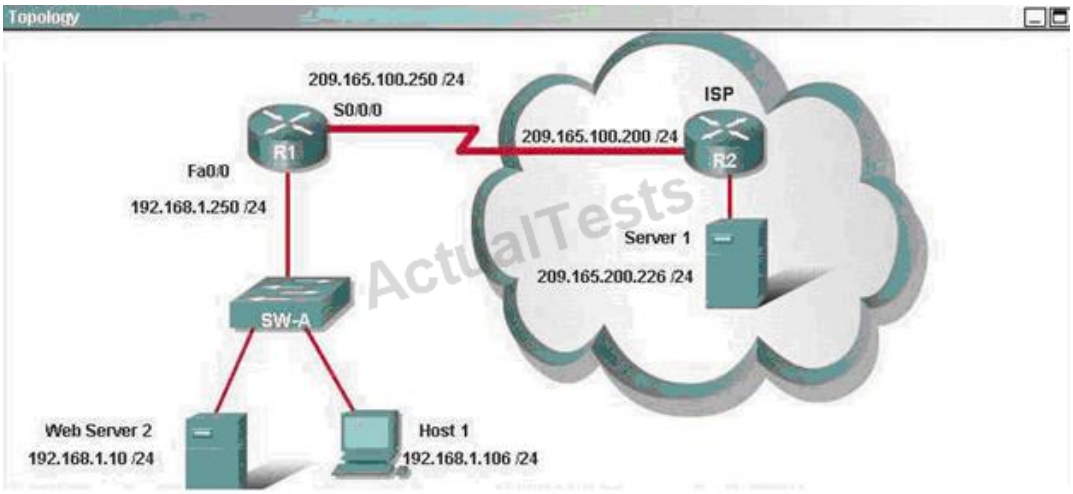
Answer: C

Explanation:

We can keep multiple IOS files on flash memory if there is enough space. When you try to copy the IOS to flash memory, it will ask you to erase current contents of flash memory. If there is enough free space to copy IOS you can type no to erase the contents of flash. If there is not enough space the router will require that the current file is erased first.

QUESTION NO: 359

If the router R1 has a packet with a destination address 192.168.1.255, what describes the operation of the network?



A. R1 will forward the packet out all interfaces.
B. R1 will drop this packet because this is not a valid IP address.
C. As R1 forwards the frame containing this packet, Sw-A will add 192.168.1. 255 to its MAC table.
D. R1 will encapsulate the packet in a frame with a destination MAC address of FF-FF-FF-FF-FF-FF.
E. As R1 forwards the frame containing this packet, Sw-A will forward it to the device assigned the IP address of 192.168.1. 255

Answer: B

Explanation:

QUESTION NO: 360

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 DLCI100 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 DLCI100 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

Explanation:

Inverse Address Resolution Protocol (Inverse ARP) was developed to provide a mechanism for dynamic DLCI to Layer 3 address maps. Inverse ARP works much the same way Address Resolution Protocol (ARP) works on a LAN. However, with ARP, the device knows the Layer 3 IP address and needs to know the remote data link MAC address. With Inverse ARP, the router knows the Layer 2 address which is the DLCI, but needs to know the remote Layer 3 IP address. When using dynamic address mapping, Inverse ARP requests a next-hop protocol address for each active PVC. Once the requesting router receives an Inverse ARP response, it updates its DLCI-to-Layer 3 address mapping table. Dynamic address mapping is enabled by default for all protocols enabled on a physical interface. If the Frame Relay environment supports LMI autosensing and Inverse ARP, dynamic address mapping takes place automatically. Therefore, no static address mapping is required.

QUESTION NO: 361

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

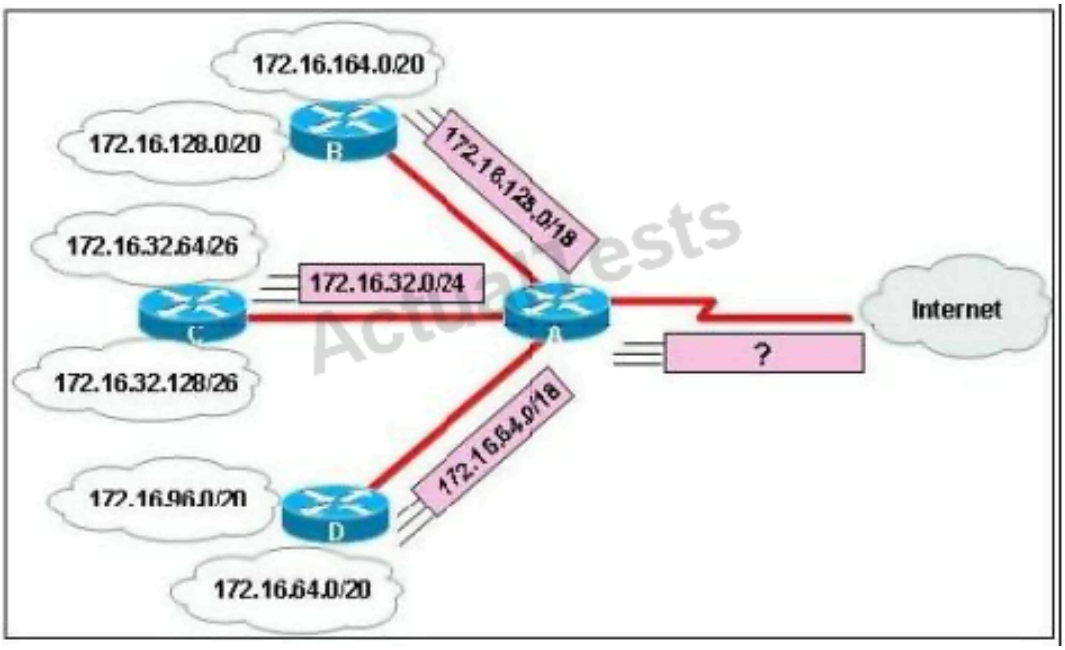
A. Administratively shut down the interface.
B. Physical secure the interface
C. Create an access list and apply to the virbal terminal interfaces with the access-group command

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
Explanation:

QUESTION NO: 362

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
Explanation:

QUESTION NO: 363

Refer to the exhibit. The show vtp status command is executed at a switch that is generating the

exhibited output. Which statement is true for this switch?

```
Switch# show vtp status
VTP Version                     :       2
Configuration Revision          :       0
Maximum VLANs supported locally :       64
Number of existing VLANs        :       17
VTP Operating Mode              :       Transparent
VTP Domain Name                 :       ICND
VTP Pruning Mode                :       Disabled
VTP V2 Mode                     :       Disabled
VTP Traps Generation            :       Disabled

<output omitted>
```

ActualTests

A. The switch forwards its VLAN database to other switches in the ICND VTP domain.
B. The configuration revision number increments each time the VLAN database is updated.
C. The switch forwards VTP updates that are sent by other switches in the ICND domain,
D. The VIAN database is updated when VTP information is received from other switches.

Answer: C

Explanation:

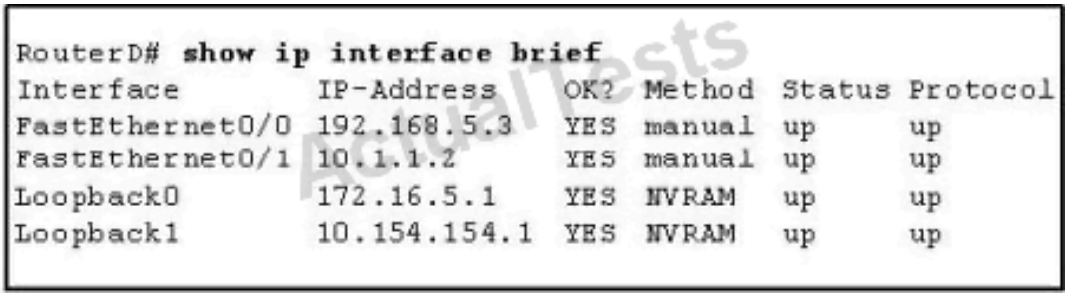
Switches in transparent mode don’t participate in the VTP domain or share its VLAN database, but they’ll still forward VTP advertisements through any configured trunk links.

VTP is organized into management domains or areas with common VLAN requirements. A switch can belong to only one VTP domain. Switches in different VTP domains do not share VTP information. Switches in a VTP domain advertise several attributes to their domain neighbors. Each advertisement contains information about the VTP management domain, VTP configuration revision number, known VLANs, and specific VLAN parameters.
From the output of the command how vtp status provided in the exhibit, we know that the VTP mode of the switch is the transparent mode.

Transparent mode does not allow the switch to participate in VTP negotiations. Thus, a switch does not advertise its own VLAN configuration, and a switch does not synchronize its VLAN database with received advertisements. VLANs can still be created, deleted, and renamed on the transparent switch. However, they will not be advertised to other neighboring switches. VTP advertisements received by a transparent switch will be forwarded on to other switches on trunk links.

QUESTION NO: 364

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 router?



```
RouterD# show ip interface brief
Interface        IP-Address      OK? Method  Status Protocol
FastEthernet0/0  192.168.5.3     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. 10.11.2
B. 10.154.154.1
C. 172.16.5.1
D. 192.168.5.3

Answer: C
Explanation:

QUESTION NO: 365

Which spread spectrum technology does the 802.11b standard define for operation?

A. IR
B. DSSS
C. FHSS
D. DSSS and FHSS
E. IR, FHSS, and DSSS

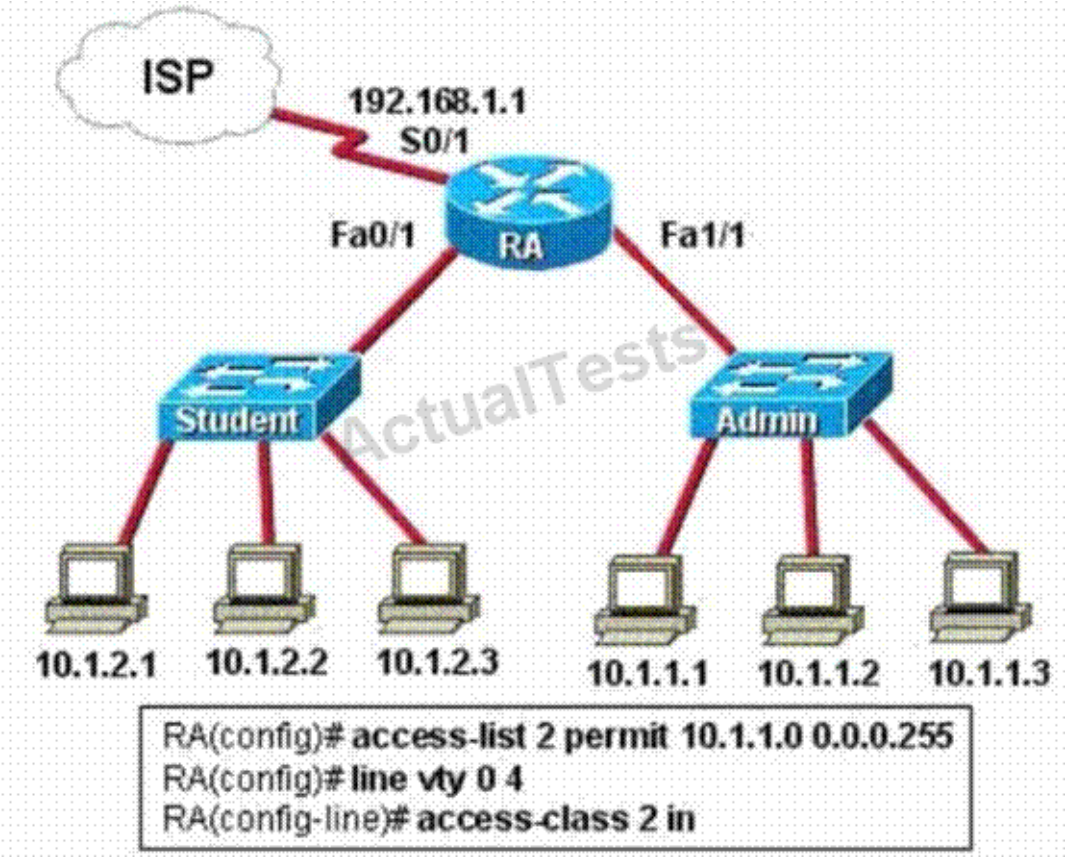
Answer: B
Explanation:
This question is to examine the knowledge point about the wireless.
The differences of performance and capacity of the Wireless local area network mainly depends on the applied FHSS or DSSS, as well as the applied modulation type, to achieve. Up to now, if we compare the parameters of existing products in detail, we can see that the DSSS technology shows relative advantage in the applications which require optimum reliability, while FHSS technology plays relative advantage in the applications which require low cost. In the selection of

wireless products, we have to pay attention which spread-spectrum technology, DSSS or FHSS, is chosen by manufacturers. We must prudence the market positioning of end view products because they can solve the transmission capability and characteristic of the wireless LAN, including anti-interference ability, usable distance range, bandwidth size, and the data transfer size.

Generally, DSSS uses the full bandwidth to transmit data to quicken its transmission speed, which means a greater potential to higher transmission frequency in the future. DSSS technology is applicable to a fixed environment, or to applications which have higher quality requirement, therefore, mostly applications, such as wireless plant, wireless hospital, network community, branch school networking, are applied to DSSS wireless technology products.FHSS is mostly used in fast-moving endpoint, for example, mobile phone applies FHSS technology in wireless transmission technology part. Due to the small FHSS transmission range, though under the same transmission environment, the required technology devices of FHSS is more than those of DSSS and the price of FHSS will probably be higher as a whole. As to the current business requirement, high-speed mobile endpoint applications are relatively less, while mostly pay attention to the transmission rate, as well as the stability of transmission. Therefore, the DSSS technology will be the mainstream of the future development of wireless networking products.

QUESTION NO: 366

Why would the network administrator configure RA in this manner?



A. To give students access to the Internet
B. To prevent students from accessing the command prompt of RA
C. To prevent administrators from accessing the console of RA
D. To give administrators access to the Internet
E. To prevent students from accessing the Internet
F. To prevent students from accessing the Admin network

Answer: B

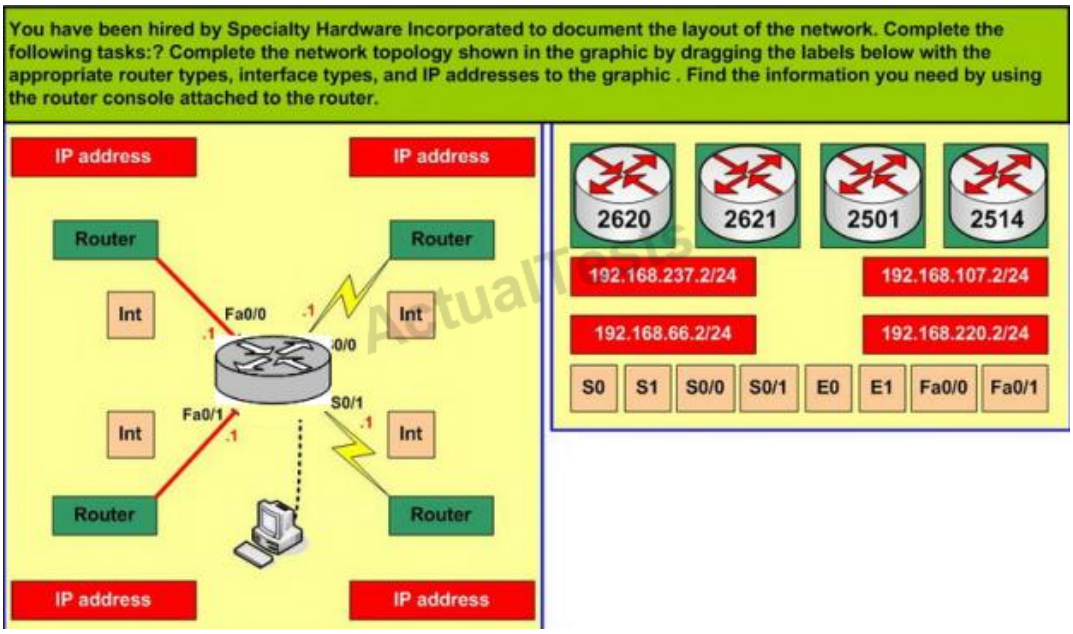
Explanation:

QUESTION NO: 367 DRAG DROP

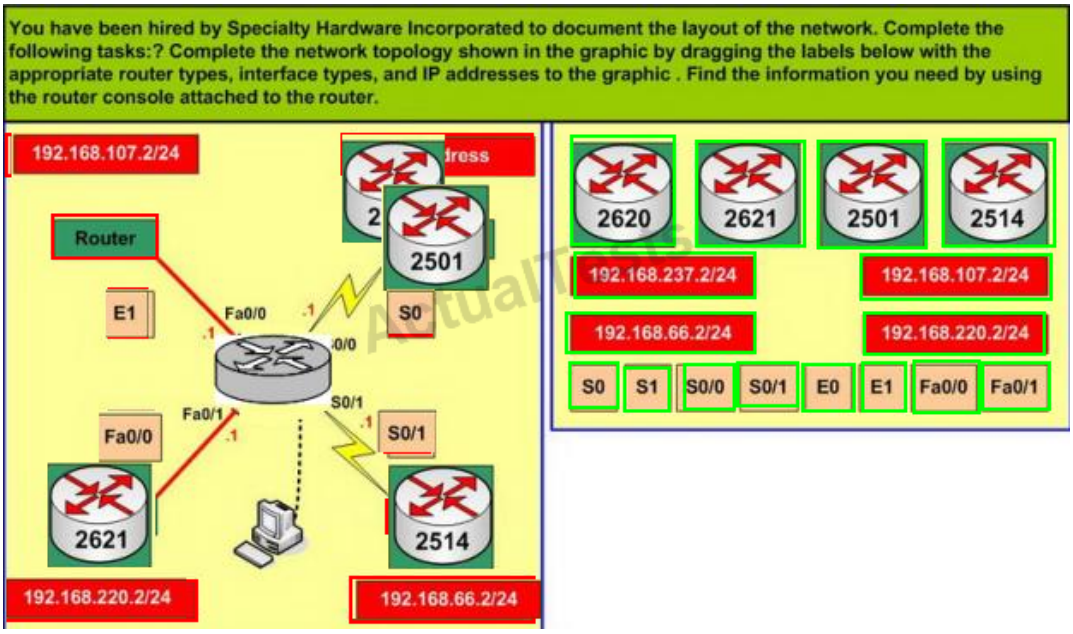
```
router#show cdp neighbor
...
```

Device ID	Local Interface	Holdtme	Capability	Platform	Port ID
Birmingham	Fas 0/0	151	R S	2514	E1
Relmap	Fas 0/1	150	R S	2621	Fa0/0
Boaz	Ser 0/0	137	R S	2501	S0
Atlanta	Ser 0/1	126	R S	2620	S0/1

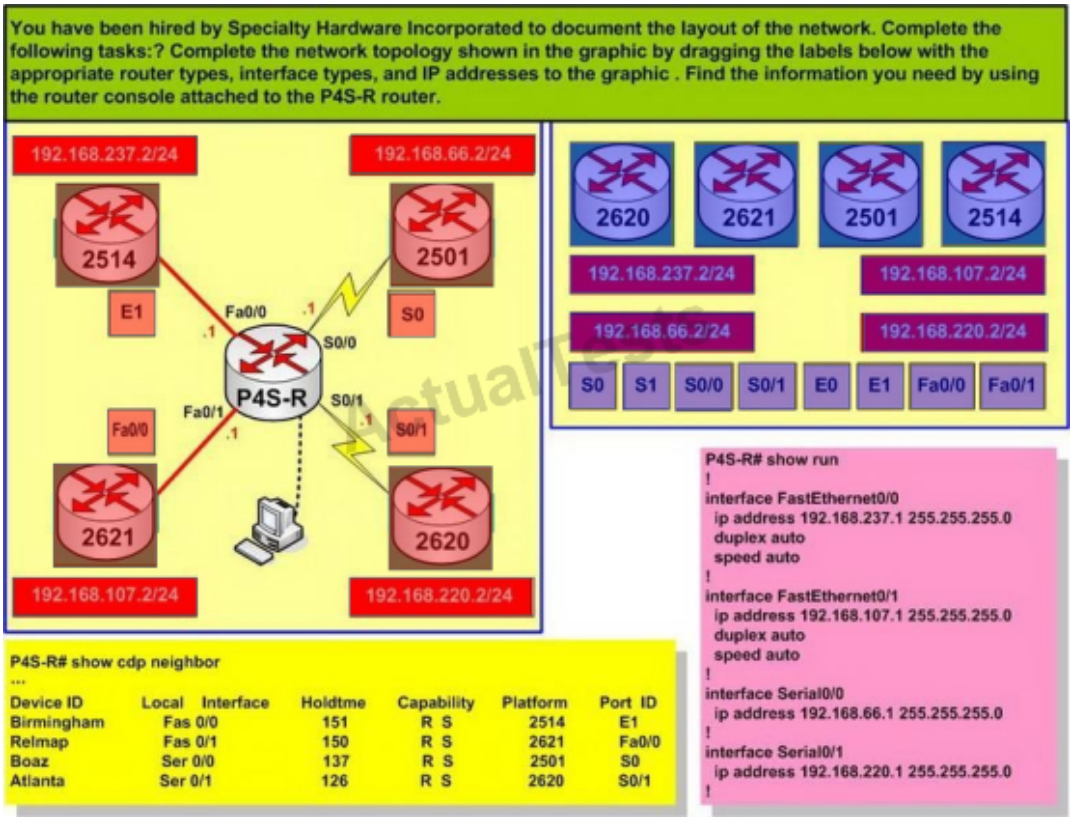
```
Router#show run
!
interface FastEthernet0/0
 ip address 192.168.237.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 192.168.107.1 255.255.255.0
 duplex auto
 speed auto
!
interface Serial0/0
 ip address 192.168.66.1 255.255.255.0
!
interface Serial0/1
 ip address 192.168.220.1 255.255.255.0
!
```



Answer:



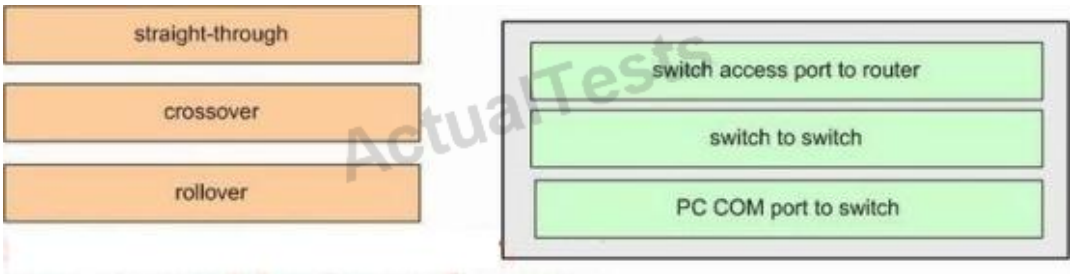
Explanation:



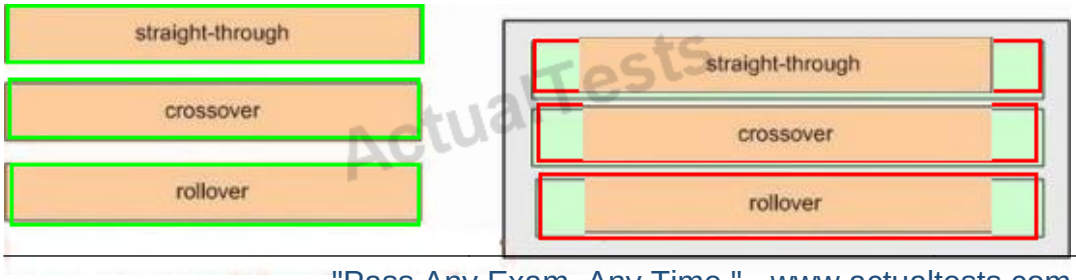
QUESTION NO: 368 DRAG DROP

The left describes the types of cables, while the right describes the purposes of the cables.

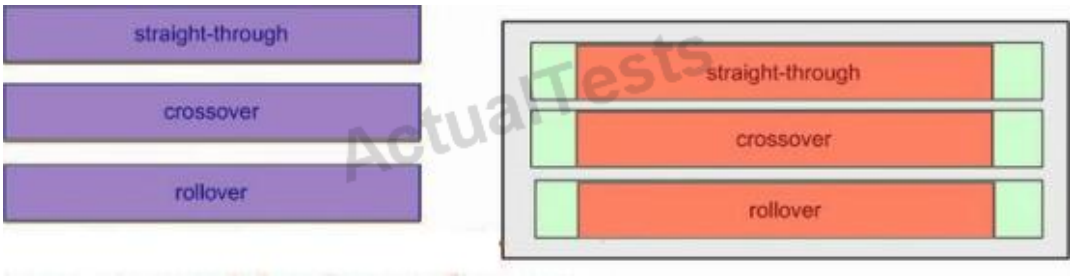
Drag the items on the left to the proper locations. (Not all items can be used.)



Answer:

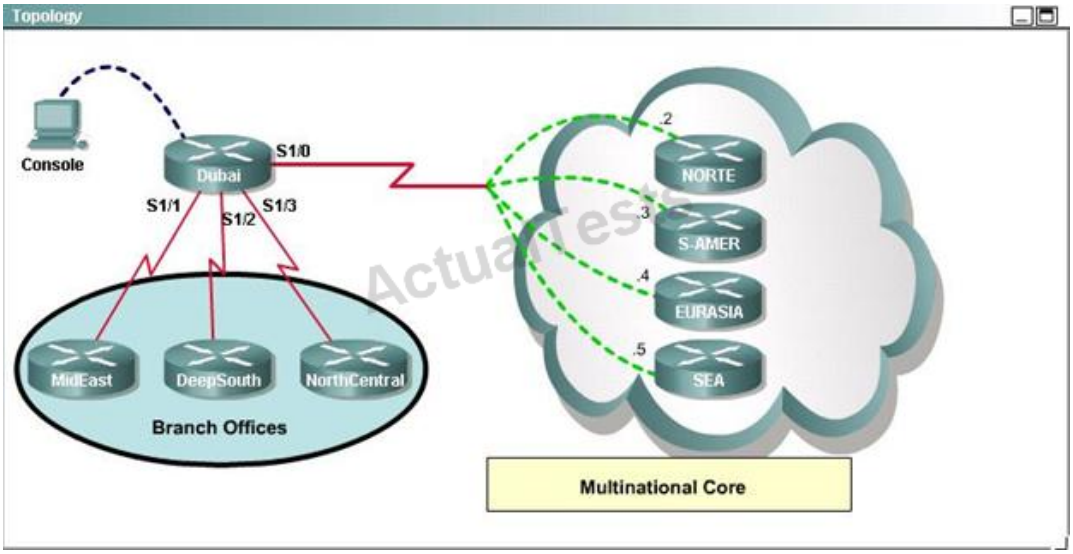


Explanation:



QUESTION NO: 369

What destination layer 2 address will be used in the frame the host 172.30.0.4?



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tlnet
 login
!
end
```

ActualTests

A. 767
B. 682
C. 455
D. 46
E. 704
F. 196.
G. 702
H. 345

Answer: G

Explanation:

From the exhibit you extract 702:

```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
```

QUESTION NO: 370

What is the purpose of the Cisco VLAN Trunking Protocol?

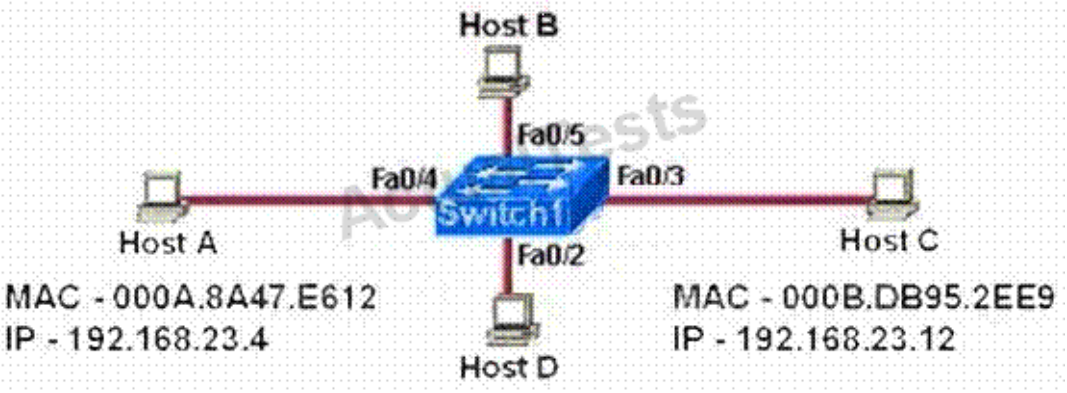
A. To allow traffic to be carried from multiple VLANs over a single link between switches
B. To allow native VLAN information to be carried over a trunk link
C. To allow for managing the additions, deletions, and changes of VLANs between switches
D. To provide a mechanism to manually assign VLAN membership to switch ports
E. To provide a mechanism to dynamically assign VLAN membership to switch ports

Answer: C

Explanation:

QUESTION NO: 371

Refer to the exhibit.



Switch1 has just been restarted and has passed the POST routine. Host A sends its initial frame to Host C. What is the first thing the switch will do as regards populating the switching table?

A. Switch1 will add 192.168.23.4 to the switching table.
B. Switch1 will add 192.168.23.12 to the switching table.
C. Switch1 will add 000A.8A47.E612 to the switching table.
D. Switch1 will add 000B. DB95.2EE9 to the switching table.

Answer: C

Explanation:

QUESTION NO: 372 CORRECT TEXT

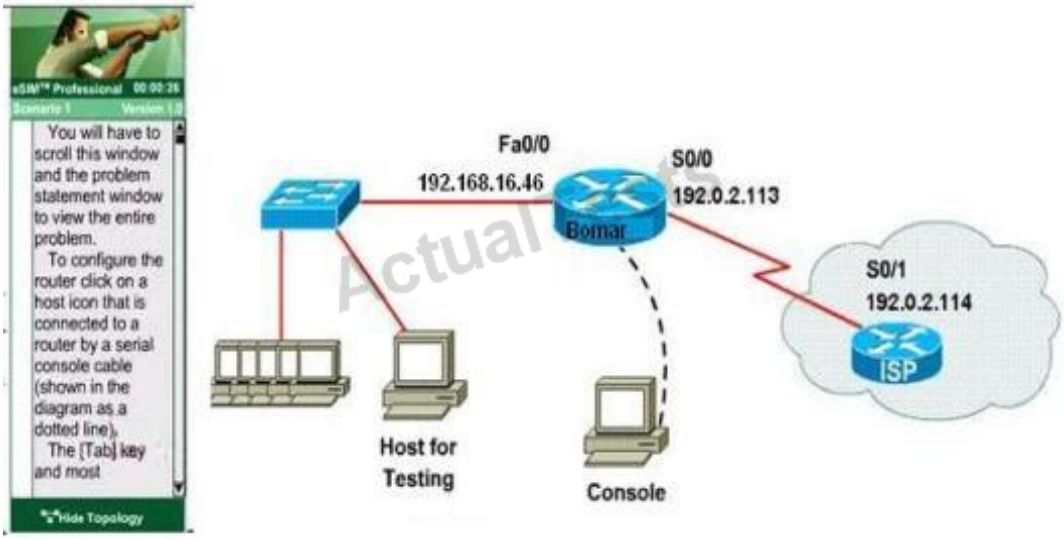
A network associate is configuring a router for the Bomar company to provide Internet access. The ISP has provided the company with six public IP addresses of 198.18.237.225 198.18.237.230. The company has 14 hosts that need to access the Internet simultaneously. The hosts in the company LAN have been assigned private space addresses in the range of 192.168.16.33 - 192.168.16.46.

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 Bomar LAN. You have successfully completed this exercise when the host PC can ping the ISP.

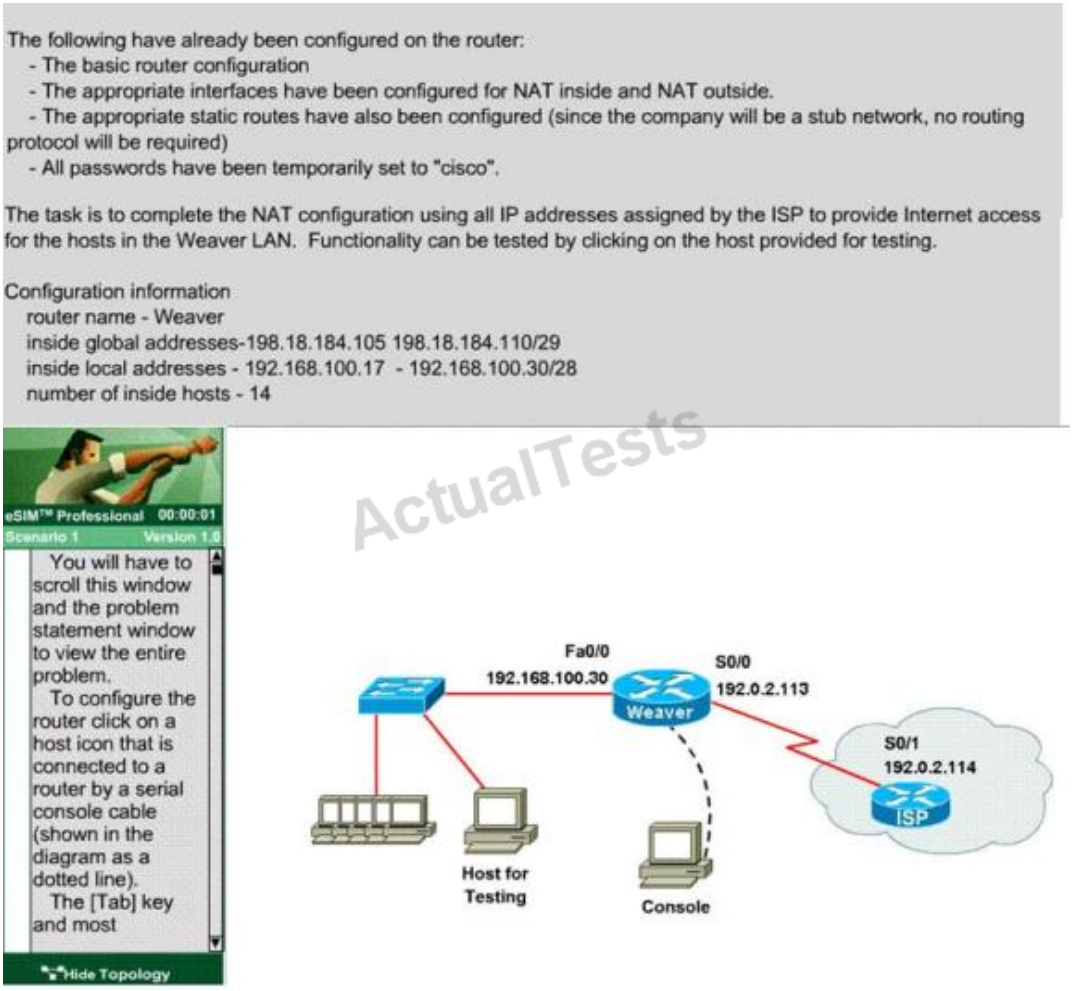
Configuration information
router name - Bomar
inside global addresses-198.18.237.225 198.18.237.230/29
inside local addresses - 192.168.16.33 - 192.168.16.46/28
number of inside hosts - 14



Answer: Bomar(Config)#access-list 1 permit 192.168.16.33 0.0.0.15
Bomar(Config)#access-list 1 deny any
Bomar(Config)#ip nat pool TestKiss 198.18.237.225 198.18.237.230 prefix-length 29
Bomar(Config)#ip nat inside source list 1 pool TestKiss overload
Bomar(Config)#interface fa0/0
BomarConfig-if)#ip nat inside
Bomar(Config)#interface S0/0
Bomar(Config-if)#ip nat outside
Bomar(Config-if)#exit
Bomar#Copy run start

QUESTION NO: 373 CORRECT TEXT

Lab-NAT



A network associate is configuring a router for the weaver 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

company LAN have been assigned private space addresses in the range of 192.168.100.17 – 192.168.100.30.

Answer: The company has 14 hosts that need to access the internet simultaneously but we just have 6 public IP addresses from 198.18.184.105 to 198.18.184.110/29.
Therefore we have to use NAT overload (or PAT)
Double click on the Weaver router to open it
Router>enable
Router#configure terminal
First you should change the router's name to Weaver
Router(config)#hostname Weaver
Create a NAT pool of global addresses to be allocated with their netmask.
Weaver(config)#ip nat pool mypool 198.18.184.105 198.18.184.110 netmask 255.255.255.248
Create a standard access control list that permits the addresses that are to be translated
Weaver(config)#access-list 1 permit 192.168.100.16 0.0.0.15
Establish dynamic source translation, specifying the access list that was defined in the prior step
Weaver(config)#ip nat inside source list 1 pool mypool overload
This command translates all source addresses that pass access list 1, which means a source address from 192.168.100.17 to 192.168.100.30, into an address from the pool named mypool (the pool contains addresses from 198.18.184.105 to 198.18.184.110)
Overload keyword allows to map multiple IP addresses to a single registered IP address (many-to-one) by using different ports
The question said that appropriate interfaces have been configured for NAT inside and NAT outside statements.
This is how to configure the NAT inside and NAT outside, just for your understanding:
Weaver(config)#interface fa0/0
Weaver(config-if)#ip nat inside
Weaver(config-if)#exit
Weaver(config)#interface s0/0
Weaver(config-if)#ip nat outside
Weaver(config-if)#end
Finally, we should save all your work with the following command:
Weaver#copy running-config startup-config
Check your configuration by going to "Host for testing" and type:
C :\>ping 192.0.2.114
The ping should work well and you will be replied from 192.0.2.114

another way

Click Knowledge Base for NAT SIM to learn the concepts before attempting or learning this SIM Question

NAT SIM Configuration:

The following configuration translates between inside hosts (Weaver LAN) addressed from 192.168.100.16 /28 network (192.168.100.17 – 192.168.100.30) to the globally unique pool of address provided by ISP 198.18.184.105 – 198.18.184.110/29.

Weaver>enable

Weaver#configure terminal

Before starting the NAT configuration verify that router hostname currently configured is weaver. If not change hostname to Weaver using the command

Router(config)#hostname Weaver

Step1: Create an access-list to match all the Weaver LAN address that need to be the candidates for NAT translations

Weaver(config)#access-list 10 permit 192.168.100.16 0.0.0.15

Step2: Create a NAT Pool with pool name isp_adr and specify the pool address range provided by ISP with their netmask.

Weaver(config)#ip nat pool TestKiss 198.18.184.105 198.18.184.110 netmask 255.255.255.248

Step3: Packets that match access-list 10 will be translated to an address from the pool called "TestKiss".

Overload keyword specify to use Port based NATing to support all the Weaver LAN address range.

Weaver(config)#ip nat inside source list 10 pool TestKiss overload

SIM Question already provides that appropriate interfaces have been configured for NAT Inside and NAT Outside statements.

For your information configuration would have been like this

Weaver(config)#interface fastethernet 0/0

Weaver(config-if)#ip nat inside

Weaver(config)#interface serial 0/0

Weaver(config-if)#ip nat outside

Weaver#copy run start

Functionality Test:

Our requirements are to allow the hosts (Weaver LAN) the ability to communicate with the Internet. For this test, we ping the

Internet device (ISP router S0/1) from Host for testing.

Step1:

Go to **host for testing**:

Answer: **\>ping 192.0.2.114**

PING should be success to 192.0.2.114 since SIM question provides that static route is already configured on router.

Step2:

On console of router (Weaver) :

Issue **show ip nat translation** command to verify the NAT translations.

