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Topic 1, Operation of IP Data Networks

Question No : 1 - (Topic 1)

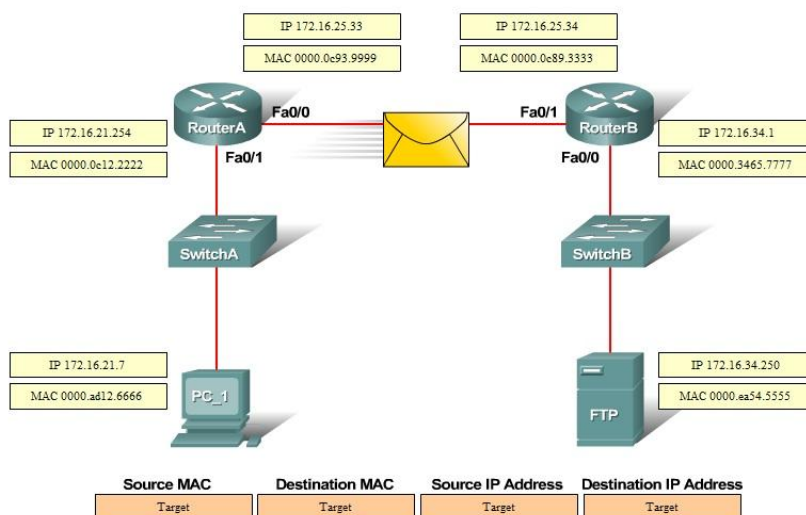
Which three statements accurately describe Layer 2 Ethernet switches? (Choose three.)

- A. Spanning Tree Protocol allows switches to automatically share VLAN information.
- B. Establishing VLANs increases the number of broadcast domains.
- C. Switches that are configured with VLANs make forwarding decisions based on both Layer 2 and Layer 3 address information.
- D. Microsegmentation decreases the number of collisions on the network.
- E. 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.
- F. If a switch receives a frame for an unknown destination, it uses ARP to resolve the address.

Answer: B,D,E

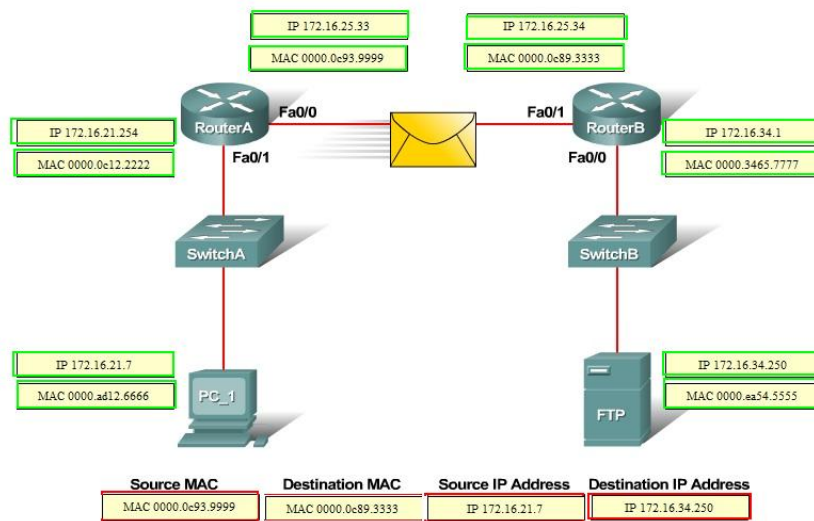
Question No : 2 DRAG DROP - (Topic 1)

Refer to the exhibit. PC_1 is sending packets to the FTP server. Consider the packets as they leave RouterA interface Fa0/0 towards RouterB. Drag the correct frame and packet address to their place in the table.



Answer:

Refer to the exhibit. PC_1 is sending packets to the FTP server. Consider the packets as they leave RouterA interface Fa0/0 towards RouterB. Drag the correct frame and packet address to their place in the table.



Question No : 3 - (Topic 1)

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

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

Answer: D

Question No : 4 - (Topic 1)

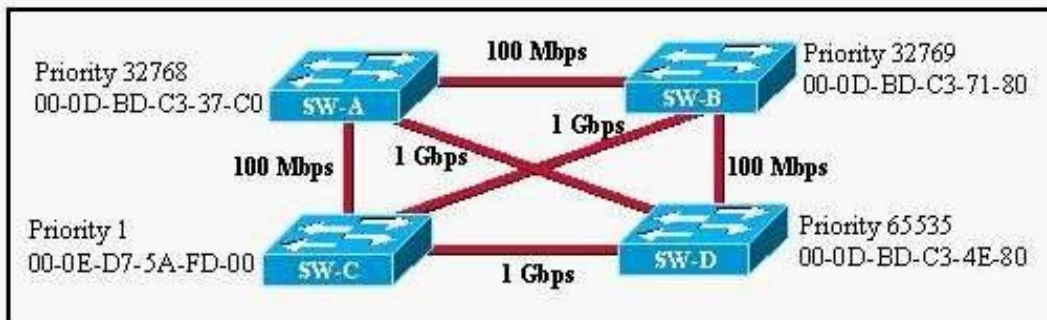
A network interface port has collision detection and carrier sensing enabled on a shared twisted pair network. From this statement, what is known about the network interface port?

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

Answer: C

Question No : 5 - (Topic 1)

Refer to the exhibit.



Based on the information given, which switch will be elected root bridge and why?

- A. Switch A, because it has the lowest MAC address
- B. Switch A, because it is the most centrally located switch
- C. Switch B, because it has the highest MAC address
- D. Switch C, because it is the most centrally located switch
- E. Switch C, because it has the lowest priority
- F. Switch D, because it has the highest priority

Answer: E

Question No : 6 - (Topic 1)

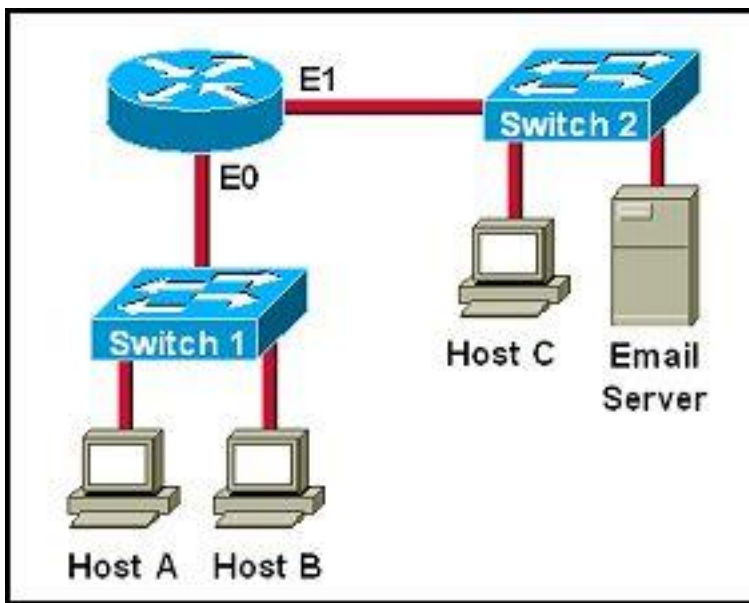
What is the difference between a CSU/DSU and a modem?

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

Answer: D

Question No : 7 - (Topic 1)

Refer to exhibit:



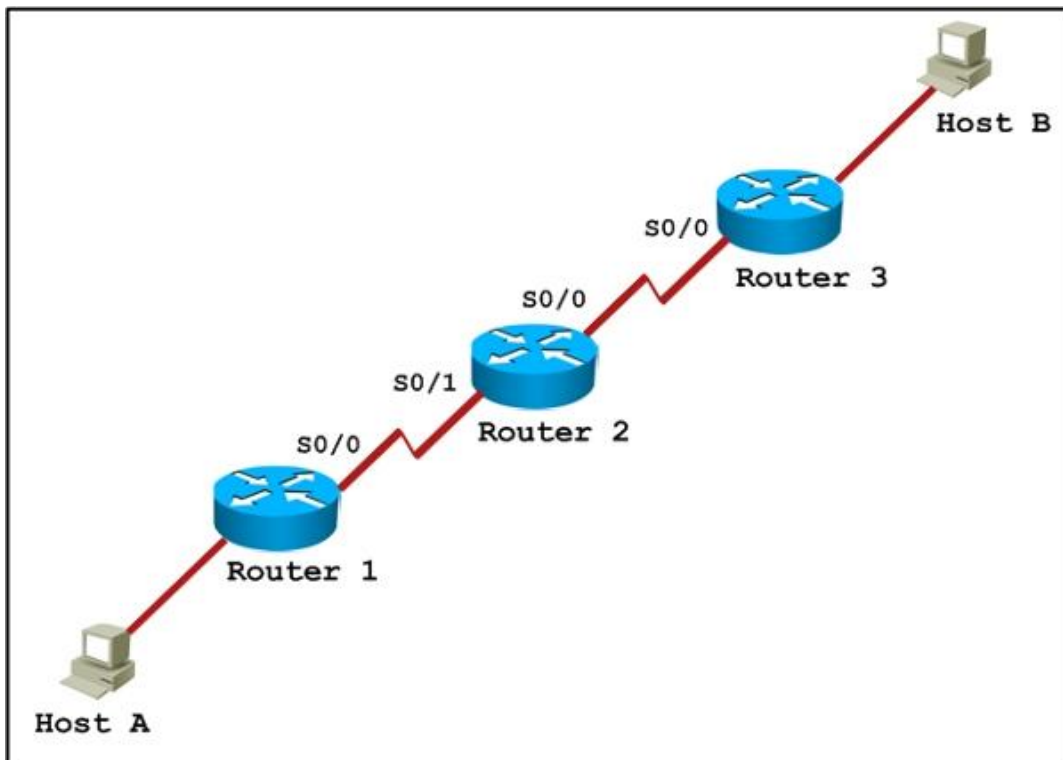
Which destination addresses will be used by Host A to send data to Host C? (Choose two.)

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

Answer: C,F

Question No : 8 - (Topic 1)

Refer to the exhibit.



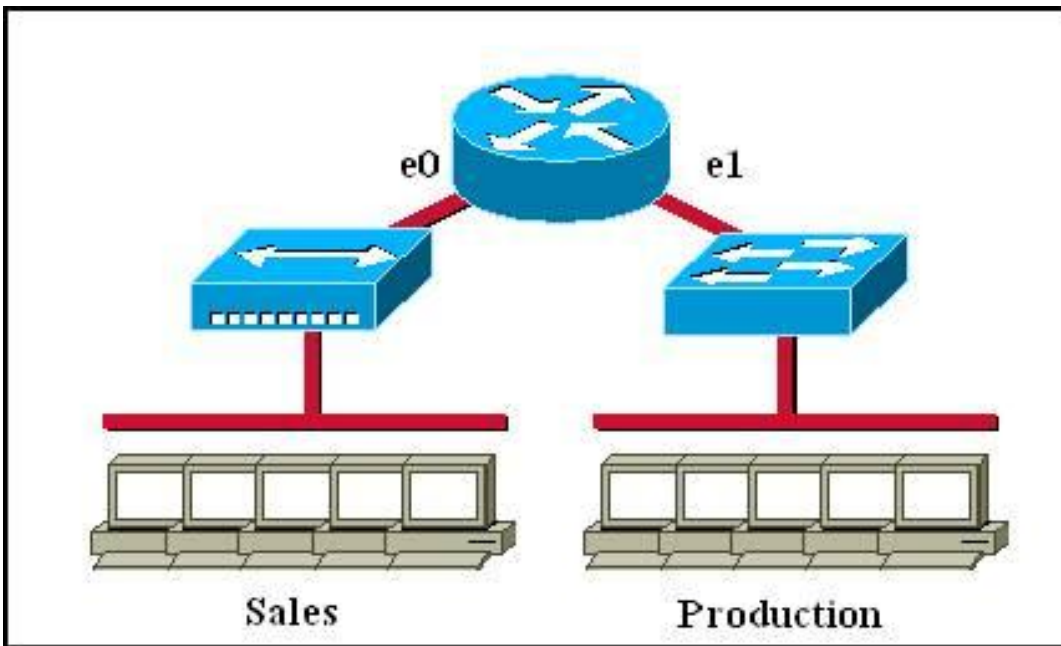
Host A pings interface S0/0 on router 3. What is the TTL value for that ping?