Sample output:

Considering **host for testing** IP address is 192.168.100.17

weaver# show ip nat translation

Pro Inside global Inside local Outside local Outside global

icmp 198.18.184.105:434 192.168.100.17:434 192.0.2.113:434 192.0.2.114:434

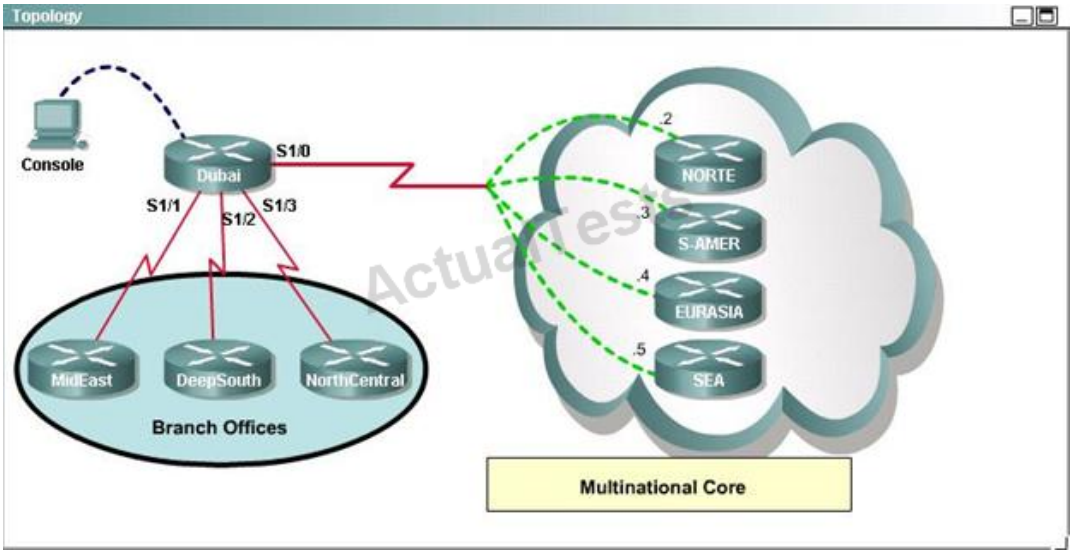
icmp 198.18.184.105:435 192.168.100.17:435 192.0.2.113:435 192.0.2.114:435

icmp 198.18.184.105:436 192.168.100.17:436 192.0.2.113:436 192.0.2.114:436

icmp 198.18.184.105:437 192.168.100.17:437 192.0.2.113:437 192.0.2.114:437

icmp 198.18.184.105:438 192.168.100.17:438 192.0.2.113:438 192.0.2.114:438

QUESTION NO: 374



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tlnet
 login
!
end
```

ActualTests

Please study the exhibit shown above carefully, and answer the following question.

If required, what password should be configured on the DeepSouth router in the branch office to allow a connection to be established with the MidEast router?

A. No password is required.
B. Enable
C. Secret
D. Telnet
E. Console

Answer: B

Explanation:

In the diagram, DeepSouth is connected to Dubai's S1/2 interface and is configured as follows:

Interface Serial1/2
IP address 192.168.0.5 255.255.255.252
Encapsulalation PPP ; Encapsulation for this interface is PPP

Check out the following Cisco Link:

http://www.cisco.com/en/US/tech/tk713/tk507/technologies_configuration_example09186a0080094333.shtml#configuringausernamedifferentfromtheroutersname

Here is a snipit of an example:

Network Diagram

If Router 1 initiates a call to Router 2, Router 2 would challenge Router 1, but Router 1 would not challenge Router 2. This occurs because the **ppp authentication chap callin** command is configured on Router 1. This is an example of a unidirectional authentication.
In this setup, the **ppp chap hostname alias-r1** command is configured on Router 1. Router 1 uses "alias-r1" as its hostname for CHAP authentication instead of "r1." The Router 2 dialer map name should match Router 1's ppp chap hostname; otherwise, two B channels are established, one for each direction.



Configurations

Router 1

```
!
 isdn switch-type basic-5ess
 !
 hostname r1
 !
 username r2 password 0 cisco

! -- Hostname of other router and shared secret

!
 interface BRI0/0
  ip address 20.1.1.1 255.255.255.0
  no ip directed-broadcast
  encapsulation ppp
  dialer map ip 20.1.1.2 name r2 broadcast 5772222
  dialer-group 1
  isdn switch-type basic-5ess
  ppp authentication chap callin

! -- Authentication on incoming calls only

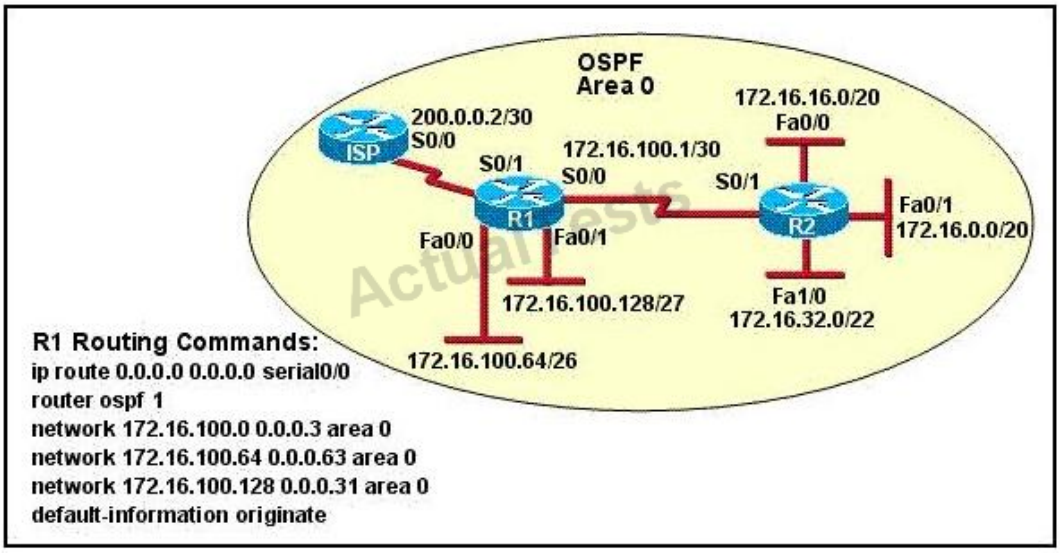
 ppp chap hostname alias-r1

! -- Alternate CHAP hostname
```

ActualTests

QUESTION NO: 375

Refer to the exhibit. Assume that all router interfaces are operational and correctly configured. In addition, assume that OSPF has been correctly configured on router R2. How will the default route configured on R1 affect the operation of R2?



A. Any packet destined for a network that is not directly connected to router R2 will be dropped immediately.
B. Any packet destined for a network that is not referenced in the routing table of router R2 will be directed to R1. R1 will then send that packet back to R2 and a routing loop will occur.
C. Any packet destined for a network that is not directly connected to router R1 will be dropped.
D. The networks directly connected to router R2 will not be able to communicate with the 172.16.100.0, 172.16.100.128, and 172.16.100.64 subnetworks.
E. Any packet destined for a network that is not directly connected to router R2 will be dropped immediately because of the lack of a gateway on R1.

Answer: B

Explanation:

This question is to examine the understanding of the knowledge points about the default routing and the routing loop.

QUESTION NO: 376

Which two passwords must be supplied in order to connect by Telnet to a properly secured Cisco switch and make changes to the device configuration? (Choose two.)

A. tty password
B. enable secret password
C. vty password
D. aux password
E. console password
F. username password

Answer: B,C

Explanation:

Telnet presents a potential security risk, so Telnet uses vty for connecting a remote Cisco switch. For access security, the vty password and enable password must be configured.

QUESTION NO: 377

A default Frame Relay WAN is classified as what type of physical network?

A. Point-to-point
B. Broadcast multi-access
C. Nonbroadcast multi-access
D. Nonbroadcast multipoint
E. Broadcast point-to-multipoint

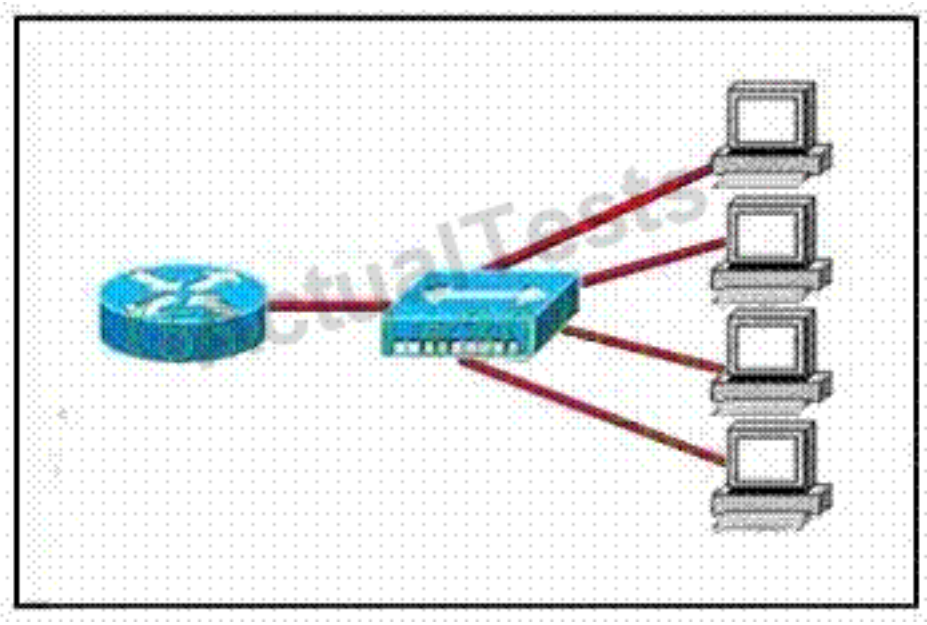
Answer: C

Explanation:

A default Frame Relay WAN is classified as Nonbroadcast multi-access (NBMA).

QUESTION NO: 378

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

Answer: A,B

Explanation:

Basically, a collision domain is a network segment that allows normal network traffic to flow back and forth. In the old days of hubs, this meant you had a lot of collisions, and the old CSMA/CD would be working overtime to try to get those packets re-sent every time there was a collision on the wire (since ethernet allows only one host to be transmitting at once without there being a traffic jam). With switches, you break up collision domains by switching packets bound for other collision domains. These days, since we mostly use switches to connect computers to the network, you generally have one collision domain to a PC.

Broadcast domains are exactly what they imply: they are network segments that allow broadcasts to be sent across them. Since switches and bridges allow for broadcast traffic to go unswitched, broadcasts can traverse collision domains freely. Routers, however, don't allow broadcasts through by default, so when a broadcast hits a router (or the perimeter of a VLAN), it doesn't get forwarded. The simple way to look at it is this way: switches break up collision domains, while routers (and VLANs) break up collision domains and broadcast domains. Also, a broadcast domain can contain multiple collision domains, but a collision domain can never have more than one broadcast domain associated with it.

Collision Domain: A group of Ethernet or Fast Ethernet devices in a CSMA/CD LAN that are connected by repeaters and compete for access on the network. Only one device in the collision domain may transmit at any one time, and the other devices in the domain listen to the network in order to avoid data collisions. A collision domain is sometimes referred to as an Ethernet segment.

Broadcast Domain: Broadcasting sends a message to everyone on the local network (subnet). An example for Broadcasting would be DHCP Request from a Client PC. The Client is asking for a IP Address, but the client does not know how to reach the DHCP Server. So the client sends a DHCP Discover packet to EVERY PC in the local subnet (Broadcast). But only the DHCP Server will answer to the Request.

How to count them?

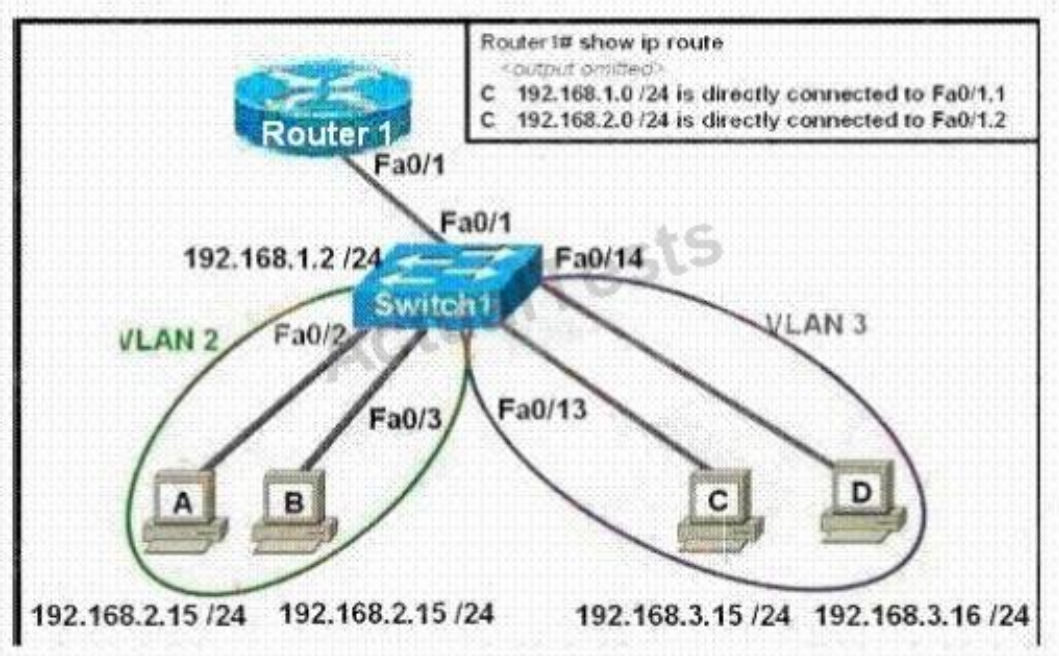
Broadcast Domain:
No matter how many hosts or devices are connected together, if they are connected with a repeater, hub, switch or bridge, all these devices are in ONE Broadcast domain (assuming a

single VLAN). A Router is used to separate Broadcast-Domains (we could also call them Subnets - or call them VLANs).
So, if a router stands between all these devices, we have TWO broadcast domains.

Collision Domain:
Each connection from a single PC to a Layer 2 switch is ONE Collision domain. For example, if 5 PCs are connected with separate cables to a switch, we have 5 Collision domains. If this switch is connected to another switch or a router, we have one collision domain more.
If 5 Devices are connected to a Hub, this is ONE Collision Domain. Each device that is connected to a Layer 1 device (repeater, hub) will reside in ONE single collision domain.

QUESTION NO: 379

Refer to the exhibit. The network administrator has created a new VLAN on Switch1 and added host C and host D. The administrator has properly configured switch interfaces FastEthernet0/13 through FastEthernet0/24 to be members of the new VLAN. However, after the network administrator completed the configuration, host A could communicate with host B, but host A could not communicate with host C or host D. Which commands are required to resolve this problem?



A. Switch1# vlan database
Switch1(vlan)# vtp v2-mode
Switch1(vlan)# vtp domain cisco
Switch1(vlan)# vtp server

B. Router(config)# router rip
Router(config-router)# network 192.168.1.0
Router(config-router)# network 192.168.2.0
Router(config-router)# network 192.168.3.0
C. Switch1(config)# interface fastethernet 0/1
Switch1(config-if)# switchport mode trunk
Switch1(config-if)# switchport trunk encapsulation isl
D. Router(config)# interface fastethernet 0/1.3
Router(config-if)# encapsulation dot1q 3
Router(config-if)# ip address 192.168.3.1 255.255.255.0

Answer: D

Explanation:

Here is the example of configuring the router for inter-vlan communication
RouterA(config)#int f0/0.1
RouterA(config-subif)#encapsulation ?
dot1Q IEEE 802.1Q Virtual LAN
RouterA(config-subif)#encapsulation dot1Q or isl VLAN ID
RouterA(config-subif)# ip address x.x.x.x y.y.y.y

QUESTION NO: 380

What is the purpose of Spanning Tree Protocol?

A. to provide multiple gateways for hosts
B. to maintain a loop-free Layer 2 network topology
C. to prevent routing loops
D. to create a default route

Answer: B

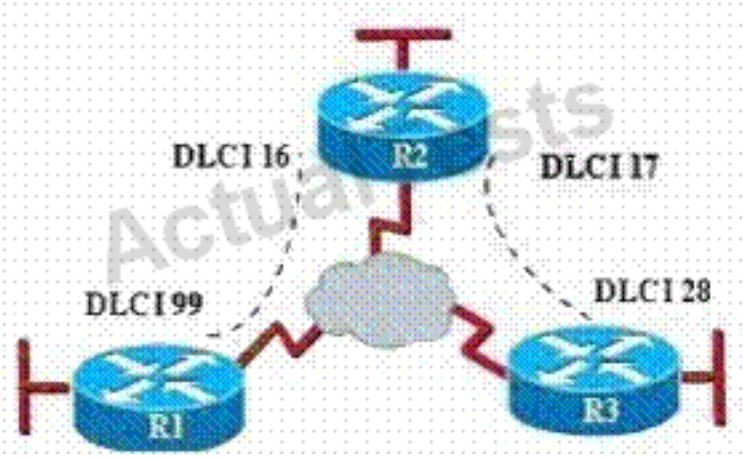
Explanation:

STP (Spanning Tree protocol) is able to overcome transparent bridge in network redundancy. Through the use of non-loop path, STP is able to avoid and eliminate network loops. It may locate the loop and cut off link redundancy.

STP’s main task is to stop network loops from occurring on your Layer 2 network (bridges or switches). It vigilantly monitors the network to find all links, making sure that no loops occur by shutting down any redundant ones. STP uses the spanning-tree algorithm (STA) to first create a topology database, then search out and destroy redundant links. With STP running, frames will only be forwarded on the premium, STP-picked links.

QUESTION NO: 381

Refer to the exhibit. Which statement describes DLCI 17?

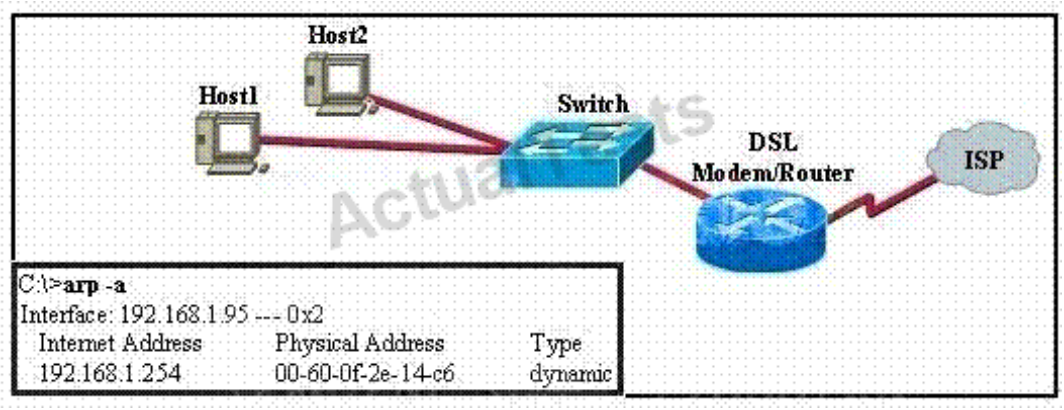


A. DLCI 17 is the Layer 2 address used by R2 to describe a PVC to R3.
B. DLCI 17 describes a PVC on R2. It cannot be used on R3 or R1.
C. DLCI 17 describes the dial-up circuit from R2 and R3 to the service provider.
D. DLCI 17 describes the ISDN circuit between R2 and R3.

Answer: A
Explanation:
DLCI-Data Link Connection Identifier Bits: The DLCI serves to identify the virtual connection so that the receiving end knows which information connection a frame belongs to. Note that this DLCI has only local significance. Frame Relay is strictly a Layer 2 protocol suite

QUESTION NO: 382

The user of Host1 wants to ping the DSL modem/router at 192.168.1.254. Based on the Host1 ARP table that is shown in the exhibit, what will Host1 do?



A. send a unicast ARP packet to the DSL modem/router
B. send a Layer 2 broadcast that is received by Host2, the switch, and the DSL modem/router
C. send Layer 3 broadcast packets to which the DSL modem/router responds
D. send unicast ICMP packets to the DSL modem/router

Answer: D
Explanation:

When Host1 sends ICMP packets to the DSL modem/router for the first time, Host1 checks the mapping between the target IP address and the MAC with APP cache and sends unicast ICMP packets. If Host1 cannot find the mapping between the target IP address and the MAC, Host1 sends broadcast packets to find the MAC mapping the target IP address.
The ARP cache contains the MAC mapping the target IP address 192.168.1.254, so Host1 sends unicast ICMP packets to the DSL modem/router.

When Host1 sends ICMP packets to the DSL modem/router

QUESTION NO: 383 CORRECT TEXT

Lab- CLI

Central Florida Widgets recently installed a new router in their office. Complete the network installation by performing the initial router configurations and configuring R1PV2 routing using the router command line interface (CLI) on the RC.

Configure the router per the following requirements:

Name of the router is R2

Enable. secret password is cisco

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 mast be configured as follows:

Ethernet network 209.165.201.0/27 - router has fourth assignable host address in subnet

Serial network is 192.0.2.176/28 - router has last assignable host address in the subnet.

Interfaces should be enabled.

Router protocol is RIPV2

Attention:

In practical examinations, please note the following, the actual information will prevail.

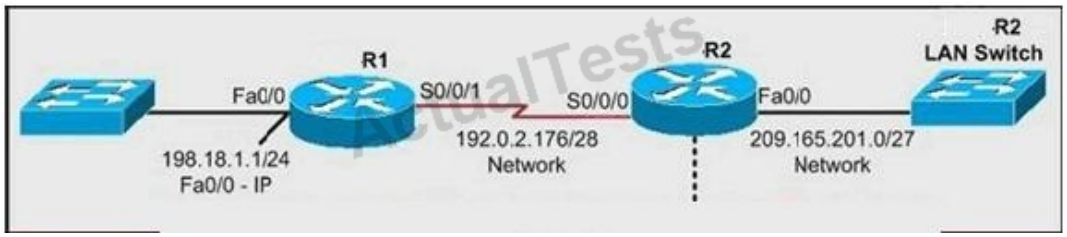
1. Name of the router is xxx

2. Enable. secret password is xxx

3. Password In access user EXEC mode using the console is xxx

4. The password to allow telnet access to the router is xxx

5. IP information



Answer: Router>enable
Router#config terminal
Router(config)#hostname R2
R2(config)#enable secret cisco
R2(config)#line console 0
R2(config-line)#password cisco2
R2(config-line)#exit

R2(config)#line vty 0 4
R2(config-line)#password cisco3
R2(config-line)#login
R2(config-line)#exit
R2(config)#interface fa0/0
R2(config-if)#no shutdown
R2(config-if)#ip address 209.165.201.4 255.255.255.224
R2(config)#interface s0/0/0
R2(config-if)#ip address 192.0.2.190 255.255.255.240
R2(config-if)#no shutdown
R2(config-if)#exit
R2(config)#router rip
R2(config-router)#version 2
R2(config-router)#network 209.165.201.0
R2(config-router)#network 192.0.2.176
R2(config-router)#end
R2#copy run start

LAB. RIP V2

Question#

Central Florida Widgets recently installed a new router in their office (**NEW_RTR**). Complete the network installation by performing the initial router configurations and configuring **RIP V2** routing using the router Command Line Interface (CLI) on the **NEW_RTR** .

untitled

Click on image for larger picture

Configure the router per the following requirements:

1) Name of the router is **NEW_RTR**
2) Enable-secret password is **cisco**
3) The password to access user EXEC mode using the console is **class**
4) The password to allow telnet access to the router is **class**
5) IPV4 addresses must be configured as follows:
5.1) Ethernet network 209.165.202.128 /27 – Router has the **last** assignable host address in subnet.
5.2) Serial Network is 192.0.2.16 /28 - Router has the **last** assignable host address in subnet.
6) Interfaces should be **enabled**.
7) Router protocol is **RIPv2**

Explanation:

Step1:

Click on the console host, you will get a pop-up screen CLI of Router.

Router>

Configure the new router as per the requirements provided in Lab question
Requirement 1:
Name of the router is **NEW_RTR**

Step2:
To change the hostname of the router to **NEW_RTR** follow the below steps
Router>
Router>enable
Router# configure terminal
Router (config)# hostname NEW_RTR

NEW_RTR(config)#
Requirement 2:
Enable-secret password is **cisco**
Step3:
To set the enable secret password to **cisco** use the following command
NEW_RTR(config)#enable secret cisco
Requirement 3:
The password to access user EXEC mode using the console is **class**

Step 4:
We need to configure the line console 0 with the password **class**
Also remember to type **login** command after setting up the password on **line con 0** which allows router to accept logins via
console.

NEW_RTR(config)# line con 0
NEW_RTR(config-line)#password class
NEW_RTR(config-line)#login
NEW_RTR(config-line)# exit
NEW_RTR(config)#

Requirement 4:
The password to allow telnet access to the router is **class**

Step 5:
To allow telnet access we need to configure the vty lines 0 4 with the password **class**
Also remember to type **login** command after setting up the password on line vty 0 4 which allows router to accept logins via
telnet.
NEW_RTR(config)# line vty 0 4

NEW_RTR(config-line)#password class
NEW_RTR(config-line)#login
NEW_RTR(config-line)# exit
NEW_RTR(config)#

Requirement 5:

5.1) Ethernet network 209.165.202.128 /27 – Router has the last assignable host address in subnet.
5.2) Serial Network is 192.0.2.16 /28 - Router has the last assignable host address in subnet.

Step 6:

Ethernet network 209.165.202.128 /27 – Router has the **last** assignable host address in subnet.
Ethernet Interface on router NEW_RTR is **Fast Ethernet 0/0** as per the exhibit

First we need to identify the subnet mask

Network: 209.165.202.128 /27
Subnet mask: /27: 27 bits = 8 + 8 + 8 + 3
=8(bits).8(bits).8(bits) .11100000 (3bits)
=255.255.255.11100000
=11100000 = 128+64+32+0+0+0+0+0
= 224
Subnet mask: **255.255.255.224**
Different subnet networks and there valid first and last assignable host address range for above subnet mask are

Subnet Networks :::::: Valid Host address range :::::: Broadcast address

209.165.202.0 :::::: 209.165.202.1 - 209.165.202.30 ::::: 209.165.202.31
209.165.202.32 :::::: 209.165.202.33 - 209.165.202.62 ::::: 209.165.202.63
209.165.202.64 :::::: 209.165.202.65 - 209.165.202.94 :::::: 209.165.202.95
209.165.202.96 :::::: 209.165.202.97 - 209.165.202.126 :::::: 209.165.202.127
209.165.202.128 :::::: 209.165.202.129 - 209.165.202.158 :::::: 209.165.202.159
209.165.202.160 :::::: 209.165.202.161 - 209.165.202.190 :::::: 209.165.202.191
209.165.202.192 :::::: 209.165.202.193 - 209.165.202.222 :::::: 209.165.202.223
209.165.202.224 :::::: 209.165.202.225 - 209.165.202.254 :::::: 209.165.202.255

First assignable host address: 209.165.202.129
Last assignable host address: **209.165.202.158**
This IP address (209.165.202.158) which we need to configure on Fast Ethernet 0/0 of the router using the
subnet mask 255.255.255.224

NEW_RTR(config)#interface fa 0/0
NEW_RTR(config-if)#ip address 209.165.202.158 255.255.255.224

Requirement 6:
To enable interfaces
Use **no shutdown** command to enable interfaces
NEW_RTR(config-if)#no shutdown
NEW_RTR(config-if)#exit

Step 7:
Serial Network is 192.0.2.16 /28 - Router has the **last** assignable host address in subnet.
Serial Interface on NEW_RTR is **Serial 0/0/0** as per the exhibit
First we need to identify the subnet mask
Network: 192.0.2.16 /28
Subnet mask: /28: 28bits = 8bits+8bits+8bits+4bits
=8(bits).8(bits).8(bits) .11110000 (4bits)
=255.255.255.11100000
=11100000 = 128+64+32+16+0+0+0+0
= 240

Subnet mask: 255.255.255.240
Different subnet networks and there valid first and last assignable host address range for above subnet mask are
Subnet Networks ::::: Valid Host address :::::::::: Broadcast address
192.0.2.0 :::::: 192.0.2.1 - 192.0.2.14 ::::::: 192.0.2.15
192.0.2.16 ::::::: 192.0.2.17 - 192.0.2.30 ::::::: 192.0.2.31
192.0.2.32 :::::::: 192.0.2.33 - 192.0.2.46 :::::: 192.0.2.47
and so on ….
Use above table information for network 192.0.2.16 /28 to identify
First assignable host address: **192.0.2.17**
Last assignable host address: **192.0.2.30**
We need to configure Last assignable host address (192.0.2.30) on serial 0/0/0 using the subnet mask 255.255.255.240
NEW_RTR(config)#interface serial 0/0/0
NEW_RTR(config-if)#ip address 192.0.2.30 255.255.255.240

Requirement 6:
To enable interfaces
Use **no shutdown** command to enable interfaces
NEW_RTR(config-if)#no shutdown
NEW_RTR(config-if)#exit

Requirement 7:
Router protocol is RIPv2

Step 8:
Need to enable RIPv2 on router and advertise its directly connected networks
NEW_RTR(config)#router rip
To enable RIP v2 routing protocol on router use the command version 2
NEW_RTR(config-router)#version 2
Optional: no auto-summary (Since LAB networks do not have discontinuous networks)
RIP v2 is classless, and advertises routes including subnet masks, but it summarizes routes by default.
So the first things we need to do when configuring RIP v2 is turn off auto-summarization with the router command **no auto-summary** if you must perform routing between disconnected subnets.

NEW_RTR (config-router) # no auto-summary
Advertise the serial 0/0/0 and fast Ethernet 0/0 networks into RIP v2 using **network** command
NEW_RTR(config-router)#network 192.0.2.16
NEW_RTR(config-router)#network 209.165.202.128

NEW_RTR(config-router)#end

Step 9:
Important please do not forget to save your running-config to startup-config
NEW_RTR# copy run start

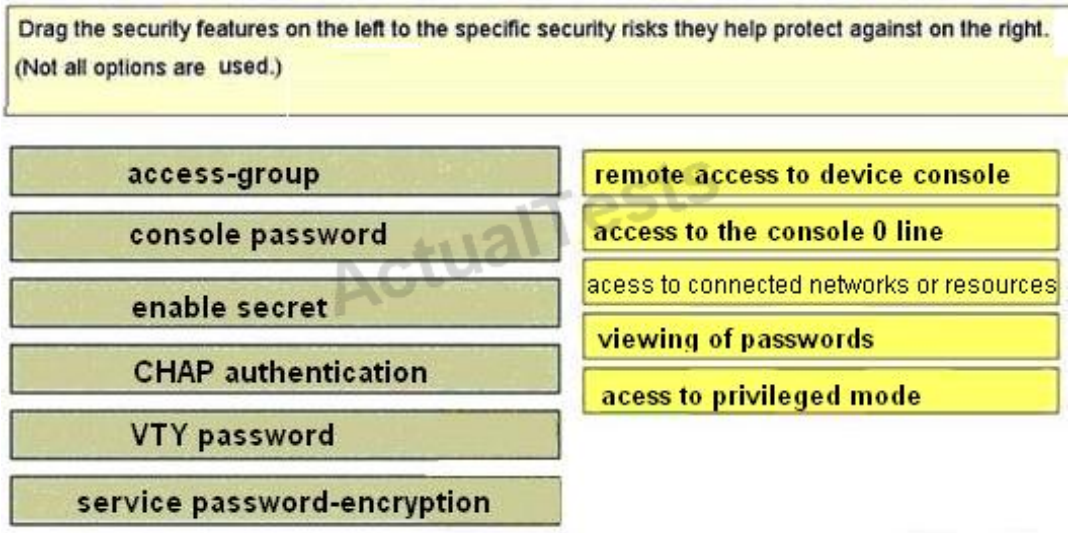
QUESTION NO: 384

On point-to-point networks, OSPF hello packets are addressed to which address?

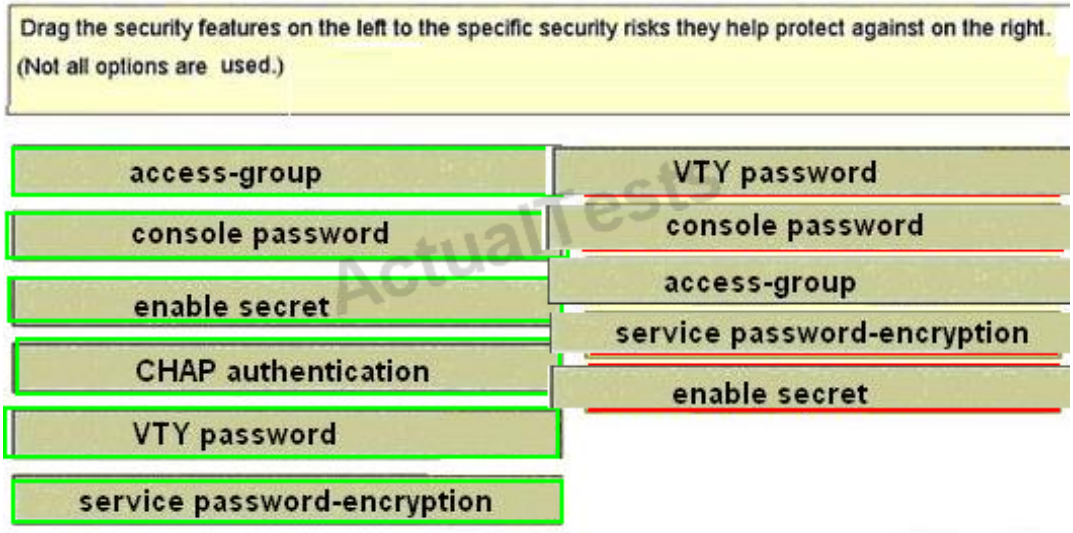
A. 127.0.0.1
B. 172.16.0.1
C. 192.168.0.5
D. 223.0.0.1
E. 224.0.0.5
F. 254.255.255.255

Answer: E
Explanation:

QUESTION NO: 385 DRAG DROP



Answer:



Explanation:

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

access-group	VTY password
console password	console password
enable secret	access-group
CHAP authentication	service password-encryption
VTY password	enable secret
service password-encryption	

ActualTests

untitled

QUESTION NO: 386

A network administrator has configured two switches, named London and Madrid, to use VTP.

However, the switches are not sharing VTP messages. Given the command output shown in the graphic

London# show vtp status		Madrid# show vtp status	
VTP Version	: 2	VTP Version	: 2
Configuration Revision	: 0	Configuration Revision	: 0
Maximum VLANs supported locally	: 64	Maximum VLANs supported locally	: 64
Number of existing VLANs	: 5	Number of existing VLANs	: 5
VTP Operating Mode	: Server	VTP Operating Mode	: Server
VTP Domain Name	: London	VTP Domain Name	: Madrid
VTP Pruning Mode	: Disabled	VTP Pruning Mode	: Disabled
VTP V2 Mode	: Disabled	VTP V2 Mode	: Disabled
VTP Traps Generation	: Disabled	VTP Traps Generation	: Disabled

ActualTests

Why are these switches not sharing VTP messages?

A. The VTP version is not correctly configured.
B. The VTP operating mode is not correctly configured.
C. The VTP domain name is not correctly configured.

D. VTP pruning mode is disabled.
E. VTP V2 mode is disabled.
F. VTP traps generation is disabled.

Answer: C

Explanation:

1.According to the information provided in the question, we know that the switches are not sharing VTP messages.We need to check VTP status.
2.Check VTP domain name, switches within the same domain can learn from each other.
Check VTP mode, the VTP learning process must occur with a server mode existence. The Server is the default mode.

QUESTION NO: 387

While troubleshooting a network connectivity problem, a technician observes steady link lights on both the workstation NIC and the switch port to which the workstation is connected. However, when the ping command is issued from the workstation, the output message "Request timed out." is displayed. At which layer of the OSI model does the problem most likely exist?

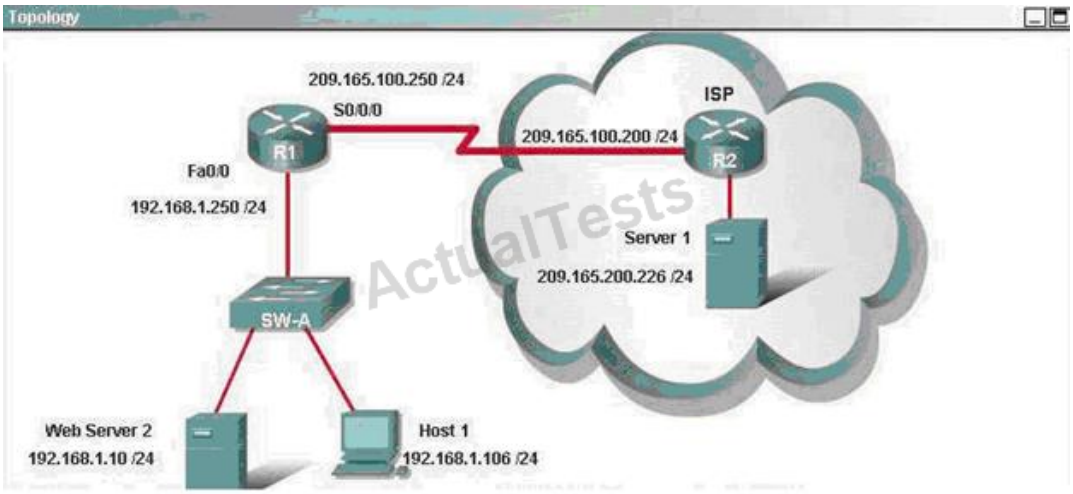
A. The session layer
B. The protocol layer
C. The data link layer
D. The access layer
E. The network layer
F. The application layer

Answer: E

Explanation:

QUESTION NO: 388

When a packet is sent from Host 1 to Server1, in how many different frames will the packet be encapsulated as it is sent across the internetwork?



A. 0
B. 1
C. 2
D. 3
E. 4

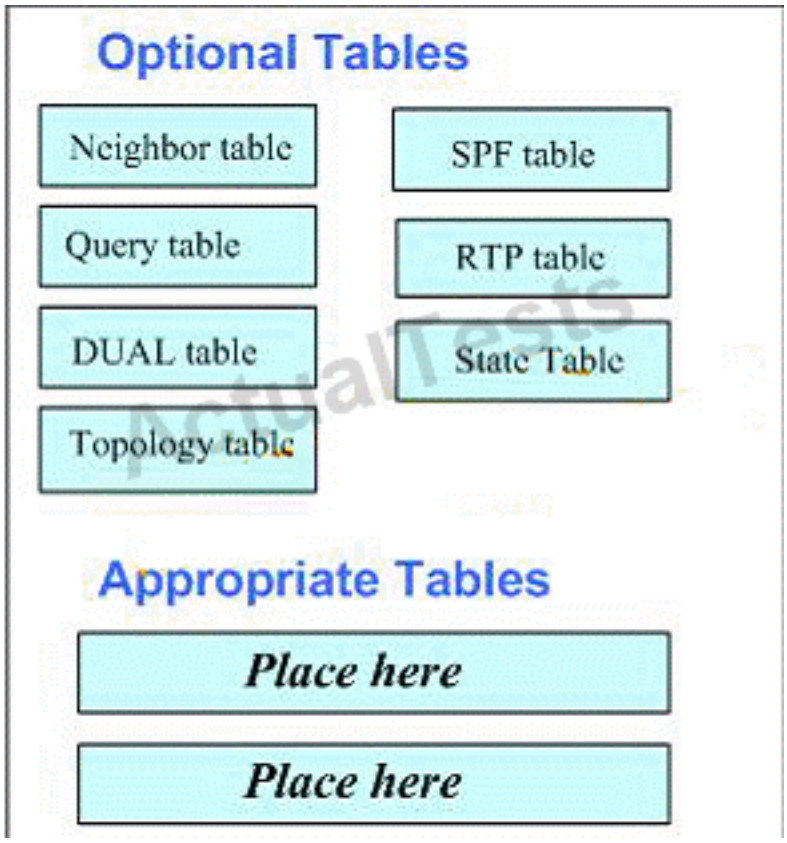
Answer: D

Explanation:

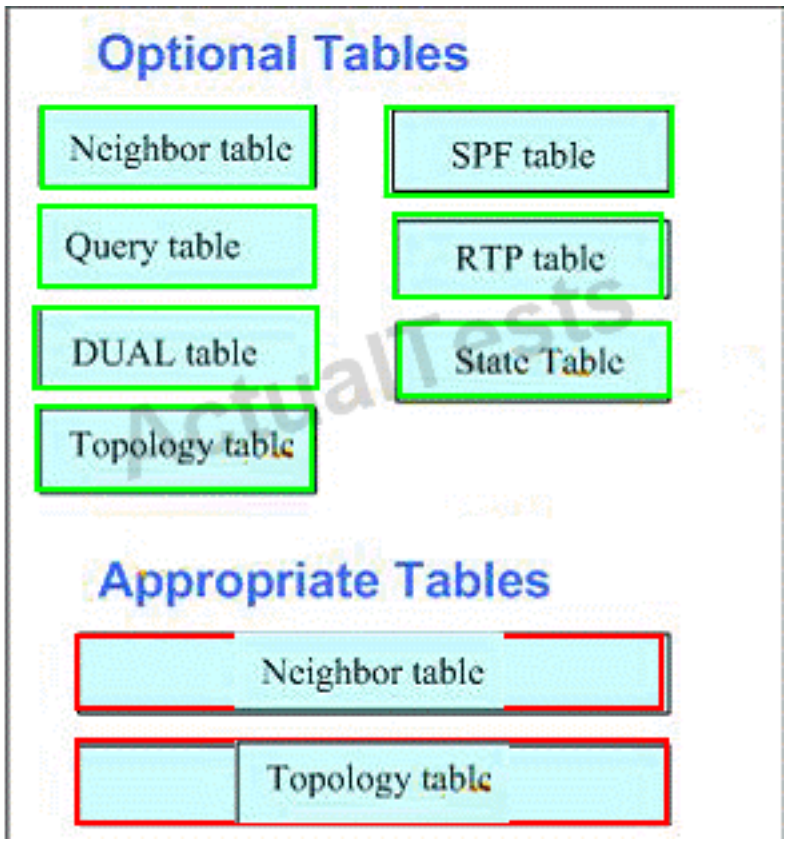
We believe the correct answer is 3 because the packet will be encapsulated in one more frame sent between routers R1 and R2. Source MAC is interface S0/0/0 on router R1 and destination is the serialinterface on router R2.

QUESTION NO: 389 DRAG DROP

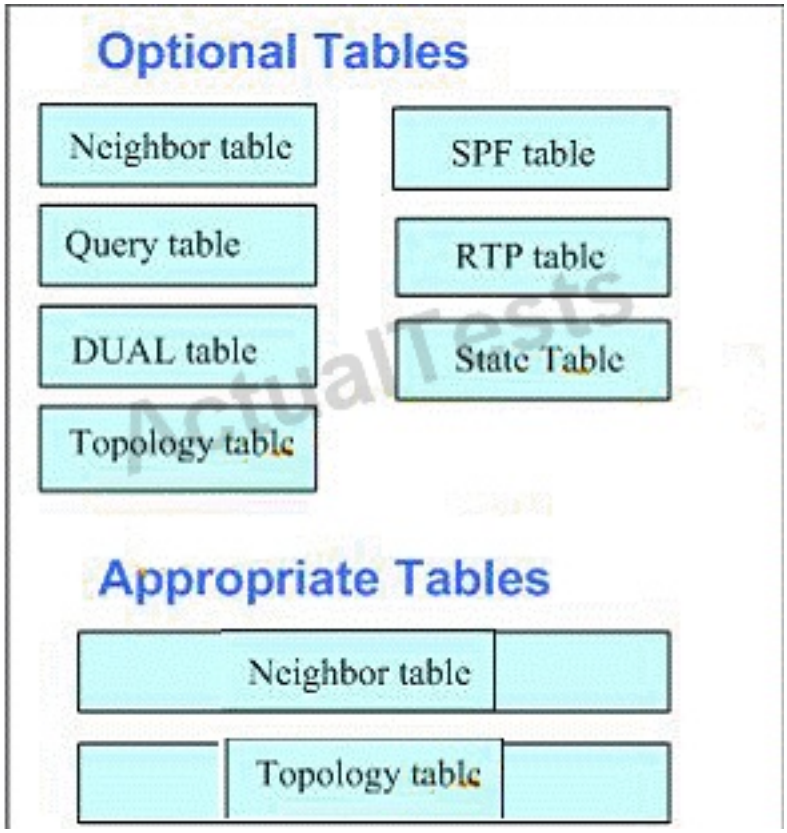
As a CCNA candidate, you need to know EIGRP very well. Which tables of EIGRP route information are held in RAM and maintained through the use of hello and update packets? Please choose two appropriate tables and drag the items to the proper locations.



Answer:



Explanation:



This question is to examine the knowledge point about the EIGRP Databases.
EIGRP Databases (EIGRP database):
1. Neighbor tablE. After starting up, the EIGRP router will send a HELLO packet to find and maintain the neighborhood;
2. Topology tablE. The EIGRP router will load the received routing path information from the neighbors to its own topology list, to form the whole network topology awareness.

QUESTION NO: 390

The corporate head office has a teleconferencing system that uses VOIP(voice over IP) technology. This system uses UDP as the transport for the data transmissions. If these UDP datagrams arrive at their destination out of sequence, what will happen?

A. UDP will send an ICMP information Request to the source host.
B. UDP will pass the information in the datagrams up to the next OSI layer in the order that they arrive.
C. UDP will drop the datagrams.
D. UDP will use the sequence numbers in the datagram headers to reassemble the data in the correct order.

Answer: B

Explanation:

VOIP systems utilize UDP because it is faster and uses less overhead. In addition, the reliable transport mechanism used in TCP is useless to VOIP because if a packet gets dropped and needs to be resent, it will be already too late.

UDP provides a service for applications to exchange messages. Unlike TCP, UDP is connectionless and provides no reliability, no windowing, **and no reordering of the received data** . However, UDP provides some functions of TCP , such as data transfer, segmentation, and multiplexing using port numbers, and it does so with fewer bytes of overhead and with less processing required. UDP data transfer differs from TCP data transfer in that no reordering or recovery is accomplished. Applications that use UDP are tolerant of lost data, or they have some application mechanism to recover data loss.

ReferencE. CCNA Self-Study CCNA INTRO exam certification Guide (Cisco Press, ISBN 1-58720-094-5) Page 161.

QUESTION NO: 391

While troubleshooting a connectivity problem, a network administrator notices that a port status LED on a Cisco Catalyst series switch is alternating green and amber. Which condition could this indicate?

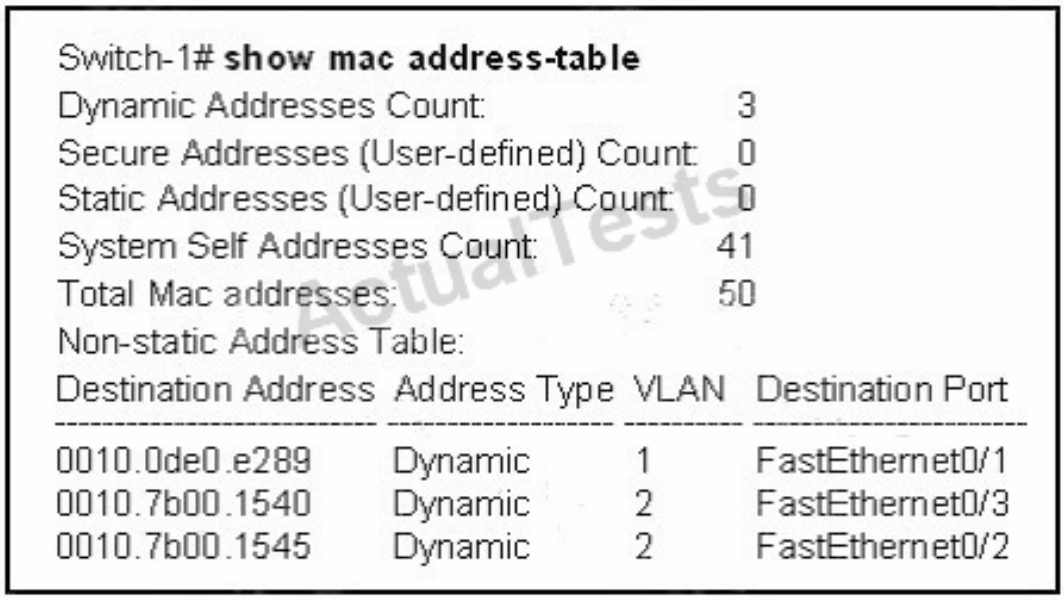
A. The port is experiencing errors.
B. The port is administratively disabled.
C. The port is blocked by spanning tree.
D. The port has an active link with normal traffic activity.

Answer: A

Explanation:

QUESTION NO: 392

Refer to the exhibit. 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?



```
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
```

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

Explanation:

This question tests the operating principles of the Layer 2 switch. Check the MAC address table of Switch1 and find that the MAC address of the host does not exist in the table. Switch1 will flood the data out all of its ports except the port from which the data originated to determine which port the host is located in.

Switches work as follows:

• Switches learn the MAC addresses of PCs or workstations that are connected to their switch ports by examining the source address of frames that are received on that port.

• Machines may have been removed from a port, turned off, or moved to another port on the same switch or a different switch.

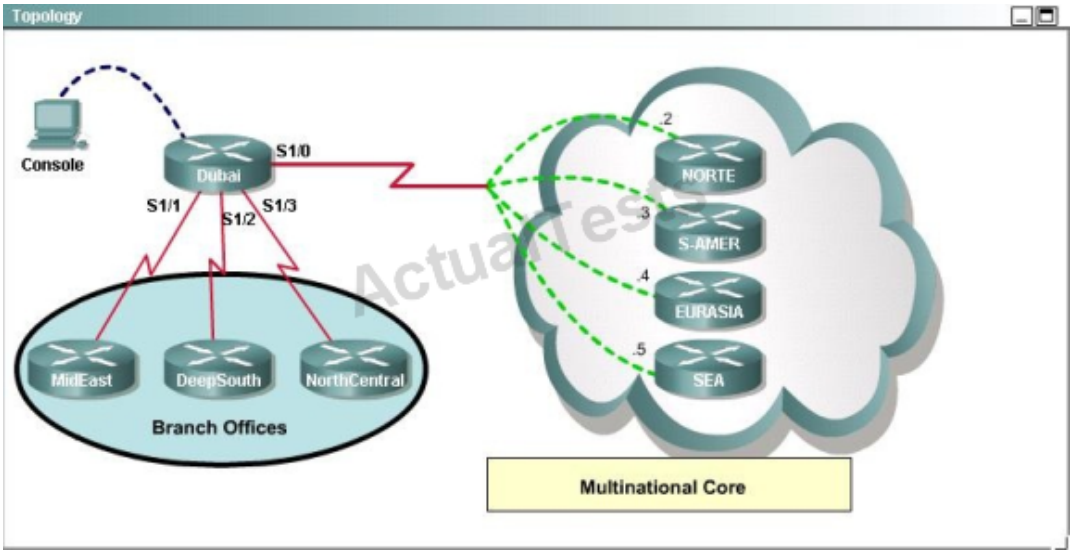
• This could cause confusion in frame forwarding.

• The MAC address entry is automatically discarded or aged out after 300 seconds

• If there is not MAC address of destination host in MAC table, switch sends broadcast to all ports except the source to find out the destination host.

In output there is no MAC address of give host so switch floods to all ports except the source port.

QUESTION NO: 393



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tlnet
 login
!
end
```

ActualTests

Please study the exhibit shown above carefully, and answer the following question.

Which connection user the default encapsulation for serial interfaces on Cisco routers?

A. The serial connection to the MidEast branch office.
B. The serial connection to the DeepSouth branch office.
C. The serial connection to the NorthCentral branch office.
D. The serial connection to the Multinational Core.

Answer: A

Explanation:

On the basis of the configuration on Dubai provided in the exhibit, we know that the encapsulation types of different interfaces are as follows:

Serial 1/0 : encapsulation frame-relay

Serial 1/2 and Serial 1/3 : both interfaces are encapsulated PPP

Serial 1/1: There is no related encapsulation information displayed, so its default encapsulation type is HDLC .

Based on the network topology provided in the exhibit, the interface Serial 1/1 is connected to the router Mideast of the branch office, so the encapsulation type of the router Mideast is by default.

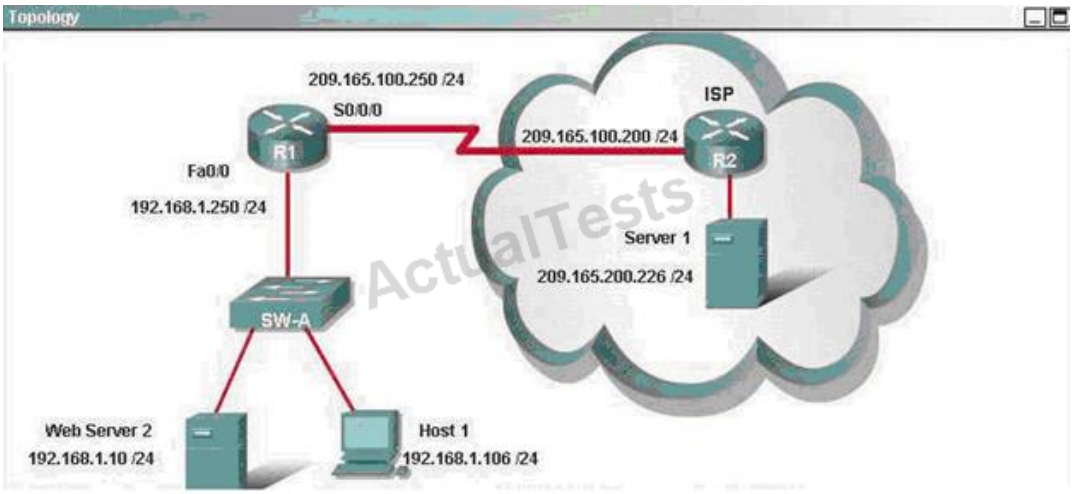
The default encapsulation on a serial interface is HDLC. The original HDLC encapsulation was defined by the International Organization for Standards (ISO), those same folks who developed the OSI model. The ISO version of HDLC had one shortcoming, however; it had no options to support multiple Layer 3 routed protocols. As a result, most vendors have created their own form of HDLC. Cisco is no exception because it has its own proprietary form of HDLC to support various Layer 3 protocols such as IPX, IP, and AppleTalk.

The Serial connection to the Dub<i branch office using the default encapsulation type. You can change using:

* encapsulation <type> command on interface

QUESTION NO: 394

Users on the 192.168.1.0/24 network must access files located on the Server1.What route could be configured on router R1 for file requests to reach the server?



A. ip route 0.0.0.0 0.0.0.0 209.165.200.226
B. ip route 0.0.0.0 0.0.0.0 s0/0/0
C. ip route 192.168.1.0 255.255.255.0 209.165.100.250
D. ip route 209.165.200.0 255.255.255.0 192.168.1.250

Answer: B

Explanation:

In order to allow the network of 192.168.1.0/24 to access Serverl1, we need to establish a default route. The format of this default route is as follows:

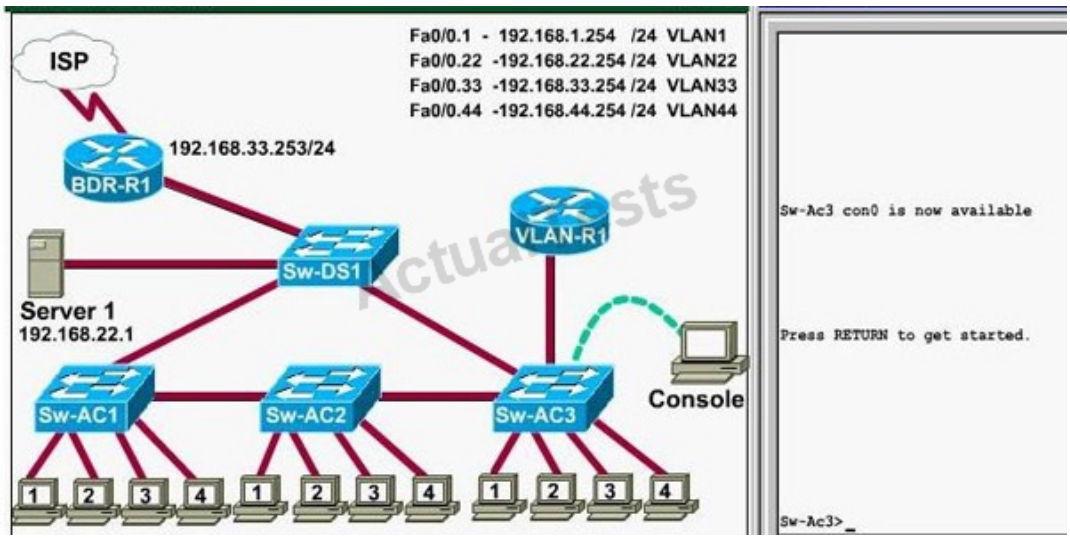
ip route prefix mask {ip-address interface-type interface-number [ip-address]} [distance] [name] [permanent track number] [tag tag]

Based on the request of this subject, we need to configure the correct route as follows:

ip route 0.0.0.0 0.0.0.0 s0/0/0

QUESTION NO: 395 CORRECT TEXT

Out of which port on switch Sw-Ac3 would a frame containing an IP packet with destination address that is not on a local LAN be forwarded?



Answer: To forward any packet with destination address other then the subnet network of the switch, the switch usually forwards this IP packets to the layer 3 device example router connected to it.

Step1: Find the default-gateway(Router or layer 3 device) configured on the switch.

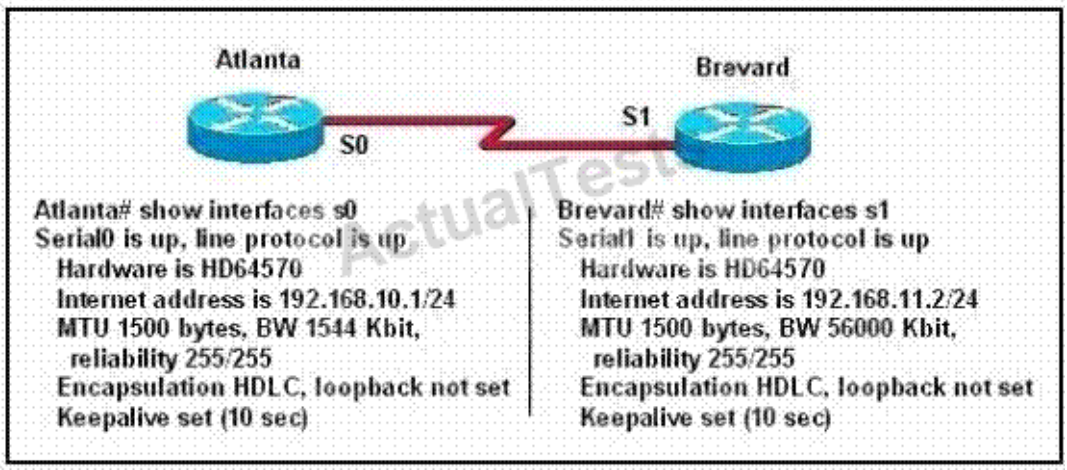
use the Show run command to view the IP address used to configure default-gateway on the switch.

Step2: Look for the router VLAN-R1 after using the show cdp neighbor detail command

Sample output of show cdp neighbor detail command for better understanding the output details
Device ID. C2950-1
Entry address(es):
Platform: Cisco WS-C2950T-24, Capabilities: Switch IGMP
InterfacE. FastEthernet0/0, Port ID (outgoing port): FastEthernet0/15 HoldtimE. 139 sec
Two things to notice from above output InterfacE. FastEthernet0/0 this statement provides that the neighbor(c2950-1) is connected to fa 0/0 on the C3660-2 local switch.
Port ID (outgoing port): FastEthernet0/15 this explains that neighbor (C2950-1) uses fa 0/15 port to reach C3660-2 switch.
FOR OUR QUESTION WE SHOULD LOOK FOR THE ROUTER VLAN-R1 corresponding details and to which port it is connected on local switch Sw-Ac3.
Step3: The port number to which the routerVLAN-R1 is connected on switch Sw-Ac3 is used to forward the packets with destination address that is not on a local LAN.

QUESTION NO: 396

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



A. The serial line encapsulations are incompatible.
B. The subnet mask is incorrect.
C. The bandwidth setting is incompatible with the connected interface.
D. The maximum transmission unit (MTU) size is too large.
E. The IP address is incorrect.
F. A loopback is not set.

Answer: E

Explanation:

The IP address of the S0 interface of Atlanta is 192.168.10.0/24, and the IP address of the S1

interface of Breavard is 192.168.11.0/24. Change the IP address of the S1 interface to 192.168.10.0/24, the same as that of the S0 interface.

QUESTION NO: 397

Which two statements best describe the wireless security standard that is defined by WPA? (Choose two.)

A. It specifies the use of dynamic encryption keys that change each time a client establishes a connection.
B. It specifies use of a static encryption key that must be changed frequently to enhance security.
C. It includes authentication by PSK.
D. It requires that all access points and wireless devices use the same encryption key.
E. It requires use of an open authentication method.

Answer: A,C
Explanation:
WPA is a more powerful security technology for Wi-Fi networks than WEP. It provides strong data protection by using encryption as well as strong access controls and user authentication. WPA utilizes 128-bit encryption keys and dynamic session keys to ensure your wireless network's privacy and enterprise security.There are two basic forms of WPA:
• WPA Enterprise (requires a Radius server)• WPA Personal (also known as WPA-PSK)Either can use TKIP or AES for encryption. Not all WPA hardware supports AES.WPA-PSK is basically an authentication mechanism in which users provide some form of credentials to verify that they should be allowed access to a network. This requires a single password entered into each WLAN node (Access Points, Wireless Routers, client adapters, bridges). As long as the passwords match, a client will be granted access to a WLAN.Encryption mechanisms used for WPA and WPA-PSK are the same. The only difference between the two is in WPA-PSK, authentication is reduced to a simple common password, instead of user-specific credentials.The Pre-Shared Key (PSK) mode of WPA is considered vulnerable to the same risks as any other shared password system - dictionary attacks for example. Another issue may be key management difficulties such as removing a user once access has been granted where the key is shared among multiple users, not likely in a home environment.
ReferencE. http://www.dslreports.com/faq/wifisecurity/2.2_WPA

WPA is a standard-based interoperable solution designed to enhance the security of WLAN, which greatly improves the present and future level of data protection and access control of WLAN. WPA is evolved from the being developed IEEE802.11i standards and keeps compatible with its former.

WPA can protect WLAN users data with proper deployment , and only the authorized network users can access the WLAN network.
WPA provides users with a temporary solution. The encryption of this standard adopts TKIP (Temporary Key Integrity Protocol). There are two authentication modes to choose :one mode uses 802.1 x protocol to authenticate, the other is known as PSK (Pre-Shared Key) Mode.

QUESTION NO: 398

Which wireless LAN design ensures that a mobile wireless client will not lose connectivity when moving from one access point to another?

A. utilizing MAC address filtering to allow the client MAC address to authenticate with the surrounding APs
B. using adapters and access points manufactured by the same company
C. overlapping the wireless cell coverage by at least 10%
D. configuring all access points to use the same channel

Answer: C
Explanation:
To ensure that wireless users will not lose connectivity when moving from the initial access point to a new access point, we have to ensure that the two access point has at least 10 percent coverage.

QUESTION NO: 399

Refer to the exhibit. The network shown in the exhibit is running the RIPv2 routing protocol. The network has converged, and the routers in this network are functioning properly. The FastEthernet0/0 interface on R1 goes down. In which two ways will the routers in this network respond to this change? (Choose two.)



A. R1 will send LSAs to R2 and R3 informing them of this change, and then all routers will send periodic updates at an increased rate until the network again converges.

B. Because of the split-horizon rule, router R2 will be prevented from sending erroneous information to R1 about connectivity to the 192.168.1.0 network.
C. When router R2 learns from R1 that the link to the 192.168.1.0 network has been lost, R2 will respond by sending a route back to R1 with an infinite metric to the 192.168.1.0 network.
D. Routers R2 and R3 mark the route as inaccessible and will not accept any further routing updates from R1 until their hold-down timers expire.
E. All routers will reference their topology database to determine if any backup routes to the 192.168.1.0 network are known.

Answer: B,C

Explanation:

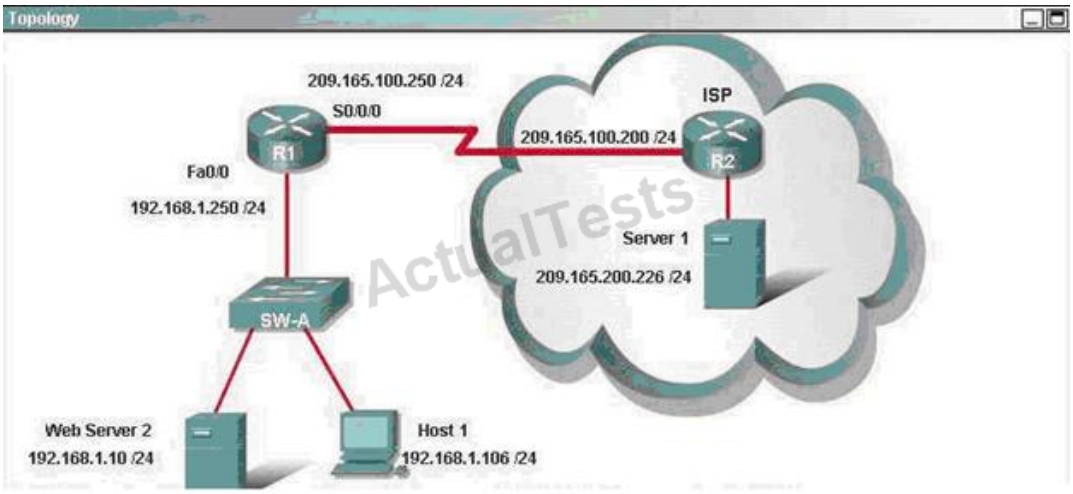
RIP version 2 will send triggered updates when the topology changes like when a link goes down.

The following are the key characteristics of RIPv2 pertaining to this question:

ReferencE. http://www.ethanbanks.net/?m=200702

QUESTION NO: 400

What must be configured on the network in order for users on the Internet to view web pages located on Web Server 2?



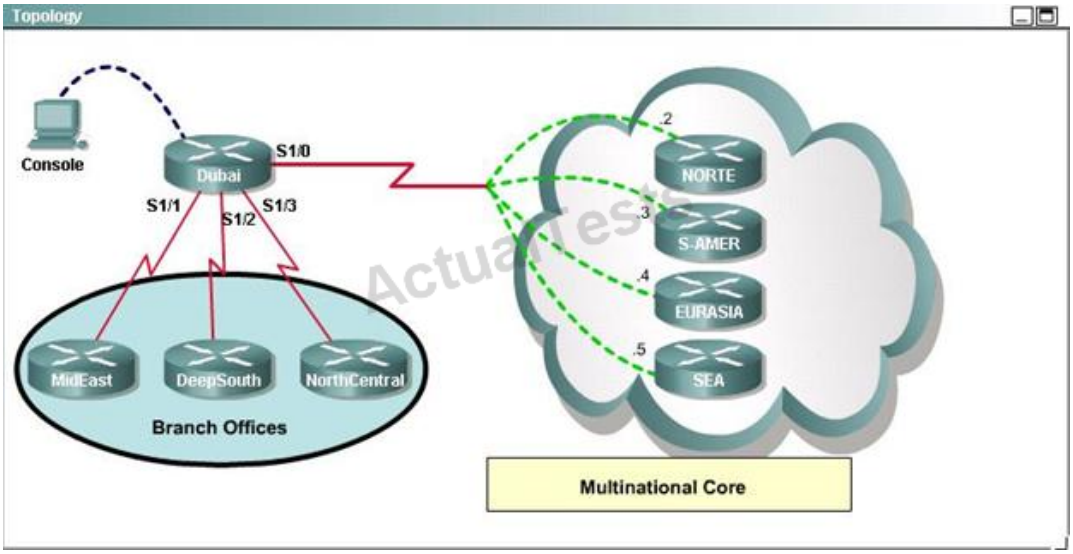
A. On router R1, configure a default static route to the 192.168.1.0 network.
B. On router R1, configure NAT to translate an address on the 209.165.100.0/24 network to 192.168.1.10
C. On router R1 ,configure DNS to resolve the URL assigned to Web Server 2 to the 192.168.1.10 address
D. On router R2, configure DHCP to assign a registered IP address on the 209.165.100.0/24 network to Web Server 2.

Answer: B

Explanation:

In order to allow internet users to access Web Server 2, we need to configure NAT address translation on router R1.

QUESTION NO: 401



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tlnet
 login
!
end
```

ActualTests

Please study the exhibit shown above carefully, and answer the following questions.

A static map to the S-AMER location is required. Which command should be used to create this map?

A. frame-relay map ip 172.30.0.3 702 broadcast
B. frame-relay map ip 172.30.0.3 196 broadcast
C. frame-relay map ip 172.30.0.3 344 broadcast
D. frame-relay map ip 172.30.0.3 704 broadcast

Answer: B

Explanation:

Based on the output of the command "show frame-relay map", we know that DLCI mapped to the router S-AMER is 196. (.3 In the above network topology, the complete layer3 IP address is172.30.0.3)

Frame-relay map: The mapping command "Frame-relay map" can statically create a mapping reaching the remote protocol address.

The format is :

frame-relay map protocol protocol-address dlci [broadcast][ietf | cisco]

Configuring a static Frame Relay map is optional unless you are using subinterfaces. The Frame Relay map will map a Layer 3 address to a local DLCI. This step is optional because inverse-arp will automatically perform this map for you.

Syntax for frame-relay map is:

frame-relay map protocol address dlci [broadcast] [cisco | ietf]

The broadcast option allows packets, such as RIP updates to be forwarded across the PVC. If you are not using the broadcast option, you need to specify the neighbor to forward unicast packet using neighbor command.

neighbor a.b.c.d

Specify RIP neighbor. When a neighbor doesn't understand multicast, this command is used to specify neighbors. In some cases, not all routers will be able to understand multicasting, where packets are sent to a network or a group of addresses. In a situation where a neighbor cannot process multicast packets, it is necessary to establish a direct link between routers. The neighbor command allows the network administrator to specify a router as a RIP neighbor. The no neighbor a.b.c.d command will disable the RIP neighbor.

QUESTION NO: 402

Which routing protocol by default uses bandwidth and delay as metrics?

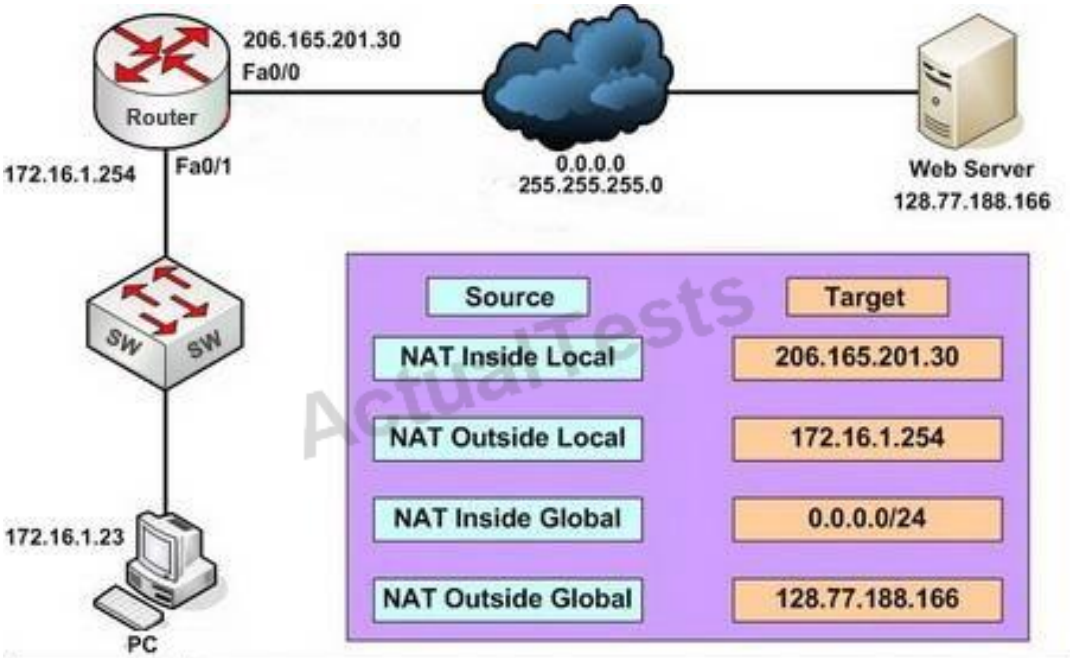
A. rip
B. BGP
C. OSPF
D. EIGRP

Answer: D

Explanation:

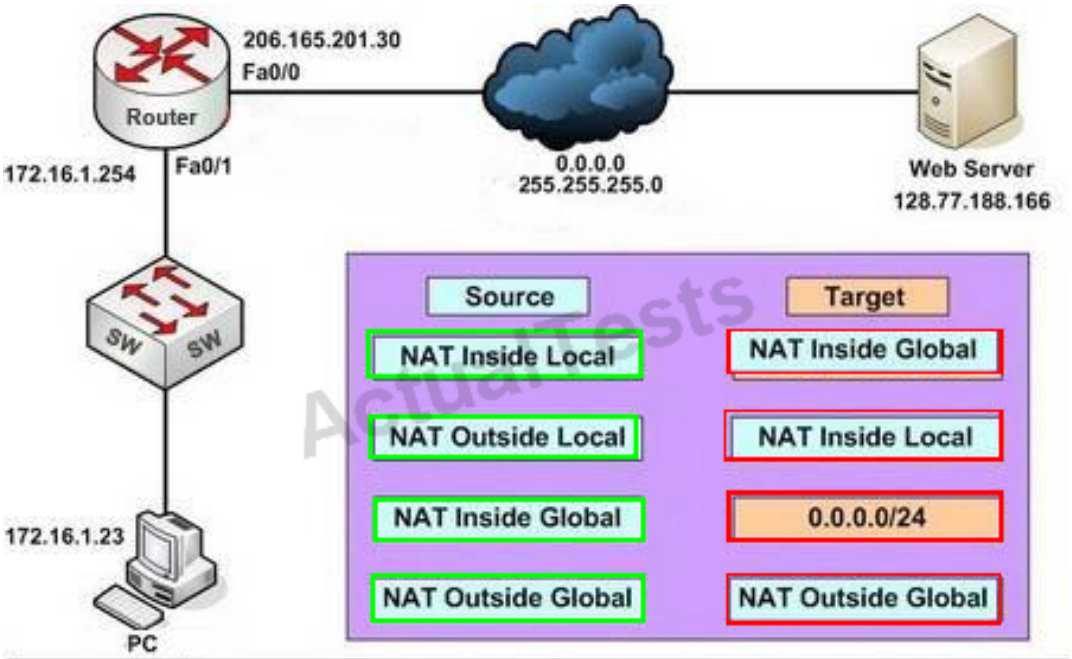
This question tests the metrics of various routing protocols.
RIP uses hop-count as metrics; BGP uses complicated path attributes as metrics; OSPF uses bandwidth as metrics; and EIGRP uses bandwidth and delay as metrics by default.

QUESTION NO: 403 DRAG DROP



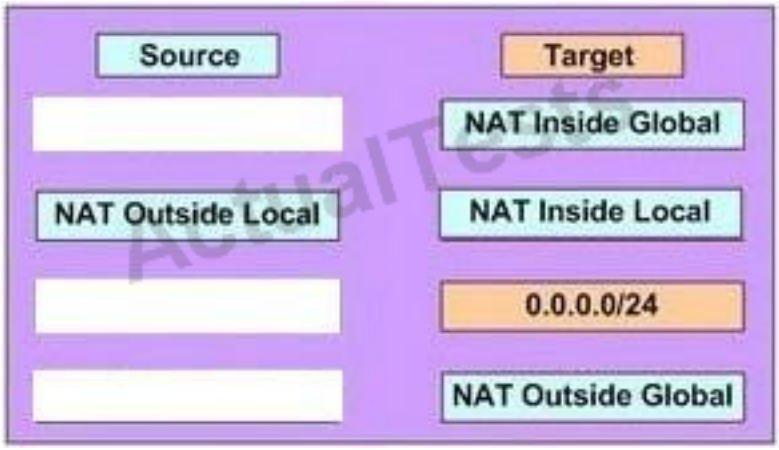
Refer to the exhibit. router is configured to use NAT in overload mode.Host PC is sending packets to Web Server.Drag the addresses to fill in the NAT terminology table with their associated IP address values.
NOTE: Addresses may be used,none,once or more.

Answer:



Refer to the exhibit. router is configured to use NAT in overload mode.Host PC is sending packets to Web Server.Drag the addresses to fill in the NAT terminology table with their associated IP address values.
NOTE: Addresses may be used,none,once or more.

Explanation:



untitled

QUESTION NO: 404

Router#show flash 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)
```

Refer to the exhibit. 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
Explanation:

QUESTION NO: 405

According to capabilities of WPA security, which encryption type does WPA2 use?

A. AES-CCMP
B. PSK
C. TKIP/MIC
D. PPKvialV

Answer: A
Explanation:

QUESTION NO: 406

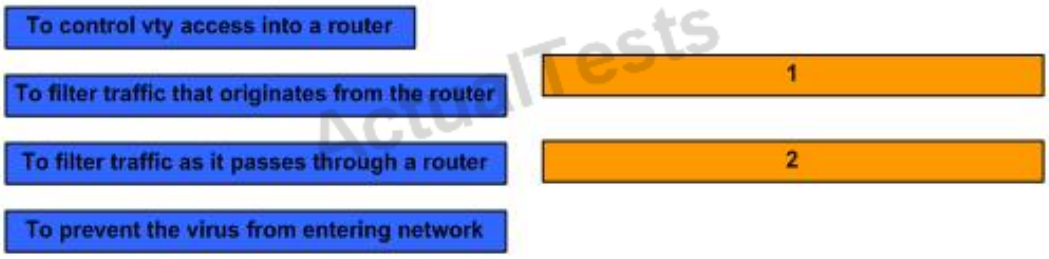
How should a router that is being used in a Frame Relay network be configured to avoid split horizon issues from preventing routing updates?

A. Configure a separate sub-interface for each PVC with a unique DLCI and subnet assigned to the sub-interface.
B. Configure each Frame Relay circuit as a point-to-point line to support multicast and broadcast traffic.
C. Configure many sub-interfaces on the same subnet.
D. Configure a single sub-interface to establish multiple PVC connections to multiple remote router interfaces.

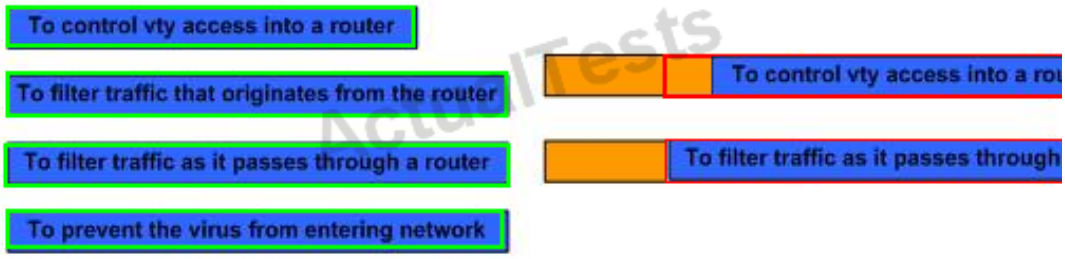
Answer: A
Explanation:

QUESTION NO: 407 DRAG DROP

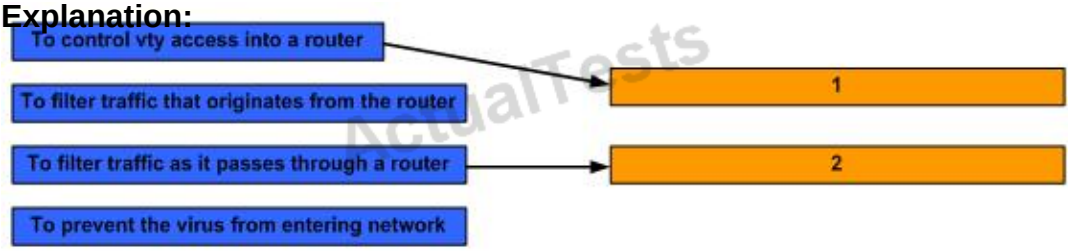
In order to enhance the security of the enterprise network, the network administrators use ACL(Access Control lists). What are two reasons that the network administrator would use access lists?



Answer:



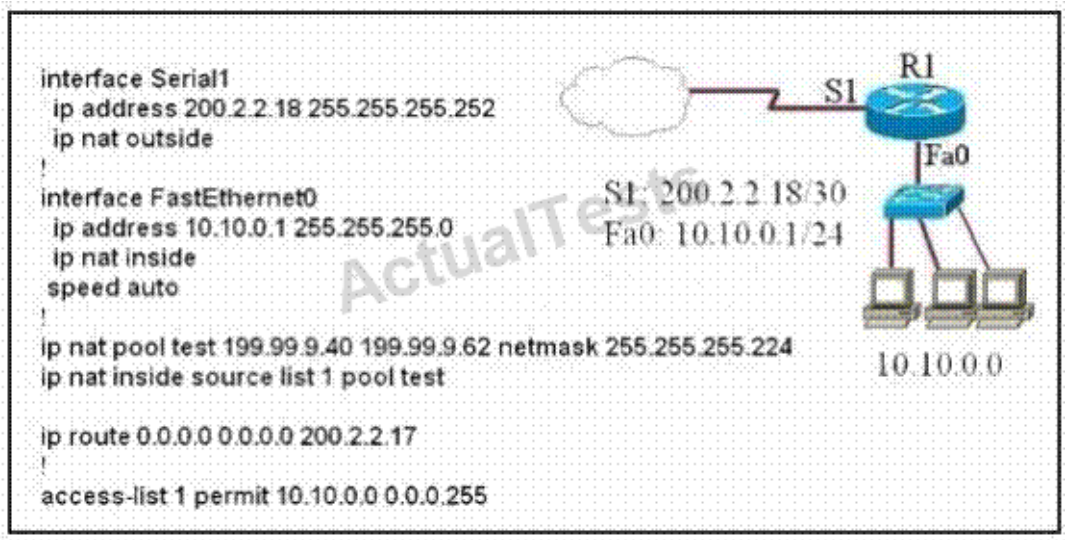
Explanation:



This question is to examine the knowledge point about the function of ACL.
The functions of the ACL are mainly the following points:
1. To limit network traffic and improve network performance;
2. To supply the control methods towards communication flows;
3. The basic method to supply secure network access;

QUESTION NO: 408

Refer to the topology and router configuration shown in the graphic. A host on the LAN is accessing an FTP server across the Internet. Which of the following addresses could appear as a source address for the packets forwarded by the router to the destination server?



A. 10.10.0.1
B. 10. 10.0.2
C. 199.99.9.33
D. 199.99.9.57
E. 200.2.2.17
F. 200.2.2.18

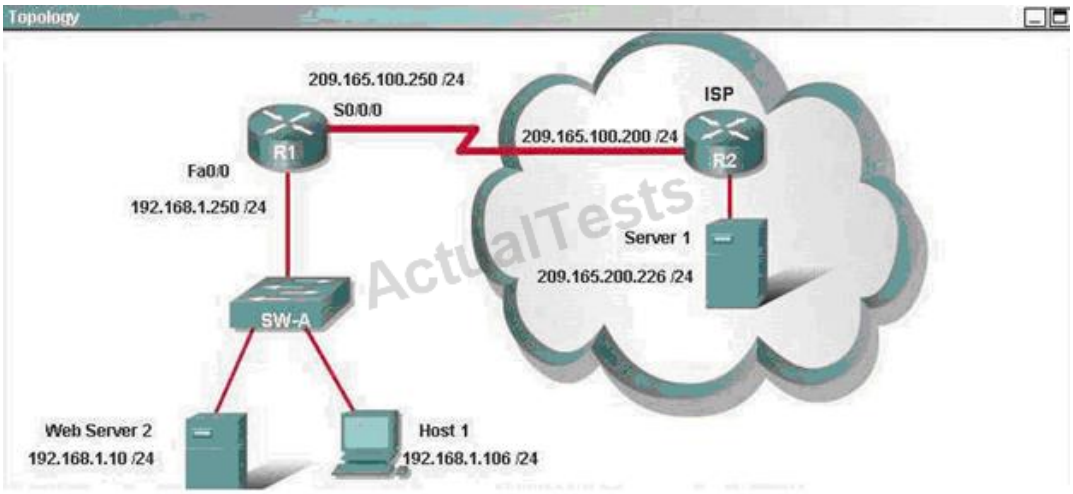
Answer: D

Explanation:

Using NAT we can translate the Source or Destination Address. In our example all source address from the 10.10.00 0.0.0.255 network will be translated to an IP address form the 199.99.9.40-62 pool, making 199.99.9.57 correct.

QUESTION NO: 409

The router address 192.168.1.250 is the default gateway for both the Web Server 2 and Host 1. What is the correct subnet mask for this network?



A. 255.255.255.250
B. 255.255.255.128
C. 255.255.255.252
D. 255.255.255.0

Answer: D
Explanation:
1. Based on the information provided in the exhibit, we know that the IP address of the interface Fa0/0 is 192.168.1.250/24, that is to say the subnet mask is 255.255.255.0??
2. When configuring the correct IP address and not wasting IP address, the network of 192.168.1.0 needs to contain the following three IP addresses of interfaces:
R1(fa 0/0) : 192.168.1.250
Host1: 192.168.1.106/24
Web server 2: 192.168.1.10/24
The correct mask is 255.255.255.0.

QUESTION NO: 410

Which of the following data network would you implement if you wanted a wireless network that had a relatively high data rate, but was limited to very short distances?

A. Broadband personal comm. Service (PCS)
B. Broadband circuit
C. Infrared
D. Spread spectrum
E. Cable

Answer: C

Explanation:

A good example of the range of an infrared is a television remote control or a garage door opener. Infrared networks are capable of high data rates, but they are limited in the distance between the infrared points, and also by the fact that a line of sight between the nodes is usually required.

QUESTION NO: 411

Which of the following are associated with the application layer of the OSI model? (Choose two.)

A. Ping
B. Telnet
C. FTP
D. TCP
E. IP

Answer: B,C

Explanation:

QUESTION NO: 412

When are packets processed by an inbound access list?

A. Before they are routed to an outbound interface
B. After they are routed to an outbound interface
C. Before and after they are routed to an outbound interface
D. After they are routed to an outbound interface but before being placed in the outbound queue

Answer: A

Explanation:

For inbound ACL, before the router forwards groups to other interface, the router will compare group and interface ACL. ACL statement will process in top-down order, until a match item is found; the follow-up statement will no longer be handled. If no matching item is found in ACL, groups will be discarded (implicit refusal).

When a packet is received on an interface with an inbound access list configured, the packets are matched against the access list to determine if they should be permitted or denied. After this check, the packets are processed by the routing function. The access list check is always done first.

QUESTION NO: 413

In addition to assigning an IP address, Which of the following correctly describe regarding TCP/IP stack configuration features can DHCP provide?(Choose three.)

A. Default gateway
B. DNS servers
C. FTP server
D. Helper address
E. Subnet mask
F. TFTP server

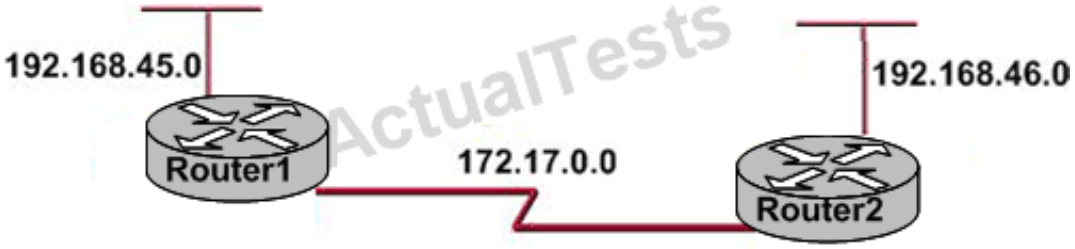
Answer: A,B,E
Explanation:

Default gateway refers to router default gateway, which is used to realize access between vlans. When a router receives a destination unknown address packet, it will be sent to the default gateway (such as a router's interface) if default gateway exists, otherwise the packet will be discarded. DNS is Domain Name Server. The conversion between Domain names and IP addresses is called domain analysis, and DNS is the server to process domain analysis. IP addresses use network number and host number to mark network host, and only computers under the same network number can intercommunicate "directly", computers with different networks may intercommunicate only through Gateway. Thus IP networks are divided into smaller networks, known as subnet. Subnet mask is used to determine whether two IP addresses are in the same subnet, then only computers under the same subnet can intercommunicate "directly".

DHCP is used by workstations (hosts) to get initial configuration information, such as an IP address, subnet mask, and default gateway upon bootup. Since each host needs an IP address to communicate in an IP network, DHCP eases the administrative burden of manually configuring each host with an IP address. Furthermore, if a host moves to a different IP subnet, it has to use a different IP address than the one it was previously using. DHCP takes care of this automatically, by allowing the host to choose an IP address in the correct IP subnet.
ReferencE.
“Understanding and Troubleshooting DHCP in Catalyst Switch or Enterprise Networks”
http://www.cisco.com/en/US/tech/tk648/tk361/technologies_tech_note09186a00800f0804.shtml#understanding

QUESTION NO: 414

As the network administrator, you have been instructed to prevent all traffic originating on the Router 1 LAN from entering the router2. Which the following command would implement the access list on the interface of router2?



A. access-list 101 out
B. ip access-group 101 out
C. access-list 101 in
D. ip access-group 101 in

Answer: D
Explanation:

QUESTION NO: 415

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
Explanation:
Broadcast is added to the configurations of the frame relay, so the PVC supports broadcast, allowing the routing protocol updates that use the broadcast update mechanism to be forwarded across itself.

QUESTION NO: 416

You just entered the following command_Router(config#) lineconsole 0 Which operation is most likely to follow?

A. Configure the terminal type.
B. Enter protocol parameters for a serial line.
C. Create a password on the console terminal line.
D. Establish a terminal type 4 connection to a remote host.

Answer: C

Explanation:

A console password is configured from global configuration mode, at the console line level. The output below outlines each step from privileged EXEC mode forward.

Company-1#config tEnter configuration commands, one per line. End with CNTL/Z.Company -1(config)#line console 0Company -1(config-line)#loginCompany -1(config-line)#password cisco1

QUESTION NO: 417

The Company WAN is migrating from RIPv1 to RIPv2. Which three statements are correct about RIP version 2? (Choose three)

A. It has the same maximum hop count as version 1.
B. It uses broadcasts for its routing updates.
C. It is a classless routing protocol.
D. It has a lower default administrative distance than RIP version 1.
E. It supports authentication.
F. It does not send the subnet mask in updates.

Answer: A,C,E

Explanation:

RIPV1

RIPV1 is a classful routing protocol , it sends update packets which does not contain subnet mask information every 30 seconds , it does not support VLSM and performs border automatic route summary by default, it can't be shut down, so it does not support non-consecutive networks and authentication, it uses hop counts as metric, the administrative distance is 120. Each packet contains 25 routing information at most , and routing update is broadcast.

RIPV2

RIPV2 is a classless routing protocol, whose transmitted packets contain subnet mask information, it supports VLSM and enables the function of auto-summary. So, it is needed to manually shut down the function of auto-summary in order to send subnet information to the main network. RIPV2 only supports summarizing routing to the main network instead of summarizing different main networks. So it does not support CIDR. RIPV2 updates routing by use of the multicast address 224.0.0.9, only the corresponding multicast MAC address can reply to packets. Whether reply to packets and support authentication or not can be distinguished at the MAC layer.

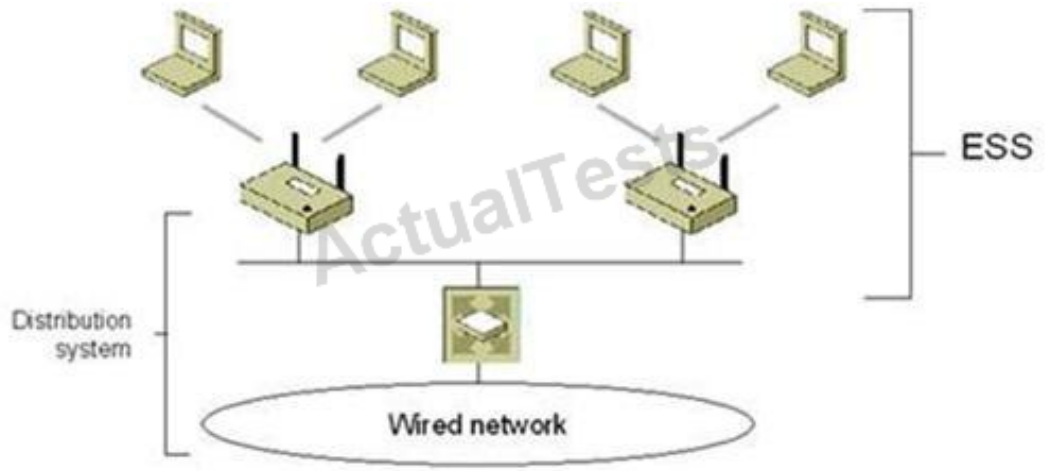
NotE. Refer to the classful routing protocol, when the subnet of the interface sending routing packets is in the same main network as the subnet associated with the packets, the router can transmit subnet information through this interface assuming that the interface and the subnet of packets use the same subnet mask.

QUESTION NO: 418

Three access points have been installed and configured to cover a small office. What term defines the wireless topology?