- A. 252
- B. 253
- C. 254
- D. 255

Answer: B

Question No : 9 - (Topic 1)

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



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

Answer: A,F

Question No : 10 - (Topic 1)

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. Use a hub to connect the four VLANs with a Fast Ethernet interface on the router.
- B. Add a second router to handle the VLAN traffic.
- C. Add two more Fast Ethernet interfaces.
- D. Implement a router-on-a-stick configuration.

Answer: D

Question No : 11 - (Topic 1)

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

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

Answer: C,D

Question No : 12 - (Topic 1)

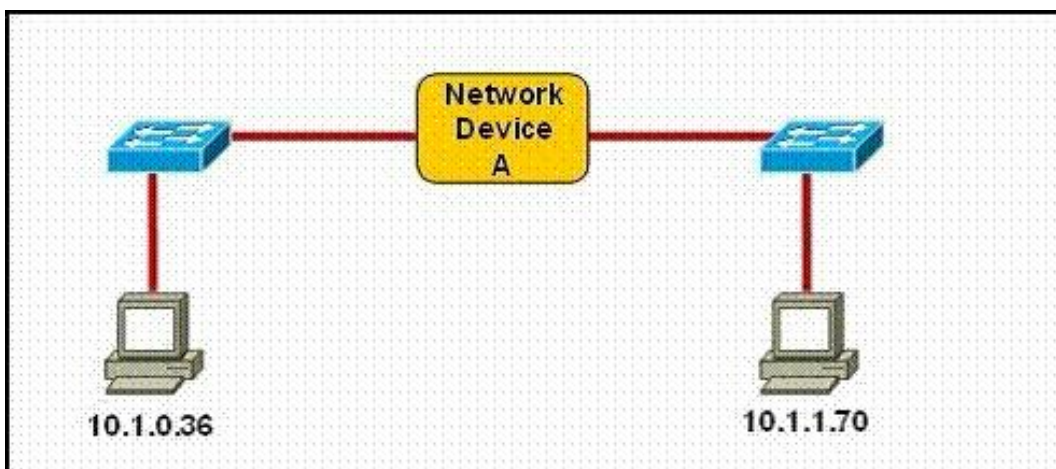
Where does routing occur within the DoD TCP/IP reference model?

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

Answer: B

Question No : 13 - (Topic 1)

Refer to the exhibit.



Which three statements correctly describe Network Device A? (Choose three.)

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

Answer: B,D,E

Question No : 14 - (Topic 1)

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

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

Answer: A,E

Question No : 15 - (Topic 1)

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

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

Answer: E

Question No : 16 - (Topic 1)

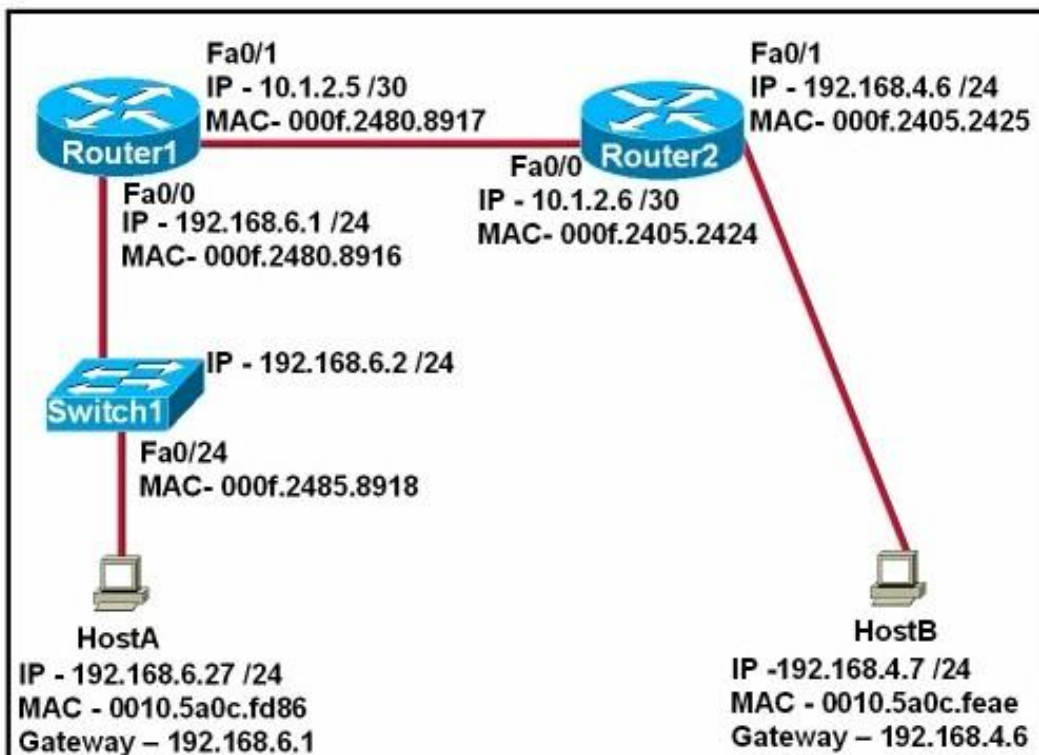
Which of the following correctly describe steps in the OSI data encapsulation process?
(Choose two.)

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

Answer: A,D

Question No : 17 - (Topic 1)

Refer to the exhibit.



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

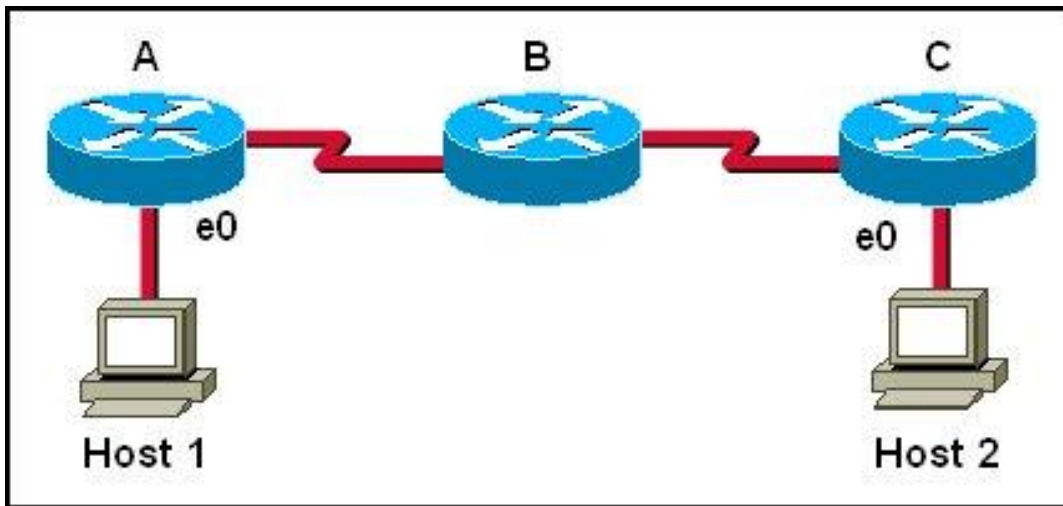
- A.
- | Interface Address | Physical Address | Type |
|-------------------|------------------|---------|
| 192.168.4.7 | 000f.2480.8916 | dynamic |
- B.
- | Interface Address | Physical Address | Type |
|-------------------|------------------|---------|
| 192.168.4.7 | 0010.5a0c.feaе | dynamic |
- C.
- | Interface Address | Physical Address | Type |
|-------------------|------------------|---------|
| 192.168.6.1 | 0010.5a0c.feaе | 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.feaе | 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

Question No : 18 - (Topic 1)

Host 1 is trying to communicate with Host 2. The e0 interface on Router C is down.



Which of the following are true? (Choose two.)

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

Answer: A,D

Question No : 19 DRAG DROP - (Topic 1)

Match the terms on the left with the appropriate OSI layer on the right. (Not all options are used.)

frames	Network Layer
packets	
UDP	
IP addresses	
segments	Transport Layer
MAC addresses	
windowing	
routing	

Answer:

Match the terms on the left with the appropriate OSI layer on the right. (Not all options are used.)

frames	Network Layer
packets	packets
UDP	IP addresses
IP addresses	routing
segments	Transport Layer
MAC addresses	UDP
windowing	segments
routing	windowing

Question No : 20 - (Topic 1)

Refer to the exhibit:

Router1# show ip arp

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

Data Frame:

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

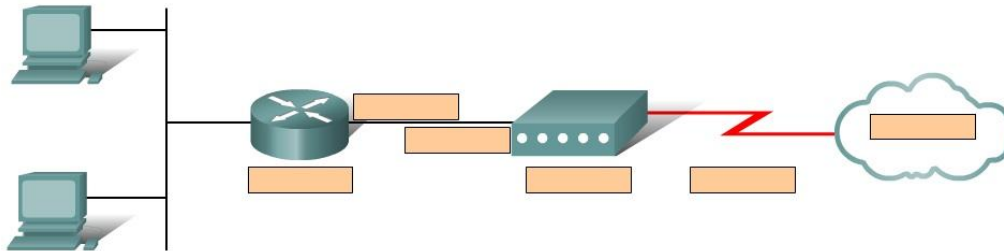
What will Router1 do when it receives the data frame shown? (Choose three.)

- A. Router1 will strip off the source MAC address and replace it with the MAC address 0000.0c36.6965.
- B. Router1 will strip off the source IP address and replace it with the IP address 192.168.40.1.
- C. Router1 will strip off the destination MAC address and replace it with the MAC address 0000.0c07.4320.
- D. Router1 will strip off the destination IP address and replace it with the IP address of 192.168.40.1.
- E. Router1 will forward the data packet out interface FastEthernet0/1.
- F. Router1 will forward the data packet out interface FastEthernet0/2.

Answer: A,C,F

Question No : 21 DRAG DROP - (Topic 1)

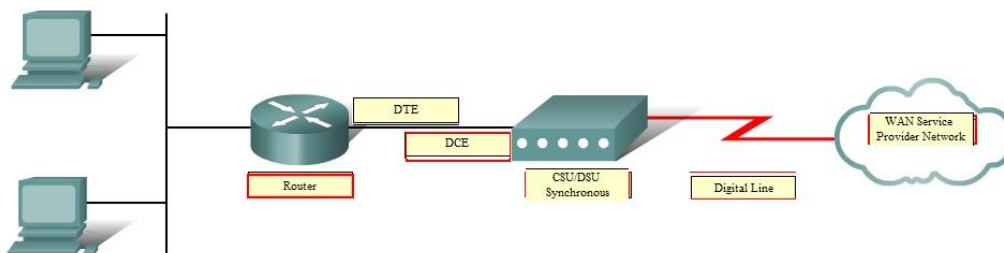
Refer to the exhibit. Complete this network diagram by dragging the correct device name or description to the correct location. Not all the names or descriptions will be used.