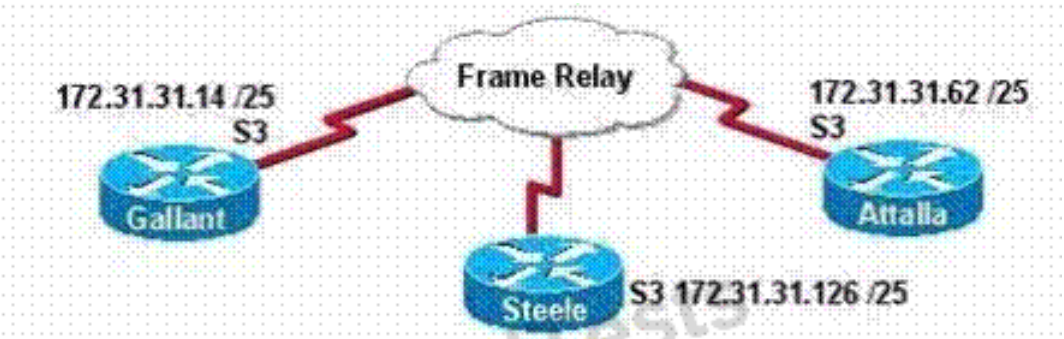
A. BSS
B. IBSS
C. ESS
D. SSID

Answer: C
Explanation:
A single wireless AP supporting one or multiple wireless clients is known as a Basic Service Set (BSS). A set of two or more wireless APs connected to the same wired network is known as an Extended Service Set (ESS). An ESS is a single logical network segment (also known as a subnet), and is identified by its SSID
See the Figure:



QUESTION NO: 419

The Frame Relay network in the diagram is not functioning properly. What is the cause of the problem?




```
Gallant#show frame-relay map
Serial3 (up): ip 172.31.31.126 dlci 205 (0xCD,0x30D0), static, broadcast,
        CISCO, status defined, active

Steele#show frame-relay map
Serial3 (up): ip 172.31.31.126 dlci 605 (0x25D,0x94D0), static, broadcast,
        CISCO, status defined, active

Attalla#show frame-relay map
Serial3 (up): ip 172.31.31.62 dlci 509(0x1FD,0x7CD0), static, broadcast,
        CISCO, status deleted
Serial3 (up): ip 172.31.31.14 dlci 502(0x1F6,0x7C60), static, broadcast,
        CISCO, status defined, active
```

A. The Gallant router has the wrong LMI type configured.
B. The IP address on the serial interface of the Attalla router is configured incorrectly.
C. The frame-relay map statement in the Attalla router for the PVC to Steele is not correct.
D. The S3 interface of the Steele router has been configured with the frame-relay encapsulation ietf command.
E. Inverse ARP is providing the wrong PVC information to the Gallant router.

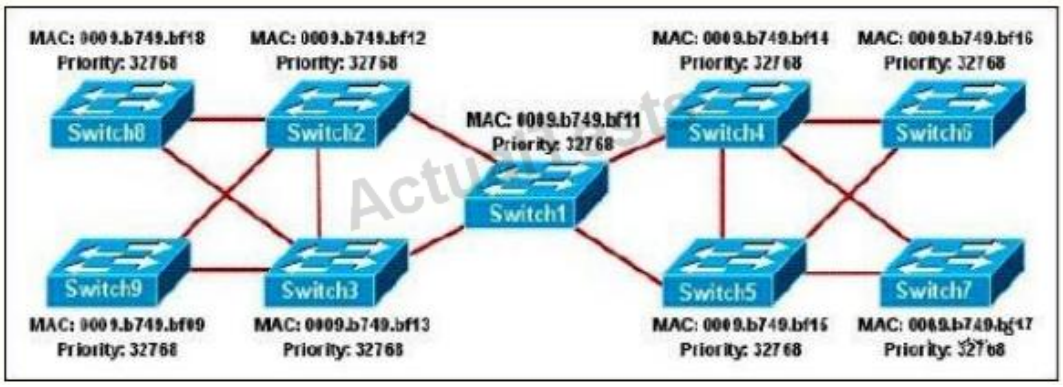
Answer: C

Explanation:

On serial 3 of Attalla we can see that there are 2 PVC's defined, but only one of them is working and is shown as active. The frame relay map that was used to specify DLCI 509 was incorrect. Incorrect DLCI assignments that are configured in routers normally show up as "deleted" in the frame relay maps.

QUESTION NO: 420

Refer to the exhibit. The switches on a campus network have been interconnected as shown. All of the switches are running Spanning Tree Protocol with its default settings. Unusual traffic patterns are observed and it is discovered that Switch9 is the root bridge. Which change will ensure that Switch1 will be selected as the root bridge instead of Switch9?



A. Raise the bridge priority on Switch1.
B. Lower the bridge priority on Switch9.
C. Raise the bridge priority on Switch9.
D. Physically replace Switch9 with Switch1 in the topology.
E. Disable spanning tree on Switch9.
F. Lower the bridge priority on Switch1.

Answer: F

Explanation:

The root bridge is the bridge or switch that is the root of the Spanning Tree, with the branches being loop-free paths to the other switches in the system. The Root is the switch with the lowest Bridge ID; the ID is determined by a combination of an administrative Priority and the MAC address of the switch. The Priority is set to 32,768 (8000 hex) by default; if we leave the Priority at the default, whatever switch has the lowest MAC will be the Root. So to elect the Switch1 switch as a root bridge need to set the lowest priority.

QUESTION NO: 421

What are two recommended ways of protecting network device configuration files from outside

network security threats? (Choose two.)

A. Allow unrestricted access to the console or VTY ports.
B. Use a firewall to restrict access from the outside to the network devices.
C. Always use Telnet to access the device command line because its data is automatically encrypted.
D. Use SSH or another encrypted and authenticated transport to access device configurations.
E. Prevent the loss of passwords by disabling password encryption.

Answer: B,D

Explanation:

This question is to examine the knowledge point related to network security. Internet firewall is a or a group of systems, which will enhance the in-house network security of a mechanism. It decides which in-house services can be accessed by the outside, which people from the outside can access what in-house services and which outside services can be accessed by in-house personnel. Firewall is an Internet customs inspection post. So as to keep the effectiveness of the firewall, all the information in or out of the Internet must flow through the firewall and being checked by it. Only the authorized data is allowed to pass through the firewall and the firewall itself must be free of infiltration. Unfortunately, once the firewall system has been break through or roundabout, it is incapable of providing any protection.

SSH is the abbreviation of Secure Shell, which is established by the Network Working Group of IETF. SSH is a secure protocol which is based on application layer and transport layer.

QUESTION NO: 422

What should be part of a comprehensive network security plan?

A. Allow users to develop their own approach to network security.
B. Physically secure network equipment from potential access by unauthorized individuals.
C. Encourage users to use personal information in their passwords to minimize the likelihood of passwords being forgotten.
D. Delay deployment of software patches and updates until their effect on end-user equipment is well known and widely reported
E. Minimize network overhead by deactivating automatic antivirus client updates.

Answer: B

Explanation:

Computer systems and networks are vulnerable to physical attack; therefore, procedures should be implemented to ensure that systems and networks are physically secure. Physical access to a

system or network provides the opportunity for an intruder to damage, steal, or corrupt computer equipment, software, and information. When computer systems are networked with other departments or agencies for the purpose of sharing information, it is critical that each party to the network take appropriate measures to ensure that its system will not be physically breached, thereby compromising the entire network. Physical security procedures may be the least expensive to implement but can also be the most costly if not implemented. The most expensive and sophisticated computer protection software can be overcome once an intruder obtains physical access to the network.

QUESTION NO: 423

Refer to the exhibit. Which two statements are true based the output of the show frame-relay lmi command issued on the Branch router? (Choose two.)

```
Branch# show frame-relay lmi

LMI Statistics for interface Serial0/0 (Frame Relay DTE) LMI TYPE = ANSI
  Invalid Unnumbered info 0          Invalid Prot Disc 0
  Invalid dummy Call Ref 0           Invalid Msg Type 0
  Invalid Status Message 0           Invalid Lock Shift 0
  Invalid Information ID 0           Invalid Report IE Len 0
  Invalid Report Request 0           Invalid Keep IE Len 0
  Num Status Enq. Sent 61            Num Status msgs Rcvd 0
  Num Update Status Rcvd 0           Num Status Timeouts 60
Branch#
```

A. LMI messages are being sent on DLCI 1023.
B. The LMI exchange between the router and Frame Relay switch is functioning properly.
C. LMI messages are being sent on DLCI 0.
D. The Frame Relay switch is not responding to LMI requests from the router.
E. The router is providing a clock signal on Serial0/0 on the circuit to the Frame Relay switch.
F. Interface Serial0/0 is not configured to encapsulate Frame Relay.

Answer: C,D
Explanation:

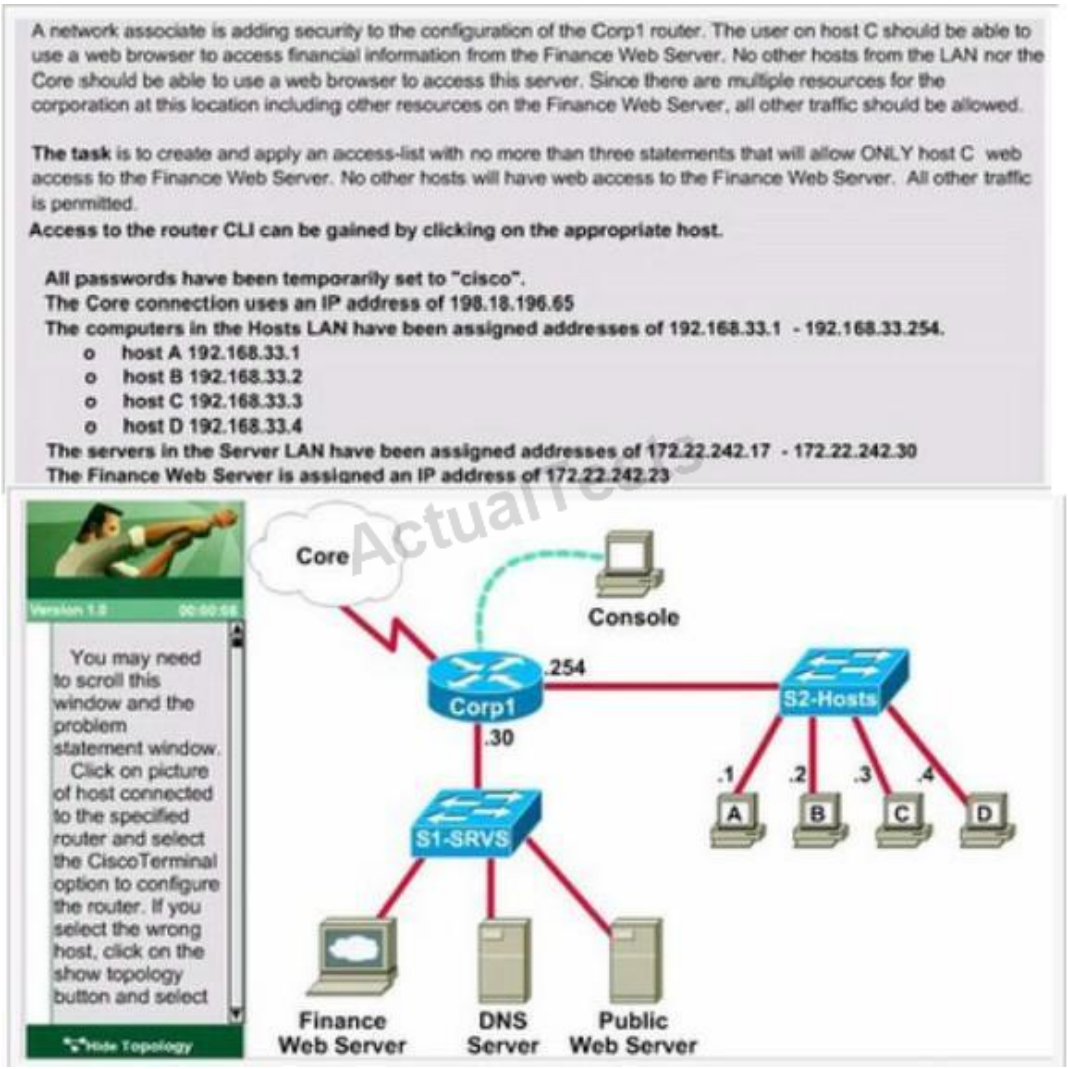
Local Management Interface (LMI) messages manage the local access link between the router and the Frame Relay switch. A Frame Relay DTE can send an LMI Status Enquiry message to the switch; the switch then replies with an LMI Status message to inform the router about the DLCIs of the defined VCs, as well as the status of each VC. By default, the LMI messages flow every 10 seconds. Every sixth message carries a full Status message, which includes more complete status

information about each VC. As we can see, the router has sent 61 messages, but received back none. We also know that DLCI 0 is used as this is the LMI DLCI used in ANSI. If the LMI type had been Cisco, the DLCI used is 1023.

ReferencE.

http://www.cisco.com/en/US/tech/tk713/tk237/technologies_tech_note09186a0080094183.shtml

QUESTION NO: 424 CORRECT TEXT



Answer: Select the console on Corp1 router

Configuring ACL

Corp1>enable

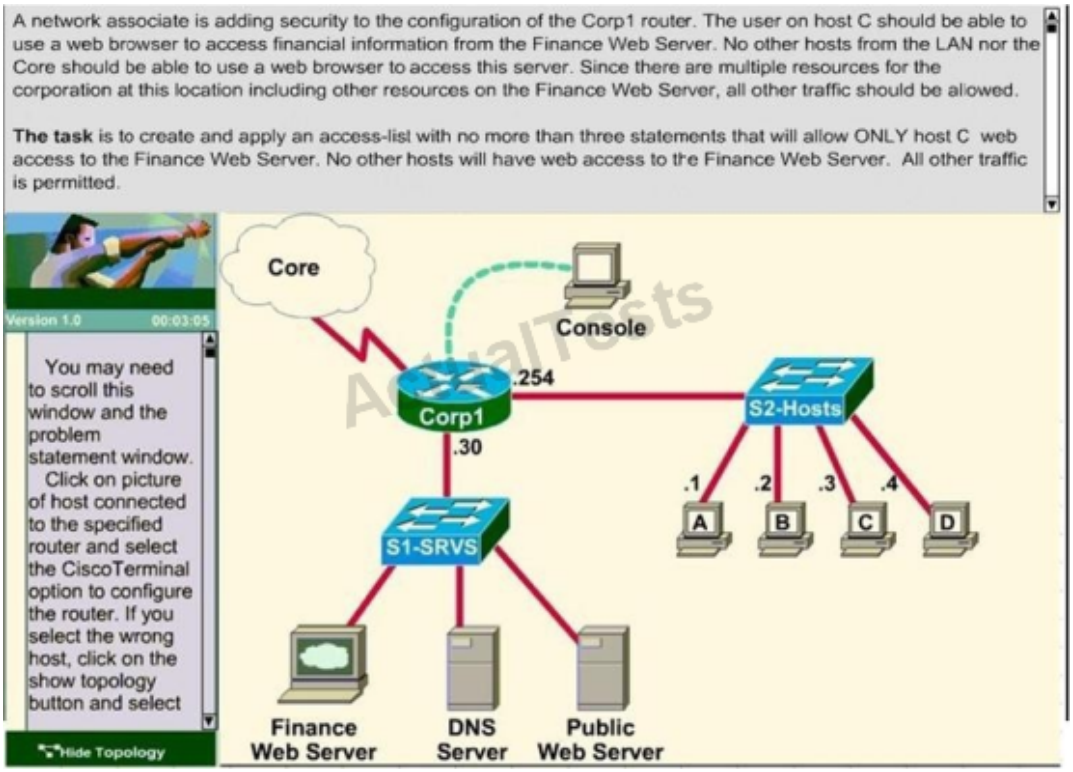
Corp1#configure terminal

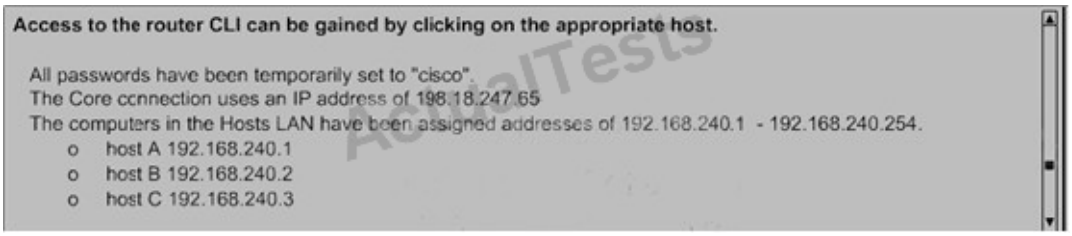
comment: To permit only Host C (192.168.33.3){source addr} to access finance server address (172.22.242.23) {destination addr} on port number 80 (web)

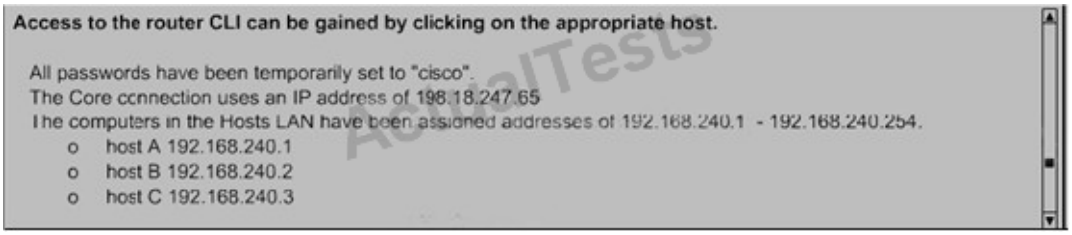
Corp1(config)#access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80
comment: To deny any source to access finance server address (172.22.242.23) {destination addr} on port number 80 (web)
Corp1(config)#access-list 100 deny tcp any host 172.22.242.23 eq 80
comment: To permit ip protocol from any source to access any destination because of the implicit deny any any statement at the end of ACL.
Corp1(config)#access-list 100 permit ip any any
Applying the ACL on the Interface
comment: Check show ip interface brief command to identify the interface type and number by checking the IP address configured.
Corp1(config)#interface fa 0/1
If the ip address configured already is incorrect as well as the subnet mask. this should be corrected in order ACL to work
type this commands at interface mode :
no ip address 192.x.x.x 255.x.x.x (removes incorrect configured ipaddress and subnet mask)
Configure Correct IP Address and subnet mask :
ip address 172.22.242.30 255.255.255.240 (range of address specified going to server is given as 172.22.242.17 - 172.22.242.30)
comment: Place the ACL to check for packets going outside the interface towards the finance web server.
Corp1(config-if)#ip access-group 100 out
Corp1(config-if)#end
Important: To save your running config to startup before exit.
Corp1#copy running-config startup-config
Verifying the Configuration :
Step1: show ip interface brief command identifies the interface on which to apply access list.
Step2: Click on each host A,B,C & D . Host opens a web browser page , Select address box of the web browser and type the ip address of finance web server(172.22.242.23) to test whether it permits /deny access to the finance web Server .
Step 3: Only Host C (192.168.33.3) has access to the server . If the other host can also access then maybe something went wrong in your configuration . check whether you configured correctly and in order.
Step 4: If only Host C (192.168.33.3) can access the Finance Web Server you can click on NEXT button to successfully submit the ACL SIM.

QUESTION NO: 425 CORRECT TEXT

ACL-2



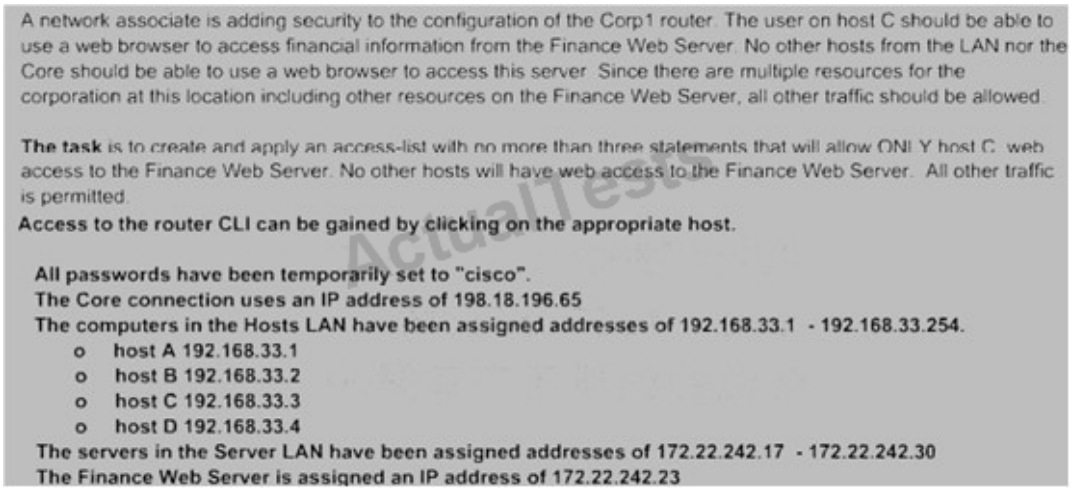


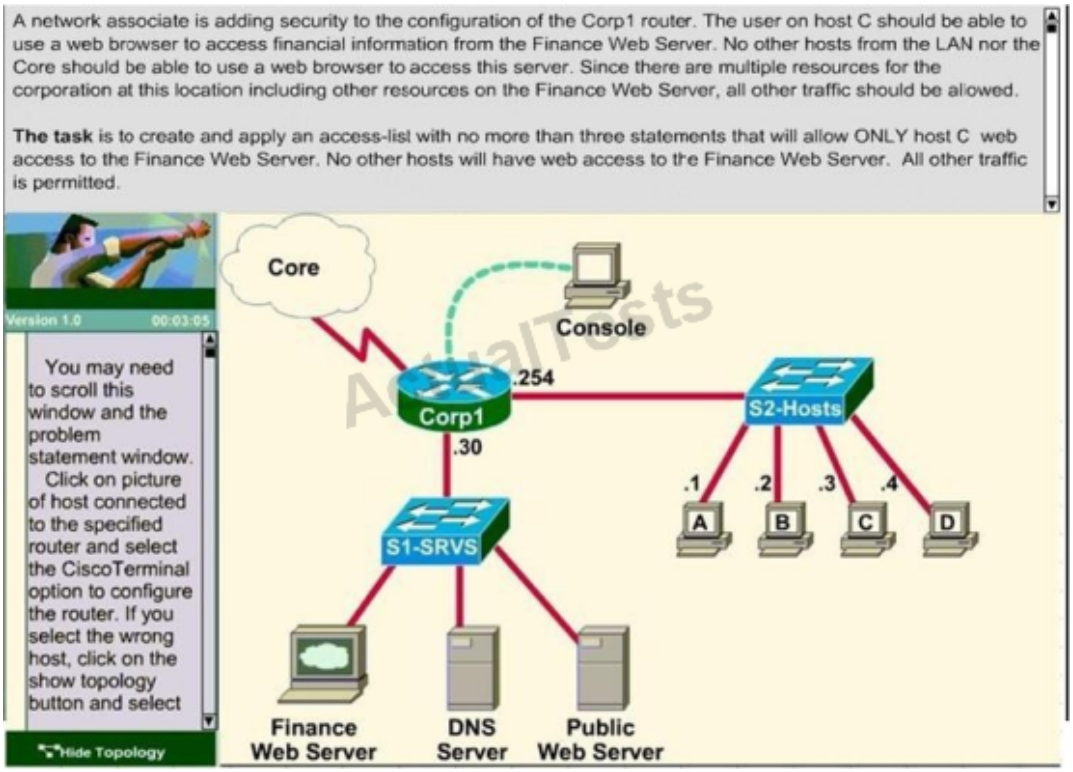


Answer: Corp1#conf t
Corp1(config)# access-list 128 permit tcp host 192.168.240.1 host 172.22.141.26 eq www
Corp1(config)# access-list 128 deny tcp any host 172.22.141.26 eq www
Corp1(config)# access-list 128 permit ip any any
Corp1(config)#int fa0/1
Corp1(config-if)#ip access-group 128 out
Corp1(config-if)#end
Corp1#copy run startup-config

QUESTION NO: 426 CORRECT TEXT

ACL-3





Answer: Corp1>enable

Corp1#configure terminal

Corp1(config)#access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80

Corp1(config)#access-list 100 deny tcp 192.168.33.0 0.0.0.255 host 172.22.242.23 eq 80

Corp1(config)#access-list 100 permit ip any any

Corp1(config)#interface fa 0/1 sh ip int brief

Corp1(config-if)#ip access-group 100 out

Corp1(config-if)#end

Corp1#copy running-config startup-config

Explanation:

Select the console on Corp1 router
Configuring ACL Corp1 >enable Corp1#configure terminal
comment: To permit only Host C (192.168. 33. 3){source addr} to access finance server address (172. 22. 242. 23)
{destination addr} on port number 80 (web)
Corp1(config)#access-list 100 permit tcp host 192. 168. 33. 3 host 172. 22. 242. 23 eq 80
comment: To deny any source to access finance server address (172. 22. 242. 23) {destination addr} on port number 80 (web)
Corp1(config)#access-list 100 deny tcp any host 172. 22. 242. 23 eq 80
comment: To permit ip protocol from any source to access any destination because of the implicit deny any any statement at the end of ACL.
Corp1(config)#access-list 100 permit ip any any
Applying the ACL on the Interface
comment: Check show ip interface brief command to identify the interface type and number by checking the IP address configured.
Corp1(config)#interface fa 0/1
If the ip address configured already is incorrect as well as the subnet mask, this should be corrected in order
ACL to work
type this commands at interface mode :
no ip address 192. x. x. x 255. x. x. x (removes incorrect configured ip address and subnet mask)
Configure Correct IP Address and subnet mask:
ip address 172. 22. 242. 30 255. 255. 255. 240 (range of address specified going to server is given as 172. 22. 242. 17-172. 22. 242. 30)
comment: Place the ACL to check for packets going outside the interface towards the finance web server.
Corp1(config-if)#ip access-group 100 out
Corp1(config-if)#end
Important: To save your running config to startup before exit. Corp1#copy running-config startup-config Verifying the Configuration :

Step1: show ip interface brief command identifies the interface on which to apply access list.

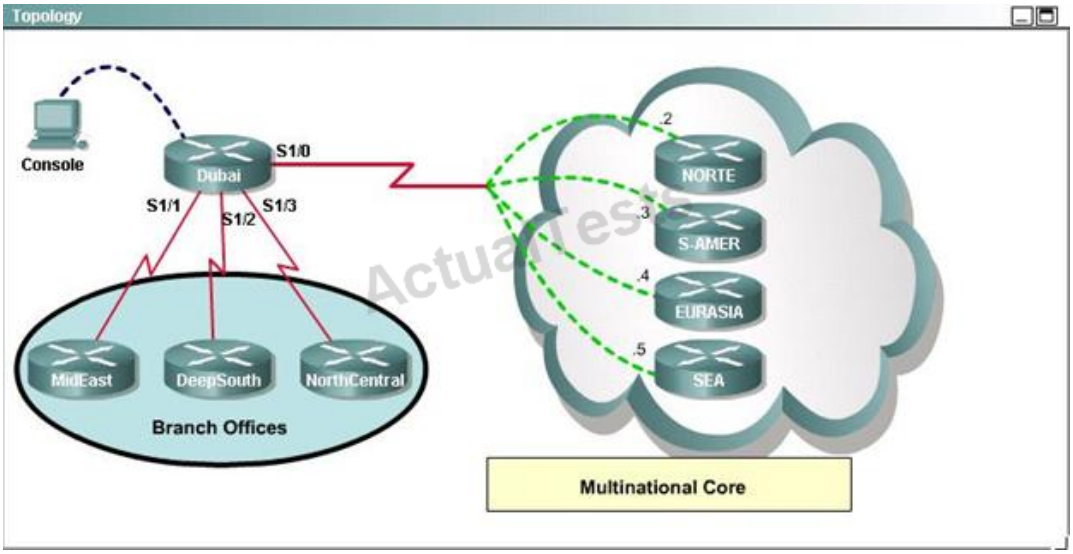
Step2: Click on each host A,B,C & D. Host opens a web browser page, Select address box of the web browser and type the ip address of finance web server(172. 22. 242. 23) to test whether it permits /deny access to the finance web Server.
Step 3: Only Host C (192.168. 33. 3) has access to the server. If the other host can also access then maybe something went wrong in your configuration check whether you configured correctly and in order.

Step 4: If only Host C (192.168. 33. 3) can access the Finance Web Server you can click on NEXT

button to successfully submit the ACL SIM.

QUESTION NO: 427

Refer to the topology.



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tlnet
 login
!
end
```

ActualTests

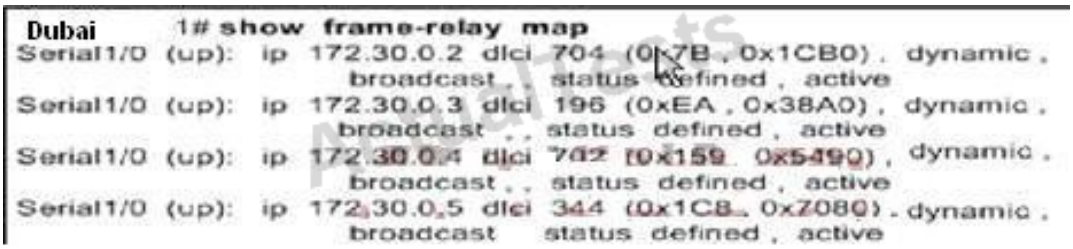
What destination Layer 2 address will be used in the frame header containing a packet for host 172.30.4.4?

A. 704
B. 196
C. 702
D. 344

Answer: C

Explanation:

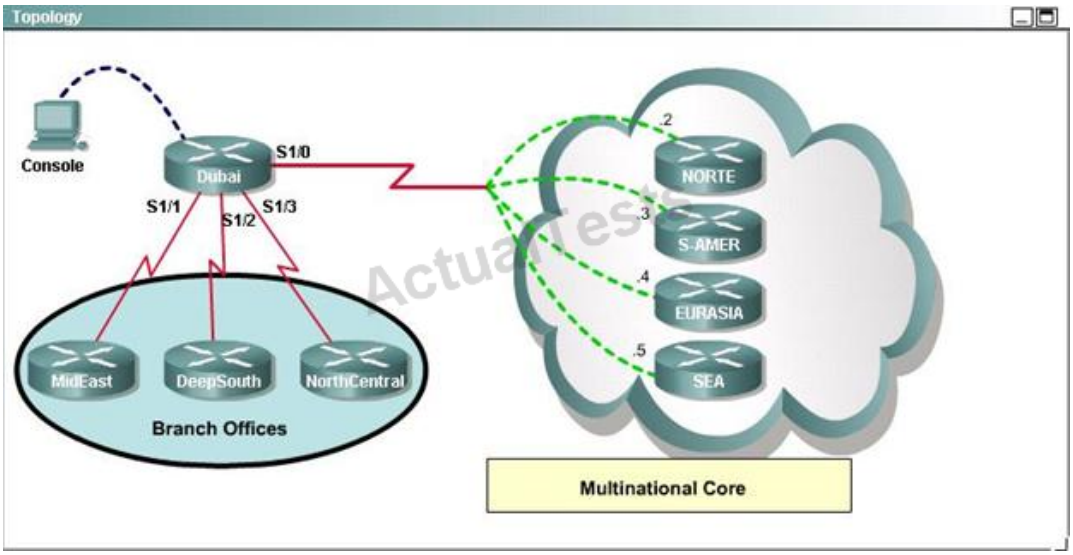
The destination layer 2 address is a DLCI for frame-relay network. The destination host packet address is 172.30.0.4
corresponding DLCI is 702.
This can be confirmed by looking at the **show frame-relay map** output which shows the frame-relay map statements for layer 3 address to its corresponding layer 2 address IP 172.30.0.4 is mapped to DLCI 702 .



untitled

QUESTION NO: 428

Refer to the topology.



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active
Dubai#
interface FastEthernet0/0
 no ip address
 shutdown
!
interface Serial1/0
 ip address 172.30.0.1 255.255.255.240
 encapsulation frame-relay
 no fair-queue
!
interface Serial1/1
 ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
 ip address 192.168.0.5 255.255.255.252
 encapsulation ppp
!
interface Serial1/3
 ip address 192.168.0.9 255.255.255.252
 encapsulation ppp
 ppp authentication chap
!
router rip
 version 2
 network 172.30.0.0
 network 192.168.0.0
 no auto-summary
!
line con 0
 exec-timeout 0 0
line aux 0
line vty 0 4
 password Tlnet
 login
!
end
```

ActualTests

If required, what password should be configured on the router in the MidEast branch office to allow a connection to be established with the Dubai router?

A. No password is required
B. Enable
C. Scr
D. Telnet
E. Console

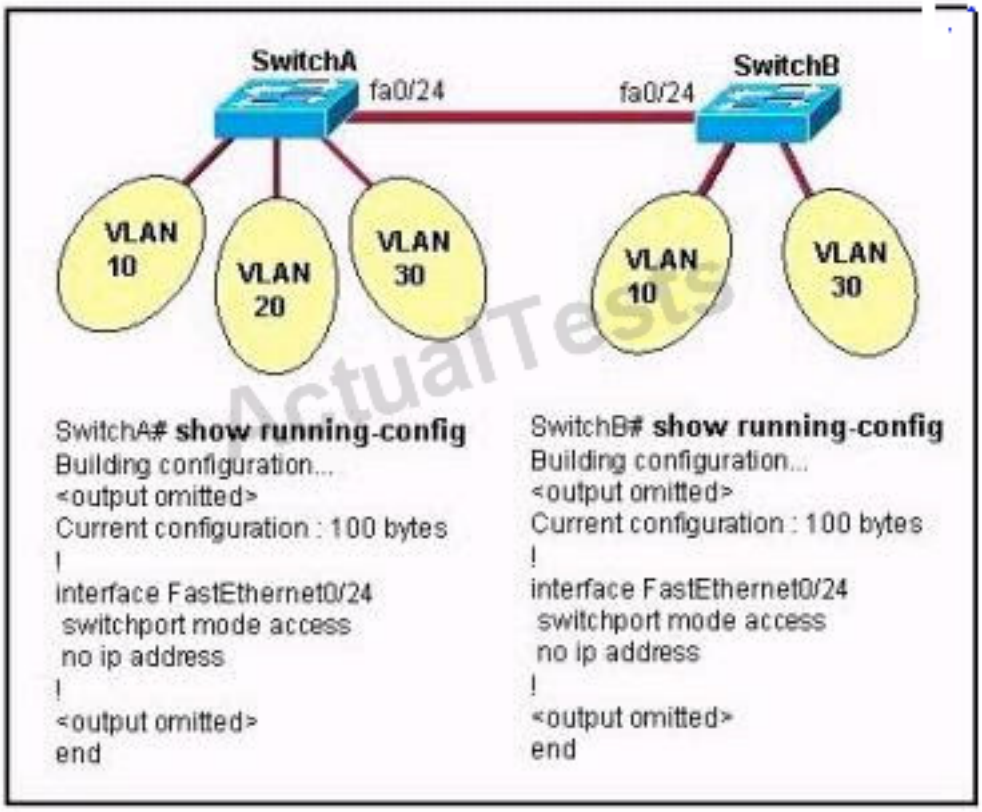
Answer: A

Explanation:

Topic 5, Volume E

QUESTION NO: 429

Refer to the Exhibit.



All Switches 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

Explanation:

QUESTION NO: 430

Refer to the exhibit. Which two statements are true of the interfaces on Switch1? (Choose two.)

Exhibit:

```
Switch1# show mac-address-table
Dynamic Addresses Count: 19
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    AddressType    VLAN    Destination Port
-------------------    -----------    ----    --------------------
0010.0de0.e289         Dynamic        1       FastEthernet0/1
0010.7b00.1540         Dynamic        2       FastEthernet0/5
0010.7b00.1545         Dynamic        2       FastEthernet0/5
0060.5cf4.0076         Dynamic        1       FastEthernet0/1
0060.5cf4.0077         Dynamic        3       FastEthernet0/1
0060.5cf4.1315         Dynamic        1       FastEthernet0/1
0060.70cb.f301         Dynamic        2       FastEthernet0/1
0060.70cb.3f01         Dynamic        5       FastEthernet0/2
00e0.1e42.9978         Dynamic        4       FastEthernet0/1
00e0.1e9f.3900         Dynamic        3       FastEthernet0/1
0060.70cb.33f1         Dynamic        6       FastEthernet0/3
0060.70cb.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#
```

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

Explanation:

Carefully observe the information given after command show. Fa0/1 is connected to Switch2, seven MAC addresses correspond to Fa0/1, and these MAC are in different VLAN. From this we

know that Fa0/1 is the trunk interface.
From the information given by show cdp neighbors we find that there is no Fa0/5 in CDP neighbor. However, F0/5 corresponds to two MAC addresses in the same VLAN. Thus we know that Fa0/5 is connected to a Hub.

Based on the output shown, there are multiple MAC addresses from different VLANs attached to the FastEthernet 0/1 interface. Only trunks are able to pass information from devices in multiple VLANs.

QUESTION NO: 431

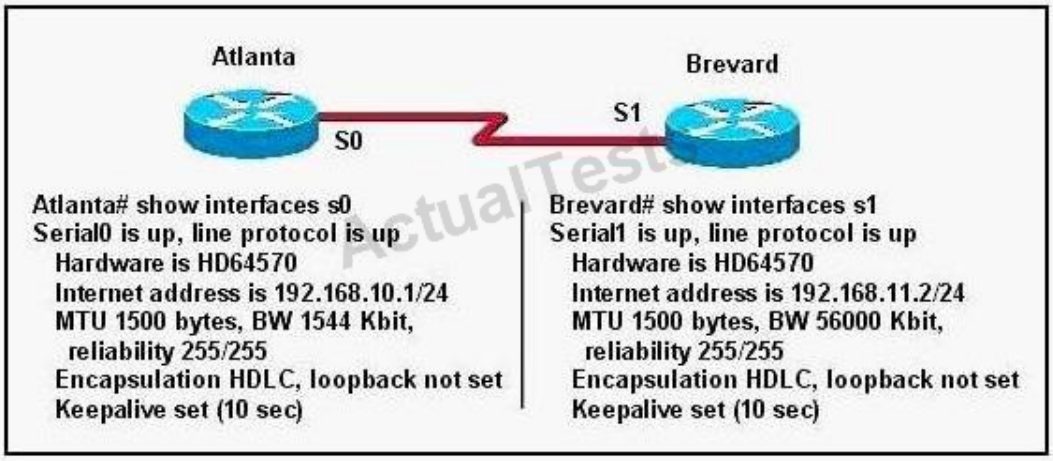
A receiving host computes the checksum on a frame and determines that the frame is damaged. The frame is then discarded. At which OSI layer did this happen?

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

Answer: C
Explanation:
The Data Link layer provides the physical transmission of the data and handles error notification, network topology, and flow control. The Data Link layer formats the message into pieces, each called a data frame, and adds a customized header containing the hardware destination and source address. Protocols Data Unit (PDU) on Datalink layer is called frame. According to this question the frame is damaged and discarded which will happen at the Data Link layer.

QUESTION NO: 432

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



A. incompatible IP addresses
B. insufficient bandwidth
C. incorrect subnet mask
D. incompatible encapsulation
E. Link reliability too low
F. IPCP closed

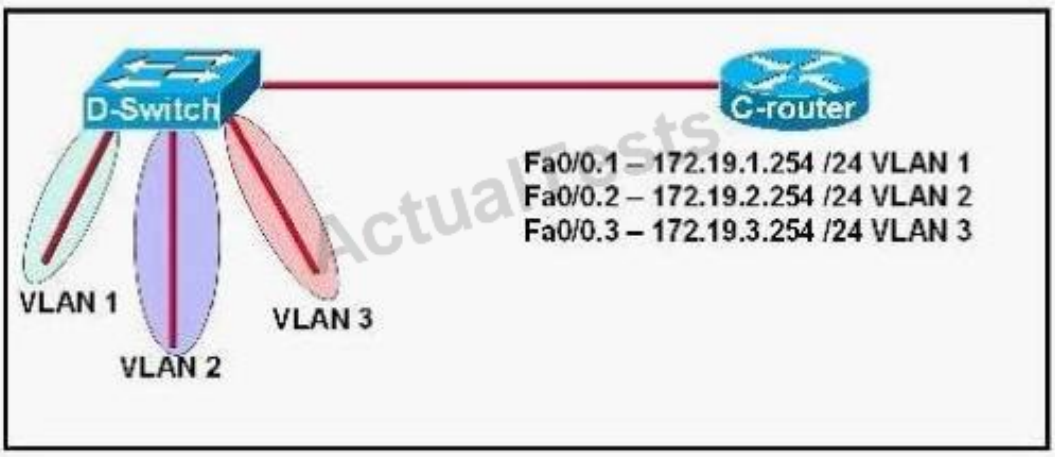
Answer: A

Explanation:

Answer A is correct because Interface Serial 0 of Atlanta Router has 192.168.10.1 And Interface Serial 1 of Router Brevard has 192.168.11.2. These are from different network.

QUESTION NO: 433

Refer to the exhibit.



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 1C-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 ripC-router(config-router)# network 172.19.0.0

Answer: B

Explanation:

Since all the same router (C-router) is the default gateway for all three VLANs, all traffic destined to a different VLA will be sent to the C-router. The C-router will have knowledge of all three networks since they will appear as directly connected in the routing table. Since the C-router already knows how to get to all three networks, no routing protocols need to be configured.

QUESTION NO: 434

Which of the following services use UDP? (Choose three.)

A. Telnet
B. TFTP
C. SNMP
D. DNS
E. SMTP
F. HTTP

Answer: B,C,D

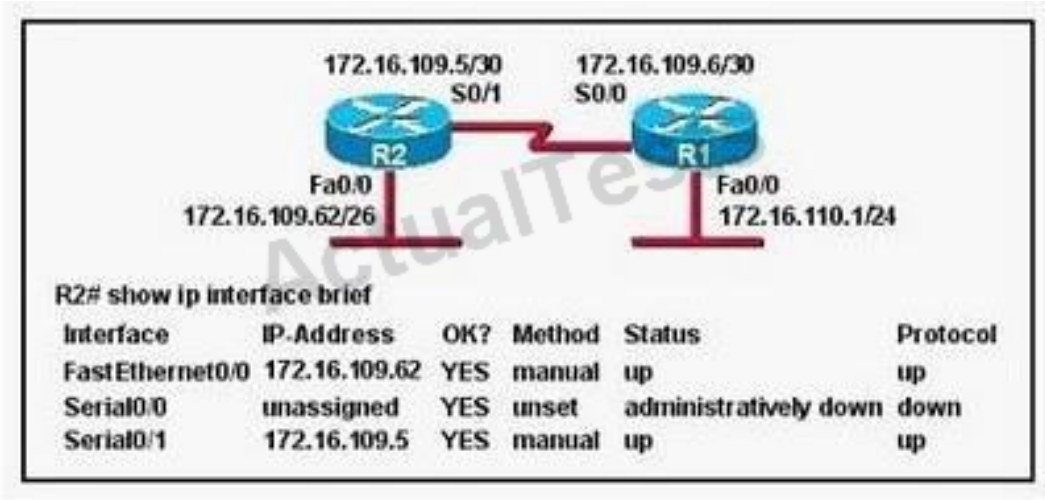
Explanation:

Common TCP/UDP ports:
TCP ports:
20 FTP data
21 FTP control
23 Telnet
25 SMTP
53 DNS
80 WWW

100 POP3
UDP ports:
53 DNS
69 TFTP
161 SNMP
NotE. DNS use TCP for regional transmission, and use UDP for name inquiry.

QUESTION NO: 435

Refer to the Exhibit.



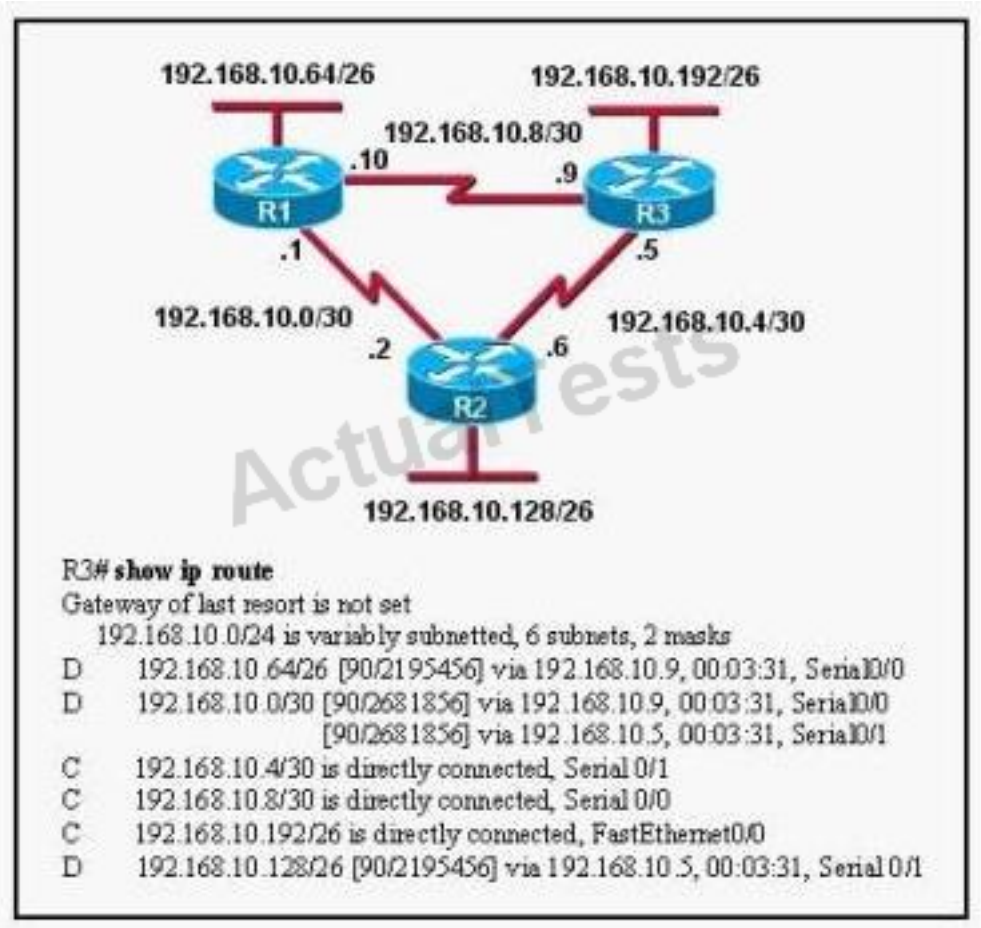
Assuming that the entire network topology is shown, what is the operational status of interfaces R2 as indicated by the command out put shown?

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
Explanation:

QUESTION NO: 436

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?

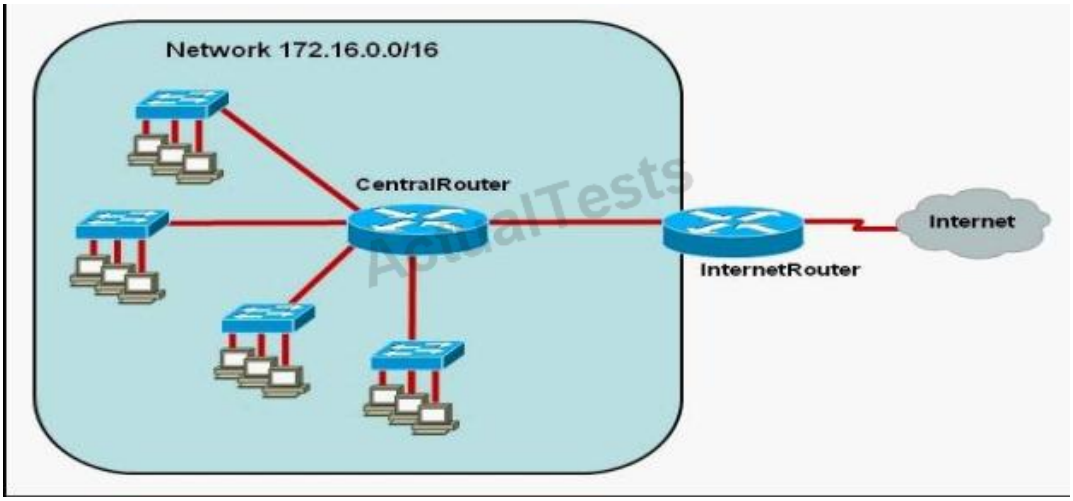
A. The router will forward packets from R3 to R1.
B. The router will forward packets from R3 to R2 to R1 AND from R3 to R1.
C. The router will forward packets from R3 to R1 to R2.
D. The router will forward packets from R3 to R2 to R1.

Answer: B

Explanation:

QUESTION NO: 437

Refer to the exhibit.



The network administrator requires easy configuration options and minimal routing protocol traffic. What 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 all routes to CentralRouter.
B. a dynamic routing protocol on InternetRouter to advertise summarized routes to CentralRouter.
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 CentralRouter to advertise all routes to InternetRouter.
E. a dynamic routing protocol on CentralRouter to advertise summarized routes to InternetRouter.
F. a static, default route on CentralRouter that directs traffic to InternetRouter.

Answer: C,F

Explanation:

QUESTION NO: 438

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

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

Answer: B

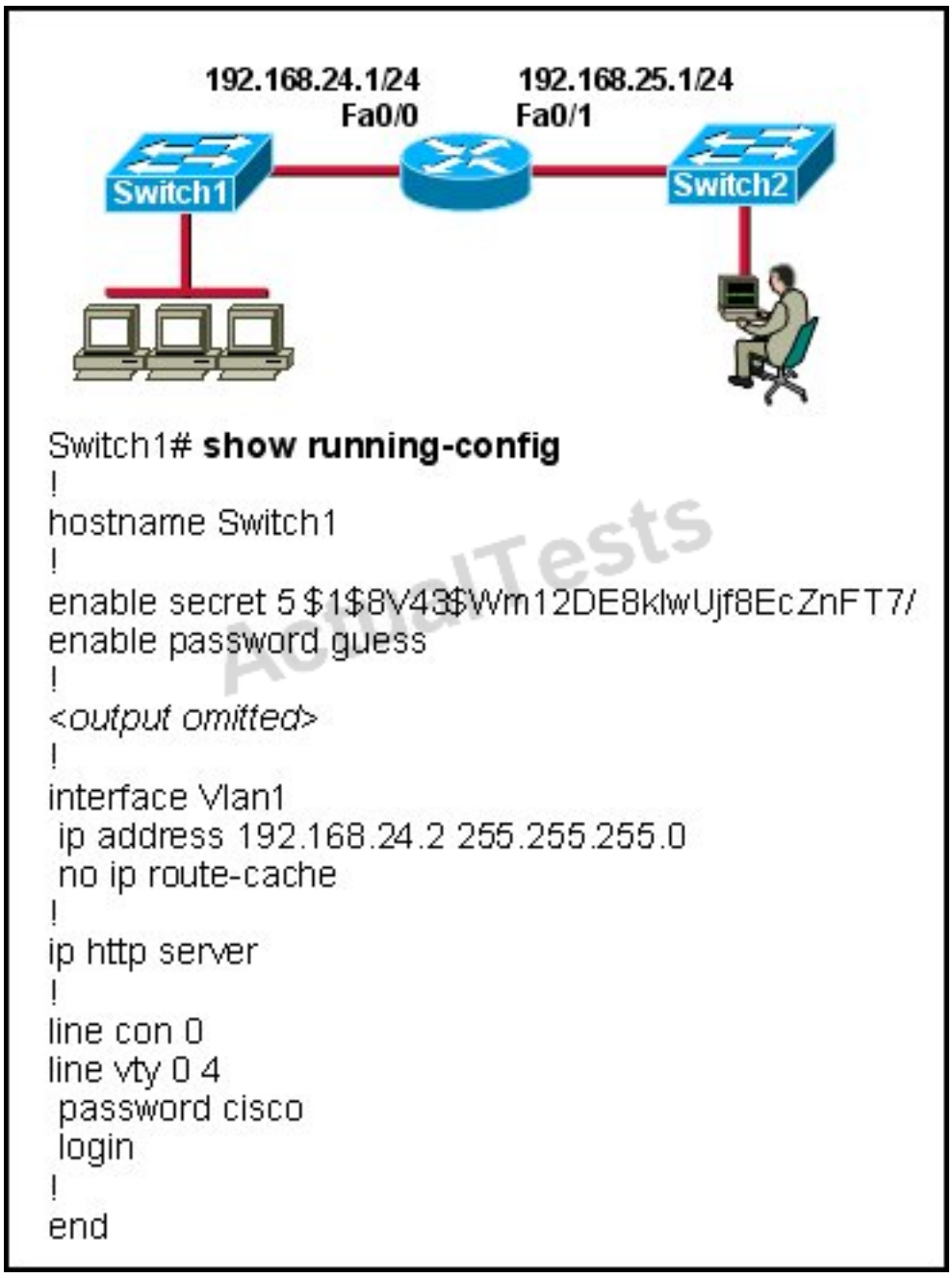
Explanation:

Enable vty, console, AUX passwords are configured on the Cisco device. Use the show run command to show most passwords in clear text. If the service password-encryption is used, all the

passwords are encrypted. As a result, the security of device access is improved.

QUESTION NO: 439

Refer to the exhibit.



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)# interface fa0/1
Switch1(config-if)# ip address 192.168.24.3.255.255.255.0
B. Switch1(config)# interface fa0/1
Switch1(config-if)# switchport mode trunk
C. Switch1(config)# interface fa0/1
Switch1(config-if)# duplex full
Switch1(config-if)# speed 100
D. Switch1(config)# ip default-gateway 192.168.24.1
E. Switch1(config)# line con0
Switch1(config-line)# password cisco
Switch1(config-line)#login

Answer: D

Explanation:

To route traffic to other vlans, we need to enter the IP address of the next-hop router interface that is directly connected to the switch where a default gateway is being configured. The default gateway receives IP packets with unresolved destination IP addresses from the switch.
Once the default gateway is configured, the switch will have connectivity to the remote networks with which a host needs to communicate.

QUESTION NO: 440

Which Layer 2 protocol encapsulation type supports synchronous and asynchronous circuits and has built-in security mechanisms?

A. Frame Relay
B. X.25
C. PPP
D. HDLC

Answer: C

Explanation:

QUESTION NO: 441

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

A. You can configure one access list, per direction, pet Layer 3 protocol
B. You can apply multiple access lists with the same protocol or in different director
C. You can apply only one access list on any interface
D. You can plane as many access lists as you want on any interface

Answer: A
Explanation:

All access lists follow these rules:
· Routers apply lists sequentially in the order in which you type them into the router.· Routers apply lists to packets sequentially, from top down, one line at a time.· Packets are processed only until a match is made and then they are acted upon based on the access list criteria contained in the access list statements.· Lists always end with an implicit deny. Routers discard any packets that do not match any of the access list statements.· Access lists must be applied to an interface as either inbound or outbound traffic filters.· Only one list, per protocol, per direction can be applied to an interface.
ReferencE.
http://www.sauguscenturions.com/jstephenson/CiscoNA/Ptests/Sem3/C6Notes/ACL.html

QUESTION NO: 442

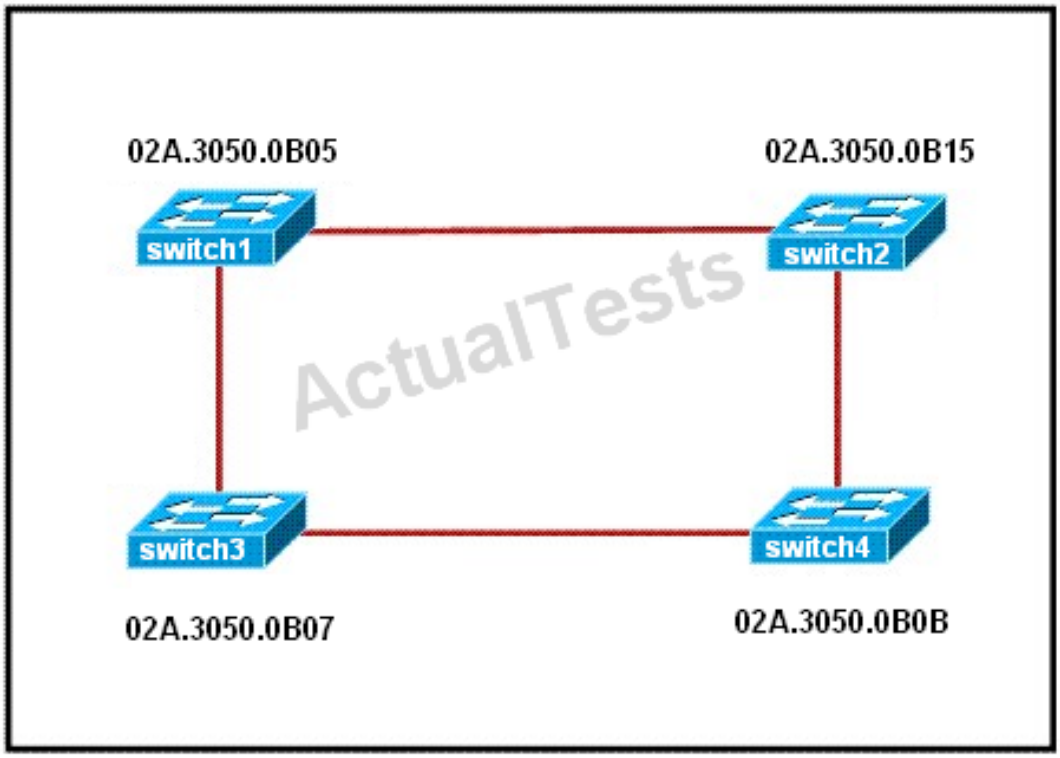
Which parameter CM parameters are used to calculate OSPF cost in Cisco routers?

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

Answer: C
Explanation:

QUESTION NO: 443

Refer to the exhibit.



Four Cisco 2950 switches are set to their default priority settings. During the spanning-tree process, which switch will be elected as the root bridge?

A. Switch4
B. Switch2
C. Switch1
D. Switch3

Answer: C
Explanation:
The first step of STP is root-bridge election. BPDU is used in this election process. When device advertises BPDU, it will put its own switch ID in BPDU. Switch ID is used for the election of root switch. Switch with a minimum switch ID is selected as root. Switch ID is composed of two components:
1. Switch Priority: the default priority on Cisco switches is 32,768 (two bytes in length)
2. Switches MAC address (6 bytes in length)
By default, the switch with the lowest MAC address in switching network will be root-bridge.

QUESTION NO: 444

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?

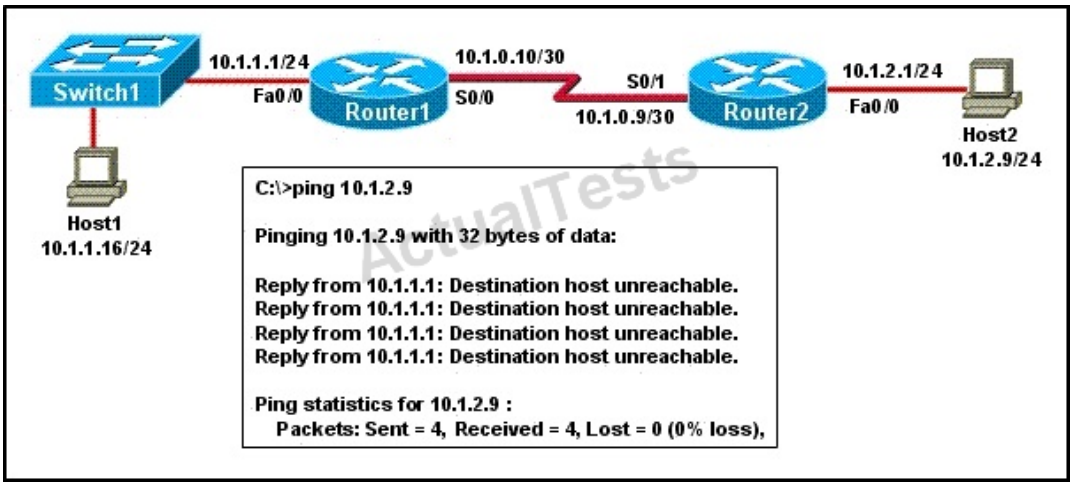
A.
Main(config)# interface serial 0/0
Main(config-if)#ip address 172.16.1.1 255.255.255.252
Main(config-if)#encapsulation ietf
Main(config-if)# no shut
B.
Main(config)# interface serial 0/0
Main(config-if)#ip address 172.16.1.1 255.255.255.252
Main(config-if)# no shut
C.
Main(config)# interface serial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

Answer: C

Explanation:

QUESTION NO: 445

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. Interface Fa0/0 Router1 is shutdown.
C. TCP/IP is not functioning on Host1
D. The link between Router1 and Router2 is down.
E. The link between Switch1 and Router1 is down.
F. The default gateway on Host1 is incorrect.

Answer: D

Explanation:

Host1 tries to communicate with Host2. The message destination host unreachable from Router1 indicates that the problem occurs when the data is forwarded from Host1 to Host2. According to the topology, we can infer that The link between Router1 and Router2 is down.

QUESTION NO: 446

Which two are features of IPv6 (Choose two)

A. pod cast
B. multicast
C. anycast
D. allcast
E. broadcast

Answer: B,C

Explanation:

QUESTION NO: 447

A network administrator receives an error message while trying to configure the Ethernet interface of a router with IP address 10.24.24.24/29. Which statement explains the reason for this issue?

A. This address is a broadcast address.
B. VLSM-capable routing protocols must be enabled first on the router.
C. The Ethernet interface is faulty.
D. This address is a network address.

Answer: D

Explanation:

QUESTION NO: 448

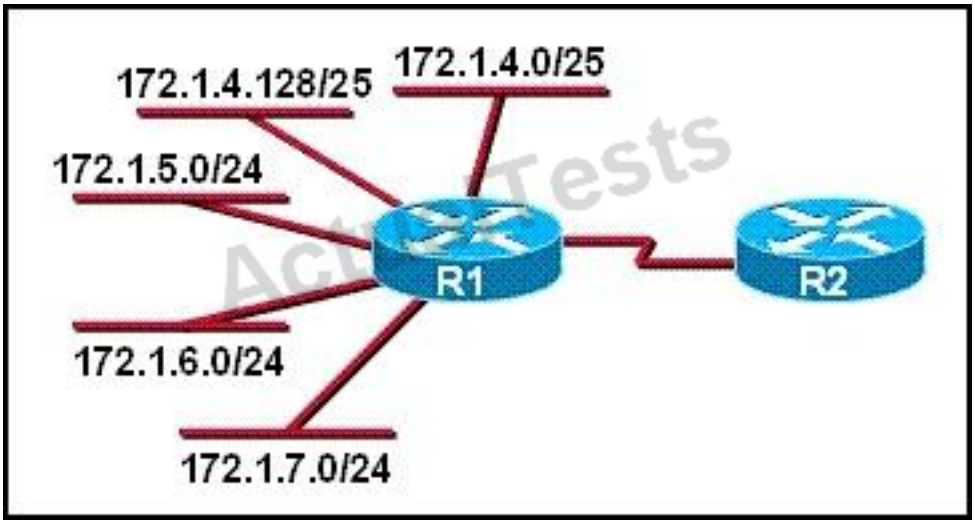
Which command enables RSTP on a switch?

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

Answer: B
Explanation:

QUESTION NO: 449

Refer to the exhibit.



What is the most efficient summarization that R1 can use to advertise its networks to R2?

A. 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
B. 172.1.0.0/22

C. 172.1.4.0/24
172.1.5.0/24
172.1.6.0/24
172.1.7.0/24
D. 172.1.0.0/21
E. 172.1.4.0/22

Answer: E

Explanation:

When the subnet mask is /22, R1 can advertise its networks to R2.

QUESTION NO: 450

The enable secret command is used to secure access to which CLI mode?

A. global configuration mode
B. privileged EXEC mode
C. user EXEC mode
D. auxiliary setup mode

Answer: B

Explanation:

QUESTION NO: 451

Which address is the IPv6 all-RIP-routers multicast group address that is used by RIPng as the destination address for RIP updates?

A. FF02::9
B. FF02::6
C. FF05::101
D. FF02::A

Answer: A

Explanation:

QUESTION NO: 452

Which IPsec security protocol should be used when confidentiality is required?

A. PSK
B. AH
C. MD5
D. ESP

Answer: D
Explanation:

QUESTION NO: 453

What are three features of the IPv6 protocol? (Choose three.)

A. checksums
B. optional IPsec
C. autoconfiguration
D. complicated header
E. plug-and-play
F. no broadcasts

Answer: C,E,F
Explanation:

QUESTION NO: 454

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

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

Answer: A
Explanation:

QUESTION NO: 455

Which device might be installed at a branch office to enable and manage an IPsec site-to-site VPN?

A. Cisco IOS IPsec/SSL VPN client
B. Cisco VPN Client
C. ISDN terminal adapter
D. Cisco Adaptive Security Appliance

Answer: D
Explanation:

QUESTION NO: 456

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

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

Answer: B
Explanation:

QUESTION NO: 457

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

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

Answer: B,C,F
Explanation:

QUESTION NO: 458

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

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

Answer: B,D,E

Explanation:

QUESTION NO: 459

Which statement is true, as relates to classful or classless routing?

A. Automatic summarization at classful boundaries can cause problems on discontinuous subnets.
B. EIGRP and OSPF are classful routing protocols and summarize routes by default
C. RIPv1 and OSPF are classless routing protocols
D. Classful routing protocols send the subnet mask in routing updates

Answer: A

Explanation:

QUESTION NO: 460 CORRECT TEXT

CCNA.com has a small network that is using EIGRP as its IGP. All routers should be running an EIGRP AS number of 112. Router Campus is also running static routing to the ISP.

CCNA.com has recently adding the Main router. Currently, the Main router does not have connectivity to the ISP router. All other interconnectivity and Internet access for the existing locations of the company are working property.

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

Access to the router CLI can be gained by clicking on the appropriate host.

All passwords on all routers are cisco.

Campus

Fa0/0 - 192.168.22.13

S1/0 – 198.0.18.6

S0/0 – 192.168.63.25

S0/1 – 192.168.40.17

Main

Fa0/0 – 192.168.22.14

Fa1/0 – 192.168.36.49

Fa1/1 – 192.168.36.33

BLD-101

Fa0/0 – 192.168.36.65

Fa1/1 –192.168.36.81

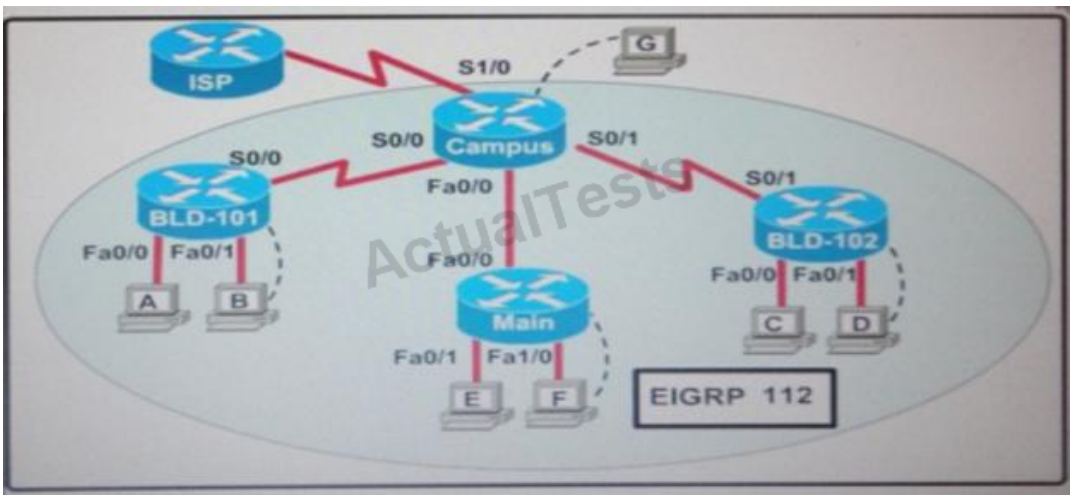
S0/0 –192.168.63.26

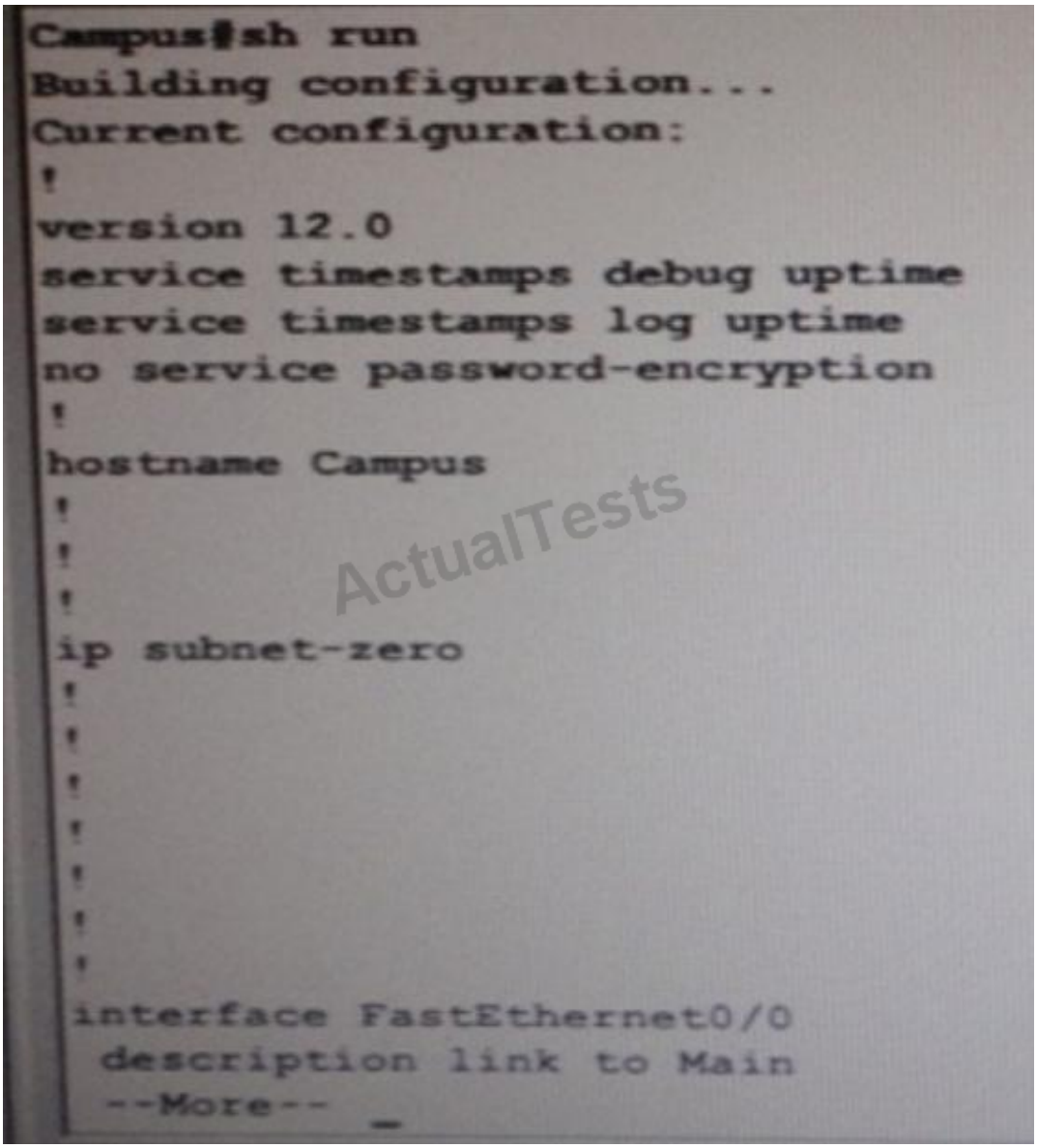
BLD-102

Fa0/0 – 192.168.36.97

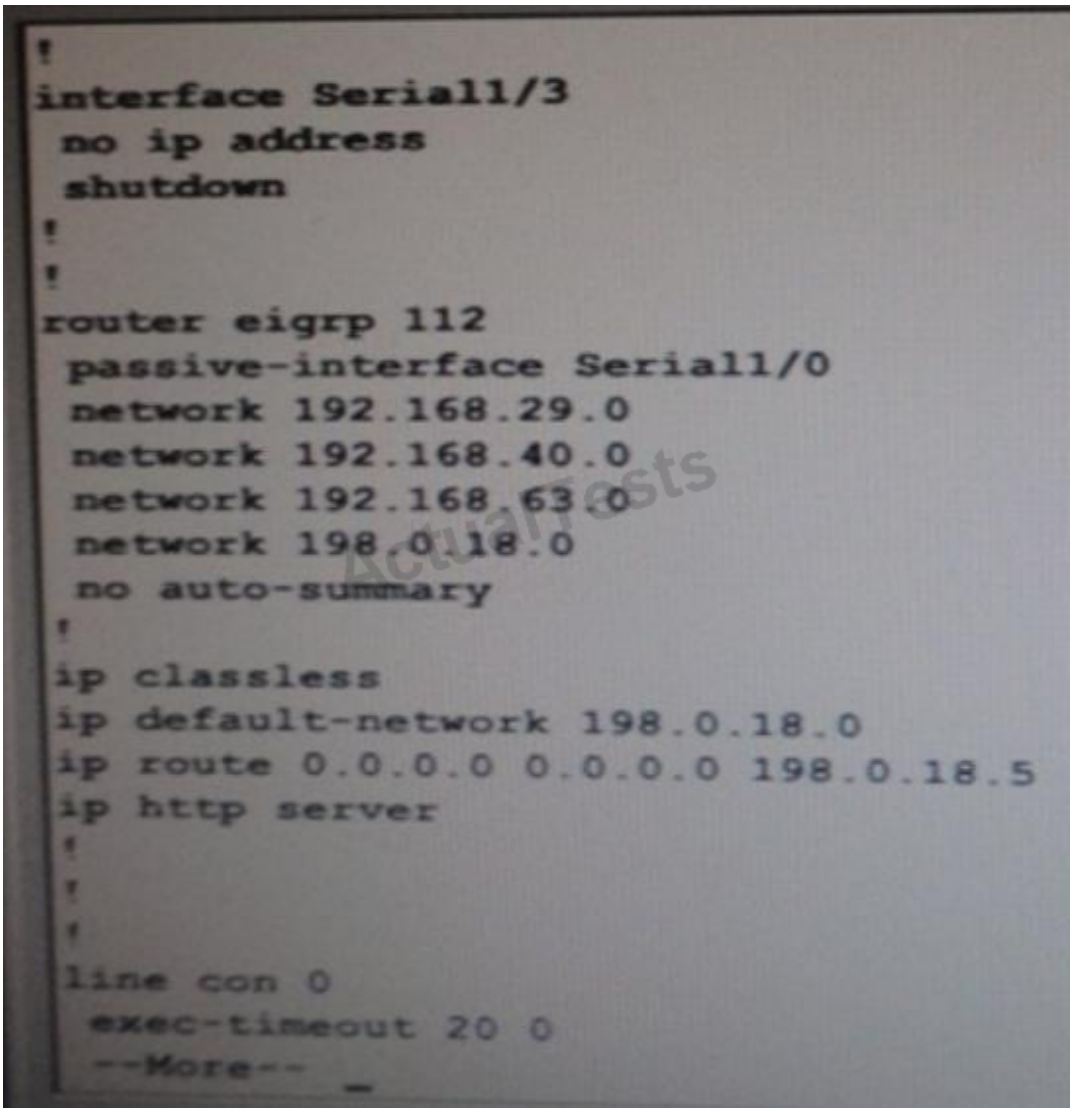
Fa1/1 –192.168.36.113

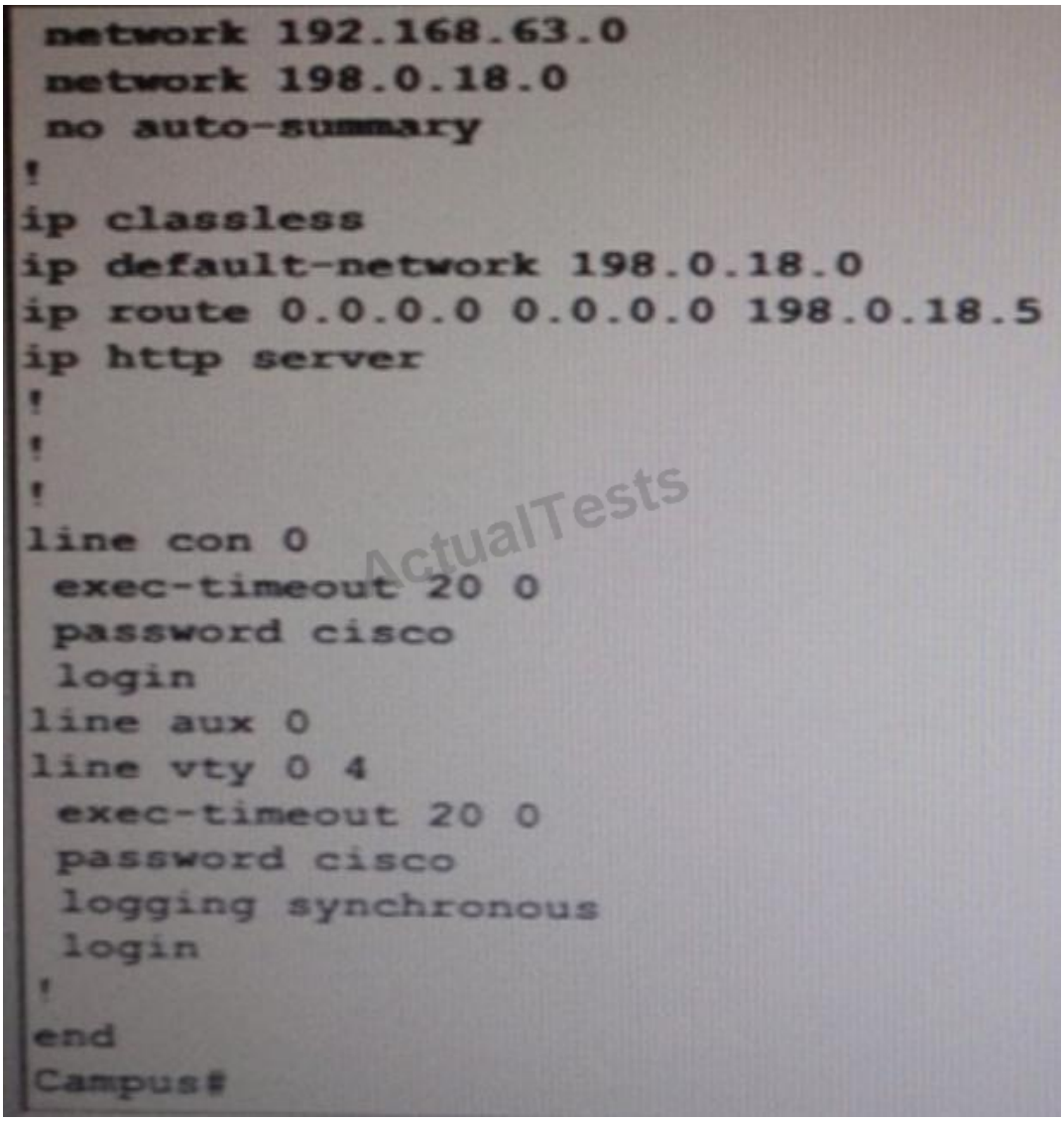
S0/1 –192.168.40.18




Campus#sh run
Building configuration...
Current configuration:
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Campus
!
!
!
ip subnet-zero
!
!
!
!
!
!
!
interface FastEthernet0/0
description link to Main
--More--
ActualTests


ip address 192.168.22.13 255.255.255.252
!
interface Serial1/0
description link to ISP
ip address 198.0.18.6 255.255.255.0
!
interface Serial0/0
description link to BLD-101
ip address 192.168.63.25 255.255.255.252
clockrate 64000
!
interface Serial0/1
description link to BLD-102
ip address 192.168.40.17 255.255.255.252
clockrate 64000
!
interface Serial1/1
no ip address
shutdown
!
interface Serial1/2
no ip address
shutdown
--More--
ActualTests


!
interface Serial1/3
no ip address
shutdown
!
!
router eigrp 112
passive-interface Serial1/0
network 192.168.29.0
network 192.168.40.0
network 192.168.63.0
network 198.0.18.0
no auto-summary
!
ip classless
ip default-network 198.0.18.0
ip route 0.0.0.0 0.0.0.0 198.0.18.5
ip http server
!
!
!
line con 0
exec-timeout 20 0
--More--



Answer: Config t
Router EIGRP 112
Network 192.168.22.0

QUESTION NO: 461 CORRECT TEXT

A corporation wants to add security to its network. The requirements are:

- Host B should be able to use a web browser (HTTP) to access the Finance Web Server.
- Other types of access from host B to the Finance Web Server should be blocked.
- All access from hosts m the Core or local LAN to the finance Web Server should be blocked.
- AM hosts in the Core and on local LAN should be able to access the Public Web Server.

You have been tasked to create and apply a numbered access list to n single outbound interface

can contain no more than three statements that meets these requirements.

Access to the router CLI can be gained by clicking on the appropriate host.

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You have been tasked to create and apply a numbered access list to n single outbound interface. This access list can contain no more than three statements that meets these requirements.

Access to the router CLI can be gained by clicking on the appropriate host.

All passwords have been temporarily set to "cisco"

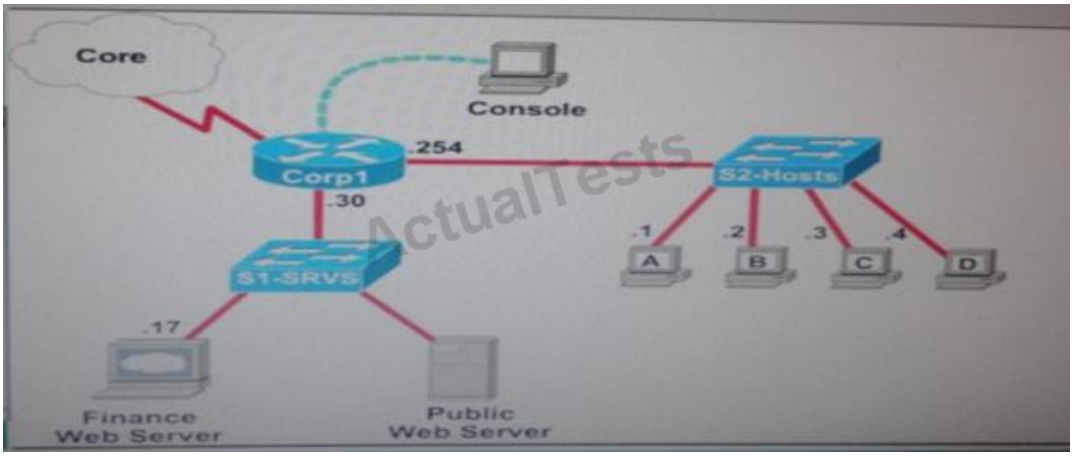
The Core connection uses an IP address of 198.18.222.65

The computers in the Hosts LAN have been assigned addresses of 192.168.86 1-192.168.86.254.

- host A 192.168.86.1
- host B 192.168.86.2
- host C 192.168.86.3
- host D 192.168.86.4

The Finance Web Server has been assigned an address of 172.22.63.17

The Public Web Server in the Server LAN has been assigned an address of 172.22.63.18



Answer: Here are the step by Step Solution for this:

Corp1#configure terminal

Our access-list needs to allow host B – 192.168.86.3 to the Finance Web Server 172.22.63.17 via web (port 80)

Corp1(config)#access-list 100 permit tcp host 192.168.33.3 host 172.22.63.17 eq 80

All hosts in the Core and on local LAN should be able to access the Public Web Server

Corp1(config)#access-list 100 permit ip any host 172.22.63.18

All other traffic is denied

Corp1(config)#access-list 100 deny ip any any

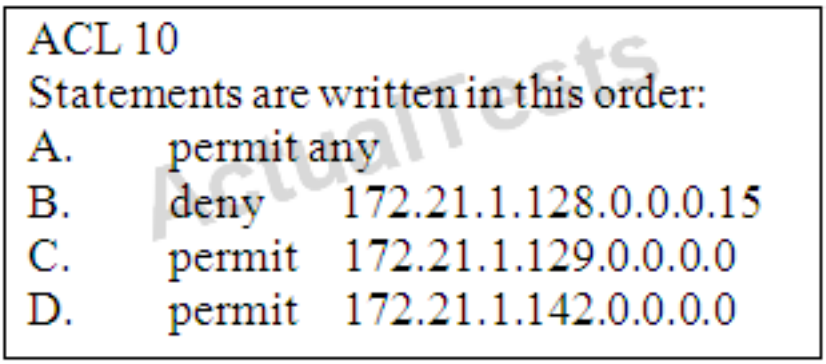
Apply this access-list to LAN interface (need to figure out the interface to apply it to based on the topology diagram)

Corp1(config)#interface fa0/0

Corp1(config-if)#ip access-group 100 out

QUESTION NO: 462

Refer to the exhibit.



Statements A, B, C, and D of ACL 10 have been entered in the shown order and applied to interface E0inbound, to prevent all hosts (except those whose address 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?

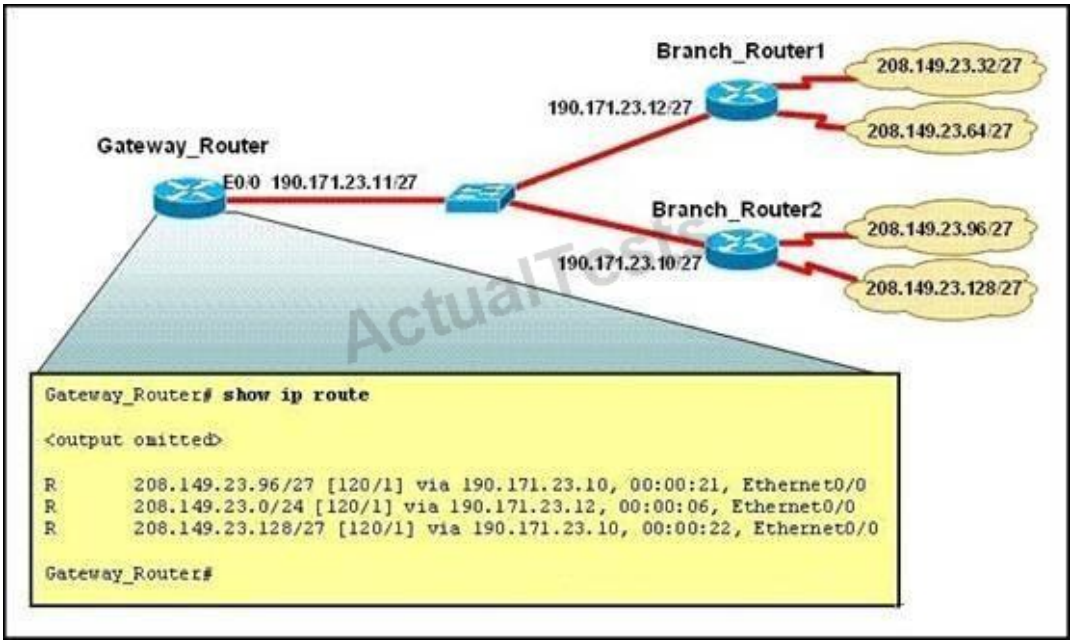
A. CDBA
B. ACDB
C. BADC
D. DBAC

Answer: A

Explanation:

QUESTION NO: 463

Refer to the exhibit.



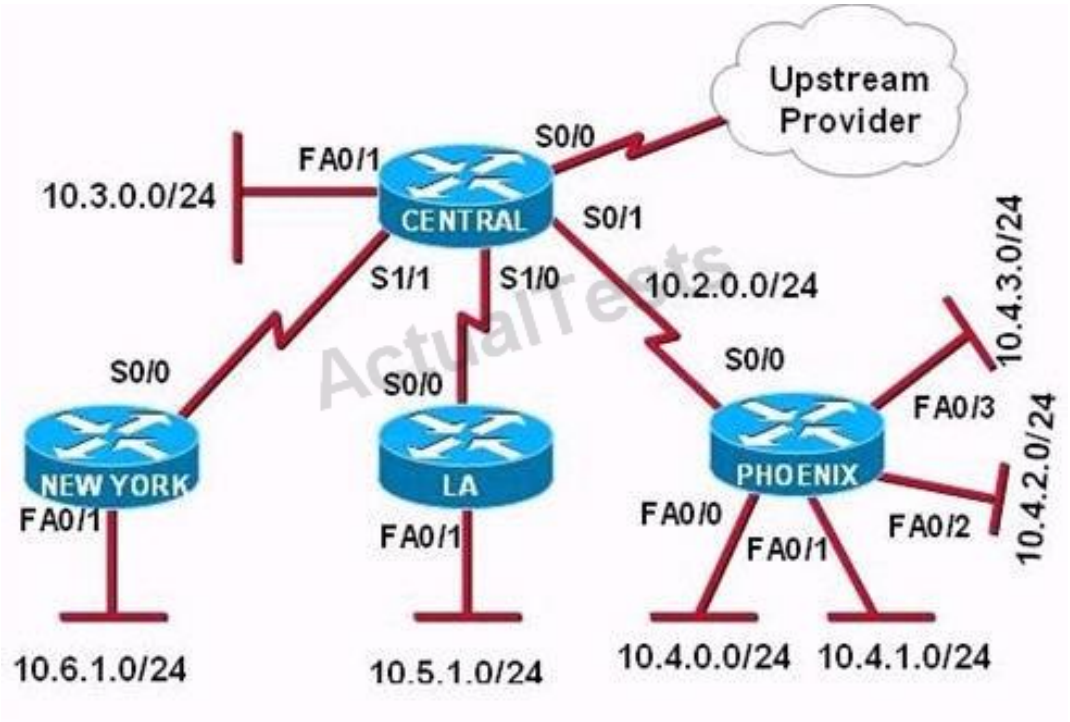
What is the most likely reason for the disparity between the actual network numbers at the branches and the routes in the routing table on Gateway_Router?

A. Gateway_Router is configured to receive only RIPv1 updates.
B. Gateway_Router is configured to only receive RIPv2 updates.
C. Branch_Router2 is configured to send both RIPv1 and RIPv2 updates.
D. Branch_Router1 is configured to only send RIPv1 updates.