Digital Line CSU/DSU Synchronous Analog Modem Asynchronous WAN Service Provider Network Router Switch DTE DCE

Answer:

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



Digital Line CSU/DSU Synchronous Analog Modem Asynchronous WAN Service Provider Network Router Switch DTE DCE

Question No : 22 DRAG DROP - (Topic 1)

Drag the cable type on the left to the purpose for which it is best suited on the right. (Not all options are used.)

crossover	switch access port to router
null modem	switch to switch
straight-through	PC COM port to switch
rollover	
9-25 pin serial	

Answer:

Drag the cable type on the left to the purpose for which it is best suited on the right. (Not all options are used.)

crossover	straight-through
null modem	crossover
straight-through	rollover
rollover	
9-25 pin serial	

Question No : 23 - (Topic 1)

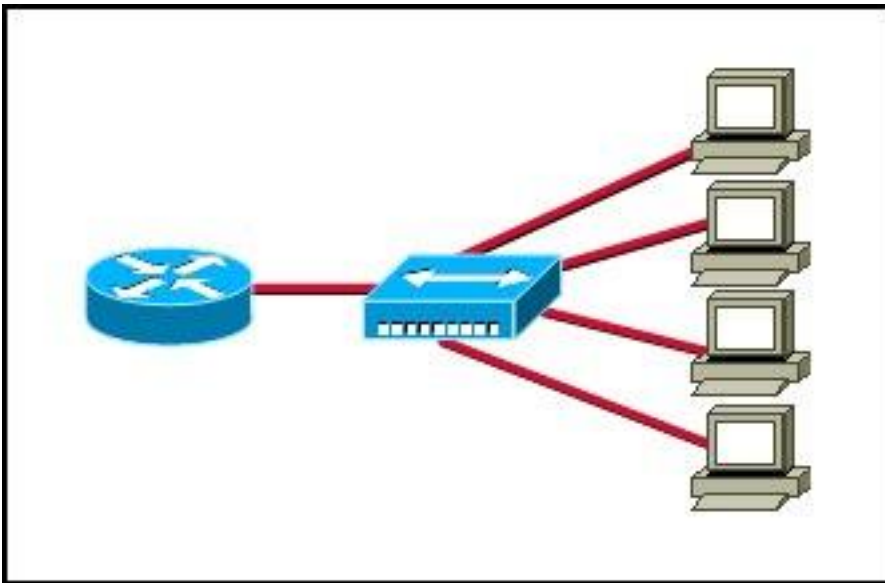
Which of the following describes the roles of devices in a WAN? (Choose three.)

- A. A CSU/DSU terminates a digital local loop.
- B. A modem terminates a digital local loop.
- C. A CSU/DSU terminates an analog local loop.
- D. A modem terminates an analog local loop.
- E. A router is commonly considered a DTE device.
- F. A router is commonly considered a DCE device.

Answer: A,D,E

Question No : 24 - (Topic 1)

Refer to the exhibit.



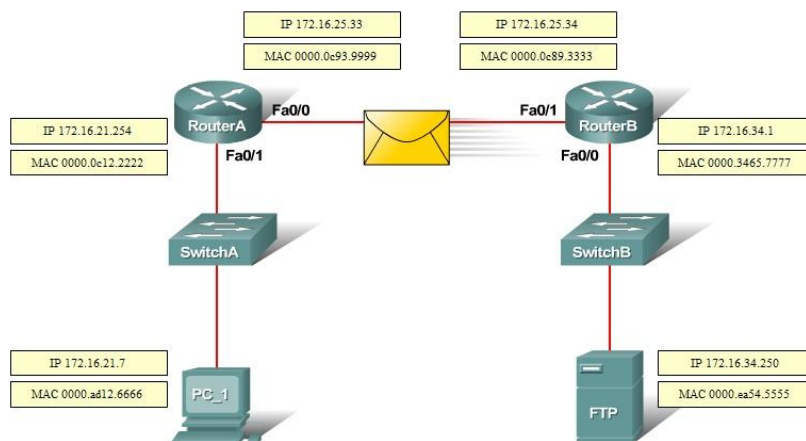
What two results would occur if the hub were to be replaced with a switch that is configured with one Ethernet VLAN? (Choose two.)

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

Answer: C,D

Question No : 25 DRAG DROP - (Topic 1)

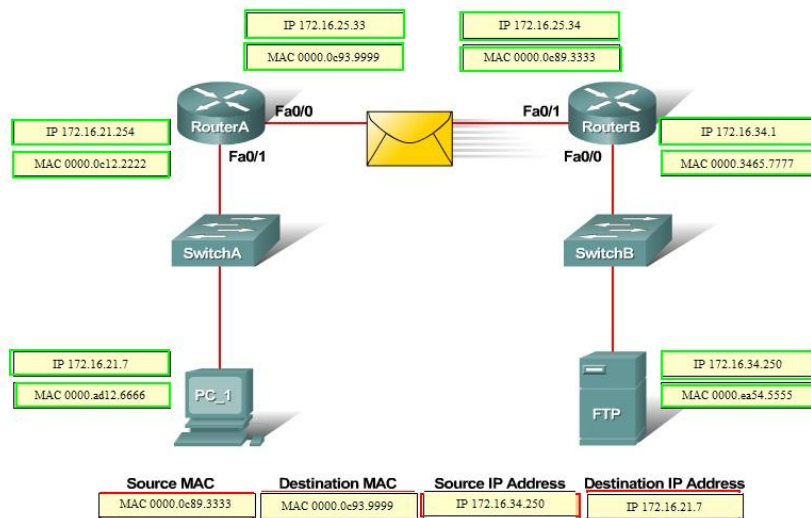
Refer to the exhibit. PC_1 is exchanging packets with the FTP server. Consider the packets as they leave RouterB interface Fa0/1 towards RouterA. Drag the correct frame and packet addresses to their place in the table.



Source MAC	Destination MAC	Source IP Address	Destination IP Address
Target	Target	Target	Target

Answer:

Refer to the exhibit. PC_1 is exchanging packets with the FTP server. Consider the packets as they leave RouterB interface Fa0/1 towards RouterA. Drag the correct frame and packet addresses to their place in the table.

**Question No : 26 - (Topic 1)**

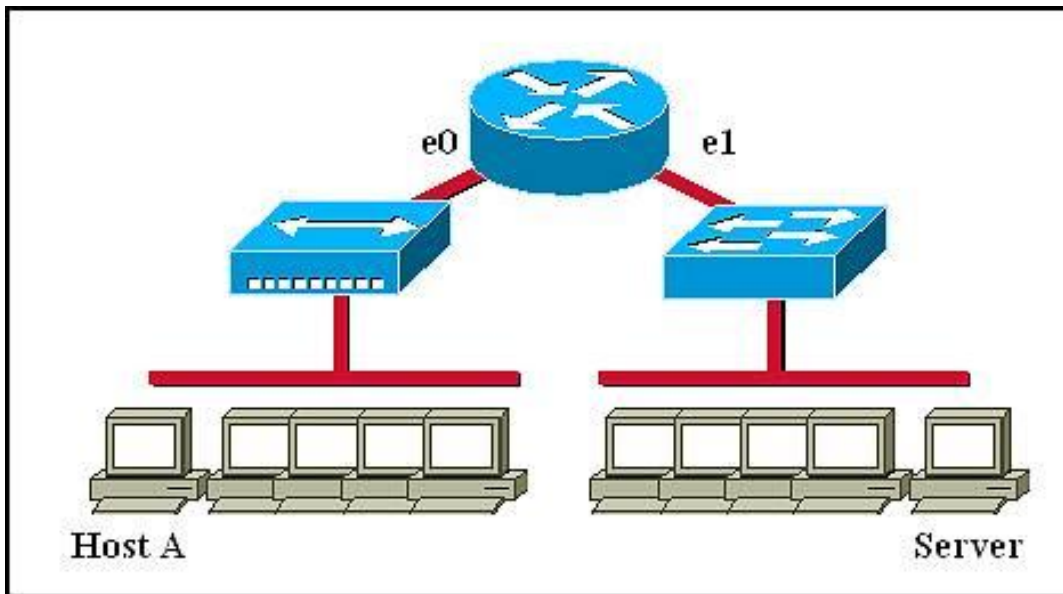
A network administrator is verifying the configuration of a newly installed host by establishing an FTP connection to a remote server. What is the highest layer of the protocol stack that the network administrator is using for this operation?

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

Answer: A

Question No : 27 - (Topic 1)

Refer to the graphic.



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

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

Answer: A

Topic 2, LAN Switching Technologies

Question No : 28 - (Topic 2)

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

Question No : 29 - (Topic 2)

Why will a switch never learn a broadcast address?

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

Answer: C

Question No : 30 - (Topic 2)

Which two commands can be used to verify a trunk link configuration status on a given Cisco switch interface? (Choose two.)

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

Answer: A,E

Question No : 31 - (Topic 2)

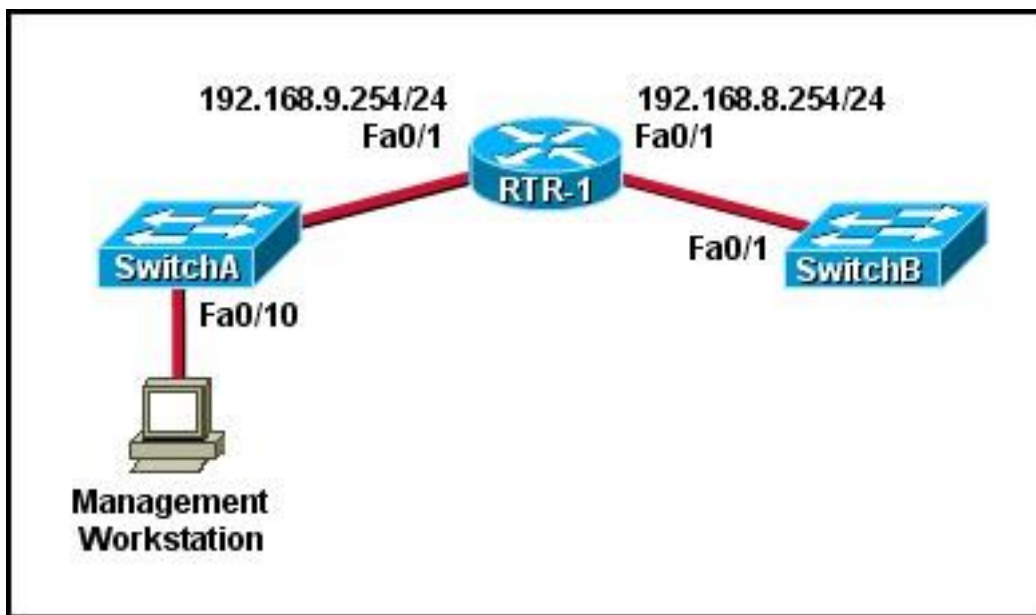
Which two of these statements regarding RSTP are correct? (Choose two.)

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

Answer: B,E

Question No : 32 - (Topic 2)

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)# interface FastEthernet 0/1
SwitchB(config-if)# ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)# no shutdown
- B.** 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
- C.** 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
- D.** 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
- E.** SwitchB(config)# ip route 192.168.8.254 255.255.255.0
SwitchB(config)# interface FastEthernet 0/1
SwitchB(config-if)# ip address 192.168.8.252 255.255.255.0
SwitchB(config-if)# no shutdown

Answer: C

Question No : 33 - (Topic 2)

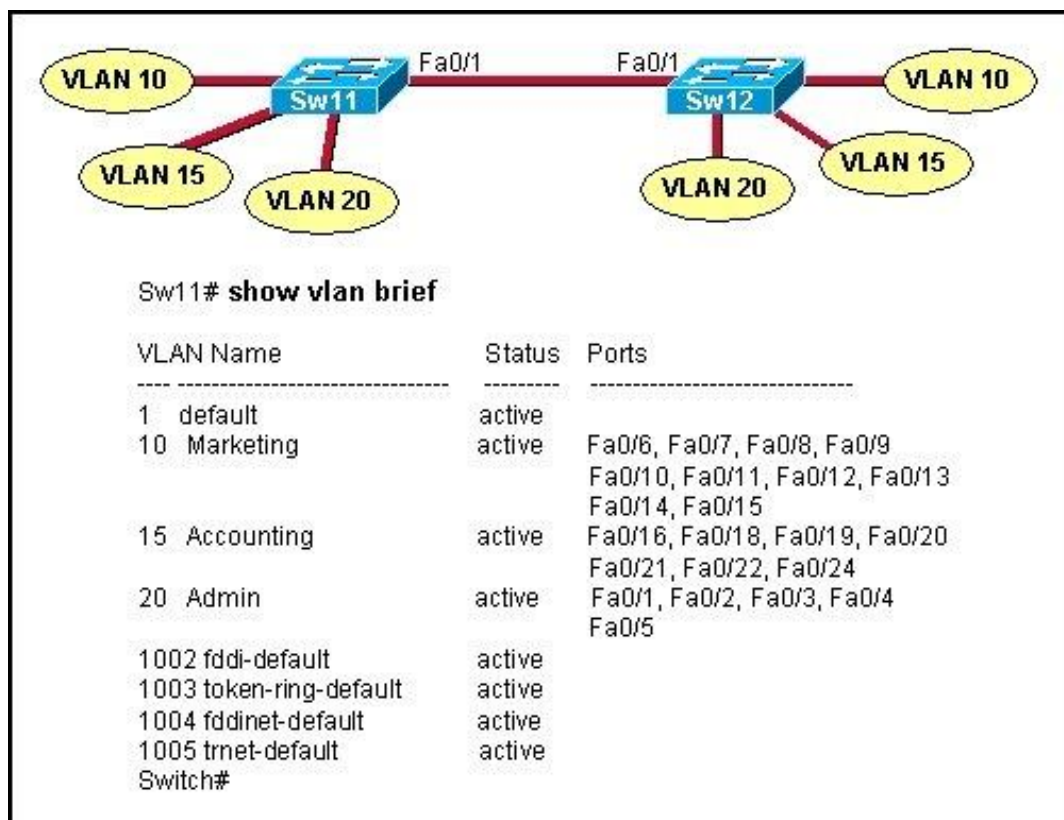
What value is primarily used to determine which port becomes the root port on each nonroot switch in a spanning-tree topology?

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

Answer: A

Question No : 34 - (Topic 2)

Refer to 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 Sw2. 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 Sw12.

Answer: B

Question No : 35 - (Topic 2)

Which two benefits are provided by creating VLANs? (Choose two.)

- A. added security
- B. dedicated bandwidth
- C. provides segmentation
- D. allows switches to route traffic between subinterfaces
- E. contains collisions

Answer: A,C

Question No : 36 - (Topic 2)

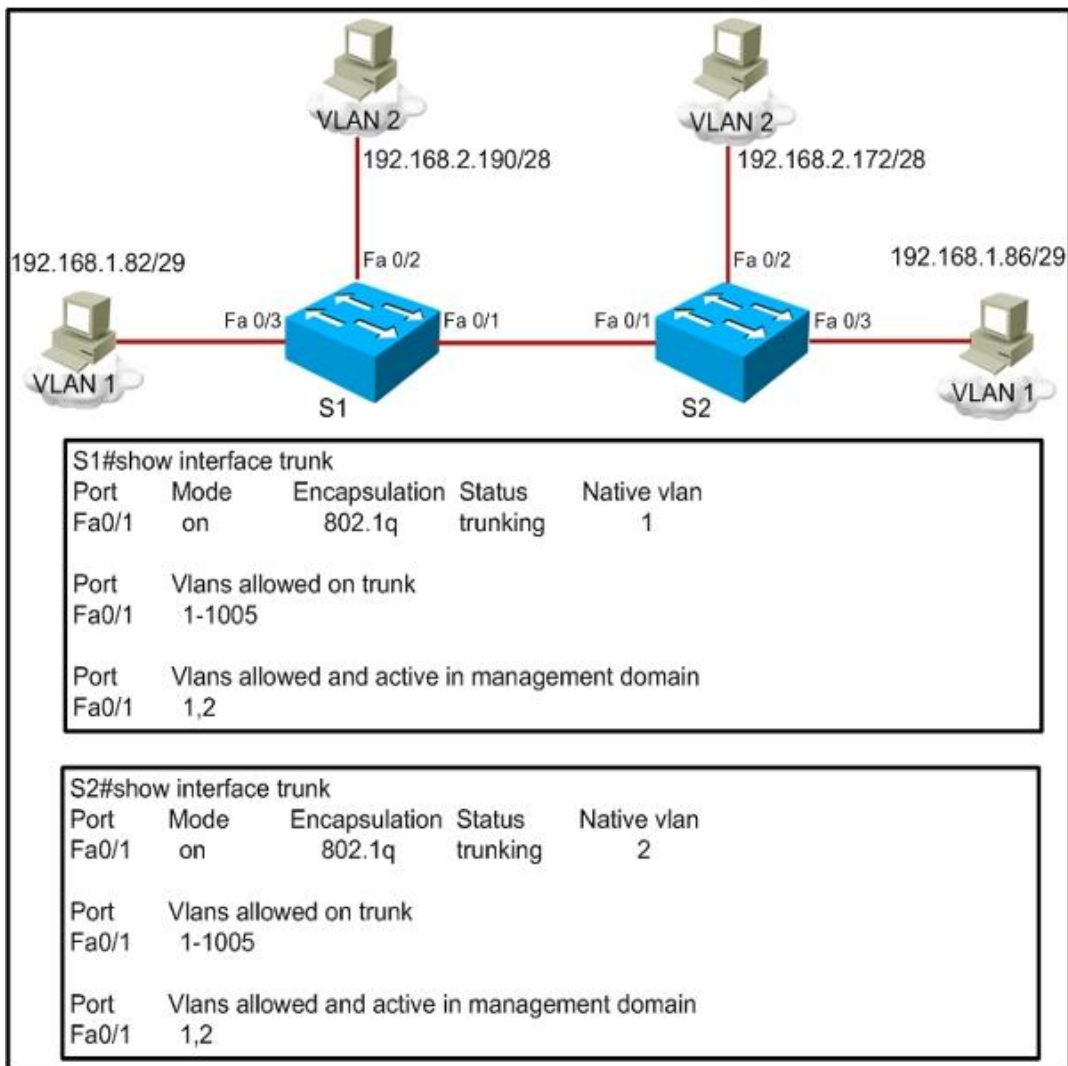
Which port state is introduced by Rapid-PVST?

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

Answer: C

Question No : 37 - (Topic 2)

Refer to the exhibit.



A frame on VLAN 1 on switch S1 is sent to switch S2 where the frame is received on VLAN 2. What causes this behavior?

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

Answer: C

Question No : 38 - (Topic 2)

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

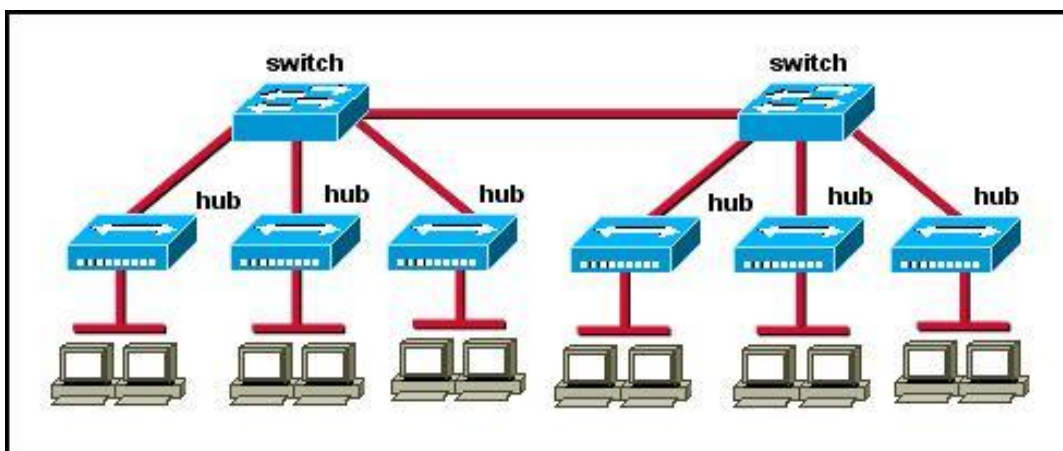
- A. VTP

- B. 802.1q
- C. IGP
- D. ISL
- E. 802.3u

Answer: B,D

Question No : 39 - (Topic 2)

Refer to Exhibit:



How many broadcast domains are shown in the graphic assuming only the default VLAN is configured on the switches?

- A. one
- B. two
- C. six
- D. twelve

Answer: A

Question No : 40 - (Topic 2)

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

- A. the operation of VTP
- B. a method of VLAN trunking

- C. an approach to wireless LAN communication
- D. the process for root bridge selection
- E. VLAN pruning

Answer: B

Question No : 41 - (Topic 2)

Refer to the exhibit.

```
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
```

Which statement is true?

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

Answer: D

Question No : 42 - (Topic 2)

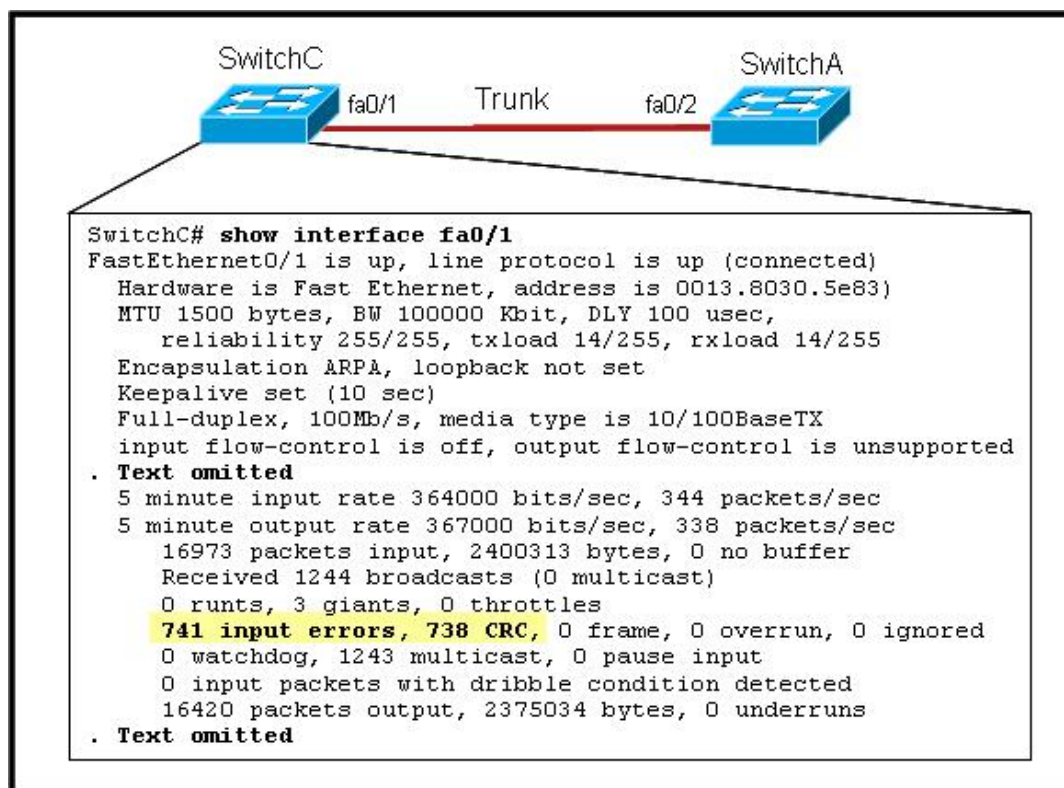
What is the function of the command switchport trunk native vlan 999 on a Cisco Catalyst switch?

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

Answer: B

Question No : 43 - (Topic 2)

Refer to the exhibit.



Given this output for SwitchC, what should the network administrator's next action be?

- A. Check the trunk encapsulation mode for SwitchC's fa0/1 port.
- B. Check the duplex mode for SwitchC's fa0/1 port.
- C. Check the duplex mode for SwitchA's fa0/2 port.
- D. Check the trunk encapsulation mode for SwitchA's fa0/2 port.