Answer: D
Explanation:
The default version of RIP is version 1, which doesn't supports multicast updates, classless networks, and authentication. It appears that Router1 is configured with RIP v1 so it's sending only v1 packets, which means only the classful network of 208.149.23.0/24 is being advertised. However, it appears that Router2 is indeed using RIPv2 as both the /27 networks are being advertised from that router.
If you wish to enable to RIP version 2 on router use following command:
Router(Config)#router rip
Router(Config-router)#version 2

QUESTION NO: 464

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 on 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 subnets
D 10.0.0.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
B. 10.0.0.0/28 is subnetted, 1 subnets
D 10 2 0.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
C. 10.0.0.0/28 is subnetted, 1 subnets
D 10.4.4.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
D. 10.0.0.0/30 is subnetted, 1 subnets
D 10.4.4.4 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
E. 10.0.0.0/22 is subnetted, 1 subnets
D 10.4.0.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1
F. 10.0.0.0/30 is subnetted, 1 subnets
D 10.2.2.0 [90/20514560] via 10.2.0.2, 6w0d, Serial0/1

Answer: E

Explanation:

QUESTION NO: 465

Which two Cisco IOS commands, used in troubleshooting, can enable debug output to a remote location? (Choose two)

A. no logging console
B. logging host ip-address
C. terminal monitor
D. show logging | redirect flashioutput.txt
E. snmp-server enable traps syslog

Answer: B,C
Explanation:

QUESTION NO: 466

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 points.
B. When dynamic MAC address learning is enabled on an interface, the switch can learn new addresses, up to the maximum defined.
C. The network administrator can configure static secure or sticky secure MAC addresses in the voice VLAN.
D. The network administrator can apply port security to EtherChannels.
E. The sticky learning feature allows the addition of dynamically learned addresses to the running configuration.

Answer: B,E
Explanation:

QUESTION NO: 467

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
Explanation:

QUESTION NO: 468

What is the purpose of Inverse ARP?

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

Answer: D
Explanation:

QUESTION NO: 469

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

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

Answer: A,D
Explanation:
802.1Q protocol, or Virtual Bridged Local Area Networks protocol, mainly stipulates the realization of the VLAN. 802.1Q is a standardized relay method that inserts 4 bytes field into the original

Ethernet frame and re-calculate the FCS. 802.1Q frame relay supports two types of framE. marked and non-marked. Non-marked frame carries no VLAN identification information.

QUESTION NO: 470

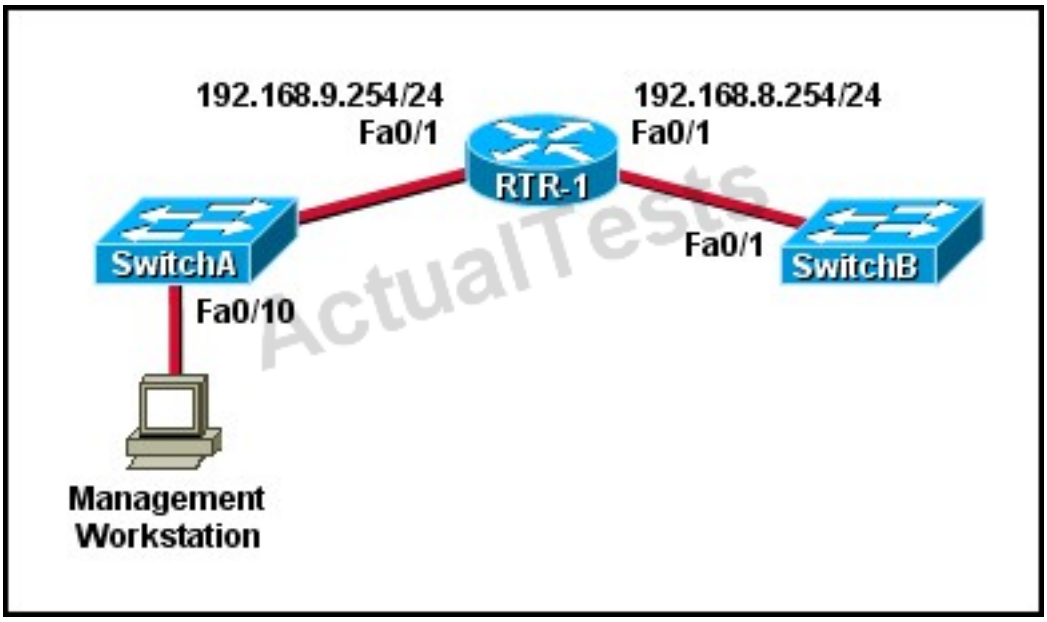
Which type of EIGRP route entry describes a feasible successor?

A. a primary router, stored in the topology table
B. a backup router, stored in the routing table
C. a backup route, stored in the topology table
D. a primary router, stored in the routing table

Answer: C
Explanation:
EIGRP uses the Neighbor Table to list adjacent routers. The Topology Table list all the learned routers to destination whilst the Routing Table contains the best route to a destination, which is known as the Successor. The Feasible Successor is a backup route to a destination which is kept in the Topology Table.

QUESTION NO: 471

Refer to the exhibit.



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

A. SwitchB(config)# ip default-gateway 192.168.8.254
SwitchB(config)# interface vlan 1
SwitchB(config-if)# ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)# no shutdown
B. SwitchB(config)# ip default-network 192.168.8,254
SwitchB(config)# interface vlan 1
SwitchB(config-if)# ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)# no shutdown
C. SwitchB(config)# interface vlan 1
SwitchB(config-if)# ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)# ip default-gateway 192.168.8.254 255.255.255.0
SwitchB(config-if)# no shutdown
D. SwitchB(config)# ip router 192.168.8.254 255.255.255.0
SwitchB(config-if)# interface FastEthernet 0/1
SwitchB(config-if)# ip default-gateway 192.168.8.254 255.255.255.0
SwitchB(config-if)# no shutdown
E. SwitchB(config-if)# interface FastEthernet 0/1
SwitchB(config-if)# ip default-gateway 192.168.8.252 255.255.255.0
SwitchB(config-if)# no shutdown

Answer: A

Explanation:

QUESTION NO: 472

Which two statements describe the advantages to the use of RIP over the use of OSPF? (Choose two.)

A. RIP requires less time to converge.
B. RIP is less complex to configure.
C. RIP uses less bandwidth.
D. RIP has a more accurate metric.
E. RIP demands fewer router resources.

Answer: B,E

Explanation:

QUESTION NO: 473

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

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

Answer: D
Explanation:

QUESTION NO: 474

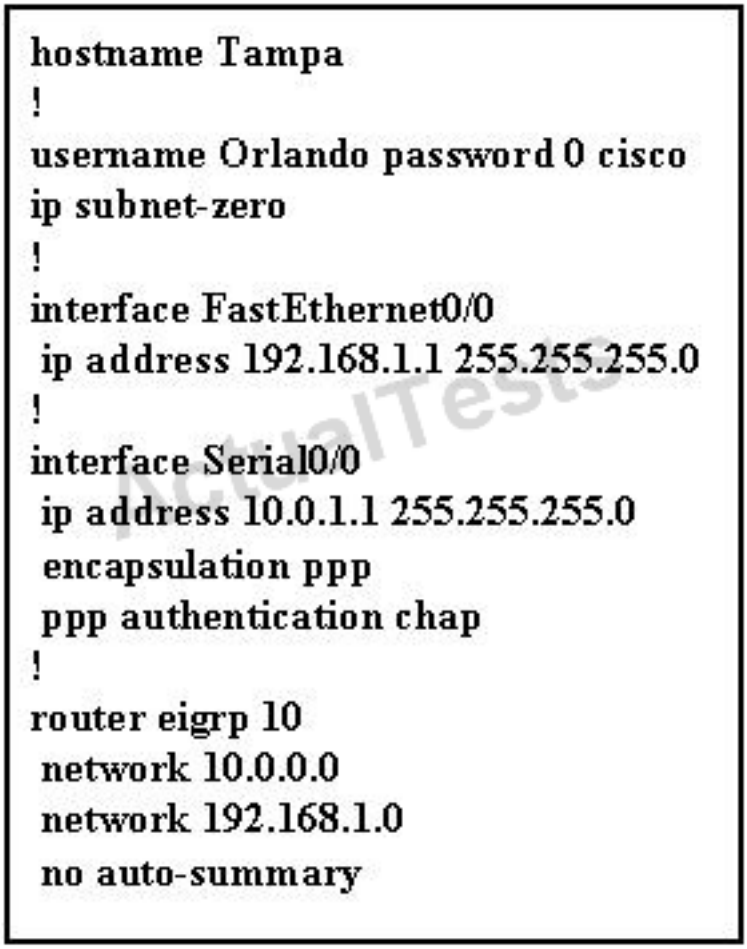
What does the frame-relay interface-dlci command configure?

A. remote DCLI on the subinterface
B. remote DLCI on the main interface
C. local DLCI on the main interface
D. local DLCI on the subinterface

Answer: D
Explanation:

QUESTION NO: 475

Refer to the exhibit.



The serial0/0 interface of the Tampa router connects to the Orlando router. Which two statements are true about the connection between these two routers?

A. The link uses a three-way handshake for authentication.
B. The link uses a two-way handshake for authentication.
C. The only device with which the Tampa router will negotiate a data link is the Orlando router.
D. Data exchanges between the Orlando and Tampa routers are encrypted.
E. Routing updates exchanged between the Orlando and Tampa routers are authenticated.

Answer: A,C
Explanation:

QUESTION NO: 476

Refer to the exhibit.

```
Router-1#telnet 10.3.3.1
Trying 10.3.3.1 … Open
Password required, but none set
[Connection to 10.3.3.1 closed by foreign host]
```

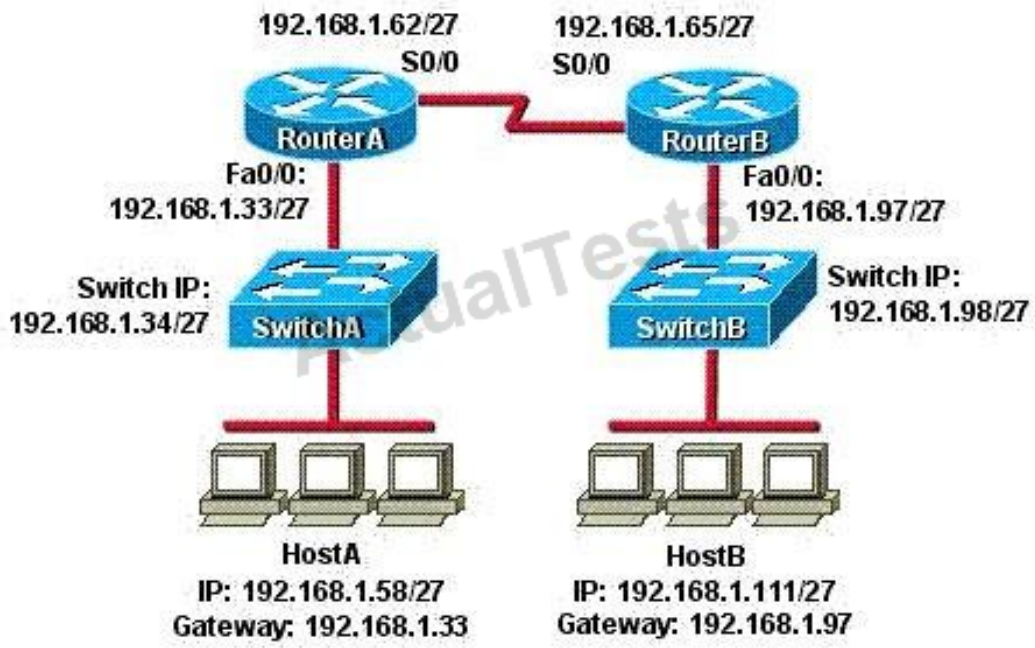
Why does the Telnet connection fail when a host attempts to connect to a remote router?

A. No password was set for cty lines.
B. No password was set for vty lines.
C. No password was set for aux lines.
D. No password was set for tty lines

Answer: B
Explanation:

QUESTION NO: 477

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 Fa0/0 interface on RouterB is using a broadcast address.
C. The Fa0/0 interface on RouterA is on a subnet that can't be used.
D. The address of SwitchA is a subnet address.
E. The serial interfaces of the routers are not on the same subnet.

Answer: E

Explanation:

QUESTION NO: 478

Which component of VPN technology ensures that data can be read only by its intended recipient?

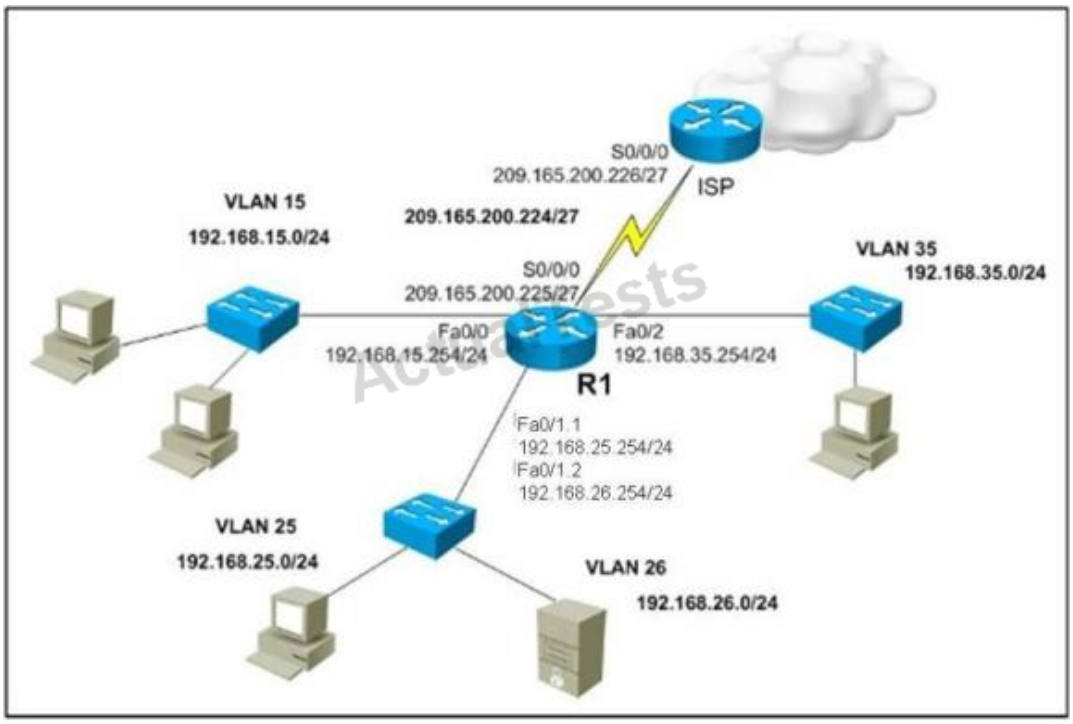
A. authentication
B. data integrity
C. key exchange
D. encryption

Answer: A

Explanation:

QUESTION NO: 479

Refer to the exhibit.



How many interfaces on R1 should be configured as ip nat inside to grant external access to the entire network?

A. 5
B. 3
C. 4
D. 1

Answer: C

Explanation:

QUESTION NO: 480

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

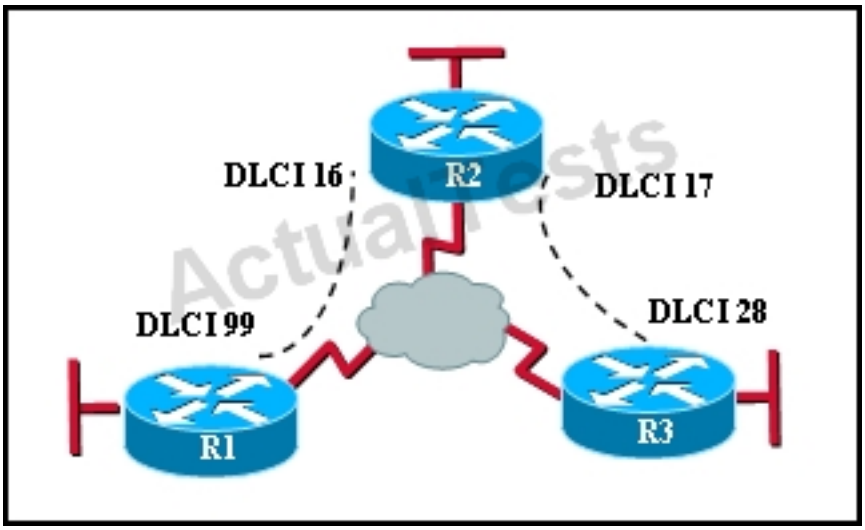
A. I through 1002
B. 2 through 1001
C. I through 1001
D. 2 through 1005

Answer: B

Explanation:

QUESTION NO: 481

Refer to the exhibit.



In the Frame Relay network, which IP addresses would 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: 192.168.10.2 /24
DLCI 99: 192.168.10.3 /24
DLCI 28: 192.168.10.4 /24
D.
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

Answer: D

Explanation:

QUESTION NO: 482

Which name describes an IPv6 host-enabled tunneling technique that uses IPv4 UDP, does not require dedicated gateway tunnels, and can pass through existing IPv4 NAT gateways?

A. dual stack
B. manual 6to4
C. Teredo
D. dynamic

Answer: C
Explanation:

QUESTION NO: 483

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
Explanation:

QUESTION NO: 484

Which IPv6 address is valid?

A. 2031:0:130F::9C0:876A:130B
B. 2001:0db8:0:130H::87C:140B
C. 2001:0db8:0000:130F:0000:0000:08GC:140B
D. 2031::130F::9C0:876A:130B

Answer: A
Explanation:

QUESTION NO: 485

Which component of VPN technology ensures that data is unaltered between the sender and recipient?

A. authentication
B. data integrity
C. key exchange
D. encryption

Answer: B

Explanation:

QUESTION NO: 486

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

Answer: C

Explanation:

QUESTION NO: 487

Which two statistics appear in show frame-relay map output? (Choose two.)

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

Answer: B,D

Explanation:

QUESTION NO: 488

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 cost
B. administrative distance
C. link bandwidth
D. hop count
E. link delay

Answer: B
Explanation:

QUESTION NO: 489

Which command encrypts all plaintext passwords?

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

Answer: B
Explanation:

QUESTION NO: 490

What is the function of the command switchport trunk native vlan 999 on a Cisco Catalyst switch?

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
Explanation:
Configuring the Native VLAN for Untagged TrafficA trunk port configured with 802.1Q tagging can

receive both taggedand untagged traffic. By default, the switch forwards untagged trafficin the native VLAN configured for the port. The native VLAN is VLAN 1by default.

QUESTION NO: 491

Which two statements about static NAT translation are true? (Choose two)

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

Answer: A,D
Explanation:

QUESTION NO: 492

Which command is used to display the collection of OSPF link states?

A. show ip ospf neighbors
B. show ip ospf database
C. show ip ospf link-state
D. show ip ospf Isa database

Answer: B
Explanation:

QUESTION NO: 493

How are VTP advertisements delivered to switches across the network?

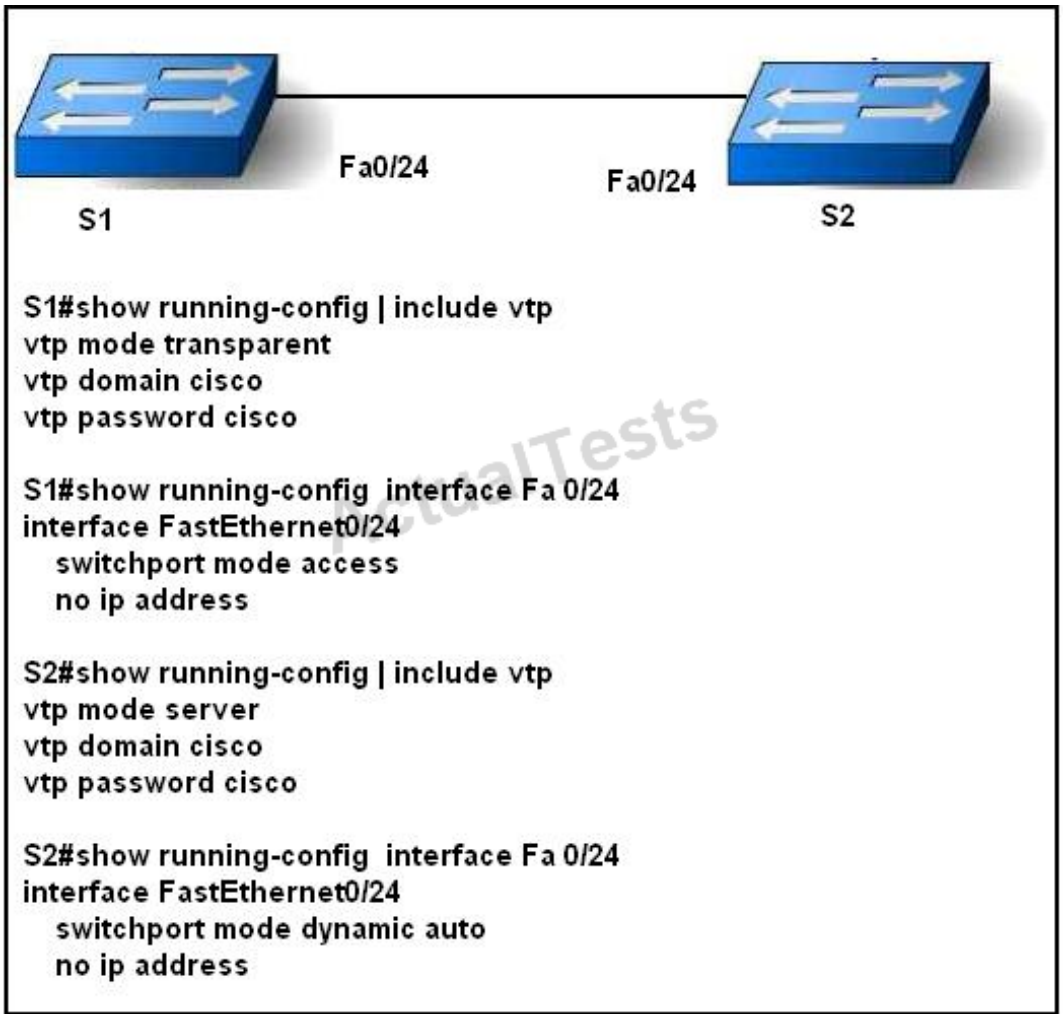
A. unicast frames
B. multicast frames
C. broadcast frames
D. anycast frames

Answer: B

Explanation:

QUESTION NO: 494

Refer to the exhibit.



The VLAN configuration of S1 is not being updated in this VTP-enabled environment. The VTP and uplink port configuration for each switch are displayed. Which two command sets, if issued, resolve this failure and allow VTP to operate as expected?

A. S1(config)#vtp mode client
B. S2(config)#vtp mode client
C. S2(config)#interface FastEthernet 0/24
S2(config-if)#switchport mode access
S2(config-if)end
D. S1(config)#interface FastEthernet 0/24
S1(config-if)#switchport mode trunk

S2(config-if)#end
E. S2(config)#vtp mode transparent

Answer: A,D

Explanation:

QUESTION NO: 495

Refer to the exhibit.



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

Answer: B

Explanation:

QUESTION NO: 496

Which pairing reflects a correct protocol-and-metric relationship?

A. EIGRP and link cost
B. OSPF and number of hops and reliability
C. RIPv2 and number of hops
D. IS-IS and delay and reliability

Answer: C
Explanation:

QUESTION NO: 497

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

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

Answer: B
Explanation:

QUESTION NO: 498

Refer to the exhibit.

```
Glencoe#show ip protocol
Routing Protocol is "eigrp 478"
— output omitted —
Redistributing: eigrp 478
Automatic network summarization is not in effect
Maximum path: 4
Routing for Networks:
172.26.168.128/26
172.26.169.0/26
Routing Information Sources:
Gateway Distance Last Update
172.26.168.129 90 01:01:59
Distance: internal 90 external 170
```

The EIGRP configuration in the Glencoe router uses a single network statement. From the output shown in the graphic, which network statement would advertise these networks in EIGRP?

A. network 172.26.168.128 area 478
B. network 172.26.168.128 0.0.0.127
C. network 172.26.168.0 area 478
D. network 172.26.0.0

Answer: D
Explanation:

QUESTION NO: 499

Refer to the exhibit.

```
Router#config 1
Router(config)#line vty 0 4
Router(config-line)#password c1sc0
Router(config-line)#no login
```

What is the result of setting the no login command?

A. Telnet access is denied.
B. Telnet access requires a new password at the first login.
C. Telnet access requires a new password.
D. There is a virtually limitless supply of IP addresses.

Answer: A
Explanation:

QUESTION NO: 500

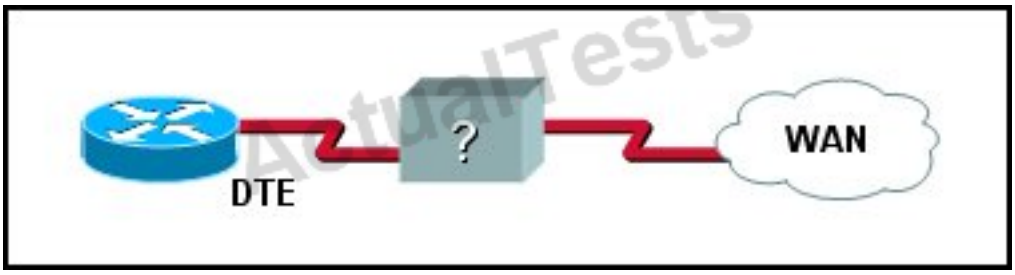
Which command helps a network administrator to manage memory by displaying flash memory and NVRAM utilization?

A. show secure
B. show file systems
C. show version
D. show flash

Answer: B
Explanation:

QUESTION NO: 501

Refer to the exhibit.



Which two devices can be used to complete the connection between the WAN router at the customer site and the service provider? (Choose two.)

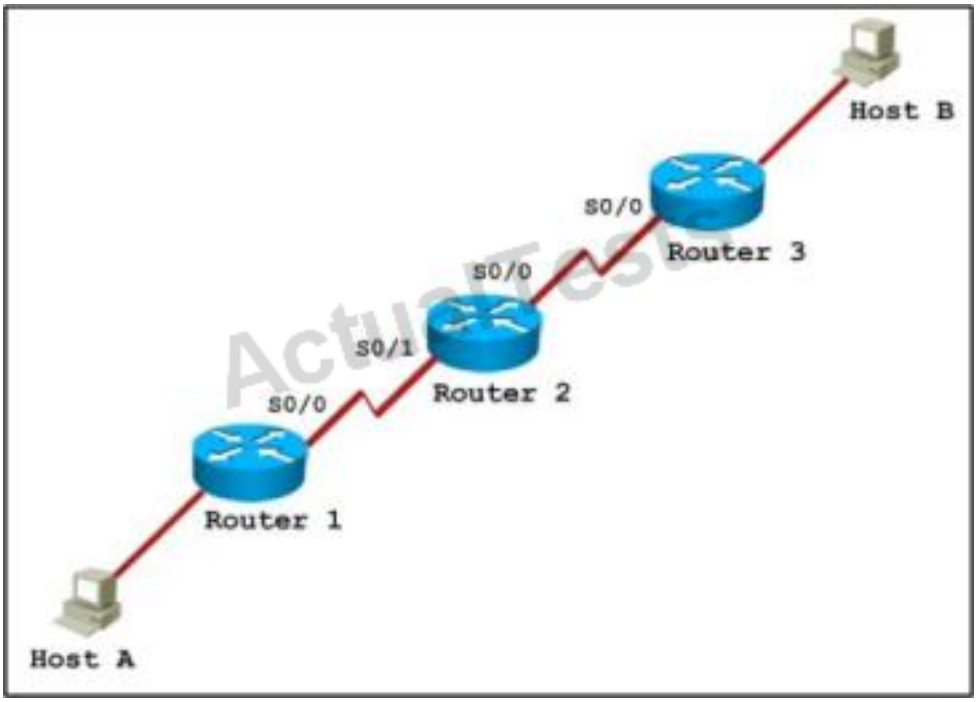
A. modem
B. ISDN TA
C. CSU/DSU
D. ATM switch
E. Frame Relay switch

F. WAN switch

Answer: A,C
Explanation:

QUESTION NO: 502

Refer to Exhibit.



Host A pings interface S0/0 on router 3. What is the TTL value for the ping?

A. 253
B. 252
C. 255
D. 254

Answer: A
Explanation:

QUESTION NO: 503

What are two characteristics of a switch that is configured as a VTP client? (Choose two.)

A. VTP advertisement are not forwarded to neighboring switches that are configured in VTP transparent mode.
B. If a switch that is configured to operate in client mode cannot access a VTP server, then the switch reverts to transparent mode.
C. VTP client is the default VTP mode.
D. On switches that are configured to operate in client mode, VLANs can be created, deleted, or renamed locally.
E. The local VLAN configuration is updated only when an update that has a higher configuration revision number is received.
F. When switches in VTP client mode are rebooted, they send a VTP advertisement request to the VTP servers.

Answer: E,F

Explanation:

QUESTION NO: 504

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

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

Answer: C

Explanation:

QUESTION NO: 505

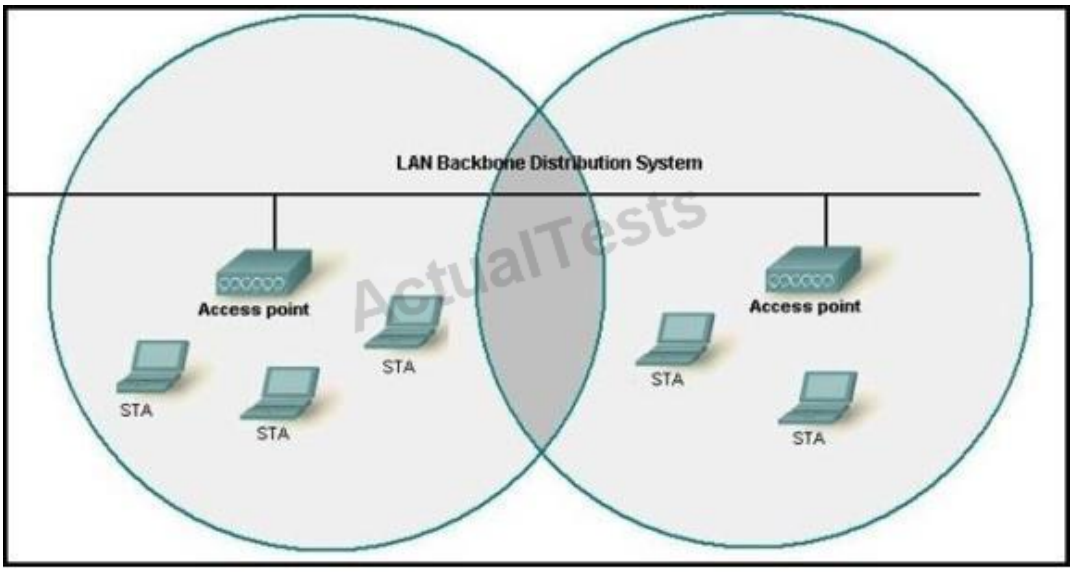
Two switches are connected through a trunk link. Which two commands show that there is a native VLAN mismatch on that link? (Choose two)

A. show interfaces interface switchport
B. show interface interface trunk
C. show vlan brief
D. show interfaces vlan
E. show interfaces interface
F. show interface switchport
G. show interface trunk

Answer: F,G
Explanation:

QUESTION NO: 506

Refer to the exhibit.



What two facts can be determined from the WLAN diagram? (Choose two)

A. The two access points generally are configured with a common SSID to allow roaming from access point to access point.
B. Each access point must have a unique SSID.
C. The network diagram represents an extended service set (ESS).
D. The area of overlap of the two cells represents a basic service set (BSS).
E. The network diagram represents an ad hoc topology.

Answer: A,C
Explanation:

QUESTION NO: 507

Why will a switch never learn a broadcast address?

A. Broadcast frames are never sent to swiches.
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
Explanation:

QUESTION NO: 508

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
Explanation:

QUESTION NO: 509

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
Explanation:

QUESTION NO: 510

Which command can be used from a PC to verfy the connectivity between host that connect through path.?

A. tracert address
B. ping address

C. arp address
D. traceroute address

Answer: A
Explanation:

QUESTION NO: 511

In which solution is a router ACL used?

A. protecting a server from unauthorized access
B. controlling path selection, based on the route metric
C. reducing router CPU utilization
D. filtering packets that are passing through a router

Answer: D
Explanation:

QUESTION NO: 512

A router has two Fast Ethernet 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
Explanation:

QUESTION NO: 513

Refer to the exhibit.

```
Switch2#show vlan brief

VLAN  Name                             Status    Ports
----  -------------------------------- --------- -------------------------------

1     default                          active
10    VLAN0010                         active
11    VLAN0011                         active
20    VLAN0020                         active
```

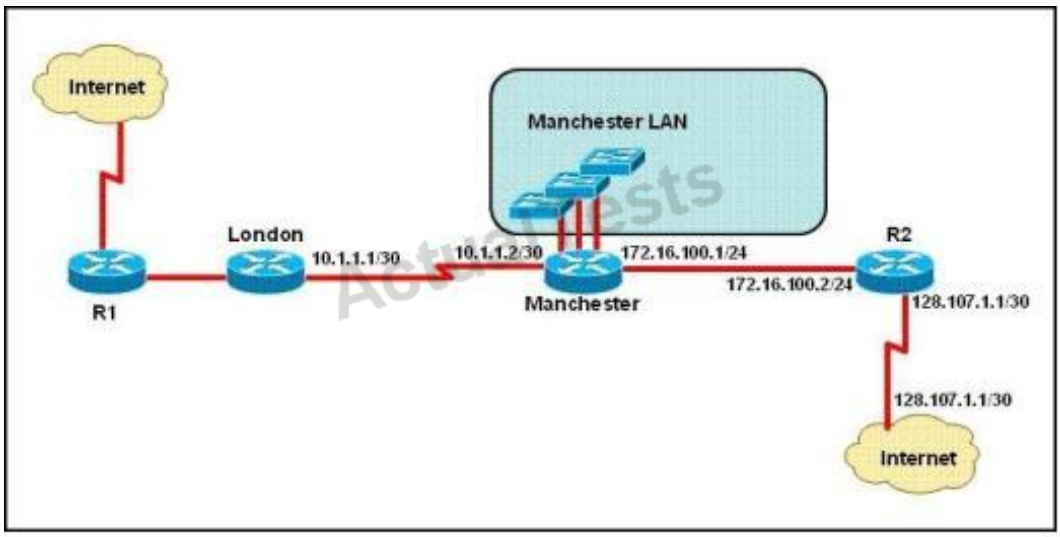
How many broadcast domains are configured on switch2?

A. 5
B. 20
C. 4
D. 1

Answer: C
Explanation:

QUESTION NO: 514

Refer to the exhibit.



The speed of all serial links is E1 and the speed of the all Ethernet links is 100Mb/s. A static route will be established on the Manchester router to the direct traffic toward the internet over the most direct path available. What configuration on the Manchester router will establish a router toward the internet for traffic that originates 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 0.0.0.0 0.0.0.0 172.16.100.1
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

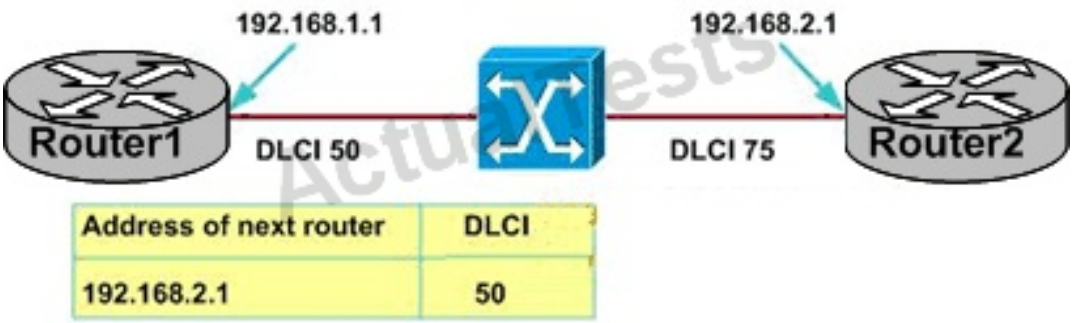
Answer: F
Explanation:
We use default routing to send packets with a remote destination network not in the routing table to the next-hop router. You should generally only use default routing on stub networks—those with only one exit path out of the network.

According to exhibit, all traffic towards Internet that originates from workstations should forward to Router R1.

Syntax for default route is:
ip route <Remote_Network> <Netmask> <Next_Hop_Address>.

QUESTION NO: 515

What Frame Relay mechanism is used to build the map illustrated in the accompanying graphic?



A. inverse multiplexing
B. LMI maping
C. Inverse ARP
D. ARP

E. Proxy ARP

Answer: C

Explanation:

The locally significant DLCI must be mapped to the destination router's IP address. There are two options for this, Inverse ARP and static mapping.

In both of the following examples, the single physical Serial interface on Router 1 is configured with two logical connections through the frame relay cloud, one to Router 2 and one to Router 3. Inverse ARP runs by default once Frame Relay is enabled, and starts working as soon as you open the interface. By running show frame-relay map after enabling Frame Relay, two dynamic mappings are shown on this router. If a dynamic mapping is shown, Inverse ARP performed it.

R1#show frame map

Serial0 (up): ip 200.1.1.2 dlci 122(0x7A,0x1CA0), dynamic,

broadcast,, status defined, active

Serial0 (up): ip 200.1.1.3 dlci 123(0x7B,0x1CB0), dynamic,

broadcast,, status defined, active

Static mappings require the use of a frame map statement. To use static mappings, turn Inverse ARP off with the no frame-relay inverse-arp statement, and configure a frame map statement for each remote destination that maps the local DLCI to the remote IP address. Frame Relay requires the broadcast keyword to send broadcasts to the remote device.

R1#conf t

R1(config)#interface serial0

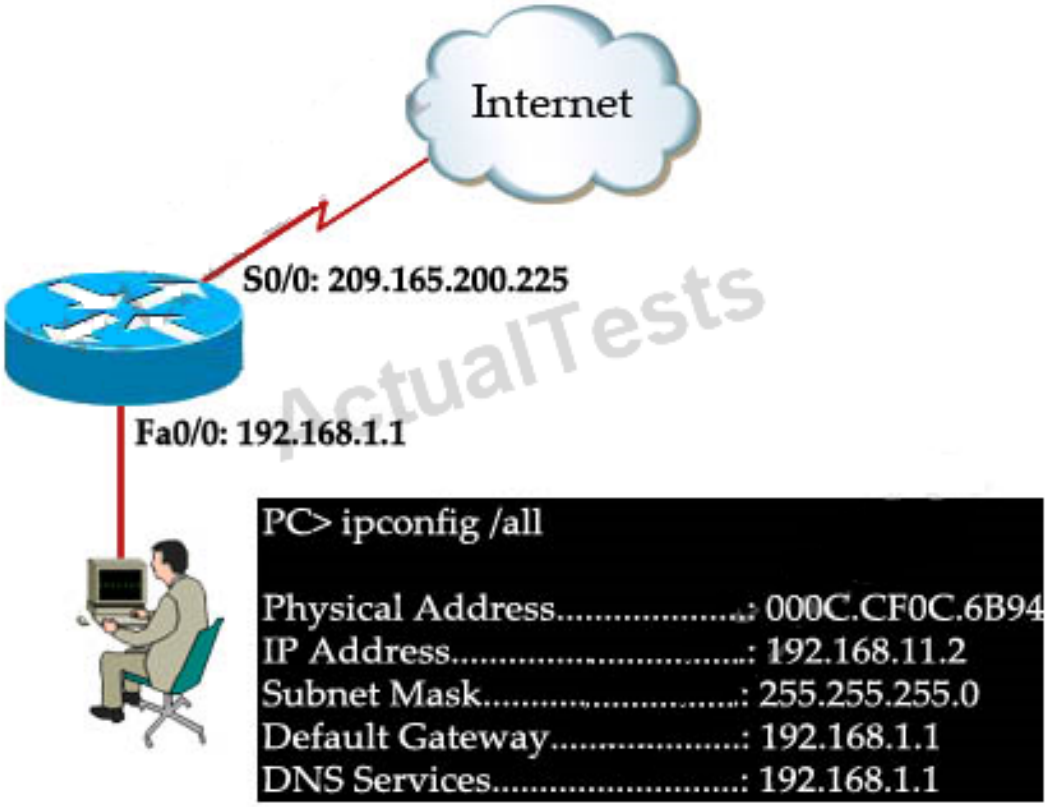
R1(config-if)#no frame-relay inverse-arp

R1(config-if)#frame map ip 200.1.1.2 122 broadcast

R1(config-if)#frame map ip 200.1.1.3 123 broadcast

QUESTION NO: 516

Refer to the exhibit. A network engineer is troubleshooting an internet connectivity problem on the computer. What is causing the problem?



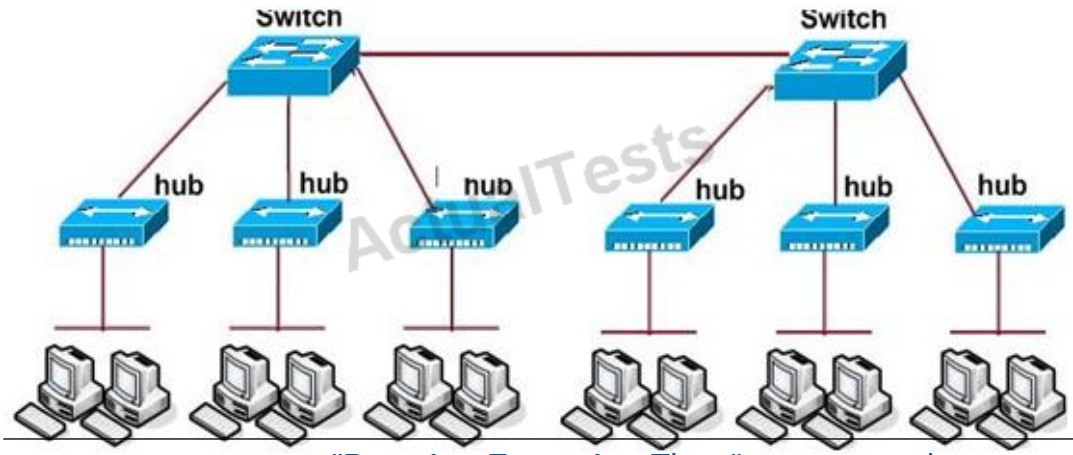
A. wrong DNS server
B. wrong default gateway
C. incorrect IP address
D. incorrect subnet mask

Answer: C

Explanation:

QUESTION NO: 517

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
Explanation:

QUESTION NO: 518

How dose 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 newquest 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
Explanation:

QUESTION NO: 519

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

A. 16
B. 2
C. unlimited
D. 4

Answer: D
Explanation:

QUESTION NO: 520

Which IPV6 routing protocol uses multicast group FF02::9 to send updates?

A. RIPng
B. OSPFv3
C. static
D. IS-IS for Ipv6

Answer: A

Explanation:

QUESTION NO: 521

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 hosts that require external access.
F. NAT conserves addresses through host MAC-level multiplexing.

Answer: A,E

Explanation:

QUESTION NO: 522

A switch is configured as a vtp sever with a domain name of CCNA. Which cisco ios privileged mode command,followed by a reload of the switch, will reset the VTP management domain name of the switch to a NULL value?

A. #vtp domain unset
B. #delete vlan.dat
C. #no vtp domain
D. #vtp domain null

Answer: B

Explanation:

QUESTION NO: 523

If an Ethernet port on a router was assigned an IP address of 172.1.1.1/20, what is the maximum number of hosts allowed on this subnet?

A. 4094
B. 1024
C. 8190
D. 2046
E. 4096

Answer: A
Explanation:

QUESTION NO: 524

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
Explanation:

QUESTION NO: 525

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
Explanation:

QUESTION NO: 526

Assuming default setting,how can you erase the VTP database of VLANs on a CISCO IOS switch running in VTP server mode?

A. Enable VTP pruning
B. From privileged mode ,erase the startup configuration file,then reload.
C. From privileged mode ,erase the vlan dat file, then reload.
D. Cycle the switch power.

Answer: C
Explanation:

QUESTION NO: 527

```
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
```

Refer to the exhibit. Which address and mask combination represents 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
Explanation:
The binary version of 20 is 10100.

The binary version of 16 is 10000.
The binary version of 24 is 11000.
The binary version of 28 is 11100.
The subnet mask is /28. The mask is 255.255.255.240.