Answer: C

Question No : 44 - (Topic 2)

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

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

Answer: B

Question No : 45 - (Topic 2)

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. 802.1D
- D. 802.1Q

Answer: D

Question No : 46 - (Topic 2)

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

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

Answer: F

Question No : 47 - (Topic 2)

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

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

Answer: B,C,E

Question No : 48 - (Topic 2)

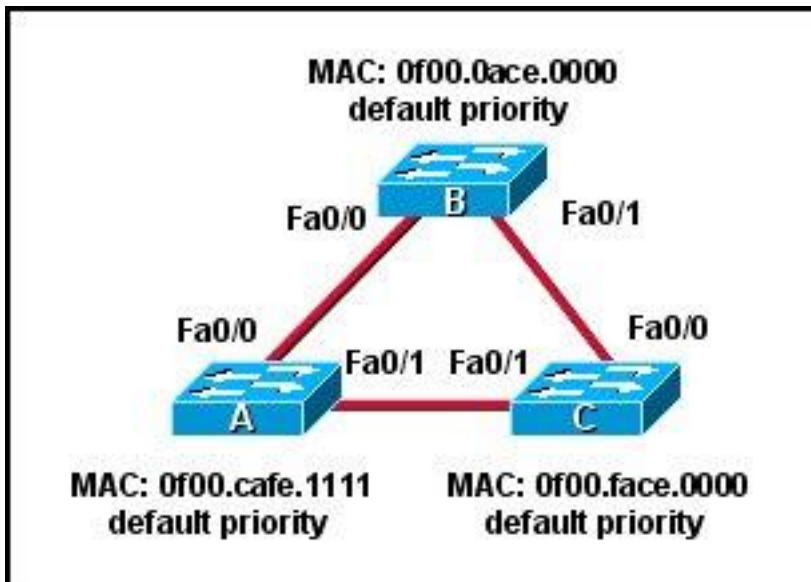
Which two states are the port states when RSTP has converged? (Choose two.)

- A. discarding
- B. listening
- C. learning
- D. forwarding
- E. disabled

Answer: A,D

Question No : 49 - (Topic 2)

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

Question No : 50 - (Topic 2)

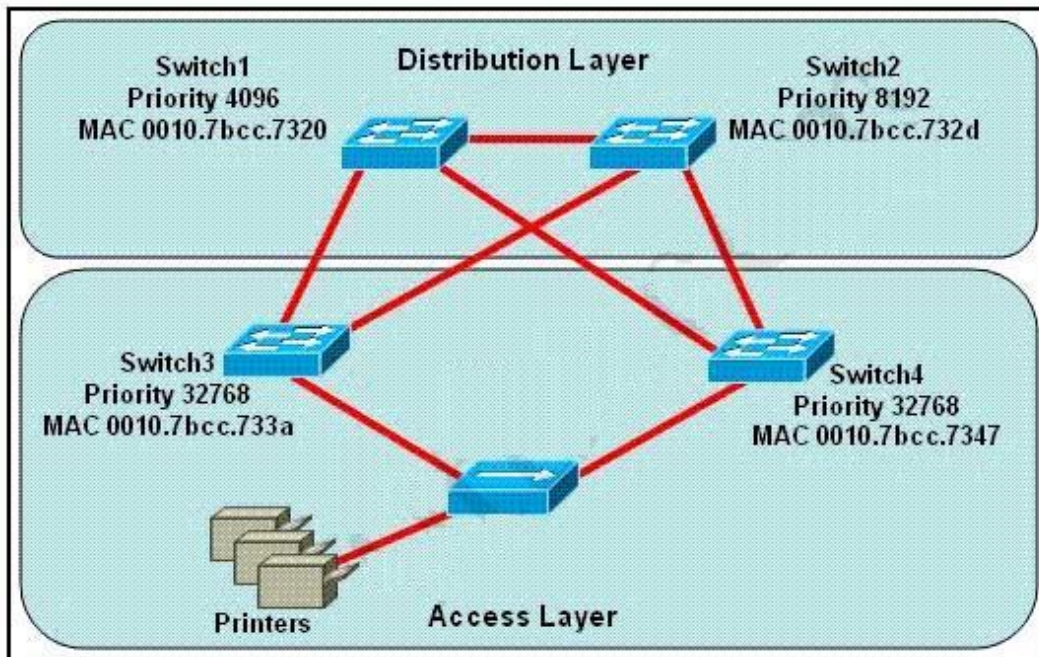
What are three advantages of VLANs? (Choose three.)

- A. VLANs establish broadcast domains in switched networks.
- B. VLANs utilize packet filtering to enhance network security.
- C. VLANs provide a method of conserving IP addresses in large networks.
- D. VLANs provide a low-latency internetworking alternative to routed networks.
- E. VLANs allow access to network services based on department, not physical location.
- F. VLANs can greatly simplify adding, moving, or changing hosts on the network.

Answer: A,E,F

Question No : 51 - (Topic 2)

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

Question No : 52 - (Topic 2)

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

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

Answer: A

Question No : 53 - (Topic 2)

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

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

Answer: B

Question No : 54 - (Topic 2)

Refer to the exhibit.


```
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

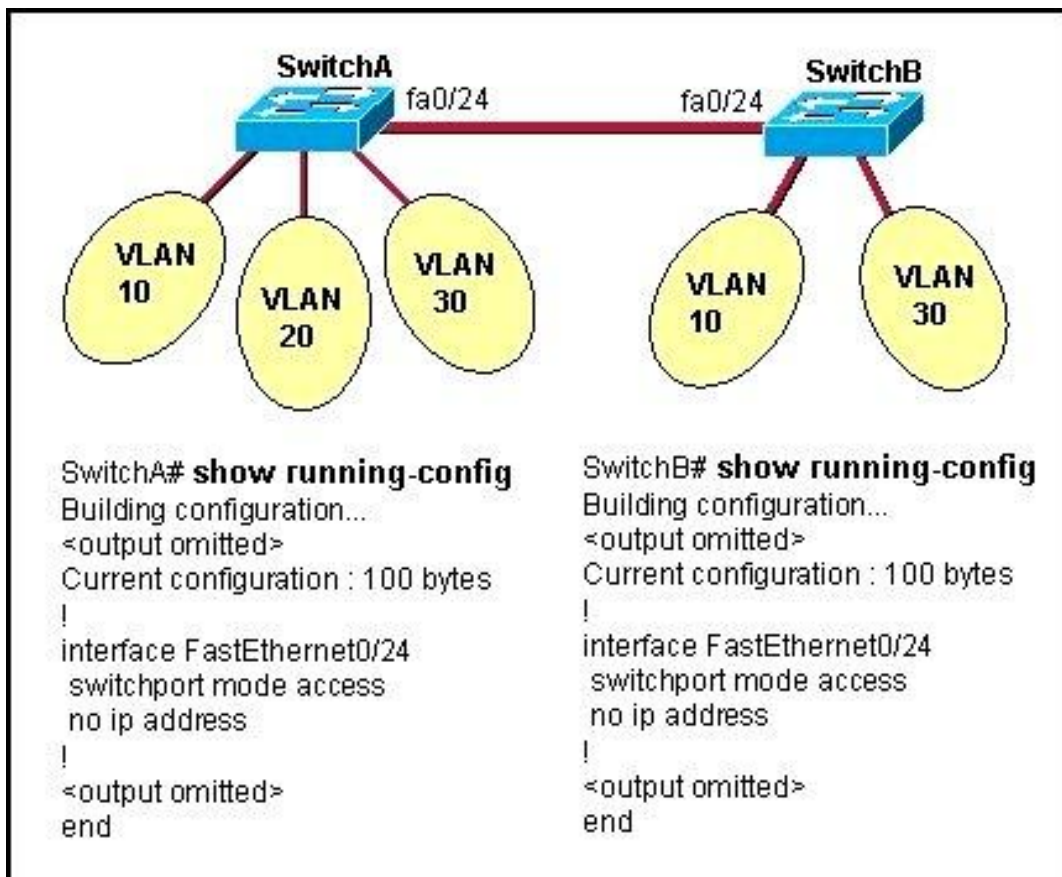
Voice VLAN: none (Inactive)
Appliance trust: none
```

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 trunk does not form, even though the proper cabling has been attached?

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

Answer: C

Refer to the exhibit.



All switch ports are assigned to the correct VLANs, but none of the hosts connected to SwitchA can communicate with hosts in the same VLAN connected to SwitchB. Based on the output shown, what is the most likely problem?

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

Answer: C

Question No : 56 - (Topic 2)

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 and the MAC address table.
- B. Unknown unicast frames are retransmitted only to the ports that belong to the same VLAN.
- C. Broadcast and multicast frames are retransmitted to ports that are configured on different VLAN.
- D. Ports between switches should be configured in access mode so that VLANs can span across the ports.

Answer: B

Question No : 57 - (Topic 2)

Refer to the exhibit.

```
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

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

- 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 802.1d spanning tree.
- C. It has a higher MAC address than the elected root bridge.
- D. It has a higher bridge ID than the elected root bridge.

Answer: D

Question No : 58 - (Topic 2)

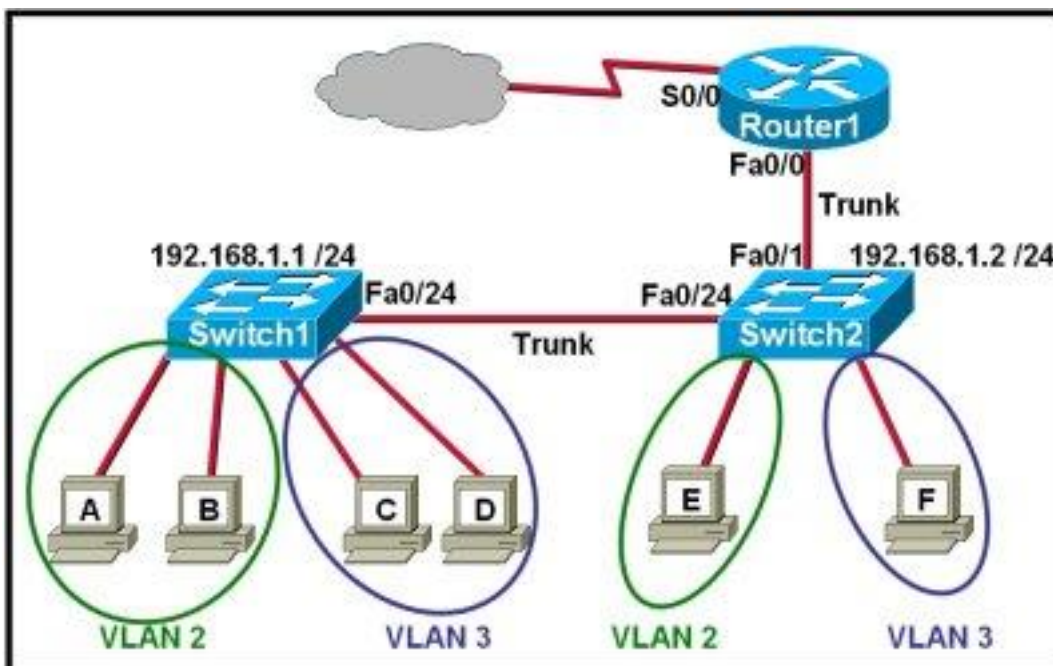
A network administrator creates a layer 3 EtherChannel, bundling four interfaces into channel group 1. On what interface is the IP address configured?

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

Answer: A

Question No : 59 - (Topic 2)

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

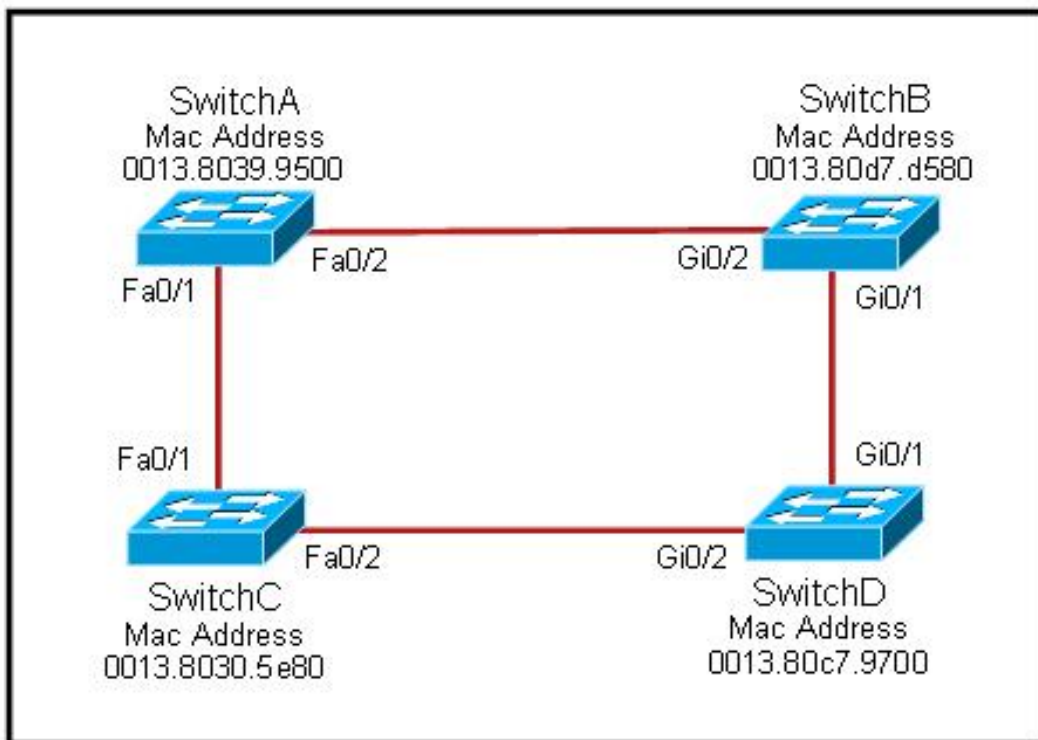
exhibit.

F. The FastEthernet 0/0 interface on Router1 and the FastEthernet 0/1 interface on Switch2 trunk ports must be configured using the same encapsulation type.

Answer: D,F

Question No : 60 - (Topic 2)

Refer to the exhibit.



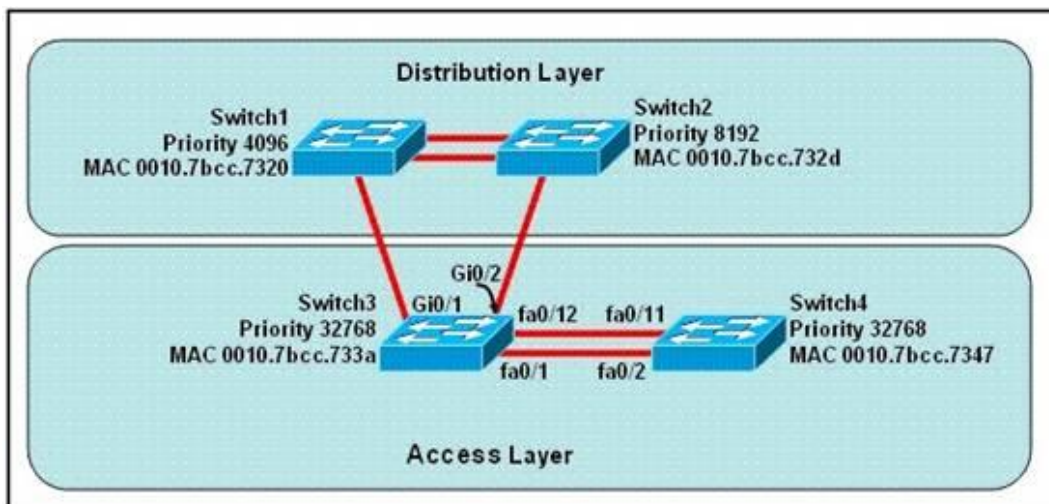
Each of these four switches has been configured with a hostname, as well as being configured to run RSTP. No other configuration changes have been made. Which three of these show the correct RSTP port roles for the indicated switches and interfaces? (Choose three.)

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

Answer: A,B,F

Question No : 61 - (Topic 2)

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

Question No : 62 - (Topic 2)

What is one benefit of PVST+?

- A. PVST+ supports Layer 3 load balancing without loops.
- B. PVST+ reduces the CPU cycles for all the switches in the network.
- C. PVST+ allows the root switch location to be optimized per VLAN.

D. PVST+ automatically selects the root bridge location, to provide optimized bandwidth usage.

Answer: C

Question No : 63 - (Topic 2)

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

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

Answer: A,C,D

Question No : 64 - (Topic 2)

Refer to the exhibit.

```
Switch# show spanning-tree interface fastethernet 0/10
Vlan          Role Sts Cost      Prio.Mbr Type
-----
VLAN0001      Root FWD 19        128.1   P2p
VLAN0002      Altn BLK 19        128.2   P2p
VLAN0003      Root FWD 19        128.2   P2p
```

Given the output shown from this Cisco Catalyst 2950, what is the 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

Question No : 65 - (Topic 2)

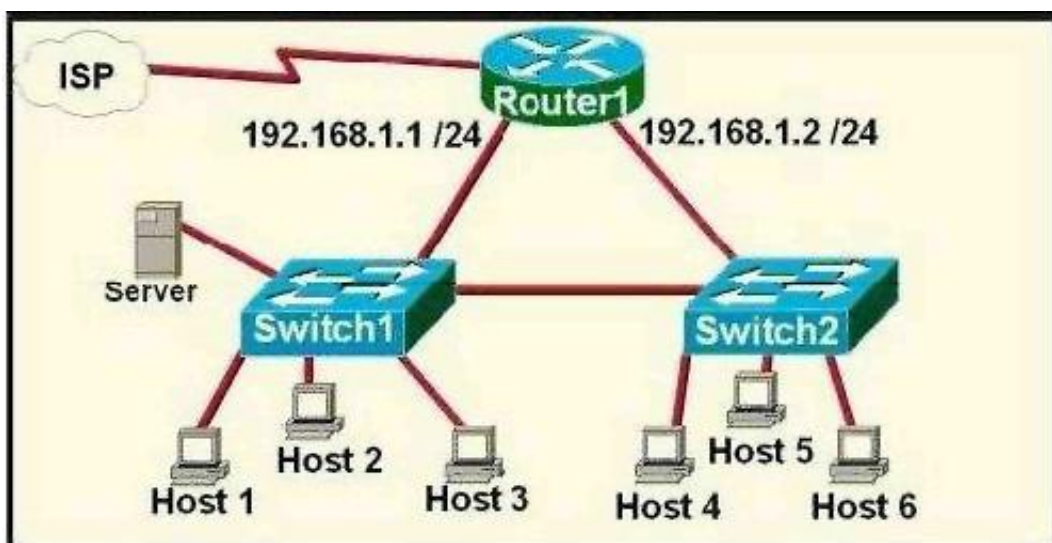
Which term describes a spanning-tree network that has all switch ports in either the blocking or forwarding state?

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

Answer: A

Question No : 66 - (Topic 2)

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 802.1Q protocol.

Answer: C

Question No : 67 - (Topic 2)

Refer to the exhibit.

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

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

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

Answer: B

Question No : 68 - (Topic 2)

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

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

Answer: B

Question No : 69 - (Topic 2)

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

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

Answer: A,B,D

Question No : 70 - (Topic 2)

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

- A. 802.1Q native VLAN frames are untagged by default.
- B. 802.1Q trunking ports can also be secure ports.
- C. 802.1Q trunks can use 10 Mb/s Ethernet interfaces.
- D. 802.1Q trunks require full-duplex, point-to-point connectivity.

E. 802.1Q trunks should have native VLANs that are the same at both ends.

Answer: A,C,E

Question No : 71 - (Topic 2)

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

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

Answer: B,E

Question No : 72 - (Topic 2)

Refer to the exhibit.

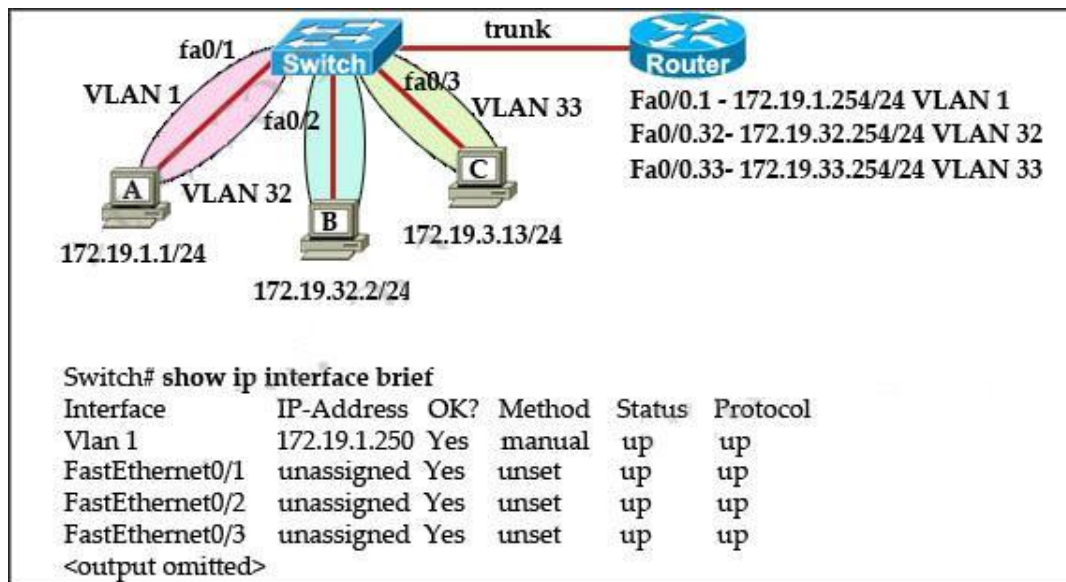
```
RouterA#show interface pos8/0/0
POS8/0/0 is up, line protocol is up
  Hardware is Packet over Sonet
  Keepalive set (10 sec)
  Scramble disabled
  LMI enq sent 2474988, LMI stat recvd 2474969, LMI upd recvd 0, DTE LMI up
  Broadcast queue 0/256, broadcasts sent/dropped 25760668/0, interface broadcasts 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 runs, 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
```

Which WAN protocol is being used?

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

Answer: C**Question No : 73 - (Topic 2)**

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 interface connected to the router is down.
- C. Host B needs to be assigned an IP address in VLAN 1.
- D. The switch needs an appropriate default gateway assigned.
- E. The switch interfaces need the appropriate IP addresses assigned.

Answer: D**Question No : 74 - (Topic 2)**

Refer to the exhibit.

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

The output that is shown is generated at a switch. Which three statements are true?
(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: A,C,E

Question No : 75 - (Topic 2)

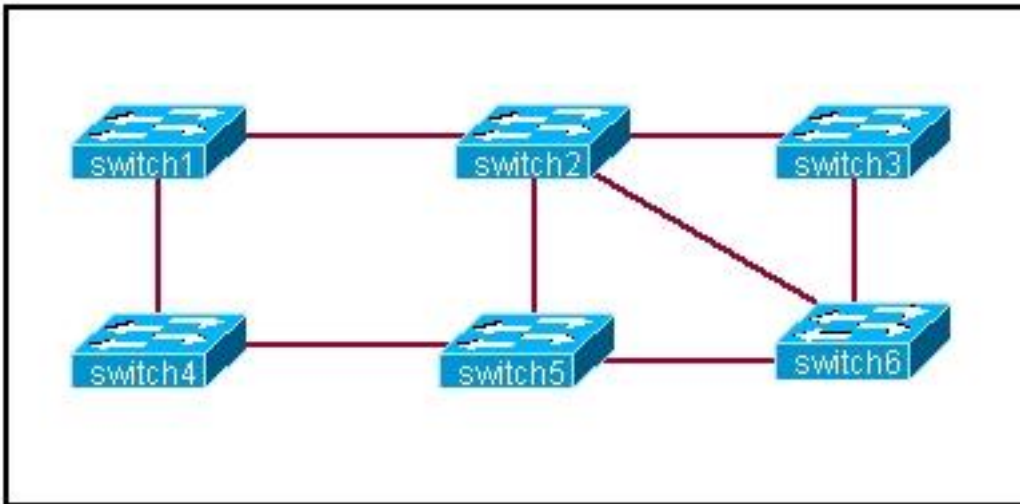
A switch is configured with all ports assigned to VLAN 2 with full duplex FastEthernet to segment existing departmental traffic. What is the effect of adding switch ports to a new VLAN on the switch?

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

Answer: D

Question No : 76 - (Topic 2)

Based on the network shown in the graphic



Which option contains both the potential networking problem and the protocol or setting that should be used to prevent the problem?

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

Answer: F

Question No : 77 - (Topic 2)

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

Answer: C

Question No : 78 - (Topic 2)

Refer to the 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#
```

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

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

Answer: B,E

Question No : 79 - (Topic 2)

Cisco Catalyst switches CAT1 and CAT2 have a connection between them using ports FA0/13. An 802.1Q trunk is configured between the two switches. On CAT1, VLAN 10 is chosen as native, but on CAT2 the native VLAN is not specified.