Note:
From the output above, EIGRP learned 4 routes and we need to find out the summary of them: + 192.168.25.16+ 192.168.25.20+ 192.168.25.24+ 192.168.25.28
-> The increment should bE. 28 – 16 = 12 but 12 is not an exponentiation of 2 so we must choose 16 (24). Therefore the subnet mask is /28 (=1111 1111.1111 1111.1111 1111.1111**1**0000) = 255.255.255.240
So the best answer should be 192.168.25.16 255.255.255.240

QUESTION NO: 528

Refer to the exhibit




```
S1#show interface trunk
Port      Mode   Encapsulation Status     Network vlan
Fa0/1     on     802.1q        inuking              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	Network vlan
Fa0/1	on	802.1q	inuking	2

Port	Vlans allowed a trunk
Fa0/1	1.1005

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

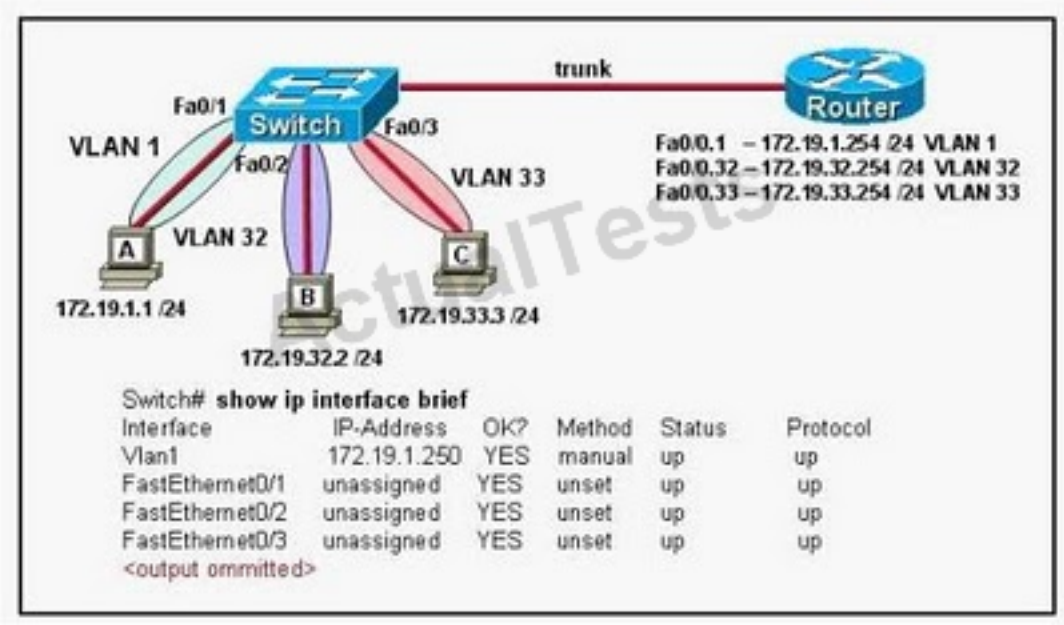
A frame on vlan 1on switch s1 is sent to switch s2 when the frame is received on vlan 2, what causes this behavior?

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
Explanation:

QUESTION NO: 529

Refer to the exhibit.



The network administrator normally establishes a Telnet session with the switch from host A. However, host A is unavailable. The administrator's attempt to telnet to the switch from host B fails, but pings to the other two hosts are successful. What is the issue?

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 needs to be assigned an IP address in vlan 1.

Answer: B

Explanation:

Ping was successful form host B to other hosts because of intervlan routing configured on router. But to manage switch via telnet the VLAN32 on the switch needs to be configured interface vlan32 along with ip address and its appropriate default-gateway address.
Since VLAN1 interface is already configure on switch Host A was able to telnet switch.

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QUESTION NO: 530

Refer to the exhibit.

```
Router1# show ip interface brief

Interface       IP-Address      OK? Method Status                Protocol

Ethernet0       190.172.32.10   YES NVRAM  up                    up
Loopback0       208.149.23.162  YES NVRAM  up                    up
Loopback1       208.149.23.194  YES NVRAM  up                    up
Serial0         220.173.149.10  YES manual down                  down
Serial1         unassigned      YES NVRAM  administratively down down
```

Router1 was just successfully rebooted. Identify the current OSPF router ID for Router1.

A. 208.149.23.194
B. 220.173.149.10
C. 208.149.23.162
D. 190.172.32.10

Answer: A

Explanation:

To identify the router ID for Router1, do as follows:

Step 1 Choose from all the activated interfaces.
Step 2 Compare the IP addresses of loopback interfaces.
Step 3 If there are no loopback interfaces, compare the IP addresses of all the physical interfaces.

Configures an OSPF router ID.
Description: Router ID is the tie-breaker for OSPF path selection. The path selection process uses a variety of metrics to select a route. If all other metrics (accessibility, administrative weight, local preference, etc.) are equal, OSPF determines the router ID using the following priority:

1.Use the address configured by the ospf router-id command
2.Use the address of the loopback 0 interface
3.Use the highest IP address of any interface
4.If no interface exists, set the router-ID to 0.0.0.0
5.If no OSPF router ID is explicitly configured, OSPF computes the router-ID based on the items 2, 3, and 4 and restarts OSPF (if the process is enabled and router-ID has changed).

WARNING The ospf router-id command causes the OSPF process to restart using the new router-ID (if the processes are enabled and router-ID has changed).
Use ospf router-id ip-address command to set the OSPF router ID for the system.
Use the no ospf router-id to configure the OSPF router ID as the default value (address of the loopback 0 interface).

QUESTION NO: 531

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
Explanation:

QUESTION NO: 532

A company has a small network,consisting of a single switch and a single router. The switch has been configured with two vlans,and route-on-a-stick is being configured on the router for inter-vlan routing. A trunk is configured to connect the switch to the router. What is the minimum number of router subinterfaces that are required for all the vlans to communicate?

A. one
B. three
C. two
D. zero

Answer: C
Explanation:

QUESTION NO: 533

Which command can be used from a router to verify the Layer 3 path to a host?

A. traceroute address
B. tracert address
C. ssh address
D. telnet address

Answer: A
Explanation:

QUESTION NO: 534

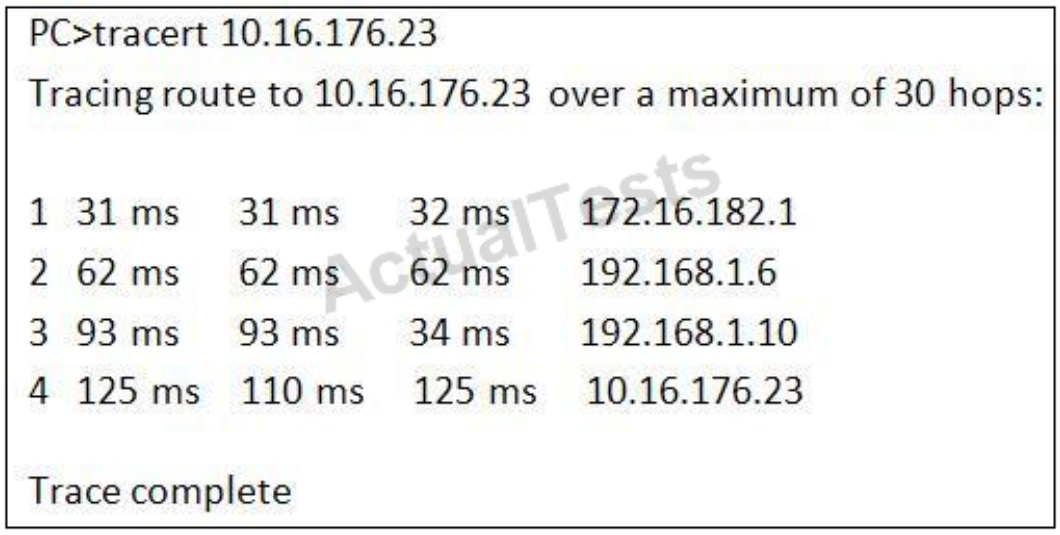
What is the OSPF default frequency,in seconds,at which a cisco router sends hello packets on a multiaccess network?

A. 10
B. 40
C. 30
D. 20

Answer: A
Explanation:

QUESTION NO: 535

Refer to the exhibit.



Host A has tested connectivity to a remote network. What is the default gateway for host A?

A. 172.16.182.1
B. 192.168.1.1
C. 10.16.176.1
D. 192.168.1.6

Answer: A
Explanation:

QUESTION NO: 536

Which command is necessary to permit SSH or Telnet access to a cisco switch that is otherwise configured for these vty line protocols?

A. transport type all
B. transport output all
C. transport preferred all
D. transport input all

Answer: D
Explanation:

QUESTION NO: 537

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

Explanation:

QUESTION NO: 538

There are no boot system commands in a router configuration in NVRAM. What is the fallback sequence that the router will use to find an IOS during reload?

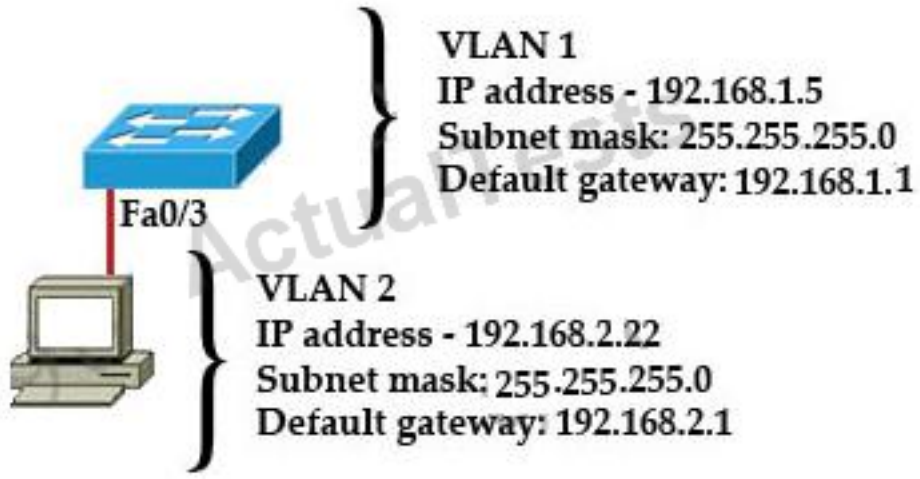
A. Flash, TFTP server, ROM
B. Flash, NVRAM, ROM
C. ROM, NVRAM, TFTP server
D. NVRAM, TFTP server, ROM
E. TFTP server, Flash, NVRAM

Answer: A

Explanation:

QUESTION NO: 539

Refer to the graphic.



A host is connected to switch port Fa0/3 with a crossover cable. The host and switch have as shown. However, the port indicator on switch port Fa0/3 is not on, and the host cannot communicate with to vlan 2 on the same switch. Based on the information given. what is the problem?

A. The switch has been assigned an incorrect subnet mask.
B. Switch port FA0/3 is not configured as a trunk port
C. Switch port FA0/3 has been blocked by STP
D. The switch and the hosts must be in the same subnet
E. The cable is the wrong type

Answer: E
Explanation:

QUESTION NO: 540

Refer to the exhibit.

```
Router#config1

Router(cofing)#line vtv 04

Router(confing-line)#password c1 sc0

Router(confing-line)#login
```

Which user-mode password has just been set?

A. Telnet
B. Auxiliary
C. SSH
D. Console

Answer: A
Explanation:

QUESTION NO: 541

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
Explanation:

QUESTION NO: 542

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 optimize.
C. PVST+ allows the root switch location to be optimized per VLAN.
D. PVST+ supports Layer 3 load balancing without loops.

Answer: C
Explanation:

QUESTION NO: 543

Refer to following command.

access-list 114 permit ip 10.4.4.0 0.0.0.255

What would be the effect of issuing the command ip access-group 114 in to the fa0/0 interface?

A. Attempts to telnet to the router would fail
B. It would allow all traffic from the 10.4.4.0 network
C. IP traffic would be passed through the interface but TCP and UDP traffic would not
D. Routing protocol updates for the 10.4.4.0 network would not be accepted from the fa0/0 interface

Answer: B

Explanation:

From the output of access-list 114: access-list 114 permit ip 10.4.4.0 0.0.0.255 any we can easily understand that this access list allows all traffic (ip) from 10.4.4.0/24 network

QUESTION NO: 544

What would be the effect of issuing the command ip access-group 115 in on the s0/0/1 interface?

A. No host could connect to RouterC through s0/0/1.
B. Telnet and ping would work but routing updates would fail.
C. FTP, FTP-DATA, echo, and www would work but telnet would fail.
D. Only traffic from the 10.4.4.0 network would pass through the interface.

Answer: A

Explanation:

QUESTION NO: 545

Which statement is true?

A. An IPv6 address is 64 b long and is represented as hexadecimal characters.
B. An IPv6 address is 32 b long and is represented as decimal digits.
C. An IPv6 address is 128 b long and is represented as decimal digits.
D. An IPv6 address is 128 b long and is represented as hexadecimal characters.

Answer: D

Explanation:

QUESTION NO: 546

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
Explanation:

QUESTION NO: 547

Which command sets and automatically encrypts the privileged enable mode password?

A. Enable password c1sc0
B. Secret enable c1sc0
C. Password enable c1sc0
D. Enable secret c1sc0

Answer: D
Explanation:

QUESTION NO: 548

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

Explanation:

QUESTION NO: 549

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

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

Answer: B,C

Explanation:

QUESTION NO: 550

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

Explanation:

QUESTION NO: 551

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
Explanation:

QUESTION NO: 552

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
Explanation:

QUESTION NO: 553

Which command can be used to verify the DLCI destination address in a Frame Relay static configuration?

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

Answer: B
Explanation:

QUESTION NO: 554

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
Explanation:

QUESTION NO: 555

Refer to the exhibit. Explain how the routes in the table are being affected by the status change on interface Ethernet0.

```
GW_Router# debug ip rip
RIP protocol debugging is on

<output omitted>

*Mar  1 00:19:36.804: %LINK-5-CHANGED: Interface Ethernet0, changed state to down
*Mar  1 00:19:36.805: RIP: sending v2 flash update to 224.0.0.9 via Ethernet1
(190.172.32.11)
*Mar  1 00:19:36.805: RIP: build flash update entries
*Mar  1 00:19:36.809:         190.171.23.0/24 via 0.0.0.0, metric 16, tag 0
*Mar  1 00:19:36.813:         208.149.23.32/27 via 0.0.0.0, metric 16, tag 0
*Mar  1 00:19:36.813:         208.149.23.64/27 via 0.0.0.0, metric 16, tag 0
*Mar  1 00:19:36.817:         208.149.23.96/27 via 0.0.0.0, metric 16, tag 0
*Mar  1 00:19:36.821:         208.149.23.128/27 via 0.0.0.0, metric 16, tag 0
*Mar  1 00:19:37.789: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0,
changed state to down
*Mar  1 00:19:39.131: RIP: sending request on Ethernet0 to 224.0.0.9
<output omitted>

GW_Router#
```

A. The router is poisoning the routes and multicasting the new path costs via interface Ethernet1.
B. The router is receiving updates about unreachable networks from router that are connected to interface Ethernet1.
C. The router is poisoning the routes and broadcasting the new path costs via interface Ethernet1.
D. The router is requesting updates for these networks from routers that are connected to interface Etherne1.

Answer: A
Explanation:
Poison reverse: When path information becomes invalid, routers will not immediately remove them from the routing table, but use 16, an inaccessible metric value, to broadcast it out. Although this increases the size of the routing table, but is helpful for the elimination of routing cycle, it can immediately remove any loop between adjacent routers.

The purpose of route poisoning is to avoid problems caused by inconsistent updates and to prevent network loops. According to exhibit, the interfaces went to the down state so the affected routes were poisoned and removed and an update to the multicast IP address of 224.0.0.9 was sent on interface Ethernet1.

QUESTION NO: 556

Which two data link protocols are supported by Cisco IOS software for IPv6? (Choose two)

A. PPP
B. FDDI
C. Frame Relay PVC
D. NBMA
E. Frame Relay SVC

Answer: A,C
Explanation:

QUESTION NO: 557

Assuming the default switch configuration, which approach should you use to configure the extended VLAN range (1006 through 4094) on a Cisco Catalyst 3750 Series switch?

A. Configure the switch to be in VTP client mode.
B. Configure the switch to be in VTP domain mode.
C. Configure the switch to be in VTP transparent mode.
D. Configure the switch to be in VTPv2.

Answer: C
Explanation:

QUESTION NO: 558

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

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

Answer: C
Explanation:

QUESTION NO: 559

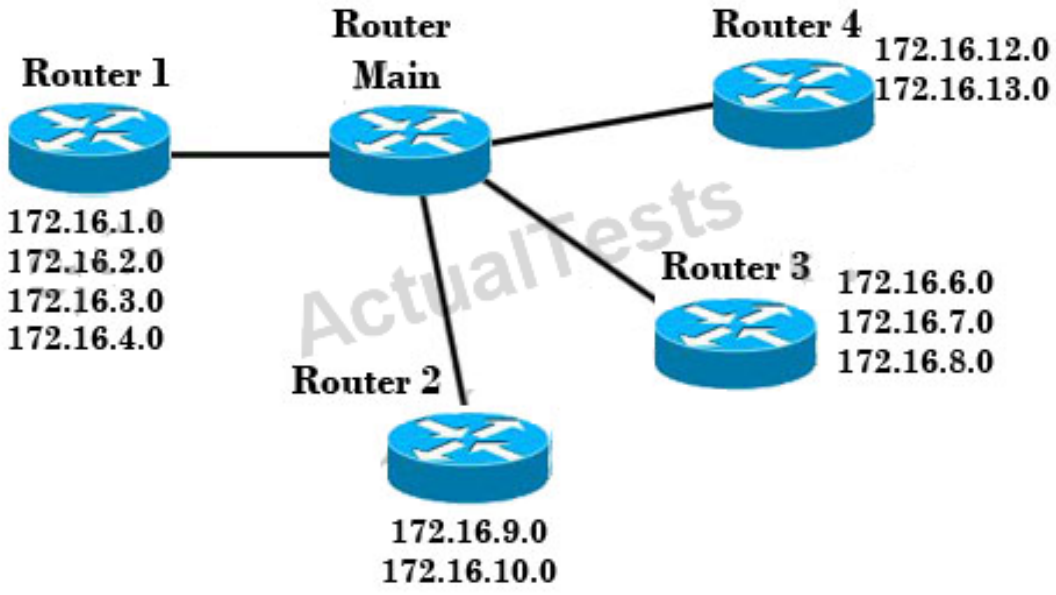
Which two statements apply to dynamic access lists?(choose two)

A. they offer simpler management in large internetworks.
B. you can control logging messages.
C. they allow packets to be filtered based on upper-layer session information.
D. you can set a time-based security policy.
E. they provide a level of security against spoofing.
F. they are used to authenticate individual users.

Answer: A,F
Explanation: http://www.cisco.com/en/US/docs/ios/11_3/security/configuration/guide/sclock.pdf

QUESTION NO: 560

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

Explanation:

QUESTION NO: 561

VLAN 3 is not yet configured on your switch. What happens if you set the switchport access vlan 3 command in 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

Explanation:

Can be verified.

QUESTION NO: 562

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

Explanation:

QUESTION NO: 563

Which two privileged mode Cisco IOS commands can be used to determine a Cisco router chassis serial number? (Choose two.)

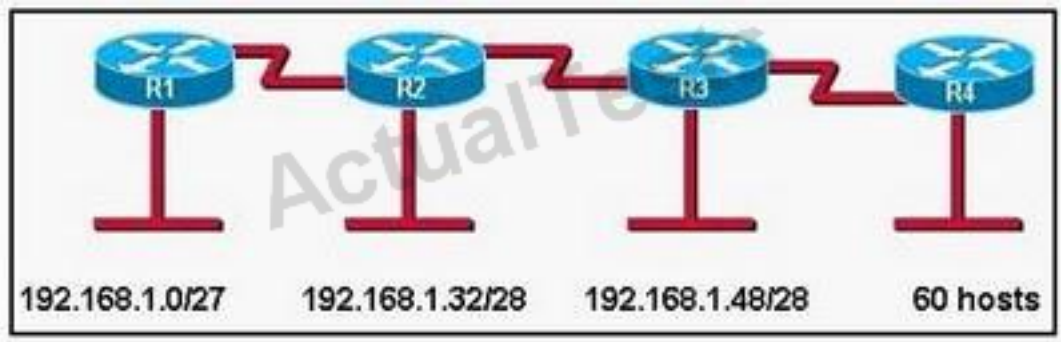
A. show inventory
B. show flash:filesys
C. dir flash:|include chassis
D. show diag
E. show controllers

Answer: A,D

Explanation:

QUESTION NO: 564

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?



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

Explanation:

A subnet with 60 host is 2*2*2*2*2*2 = 64 -2 == 62

6 bits needed for hosts part. Therefore subnet bits are 2 bits (8-6) in fourth octet.

8bits+ 8bits+ 8bits + 2bits = /26

/26 bits subnet is 24bits + 11000000 = 24bits + 192

256 – 192 = 64

0 -63

64 – 127

QUESTION NO: 565

Which of the following protocols uses both TCP and UDP ports?

A. SMTP
B. Telnet
C. FTP
D. DNS

Answer: D
Explanation:

QUESTION NO: 566

The network technician is planning to use the 255.255.255.224 subnet mask on the network. Which three valid IP addresses can the technician use for the hosts?

(Choose three.)

A. 172.22.243.127
B. 172.22.243.191
C. 172.22.243.190
D. 10.16.33.98
E. 10.17.64.34
F. 192.168.1.160

Answer: C,D,E
Explanation:

QUESTION NO: 567

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

A. 802.3ad

B. 802.1w
C. 802.1Q
D. 802.1d

Answer: C
Explanation:

QUESTION NO: 568

Which command enhances the 802.1D convergence time on ports that are connected to hosts?

A. spanning-tree backbonefast
B. spanning-tree uplinkfast
C. spanning-tree portfast
D. spanning-tree cost512

Answer: C
Explanation:

QUESTION NO: 569

Which two statements are characteristics of a distance vector routing protocol?

(Choose two)

A. RIP is an example of distance vector routing protocols.
B. Updates are periodic and include the entire routing table.
C. Routing updates are sent only after topology changes
D. The protocol can be useful in hub-and-spoke and hierarchical networks.
E. Convergence is usually faster than with link state protocols
F. Each router has its own view of the topology

Answer: A,B
Explanation:

QUESTION NO: 570

Refer to the exhibit.

```
Core_Router# show ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
208.149.23.194    1   FULL/DR         00:00:33    190.172.32.10   Ethernet1
208.149.23.66     1   FULL/BDR        00:00:32    190.171.23.13   Ethernet0
208.149.23.130    1   FULL/DR         00:00:39    190.171.23.10   Ethernet0

Core_Router#
```

Why are two OSPF designated routers identified on Core_Router?

A. Core_Router is connected to more than one multiaccess network.
B. The router at 208.149.23.130 is a secondary DR in case the primary fails.
C. Two router IDs have the same OSPF priority and are therefore tied for DR election
D. The DR election is still underway and there are two contenders for the role.

Answer: A
Explanation:
OSPF neighbors process multicast hello packets upon multicast address 224.0.0.5 to find neighbors dynamically. Default hello packets sending interval is 10 seconds, and dead interval is 40 seconds. In multi-access broadcasting network (such as Ethernet Net and Token Ring), DR/BDR elections are needed. When electing DR/BDR, hello packets priority is considered, the highest priority is DR, then BDR. Default priority is 1. In the circumstances when Priority is the same, RID will be considered, the highest rating RID is DR, and then BDR. When you set the priority 0, OSPF router can not become DR/BDR, it will only turn into DROTHER. From the above OSPF neighbors table, we learn that Ethernet1 and Ethernet0 select DR correspondingly, and Core_Router is connected two multi-access networks.

QUESTION NO: 571

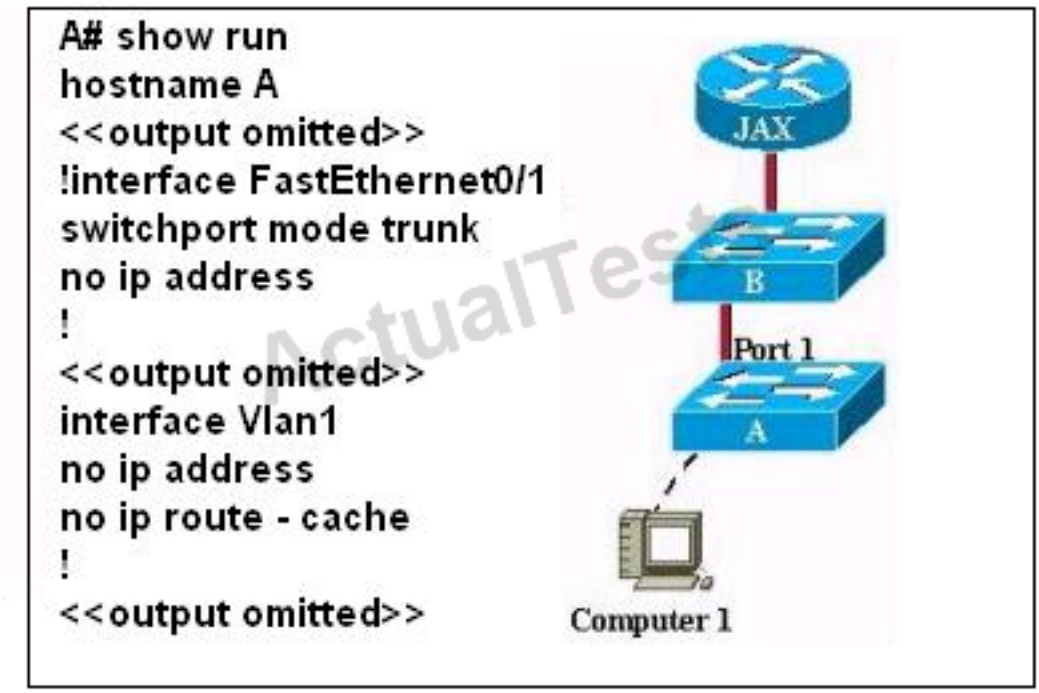
It has become necessary to configure an existing serial interface to accept a second Frame Relay virtual circuit. Which of the following procedures are required to accomplish this task? (Choose three.)

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
Explanation:

QUESTION NO: 572

Refer to the graphic. Computer 1 is consoles into switch A.Telnet connections and pings run from the command prompt on switch A fail. Which of the following could cause this problem?



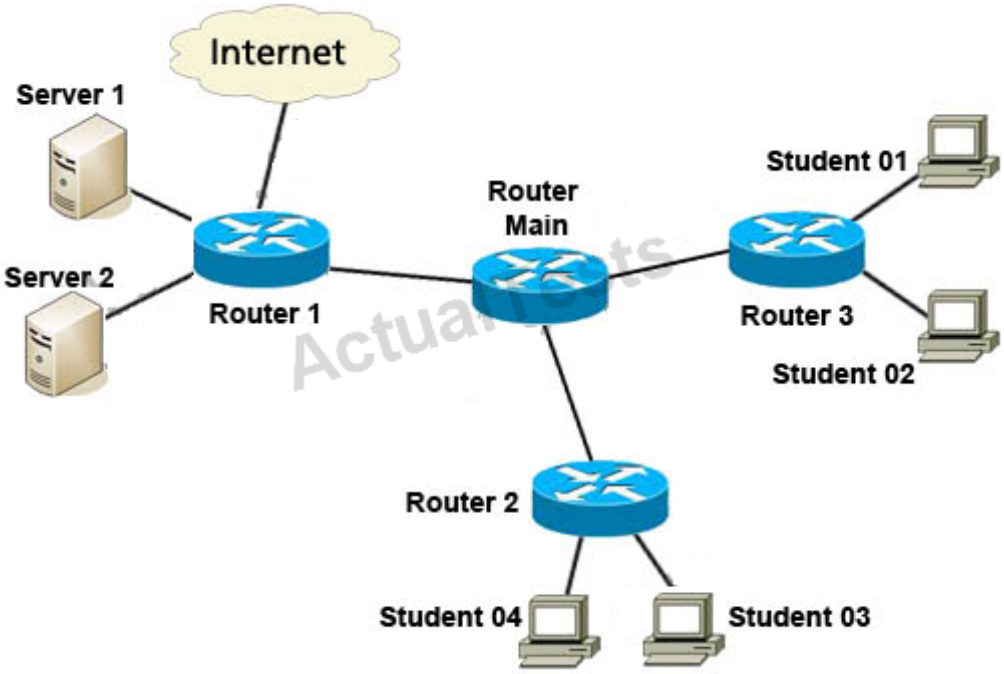
A. switch A dose not have a cdp entry for switch B or router JAX
B. Switch A does not have an IP address.
C. port 1 on switch A should be an access port rather than a trunk port
D. switch A is not directly connected to router JAX
E. switch A does not have a default gateway assigned

Answer: B

Explanation:

QUESTION NO: 573

Refer to the exhibit. Which three variables(router,protocol port,and router ACL direction)apply to an extended ACL that will prevent student 01 from securely browsing the internet?



A. OUT
B. Router 3
C. HTTP
D. IN
E. Router 1

Answer: B,C,D

Explanation:

QUESTION NO: 574

Which command can you use to determine the cisco ios feature set on a cisco router?

A. show version
B. dir flash:|include ios
C. show environment
D. show diag
E. show inventory

Answer: A

Explanation:

QUESTION NO: 575

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
Explanation:

QUESTION NO: 576

In the implementation of VLSM techniques on a network using a single Class C IP address, which subnet mask is the most efficient for point-to-point serial links?

A. 255.255.255.240
B. 255.255.255.254
C. 255.255.255.252
D. 255.255.255.0
E. 255.255.255.248

Answer: C
Explanation:

QUESTION NO: 577

A switch has been configured with two vlans and is connected to a router with a trunk for inter-vlan routing. OSPF has been configured on the router,as the routing protocol for the network. Which statement about this network is true?

A. For the two vlans to communicate,a network statement for the trunk interface needs to be

added to the
OSPF configuration.
B. For the two vlans to communicate,a network statement for each subinterface needs to be added to the OSPF configuration.
C. Direct inter-vlan communication does not require OSPF.
D. OSPF cannot be used if router-on-a-stick is configured on the router.

Answer: C
Explanation:

QUESTION NO: 578

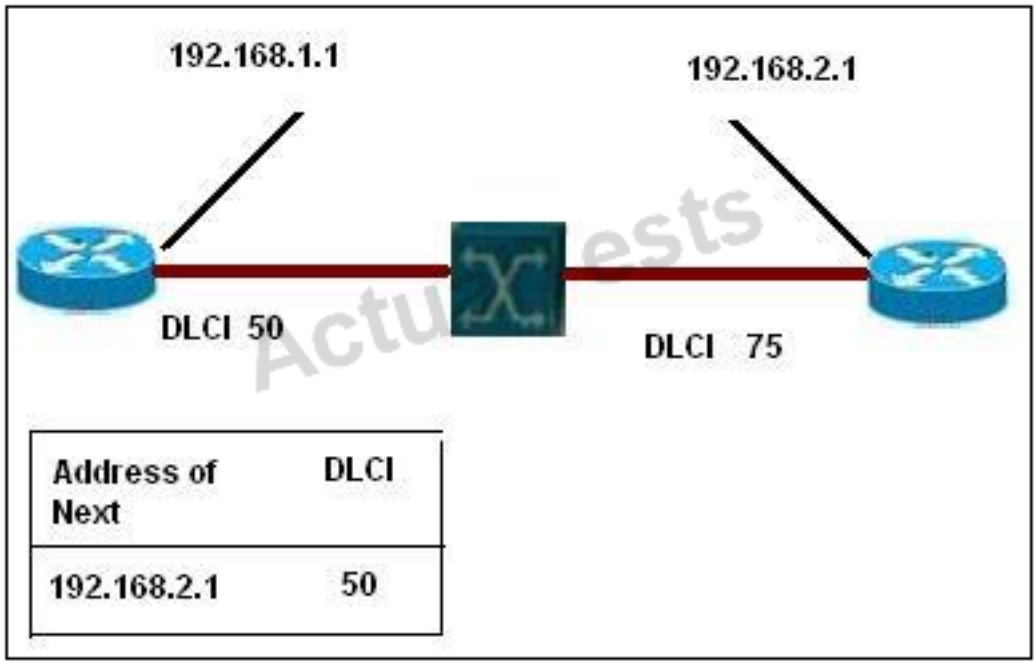
Which command enables IPv6 forwarding on a cisco router?

A. ipv6 host
B. ipv6 unicast-routing
C. ipv6 local
D. ipv6 neighbor

Answer: B
Explanation:

QUESTION NO: 579

RouterA is unable to reach RouterB. Both routers are running IOS version 12.0. After reviewing the command output and graphic, what is the most likely cause of the problem?



A. incorrect bandwidth configuration
B. incorrect LMI configuration
C. incorrect map statement
D. incorrect IP address

Answer: C
Explanation:

QUESTION NO: 580

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
Explanation:

QUESTION NO: 581

Which three approaches can be used while migrating from an ipv4 addressing scheme to an ipv6 scheme? (choose three)

A. statically map IPV4 address to IPV6 addresses
B. configure IPv4 tunnels between IPv6 islands
C. use DHCPv6 to map IPV4 addresses to IPV6 addresses
D. use proxying and translation to translate IPV6 packets into IPV4 packets
E. configure IPV6 directly
F. enable dual-stack routing

Answer: B,D,F

Explanation:

QUESTION NO: 582

Which protocol provides a method of sharing VLAN configuration information between two Cisco switches?

A. VTP
B. 802.1Q
C. RSTP
D. STP

Answer: A

Explanation:

QUESTION NO: 583

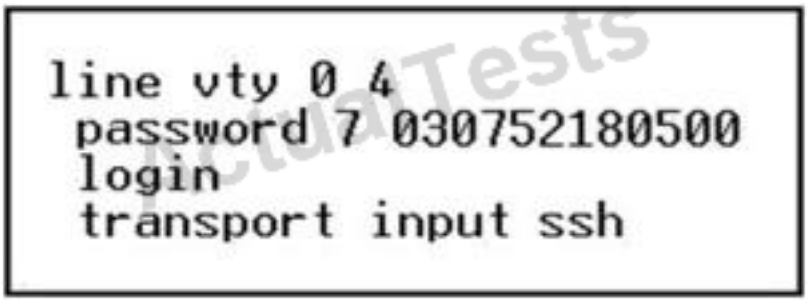
DNS servers provide what service?

A. They run a spell check on host names to ensure accurate routing
B. They convert domain names into IP addresses.
C. Given an IP address, they determine the name of the host that is sought
D. They map individual hosts to their specific IP addresses

Answer: B

Explanation:

QUESTION NO: 584



Refer to the exhibit. What is the effect of the configuration that is shown?

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

Answer: B
Explanation:
Secure Shell (SSH) is a protocol which provides a secure remote access connection to network devices. Communication between the client and server is encrypted in both SSH version 1 and SSH version 2. If you want to prevent non-SSH connections, add the “transport input ssh” command under the lines to limit the router to SSH connections only. Straight (non-SSH) Telnets are refused.
ReferencE. www.cisco.com/warp/public/707/ssh.shtml

QUESTION NO: 585

Which IPV6 routing protocol uses multicast group FFO2::8 to send updates?

A. RIPng
B. OSPFv3
C. IS-IS for IPv6
D. static

Answer: C
Explanation:

QUESTION NO: 586

Which of the following are true regarding the debug output shown in the graphic? (Choose two)



A. This router was configured with the commands:
RtrA(config)#router rip
RtrA(config-router)#version 2
RtrA(config-router)#network 172.16.0.0
RtrA(config-router)#network 10.0.0.0
B. This router was configured with the commands:
RtrA(config)#router rip
RtrA(config-router)#network 172.16.0.0
RtrA(config-router)#network 10.0.0.0
C. Network 10.0.0.0 will be displayed in the routing table.
D. Network 192.168.168.0 will be displayed in the routing table.
E. This router was configured with the commands:
RtrA(config)#router rip
RtrA(config-router)#network 192.168.1.0
RtrA(config-router)#network 10.0.0.0
RtrA(config-router)#network 192.168.168.0
F. split-horizon was disabled on this router.

Answer: B,C

Explanation:

Routing Information Protocol (rip) is a distance vector protocol that uses hop as a metric. Rip routing metriC. rip uses single routing metric (hops) to measure the distance from source network to destination network. From source to destination, every hop is given a value, which is usually 1. When routers receive route update information of new or changed destination network, the metric value will be added 1 and then stored into a routing table, the ip address of the sender will be used

as the next hop address.

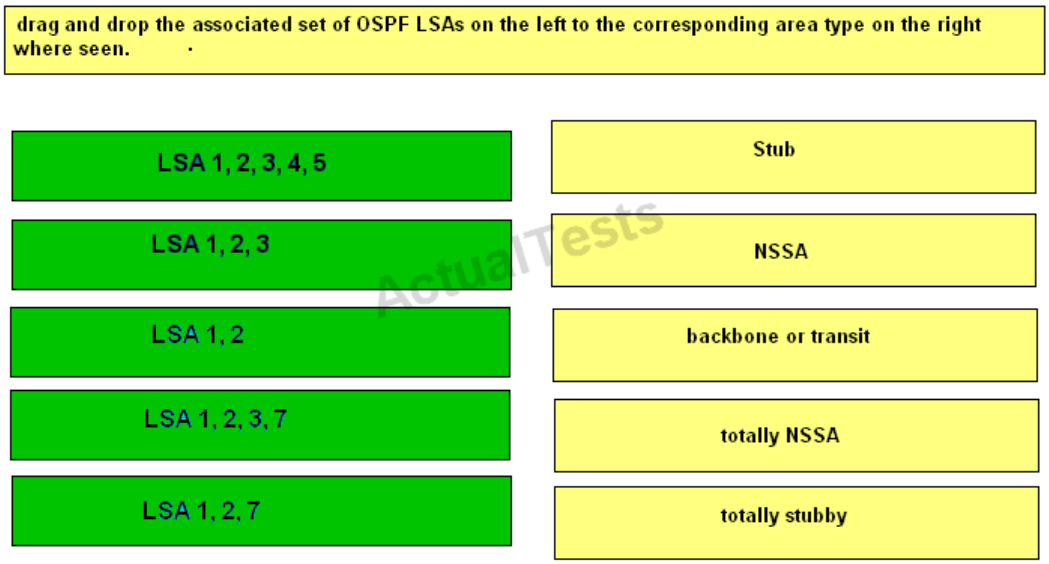
QUESTION NO: 587

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

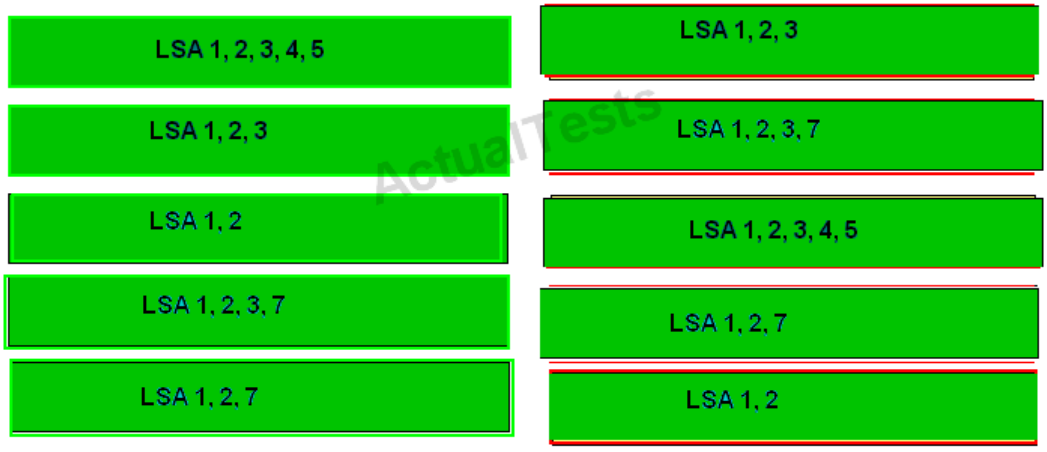
Answer: D
Explanation:

QUESTION NO: 588 DRAG DROP



Answer:

drag and drop the associated set of OSPF LSAs on the left to the corresponding area type on the right where seen.



Explanation:

Stub - LSA 1, 2, 3
NSSA - LSA 1, 2, 3, 7Bacbone of transit - LSA 1,2,3,4,5Totally NSSA - LSA 1, 2, 7Totally Stubby - LSA 1,2

QUESTION NO: 589

In which integration method is an IPv6 packet encapsulated within an IPv4 protocol?

A. dual-stack
B. tunneling
C. proxy
D. dot1q

Answer: B
Explanation:

QUESTION NO: 590

A network administrator is configuring ACLs on a Cisco router, to allow IP access from the 192.168.146.0/24, 192.168.147.0/24, 192.168.148.0/2,. and 192.168.149.0/24 networks only. Which two ACLs, when combined, should be used?

A. access-list 10 permit ip 192.168.146.0 0.0.0.255
B. access-list 10 permit ip 192.168.146.0 255 255.255.0
C. access-list 10 permit ip 192.168.147.0 0.0.255 255
D. access-list 10 permit ip 192.168.149.0 0.0.255.255.0
E. access-list 10 permit ip 192.168.148.0 0.0.1.255
F. access-list 10 permit ip 192.168.146.0 0.0.1.255

Answer: E,F
Explanation:

QUESTION NO: 591

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

A. sw1#show switchport port-secure interface FastEthernet 0/12
B. sw1#show switchport port-security interface FastEthernet 0/12
C. sw1#show port-secure interface FastEthernet 0/12
D. sw1#show running-config
E. sw1#show port-security interface FastEthernet 0/12

Answer: D,E
Explanation:

QUESTION NO: 592

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

(Choose two)

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

Answer: B,D
Explanation:

QUESTION NO: 593

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

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

Answer: B,C
Explanation:

QUESTION NO: 594

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

A. one-to-many communication model
B. delivery of packets to the group interface that is closest to the sending device
C. any-to-many communication model
D. a unique IFV6 address for each device in the group
E. the same address for multiple devices in the group
F. one-to-nearest communication model

Answer: B,E,F
Explanation:

QUESTION NO: 595

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

A. winipcfg
B. tracert
C. ping
D. ip config

E. show ip route
F. show interfaces

Answer: C,E,F
Explanation:
While all of the above commands are useful in gathering network information and troubleshooting, only choices C, E, and F are Cisco IOS problems, while the other choices are DOS command prompt commands used by windows based stations.

QUESTION NO: 596

Which PPP subprotocol negotiates authentication options?

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

Answer: D
Explanation:
LCP: A method of establishing, configuring, maintaining, and terminating the point-to-point connection.
Link-establishment phase LCP packets are sent by each PPP device to configure and test the link. These packets contain a field called the Configuration Option that allows each device to see the size of the data, compression, and authentication. If no Configuration Option field is present, then the default configurations are used.

QUESTION NO: 597

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. chanage of destination address in the ipv6 header
E. chanage of source address in the ipv6 header

F. autoconfiguration

Answer: C,F

Explanation:

QUESTION NO: 598

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

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

Answer: C

Explanation:

Incorrect answer:

show ip access-lists does not show interfaces affected by anACL.

QUESTION NO: 599

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

Answer: C

Explanation:

QUESTION NO: 600

Which three statements about VTP features are true? (Choose Three)

A. When properly configured, VTP minimizes VLAN misconfigurations and configuration inconsistencies.
B. To configure a switch to be part of two VTP domains, each domain must have its own Password.
C. Client, server, and transparent are valid VTP modes.
D. When properly configured, VTP maintains VLAN configuration consistency and accelerates trunk link negotiation.
E. VTP works at Layer 3 of the OSI model and requires that a management VLAN IP address be configured.
F. VTP pruning is used to increase available bandwidth in trunk links.
G. Each broadcast domain on a switch can have its own Unique VTP Domain.

Answer: A,C,F
Reference:"Understanding VLAN Trunk Protocol (VTP)"

http://www.cisco.com/en/US/tech/tk389/tk689/technologies_tech_note09186a0080094c52.shtml#vtp_modes

QUESTION NO: 601

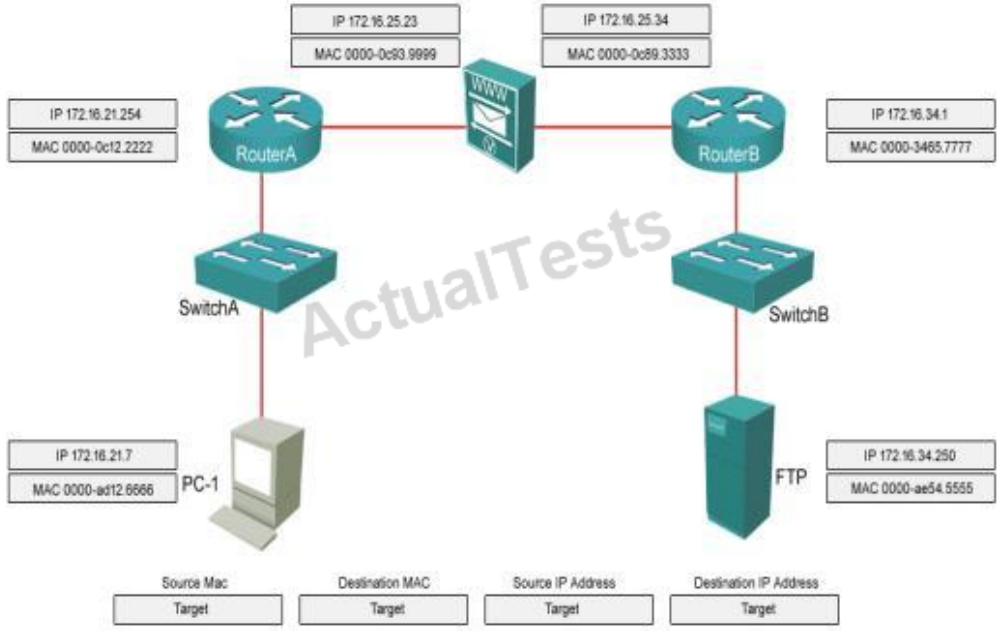
At which layer of the OSI model does PPP perform?

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

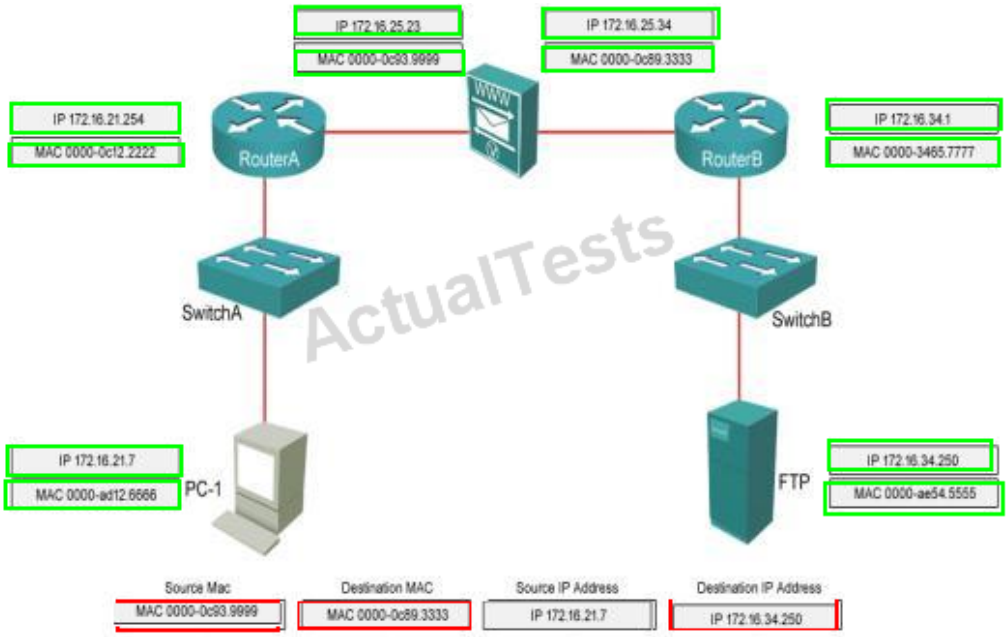
Answer: A
Explanation:

QUESTION NO: 602 DRAG DROP

Refer to the exhibit below. PC_1 is sending packets to the FTP server. Consider the packets as they leave Router A interface Fa0/0 towards RouterB.



Answer:



Explanation:

Source MAC. 0000.0c93.9999
Destination MAC:0000.0c89.3333
Source IP: 172.16.21.7
Destination IP: 172.16.34.250

QUESTION NO: 603

Which ip address would a network technician ping on the local host, to test the ip stack?

A. 224.0.0.9
B. 224.0.0.5
C. 127.0.0.1
D. 255.255.255.255

Answer: C
Explanation:

QUESTION NO: 604

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 pvc
C. show frame-relay lmi
D. show interfaces serial

Answer: A
Explanation:

QUESTION NO: 605

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

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

Answer: A
Explanation:

QUESTION NO: 606

Which two data integrity algorithms are commonly used in VPN solutions? (Choose two)

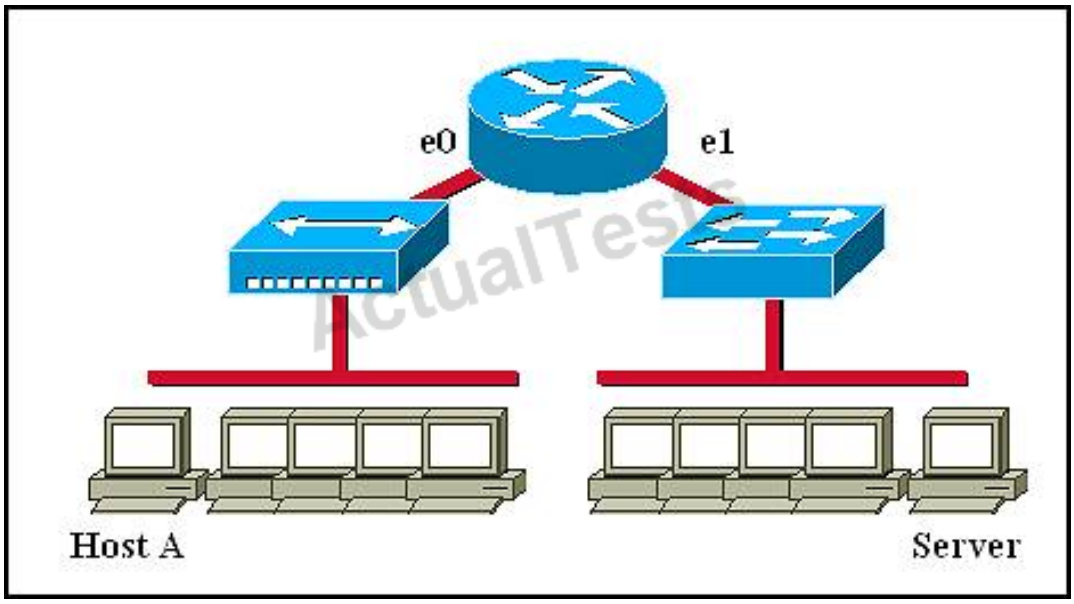
A. RSA
B. HMAC-SHA-1
C. DH2
D. HMAC-MD5
E. DH1

Answer: B,D

Explanation:

QUESTION NO: 607

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

Answer: D

Explanation:

Whereas switches can only examine and forward packets based on the contents of the MAC

header, routers can look further into the packet to discover the network for which a packet is destined. Routers make forwarding decisions based on the packet's network-layer header (such as an IPX header or IP header). These network-layer headers contain source and destination network addresses. Local devices address packets to the router's MAC address in the MAC header. After receiving the packets, the router must perform the following steps:

1. Check the incoming packet for corruption, and remove the MAC header . The router checks the packet for MAC-layer errors. The router then strips off the MAC header and examines the network-layer header to determine what to do with the packet.

2. Examine the age of the packet. The router must ensure that the packet has not come too far to be forwarded. For example, IPX headers contain a hop count. By default, 15 hops is the maximum number of hops (or routers) that a packet can cross. If a packet has a hop count of 15, the router discards the packet. IP headers contain a Time to Live (TTL) value. Unlike the IPX hop count, which increments as the packet is forwarded through each router, the IP TTL value decrements as the IP packet is forwarded through each router. If an IP packet has a TTL value of 1, the router discards the packet. A router cannot decrement the TTL value to 1 and then forward the packet.

3. Determine the route to the destination. Routers maintain a routing table that lists available networks, the direction to the desired network (the outgoing interface number), and the distance to those networks. After determining which direction to forward the packet, the router must build a new header. (If you want to read the IP routing tables on a Windows 95/98 workstation, type ROUTE PRINT in the DOS box.)

4. Build the new MAC header and forward the packet. Finally, the router builds a new MAC header for the packet. The MAC header includes the router's MAC address and the final destination's MAC address or the MAC address of the next router in the path.

QUESTION NO: 608

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

A. Q9333-AAnnexA
B. ANSI Annex D
C. HDLC
D. IETF

Answer: D
Explanation:

QUESTION NO: 609

Which Cisco IOS diagnostics command can disrupt the operation of a router under high-load conditions?

A. debug all
B. show running-config
C. show processes cpu
D. logging host ip address

Answer: A
Explanation:
Initial Troubleshooting
Once you notice any of the symptoms from the Symptoms of High CPU Utilization:
•Check for a possible security issue. Commonly, high CPU utilization is caused by a security issue, such as a worm or virus operating in your network. This is especially likely to be the cause if there have not been recent changes to the network. Usually, a configuration change, such as adding additional lines to your access lists can mitigate the effects of this problem. Cisco Product Security Advisories and Notices contains information on detection of the most likely causes and specific workarounds.
For additional information, refer to:
o100 Questions and Answers about Internet Threats
oCisco Product Security Advisories and Notices
oCisco Threat Defense System
•Make sure all debugging commands in your router are turned off by issuing the undebug all or no debug all commands. For more information on the use of debugging commands, refer to Using Debug Commands.
•Are you able to issue show commands on the router? If yes, start collecting more information immediately, using these showcommands.
•Is the router inaccessible? Can you reproduce this problem? If yes, power-cycle the router and, before reproducing the problem, configure the scheduler interval 500 command. This schedules low priority processes to run every 500 milliseconds, which provides time for you to run some commands, even if CPU usage is at 100 percent. On Cisco 7200 and Cisco 7500 Series Routers, use the scheduler allocate 3000 1000 command.
•Does the router show symptoms of high CPU utilization at brief and unpredictable intervals? If yes, periodically collect the output of the show processes cpu command, which shows if the high CPU utilization is caused by interrupts or by a certain process. Use this UNIX script and, based on the first findings, modify the script to collect data needed for further investigation of the issue.
From the following Link:

http://www.cisco.com/en/US/products/hw/routers/ps133/products_tech_note09186a00800a70f2.shtml

QUESTION NO: 610

Which Cisco IOS command can help to determine the timing of various debug events, relative to each other, when you are debugging a complicated router issue?

A. service timestamps log datetime msec
B. clock calendar-valid
C. show clock detail
D. service timestamps debug datetime msec

Answer: A
Explanation:

QUESTION NO: 611

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
Explanation:

QUESTION NO: 612

Refer to the exhibit.