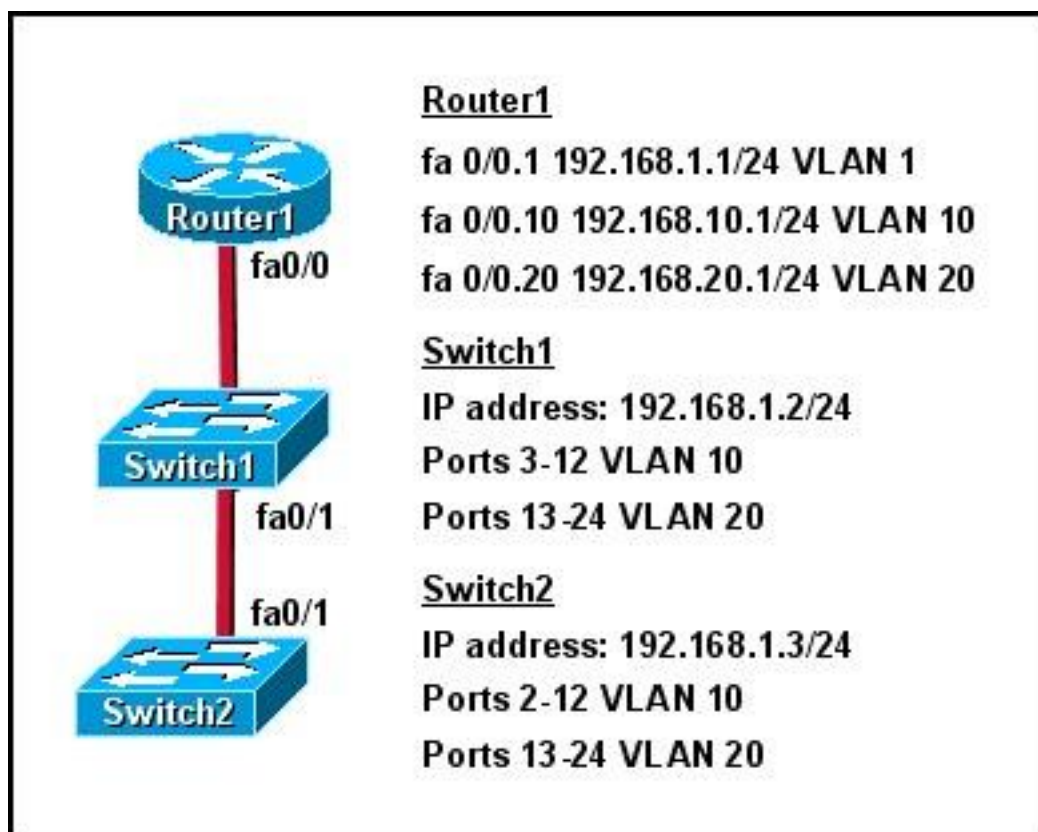
What will happen in this scenario?

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

Answer: C

Question No : 80 - (Topic 2)

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-if)# switchport mode access

SwitchX(config-if)# switchport access vlan 1

D. SwitchX(config)# interface fastethernet 0/1

SwitchX(config-if)# switchport mode trunk

SwitchX(config-if)# switchport trunk vlan 1

SwitchX(config-if)# switchport trunk vlan 10

SwitchX(config-if)# switchport trunk vlan 20

Answer: B

Question No : 81 - (Topic 2)

What parameter can be different on ports within an EtherChannel?

A. speed

B. DTP negotiation settings

C. trunk encapsulation

D. duplex

Answer: B

Question No : 82 - (Topic 2)

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

Question No : 83 - (Topic 2)

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

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

Answer: A,D

Question No : 84 - (Topic 2)

Refer to the exhibit.

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

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

- A.** interface FastEthernet 0/3
channel-group 1 mode desirable
switchport trunk encapsulation dot1q
switchport mode trunk
- B.** interface FastEthernet 0/3
channel-group 2 mode passive
switchport trunk encapsulation dot1q
switchport mode trunk
- C.** interface FastEthernet 0/3
channel-group 2 mode active
switchport trunk encapsulation dot1q
switchport mode trunk
- D.** interface FastEthernet 0/3
channel-group 2 mode on
switchport trunk encapsulation dot1q
switchport mode trunk

Answer: B

Question No : 85 - (Topic 2)

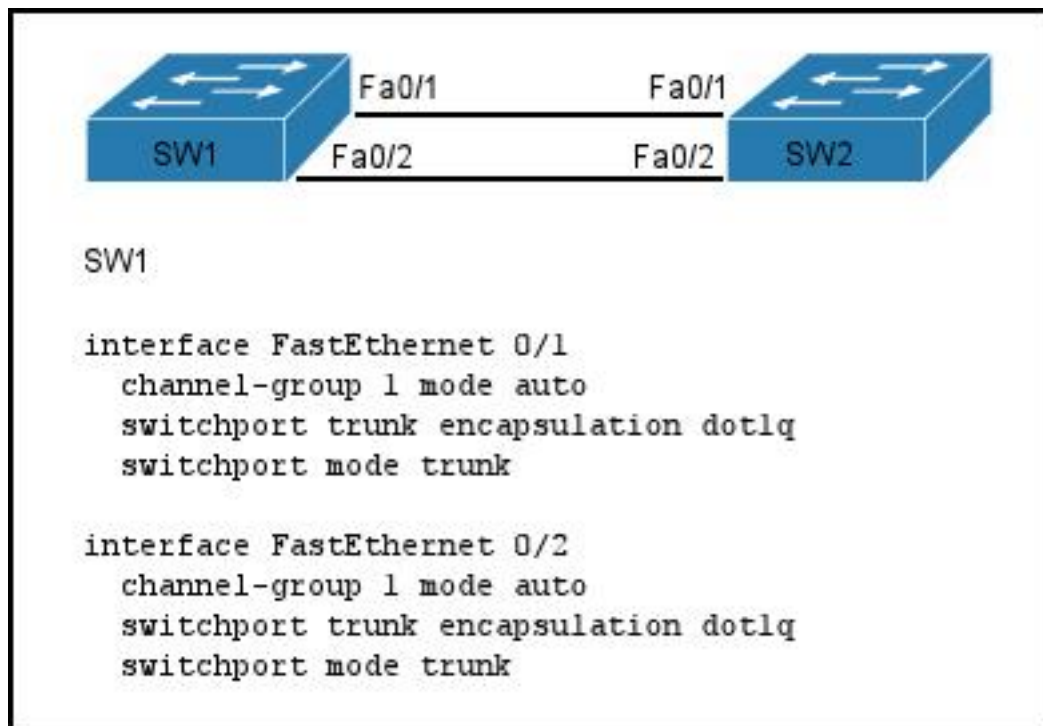
Which are valid modes for a switch port used as a VLAN trunk? (Choose three.)

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

Answer: B,C,D

Question No : 86 - (Topic 2)

Refer to the exhibit.



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

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

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

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

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

Answer: C

Question No : 87 - (Topic 2)

Which command enables RSTP on a switch?

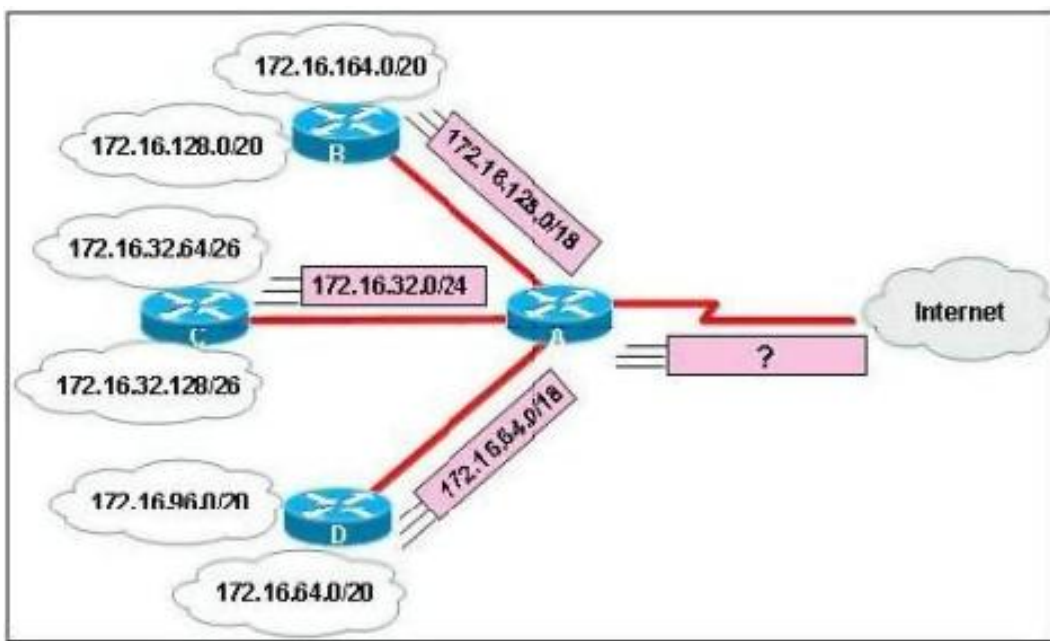
- A.** spanning-tree uplinkfast
- B.** spanning-tree mode rapid-pvst
- C.** spanning-tree backbonefast
- D.** spanning-tree mode mst

Answer: B

Topic 3, IP addressing (IPv4 / IPv6)

Question No : 88 - (Topic 3)

Refer to the exhibit.



In this VLSM addressing scheme, what summary address would be sent from router A?

- A. 172.16.0.0 /16
- B. 172.16.0.0 /20
- C. 172.16.0.0 /24
- D. 172.32.0.0 /16
- E. 172.32.0.0 /17
- F. 172.64.0.0 /16

Answer: A

Question No : 89 - (Topic 3)

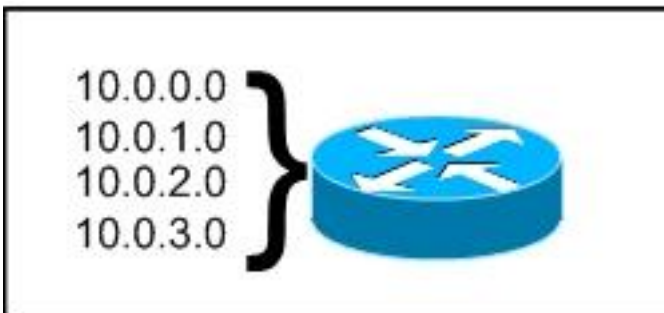
Which IPv6 address is the equivalent of the IPv4 interface loopback address 127.0.0.1?

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

Answer: A

Question No : 90 - (Topic 3)

Refer to the exhibit.



What is the most appropriate summarization for these routes?

- A. 10.0.0.0 /21
- B. 10.0.0.0 /22
- C. 10.0.0.0 /23
- D. 10.0.0.0 /24

Answer: B

Question No : 91 - (Topic 3)

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. 172.16.0.0
- C. 172.16.24.0
- D. 172.16.28.0

Answer: A

Question No : 92 - (Topic 3)

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

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

Answer: A,E

Question No : 93 - (Topic 3)

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

- A. 10.10.0.0/16 subnetted with mask 255.255.255.252
- B. 10.10.0.0/18 subnetted with mask 255.255.255.252
- C. 10.10.1.0/24 subnetted with mask 255.255.255.252
- D. 10.10.0.0/23 subnetted with mask 255.255.255.252
- E. 10.10.1.0/25 subnetted with mask 255.255.255.252

Answer: D

Question No : 94 - (Topic 3)

Which of these represents an IPv6 link-local address?

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

Answer: A

Question No : 95 - (Topic 3)

Which command can you use to manually assign a static IPv6 address to a router interface?

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

Answer: B

Question No : 96 - (Topic 3)

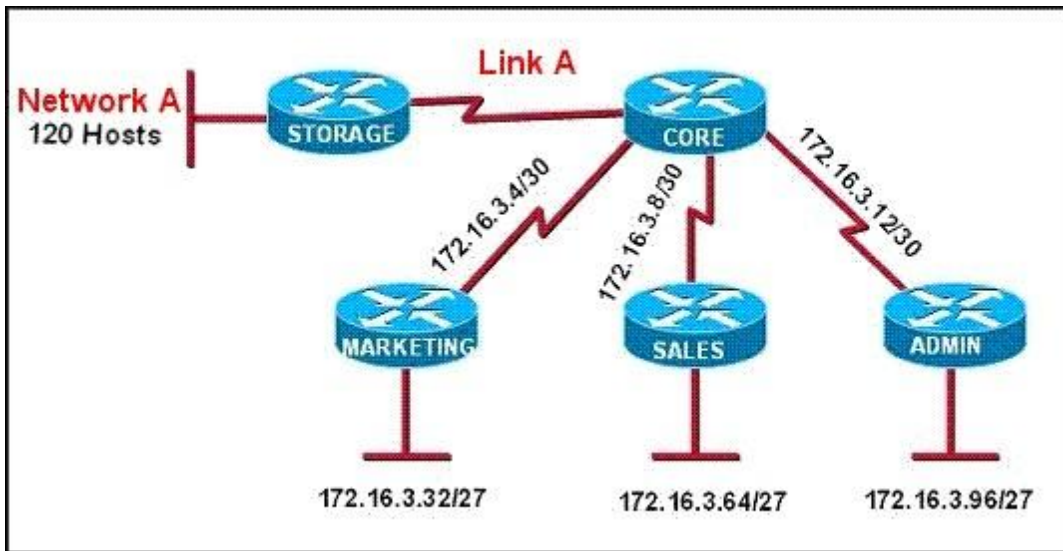
How many bits are contained in each field of an IPv6 address?

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

Answer: D

Question No : 97 - (Topic 3)

Refer to the exhibit.



All of the routers in the network are configured with the ip subnet-zero command. Which network addresses should be used for Link A and Network A? (Choose two.)

- A. Network A - 172.16.3.48/26
- B. Network A - 172.16.3.128/25
- C. Network A - 172.16.3.192/26
- D. Link A - 172.16.3.0/30
- E. Link A - 172.16.3.40/30
- F. Link A - 172.16.3.112/30

Answer: B,D

Question No : 98 - (Topic 3)

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

Answer: D

Question No : 99 - (Topic 3)

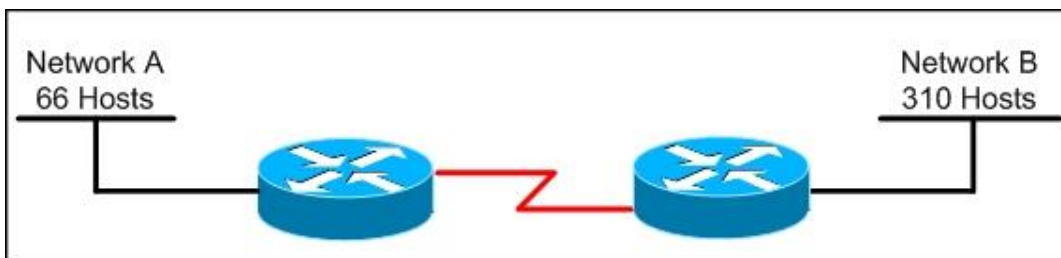
How is an EUI-64 format interface ID created from a 48-bit MAC address?

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

Answer: D

Question No : 100 - (Topic 3)

Refer to the exhibit.



Which subnet mask will place all hosts on Network B in the same subnet with the least amount of wasted addresses?

- A. 255.255.255.0
- B. 255.255.254.0
- C. 255.255.252.0
- D. 255.255.248.0

Answer: B

Question No : 101 - (Topic 3)

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

Question No : 102 - (Topic 3)

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

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

Answer: B

Question No : 103 - (Topic 3)

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

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

Answer: B

Question No : 104 - (Topic 3)

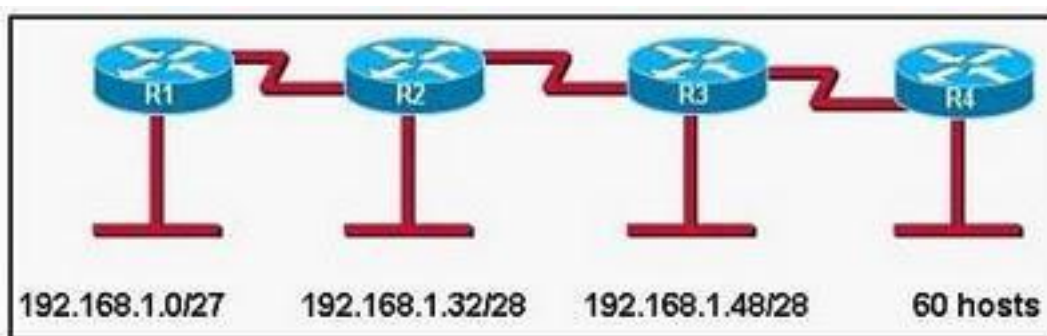
What is the alternative notation for the IPv6 address
B514:82C3:0000:0000:0029:EC7A:0000:EC72?

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

Answer: D

Question No : 105 - (Topic 3)

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. 192.168.1.56/26
- B. 192.168.1.56/27
- C. 192.168.1.64/26
- D. 192.168.1.64/27

Answer: C

Question No : 106 - (Topic 3)

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

- A. Global addresses start with 2000::/3.
- B. Link-local addresses start with FE00::/12.
- C. Link-local addresses start with FF00::/10.
- D. There is only one loopback address and it is ::1.

E. If a global address is assigned to an interface, then that is the only allowable address for the interface.

Answer: A,D

Question No : 107 - (Topic 3)

Which two are features of IPv6? (Choose two.)

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

Answer: A,C

Question No : 108 - (Topic 3)

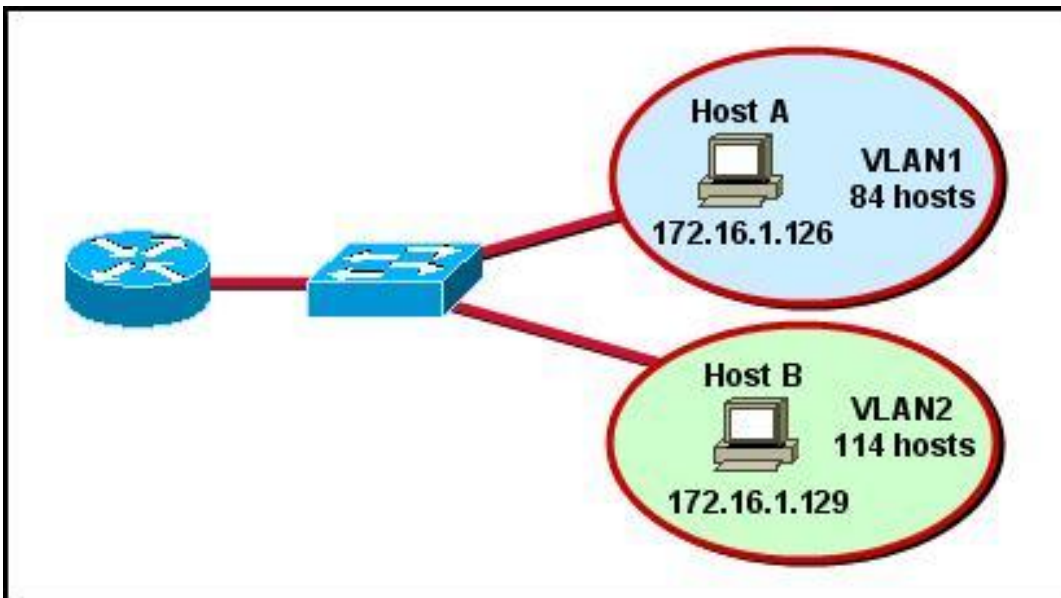
What will happen if a private IP address is assigned to a public interface connected to an ISP?

- A. Addresses in a private range will be not be 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 to a valid IP address.
- D. A conflict of IP addresses happens, because other public routers can use the same range.

Answer: A

Question No : 109 - (Topic 3)

Refer to the diagram.



All hosts have connectivity with one another. Which statements describe the addressing scheme that is in use in the network? (Choose three.)

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

Answer: B,C,F

Question No : 110 - (Topic 3)

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

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

Answer: C

Question No : 111 - (Topic 3)

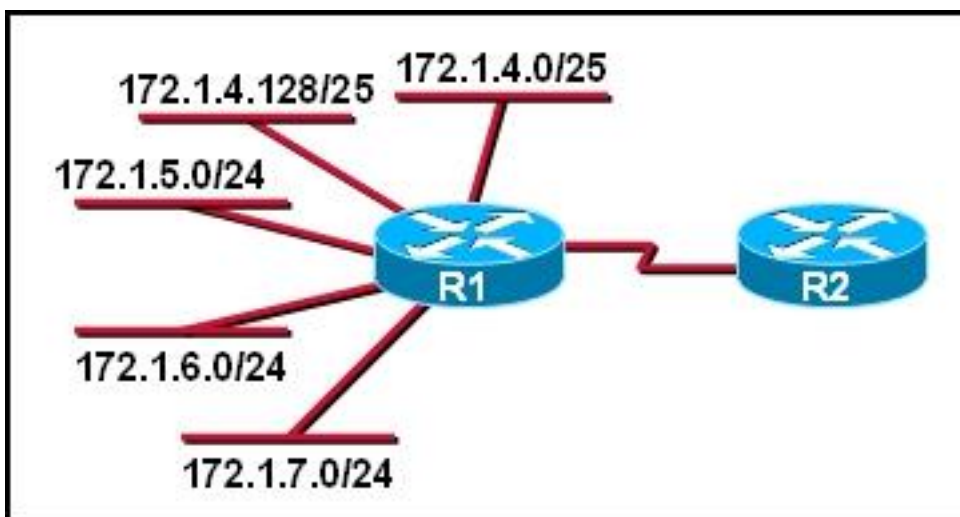
The network administrator has been asked to give reasons for moving from IPv4 to IPv6. What are two valid reasons for adopting IPv6 over IPv4? (Choose two.)

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

Answer: A,E

Question No : 112 - (Topic 3)

Refer to the exhibit.



What is the most efficient summarization that R1 can use to advertise its networks to R2?

- A. 172.1.0.0/22
- B. 172.1.0.0/21