```
Router# show interface s0/0/0
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
Explanation:

QUESTION NO: 613

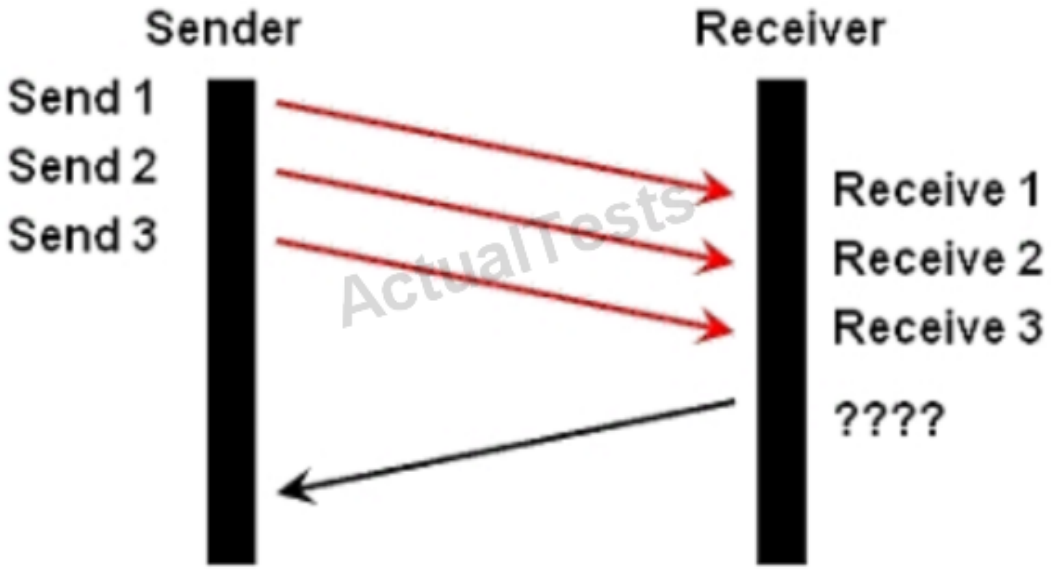
What are two security appliances that can be installed in a network? (Choose two.)

A. ATM
B. IDS
C. IOS
D. IOX
E. IPS
F. SDM

Answer: B,E
Explanation:

QUESTION NO: 614

A TCP/IP transfer is diagrammed in the exhibit.



A window size of three has been negotiated for this transfer. Which message will be returned from the receiver to the sender as part of this TCP/IP transfer?

A. Send ACK 1-3
B. Send ACK 3
C. Send ACK 4
D. Send ACK 4-6
E. Send ACK 6
F. Send ACK 7

Answer: C

Explanation:

QUESTION NO: 615

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

Explanation:

QUESTION NO: 616

What is the default administrative distance of OSPF?

A. 90
B. 100
C. 110
D. 120

Answer: C
Explanation:

QUESTION NO: 617

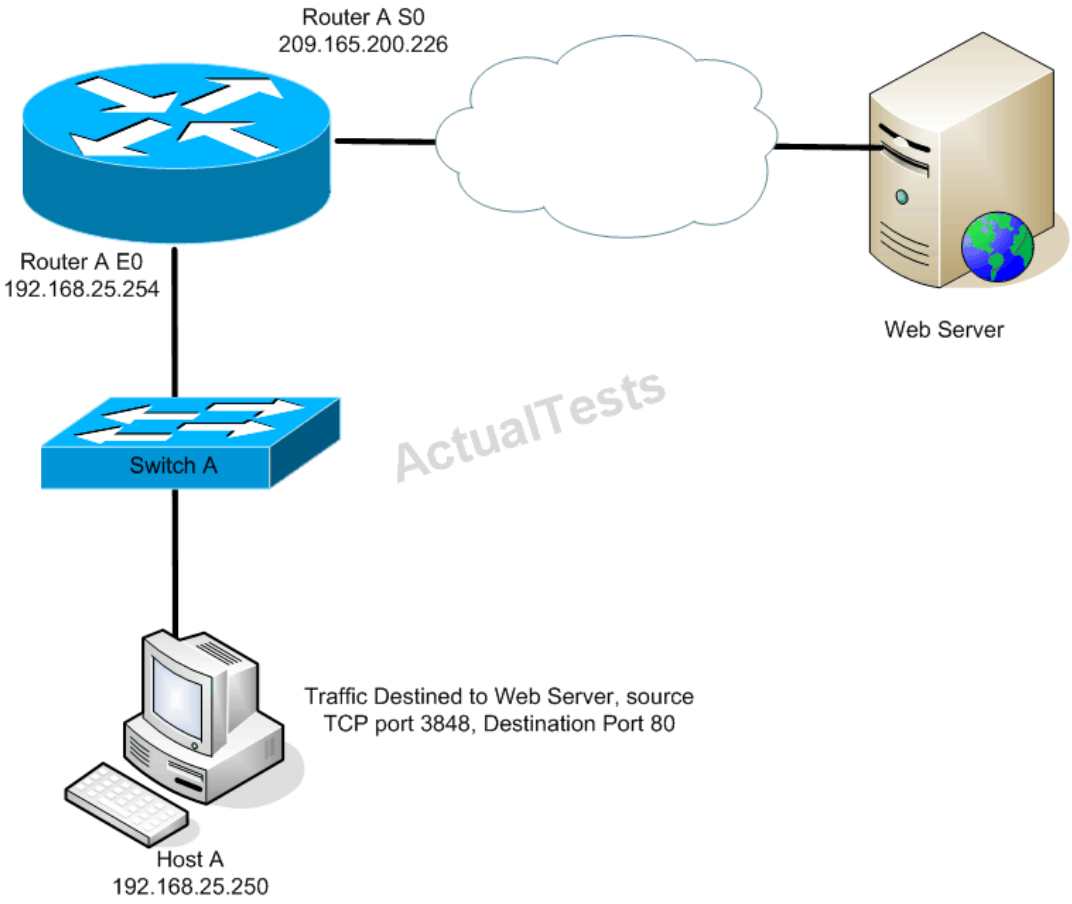
Which command shows your active Telnet connections?

A. show cdp neigbors
B. show session
C. show users
D. show vty logins

Answer: B
Explanation:

QUESTION NO: 618

Refer to the exhibit.



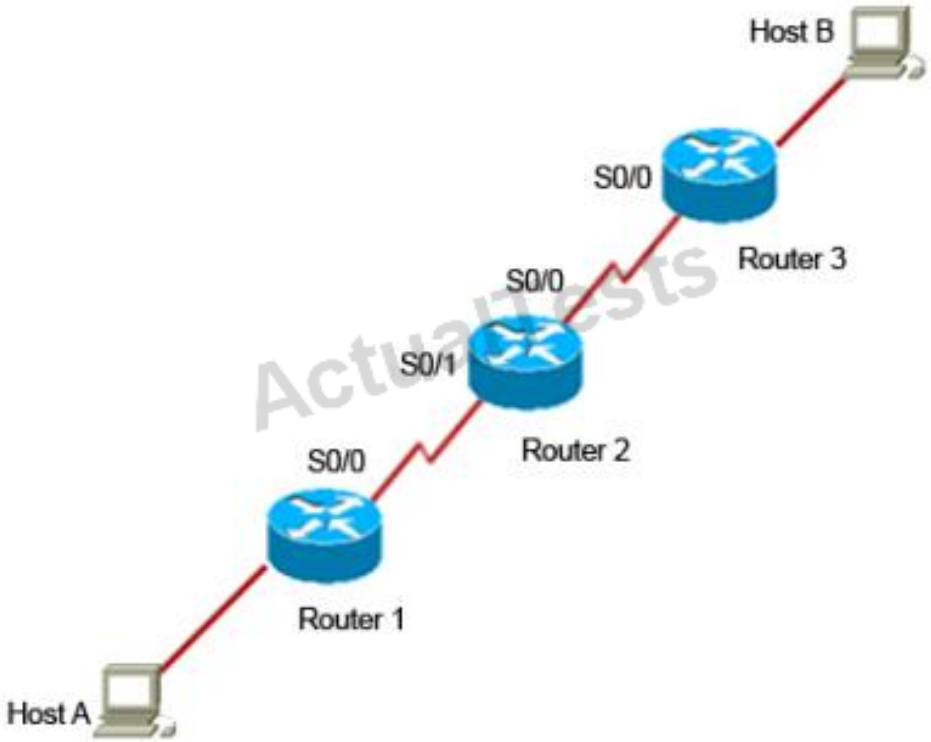
NAT Overload is enabled on R1. Which statement is true when host A communicates with the web server?

A. The web server uses 209.165.200.226 as the destination address and 80 as the destination port when sending packets to host A.
B. Host A uses 192.168.25.254 as the destination address and 80 as the source port when sending packets to the web server.
C. The web server uses 209.165.200.225 as the destination address and 3648 as the destination port when sending packets to host A.
D. Host A uses 209.165.200.198 as the destination address and 3648 as the destination port when sending packets to the web server.

Answer: C
Explanation:

QUESTION NO: 619

Refer to the exhibit.



Host A pings interface S0/0 on router 3. What is the TTL value for that ping?

A. 252
B. 253
C. 254
D. 255

Answer: B
Explanation:

QUESTION NO: 620

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-list 101 deny tcp any any eq 22
access-list 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

Explanation:

QUESTION NO: 621

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

Explanation:

QUESTION NO: 622

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

Explanation:

QUESTION NO: 623

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

A. ping address
B. tracert address
C. traceroute address
D. arp address

Answer: A

Explanation:

QUESTION NO: 624

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 DCLI 202
B. defines the source IP address that is used in all broadcast packets on DCLI 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
Explanation:

QUESTION NO: 625

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
Explanation:

QUESTION NO: 626

At which layer of the OSI model does IPsec operate?

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

Answer: B
Explanation:

QUESTION NO: 627

What are two characteristics of SSH? (Choose two.)

A. most common remote-access method
B. unsecured
C. encrypted
D. uses port 222
E. operates at the transport layer

Answer: D,E
Explanation:

QUESTION NO: 628

Which of the following is true regarding unused ports on a switch?

A. Unsecured ports can create a security hole.
B. If a device is plugged into an unused port, it will not be added to the network.
C. Secure unused ports by using the shutdown command.
D. To disable a port, you must use the switchport disable command.

Answer: C
Explanation:

QUESTION NO: 629

Which of the following is a characteristic of full-duplex communication?

A. It is a CSMA/CD network.
B. It is a CSMA/CA network.
C. It is point-to-point only.
D. Hub communication is done via full duplex.

Answer: D
Explanation:

QUESTION NO: 630

A config-register setting of 0x2122 indicates which of the following?

A. ignores break

B. boots into the bootstrap
C. performs a boot from a network device
D. console baud rate of 9600

Answer: C
Explanation:

QUESTION NO: 631

Which command displays the CHAP authentication process as it occurs between two routers?

A. debug chap authentication
B. debug authentication
C. debug chap ppp
D. debug ppp authentication

Answer: D
Explanation:

QUESTION NO: 632

Which two data link layers are supported by Cisco IOS Software for IPv6? (Choose two.)

A. FDDI
B. PPP
C. NBMA
D. Frame Relay SVC
E. Frame Relay PVC

Answer: B,E
Explanation:

QUESTION NO: 633

Which two are features of IPv6? (Choose two.)

A. anycast
B. broadcast

C. multicast
D. podcast
E. allcast

Answer: A,C
Explanation:

QUESTION NO: 634

Which statement describes the process of dynamically assigning IP addresses by the DHCP server?

A. Addresses are allocated after a negotiation between the server and the host to determine the length of the agreement.
B. Addresses are permanently assigned so that the hosts uses the same address at all times.
C. Addresses are assigned for a fixed period of time, at the end of the period, a new request for an address must be made.
D. Addresses are leased to hosts, which periodically contact the DHCP server to renew the lease.

Answer: D
Explanation:

QUESTION NO: 635

If an ethernet port on a router was assigned an IP address of 172.16.112.1/20, what is the maximum number of hosts allowed on this subnet?

A. 1024
B. 2046
C. 4094
D. 4096
E. 8190

Answer: C
Explanation:

QUESTION NO: 636

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, are the best for accomplishing 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
Explanation:

QUESTION NO: 637

An employee of ABC company has moved to an office on a different floor. Although the administrator is able to telnet to all of the routers, the address of Switch F is needed in order to verify that the employee remains in the same VLAN. Which action could be used by the administrator to find the IP address of Switch F?

A. Issue the show ip route command on Router A.
B. Issue the show ip route command on Router C.
C. Issue the show cdp neighbors command on Router B.
D. Issue the show cdp neighbors detail command on Router C.
E. Issue the show arp command on Router A.
F. Issue the show arp command on Router B.

Answer: D
Explanation:

QUESTION NO: 638

After the show ip route command has been entered, the following routes are displayed. Which route will not be entered into the routing table of a neighboring router?

A. R 192.168.8.0/24 [120/1] via 192.168.2.2, 00:00:10, Serial0
B. R 192.168.11.0/24 [120/7] via 192.168.9.1, 00:00:03, Serial1
C. C 192.168.1.0/24 is directly connected, Ethernet0
D. R 192.168.5.0/24 [120/15] via 192.168.2.2, 00:00:10, Serial0

Answer: D
Explanation:

QUESTION NO: 639

What is the subnetwork address for a host with the IP address 201.100.5.68/28?

A. 201.100.5.0
B. 201.100.5.32
C. 201.100.5.64
D. 201.100.5.65
E. 201.100.5.31
F. 201.100.5.1

Answer: C
Explanation:

QUESTION NO: 640

Which statement describes the rule of split horizon?

A. Only routers can split boundaries (horizons) between concentric networks.
B. All distance vector protocols require fall back routes that may cause momentary loops as the topology changes.
C. Networks can only remain fully converged if all information about routes is sent out all active interfaces.
D. Information about a route should not be sent back in the direction from which the original update came.
E. Each AS must keep routing tables converged to prevent dead routes from being advertised across the AS boundary.

Answer: D
Explanation:

QUESTION NO: 641

While troubleshooting a network problem, a technician discovers that the current copy of the Cisco IOS is outdated and needs to be updated. Which of the following commands would the technician

issue to replace the Cisco router IOS with the newer version?

A. Router# copy tftp flash
B. Router(config)# restore flash
C. Router(config)# repair flash
D. Router# copy flash run
E. Router> copy start flash
F. Router# copy start flash

Answer: A

Explanation:

QUESTION NO: 642

A network administrator is planning a network installation for a large organization. The design requires 100 separate subnetworks, so the company has acquired a Class B network address. What subnet mask will provide the 100 subnetworks required, if 500 usable host addresses are required per subnet?

A. 255.255.240.0
B. 255.255.248.0
C. 255.255.252.0
D. 255.255.254.0
E. 255.255.255.0
F. 255.255.255.192

Answer: D

Explanation:

QUESTION NO: 643

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

Explanation:

QUESTION NO: 644

The network administrator of the Oregon router adds the following command to the router configuration: ip route 192.168.12.0 255.255.255.0 172.16.12.1. What are the results of adding this command? (Choose two.)

A. The command establishes a static route.
B. The command invokes a dynamic routing protocol for 192.168.12.0.
C. Traffic for network 192.168.12.0 is forwarded to 172.16.12.1.
D. Traffic for all networks is forwarded to 172.16.12.1.
E. This route is automatically propagated throughout the entire network.
F. Traffic for network 172.16.12.0 is forwarded to the 192.168.12.0 network.

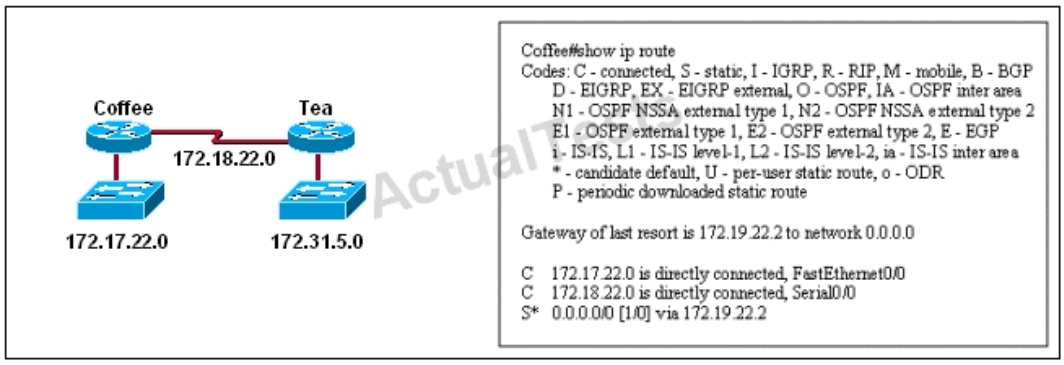
Answer: A,C

Explanation:

QUESTION NO: 645

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, and was able to ping the server.



Based on the output of the show ip route command and the topology shown in the graphic, what is the cause of the failure?

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

Explanation: The default route or the static route was configured with incorrect next-hop ip address 172.19.22.2 The correct ip address will be 172.18.22.2 to reach server located on 172.31.5.0 network. Ip route 0.0.0.0 0.0.0.0 172.18.22.2

QUESTION NO: 646

The network administrator has found the following problem.

```
Central# debug ip rip

<some output text omitted>

Central#debug ip rip
1d00h: RIP: received v1 update from 172.16.100.2 on Serial0/0
1d00h:      172.16.10.0 in 1 hops
1d00h:      172.16.20.0 in 1 hops
1d00h:      172.16.30.0 in 1 hops

Central# show ip route

Gateway of last resort is not set

    172.16.0.0/24 is subnetted, 8 subnets
C       172.16.150.0 is directly connected, FastEthernet0/0
C       172.16.220.0 is directly connected, Loopback2
C       172.16.210.0 is directly connected, Loopback1
C       172.16.200.0 is directly connected, Loopback0
R       172.16.30.0 [120/1] via 172.16.100.2, 00:00:07, Serial0/0
S       172.16.20.0 [1/0] via 172.16.150.15
R       172.16.10.0 [120/1] via 172.16.100.2, 00:00:07, Serial0/0
C       172.16.100.0 is directly connected, Serial0/0
```

ActualTests

The remote networks 172.16.10.0, 172.16.20.0, and 172.16.30.0 are accessed through the Central router's serial 0/0 interface.

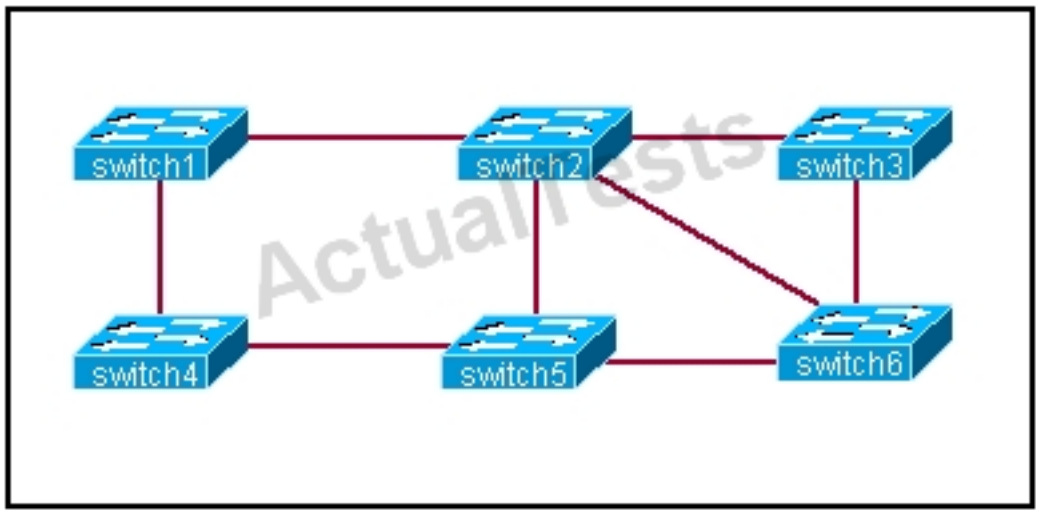
No users are able to access 172.16.20.0. After reviewing the command output shown in the graphic, what is the most likely cause of the problem?

A. no gateway of last resort on Central
B. Central router's not receiving 172.16.20.0 update
C. incorrect static route for 172.16.20.0
D. 172.16.20.0 not located in Central's routing table

Answer: C
Explanation:

QUESTION NO: 647

Refer to Exhibit:



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
Explanation: The Spanning-Tree Protocol (STP) prevents loops from being formed when switches or bridges are interconnected via multiple paths. Spanning-Tree Protocol implements the 802.1D IEEE algorithm by exchanging BPDU messages with other switches to detect loops, and then removes the loop by shutting down selected bridge interfaces. This algorithm guarantees that there is one and only one active path between two network devices.

QUESTION NO: 648

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
Explanation:

QUESTION NO: 649

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 RIP v2.

Answer: A,C,E
Explanation:

QUESTION NO: 650

Which protocol reduces administrative overhead in a switched network by allowing the configuration of a new VLAN to be distributed to all the switches in a domain?

A. STP
B. VTP
C. GVRP
D. SNMP
E. DHCP

Answer: B
Explanation:

QUESTION NO: 651

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

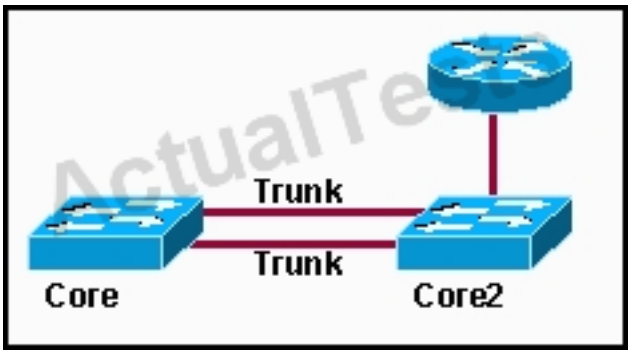
Router(config-router)# network 10.0.0.0 255.0.0.0 area 0

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
Explanation: When configuring OSPF, the mask used for the network statement is a wildcard mask similar to an access list. In this specific example, the correct syntax would have been "network 10.0.0.0 0.0.0.255 area 0."

QUESTION NO: 652

The switches shown in the diagram, Core and Core2, are both Catalyst 2950s.



The addressing scheme for each company site is as follows:

- Router Ethernet port - 1st usable address
- Core - 2nd usable address
- Core2 - 3rd usable address

For this network, which of the following commands must be configured on Core2 to allow it to be managed remotely from any subnet on the network? (Choose three.)

A. Core2(config)# interface f0/0
Core2(config-if)# ip address 192.168.1.10 255.255.255.248
B. Core2(config)# interface vlan 1
Core2(config-if)# ip address 192.168.1.11 255.255.255.248
C. Core2(config)# line con 0
Core2(config-line)# password cisco
D. Core2(config)# line vty 0 4
Core2(config-line)# password cisco
E. Core2(config)# ip default-gateway 192.168.1.9
F. Core2(config)# ip route 0.0.0.0 0.0.0.0 192.168.1.8

Answer: B,D,E

Explanation:

QUESTION NO: 653

If all OSPF routers in a single area are configured with the same priority value, what value does a router use for the OSPF router ID in the absence of a loopback interface?

A. the IP address of the first Fast Ethernet interface
B. the IP address of the console management interface
C. the highest IP address among its active interfaces
D. the lowest IP address among its active interfaces
E. the priority value until a loopback interface is configured

Answer: C

Explanation: Ordinarily the loopback interface would be selected as the router ID. In the event that no loopback interface is configured, the router ID will be the first active interface that comes up on the router. If that particular interface has more then one IP address, then the highest address will be selected as the Router ID.

QUESTION NO: 654

Which of the following describe the process identifier that is used to run OSPF on a router? (Choose two.)

A. It is locally significant.
B. It is globally significant.
C. It is needed to identify a unique instance of an OSPF database.
D. It is an optional parameter required only if multiple OSPF processes are running on the router.
E. All routers in the same OSPF area must have the same process ID if they are to exchange

routing information.

Answer: A,C

Explanation:

QUESTION NO: 655

The OSPF Hello protocol performs which of the following tasks? (Choose two.)

A. It provides dynamic neighbor discovery.
B. It detects unreachable neighbors in 90 second intervals.
C. It maintains neighbor relationships.
D. It negotiates correctness parameters between neighboring interfaces.
E. It uses timers to elect the router with the fastest links as the designated router.
F. It broadcasts hello packets throughout the internetwork to discover all routers that are running OSPF.

Answer: A,C

Explanation:

QUESTION NO: 656

Refer to the output of the corporate router routing table shown in the graphic.

```
Corp#show ip route
...
Gateway of last resort is not set

C   192.168.13.0/24 is directly connected, Serial0/1
C   192.168.14.0/24 is directly connected, FastEthernet0/0
C   192.168.15.0/24 is directly connected, Serial0/0.102
C   192.168.20.0/24 is directly connected, Serial0/0.117
R   192.168.16.0/24 [120/1] via 192.168.15.2, 00:00:05, Serial0/0.102
R   192.168.17.0/24 [120/1] via 192.168.15.2, 00:00:05, Serial0/0.102
R   192.168.30.0/24 [120/2] via 192.168.20.2, 00:00:25, Serial0/0.117
R   192.168.19.0/24 [120/1] via 192.168.20.2, 00:00:25, Serial0/0.117
R   192.168.21.0/24 [120/3] via 192.168.20.2, 00:00:25, Serial0/0.117
R   192.168.214.0/24 [120/1] via 192.168.14.2, 00:00:22, FastEthernet0/0
```

The corporate router receives an IP packet with a source IP address of 192.168.214.20 and a destination address of 192.168.22.3. What will the router do with this packet?

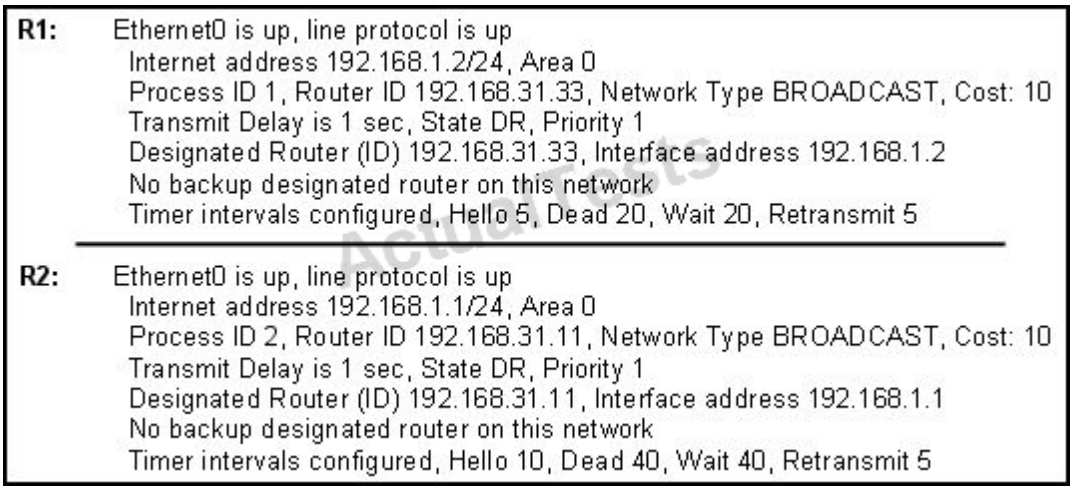
A. It will encapsulate the packet as Frame Relay and forward it out interface Serial 0/0.117.
B. It will discard the packet and send an ICMP Destination Unreachable message out interface FastEthernet 0/0.
C. It will forward the packet out interface Serial 0/1 and send an ICMP Echo Reply message out interface serial 0/0.102.
D. It will change the IP packet to an ARP frame and forward it out FastEthernet 0/0.

Answer: B

Explanation: The destination IP address of 192.168.22.3 is not in the routing table of the Corp router. Since there is no default route set, as shown by the “gateway of last resort is not set” statement, the packet will be dropped by the router and an ICMP Destination Unreachable message will be sent back to the source, which is Fast Ethernet 0/0 in this case.

QUESTION NO: 657

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?

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

Explanation:

QUESTION NO: 658

What is the default administrative distance of the OSPF routing protocol?

A. 90
B. 100
C. 110
D. 120
E. 130
F. 170

Answer: C
Explanation: The default administrative distance of OSPF is 110. In Cisco networks, the default AD is shown in the following table:

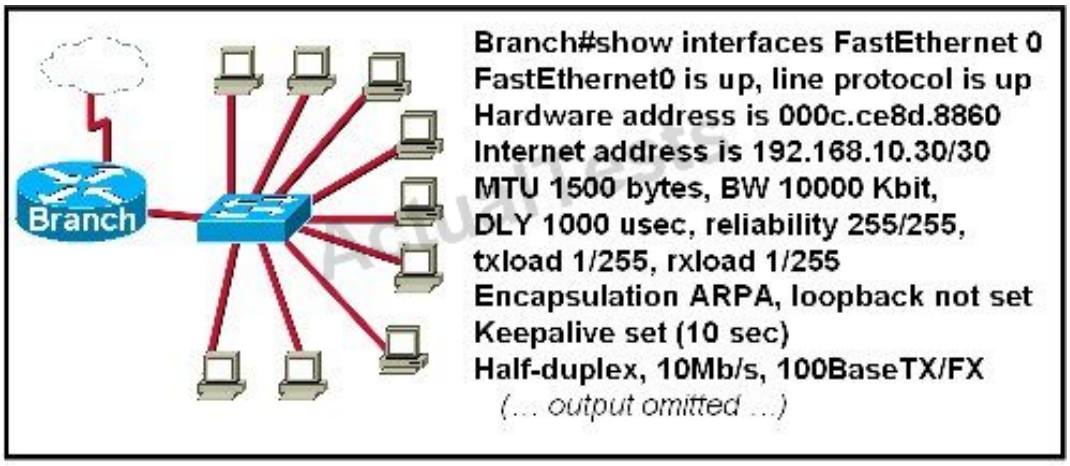
Route Source	Default Distance Values
Connected interface	0
Static route*	1
Enhanced Interior Gateway Routing Protocol (EIGRP) summary route	5
External Border Gateway Protocol (BGP)	20
Internal EIGRP	90
IGRP	100
OSPF	110
Intermediate System-to-Intermediate System (IS-IS)	115
Routing Information Protocol (RIP)	120
Exterior Gateway Protocol (EGP)	140
On Demand Routing (ODR)	160
External EIGRP	170
Internal BGP	200
Unknown**	255

ActualTests

Reference:
http://www.cisco.com/en/US/tech/tk365/technologies_tech_note09186a0080094195.shtml

QUESTION NO: 659

A router has been configured to provide the nine users on the branch office LAN with Internet access, as shown in the diagram.



It is found that some of the users on the LAN cannot reach the Internet. Based on the topology and router output shown, which command should be issued on the router to correct the problem?

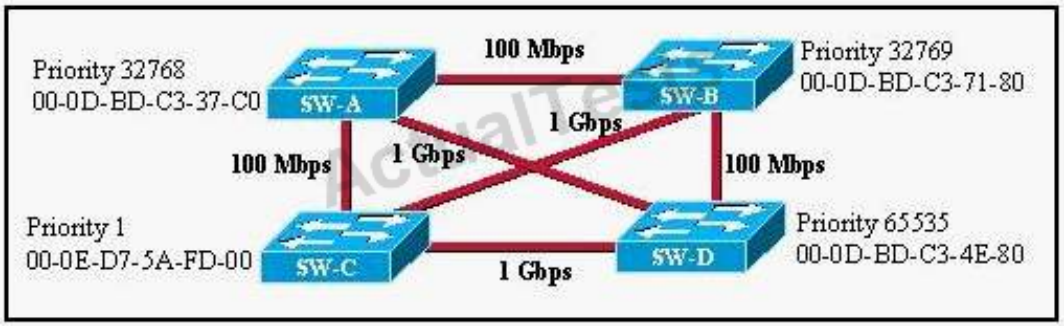
A. Branch(config-if)# no shutdown
B. Branch(config-if)# duplex full
C. Branch(config-if)# no keepalive
D. Branch(config-if)# ip address 192.168.10.30 255.255.255.240
E. Branch(config-if)# bandwidth 100
F. Branch(config-if)# encapsulation 802.3

Answer: D

Explanation:

QUESTION NO: 660

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
Explanation: To elect the root bridge in the LAN, first check the priority value. The switch having the lowest priority will win the election process. If Priority Value is the same then it checks the MAC Address; the switch having the lowest MAC Address will become the root bridge. In this case, switch C has the lowest MAC Address so it becomes the root bridge.

QUESTION NO: 661

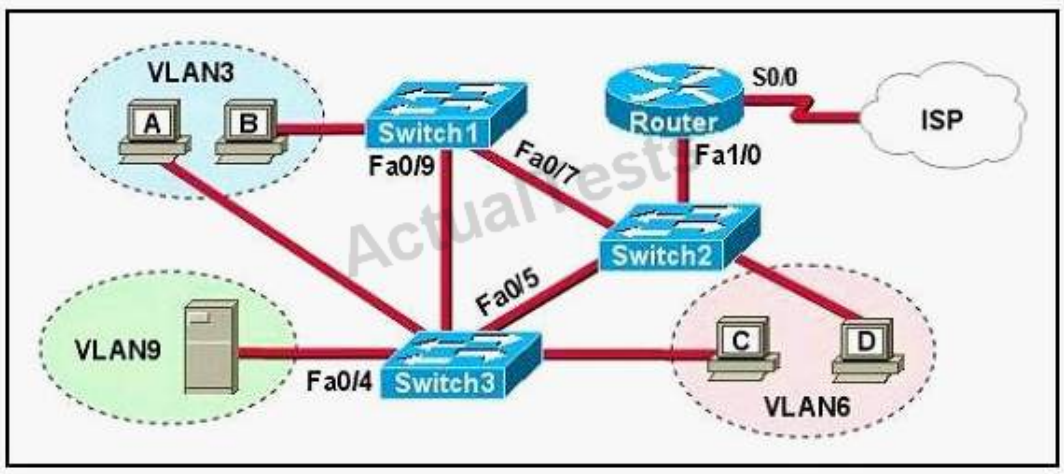
What does a Layer 2 switch use to decide where to forward a received frame?

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
Explanation:

QUESTION NO: 662

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
Explanation: Spanning-Tree Protocol (STP) is a Layer 2 protocol that utilizes a special-purpose algorithm to discover physical loops in a network and effect a logical loop-free topology. STP creates a loop-free tree structure consisting of leaves and branches that span the entire Layer 2 network. The actual mechanics of how bridges communicate and how the STP algorithm works will be discussed at length in the following topics. Note that the terms bridge and switch are used interchangeably when discussing STP. In addition, unless otherwise indicated, connections between switches are assumed to be trunks.

STP keeps the port either in block or in forward states, when forward port disconnect then within the less then a minute blocked port comes into forward state so packets starts to go through new forward port.

The Spanning Tree Protocol (STP) would identify the best path as well as alternate path to reach in proper destination. In a redundant link, if the primary link fails then the secondary links will automatically start after few minutes. If port Fa0/9 became disconnected, then the packets would be re-routed automatically using the Router-Switch2- Switch3 path.