

**200-125.exam.500q**

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**Cisco CCNA 200-125**

**Cisco Certified Network Associate Exam**



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## Exam A

### QUESTION 1

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

- A. The network administrator can apply port security to dynamic access ports.
- B. The network administrator can apply port security to EtherChannels.
- C. The sticky learning feature allows the addition of dynamically learned addresses to the running configuration.
- D. When dynamic MAC address learning is enabled on an interface, the switch can learn new addresses, up to the maximum defined.
- E. The network administrator can configure static secure or sticky secure MAC addresses in the voice VLAN.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 2

Which interface counter can you use to diagnose a duplex mismatch problem?

- A. no carrier
- B. late collisions
- C. giants
- D. CRC errors
- E. deferred
- F. runts

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 3

Which switching method duplicates the first six bytes of a frame before making a switching decision?

- A. fragment-free switching

- B. store-and-forward switching
- C. cut-through switching
- D. ASIC switching

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 4**

Which logging command can enable administrators to correlate syslog messages with millisecond precision?

- A. no logging console
- B. logging buffered 4
- C. no logging monitor
- D. service timestamps log datetime msec
- E. logging host 10.2.0.21

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 5**

Which two spanning-tree port states does RSTP combine to allow faster convergence? (Choose two.)

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

**Correct Answer:** AE

**Section:** (none)

**Explanation****Explanation/Reference:**

Explanation:

**QUESTION 6**

Which feature can you implement to reserve bandwidth for VoIP calls across the call path?

- A. PQ
- B. CBWFQ
- C. round robin
- D. RSVP

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:**

Explanation:

**QUESTION 7**

Which three statements about link-state routing are true? (Choose three.)

- A. OSPF is a link-state protocol.
- B. Updates are sent to a broadcast address.
- C. It uses split horizon.
- D. Routes are updated when a change in topology occurs.
- E. RIP is a link-state protocol.
- F. Updates are sent to a multicast address by default.

**Correct Answer:** ADF

**Section:** (none)

**Explanation****Explanation/Reference:**

Explanation:

**QUESTION 8**

Which command can you enter to determine whether a switch is operating in trunking mode?

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 9**

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 decreasing the number of broadcast domains, thus increasing their size.
- E. Port-based VLANs increase switch-port use efficiency, thanks to 802.1Q trunks.
- F. VLANs make it easier for IT staff to configure new logical groups, because the VLANs all belong to the same broadcast domain.
- G. Broadcast storms can be mitigated by increasing the number of broadcast domains, thus reducing their size.

**Correct Answer:** ACG

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 10**

Which command can you enter to view the ports that are assigned to VLAN 20?

- A. Switch#show ip interface vlan 20
- B. Switch#show vlan id 20
- C. Switch#show ip interface brief
- D. Switch#show interface vlan 20

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 11**

In which two formats can the IPv6 address fd15:0db8:0000:0000:0700:0003:400F:572B be written? (Choose two.)

- A. fd15:0db8:0000:0000:700:3:400F:527B
- B. fd15::db8::700:3:400F:527B
- C. fd15:db8:0::700:3:4F:527B
- D. fd15:0db8::7:3:4F:527B
- E. fd15:db8::700:3:400F:572B

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 12**

When an interface is configured with PortFast BPDU guard, how does the interface respond when it receives a BPDU?

- A. It continues operating normally.
- B. It goes into a down/down state.
- C. It becomes the root bridge for the configured VLAN.
- D. It goes into an errdisable state.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 13**

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

- A. It uses a single SYN-ACK message to establish a connection.
- B. The connection is established before data is transmitted.
- C. It ensures that all data is transmitted and received by the remote device.
- D. It supports significantly higher transmission speeds than UDP.
- E. It requires applications to determine when data packets must be retransmitted.
- F. It uses separate SYN and ACK messages to establish a connection.

**Correct Answer:** BCF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 14**

Scenario

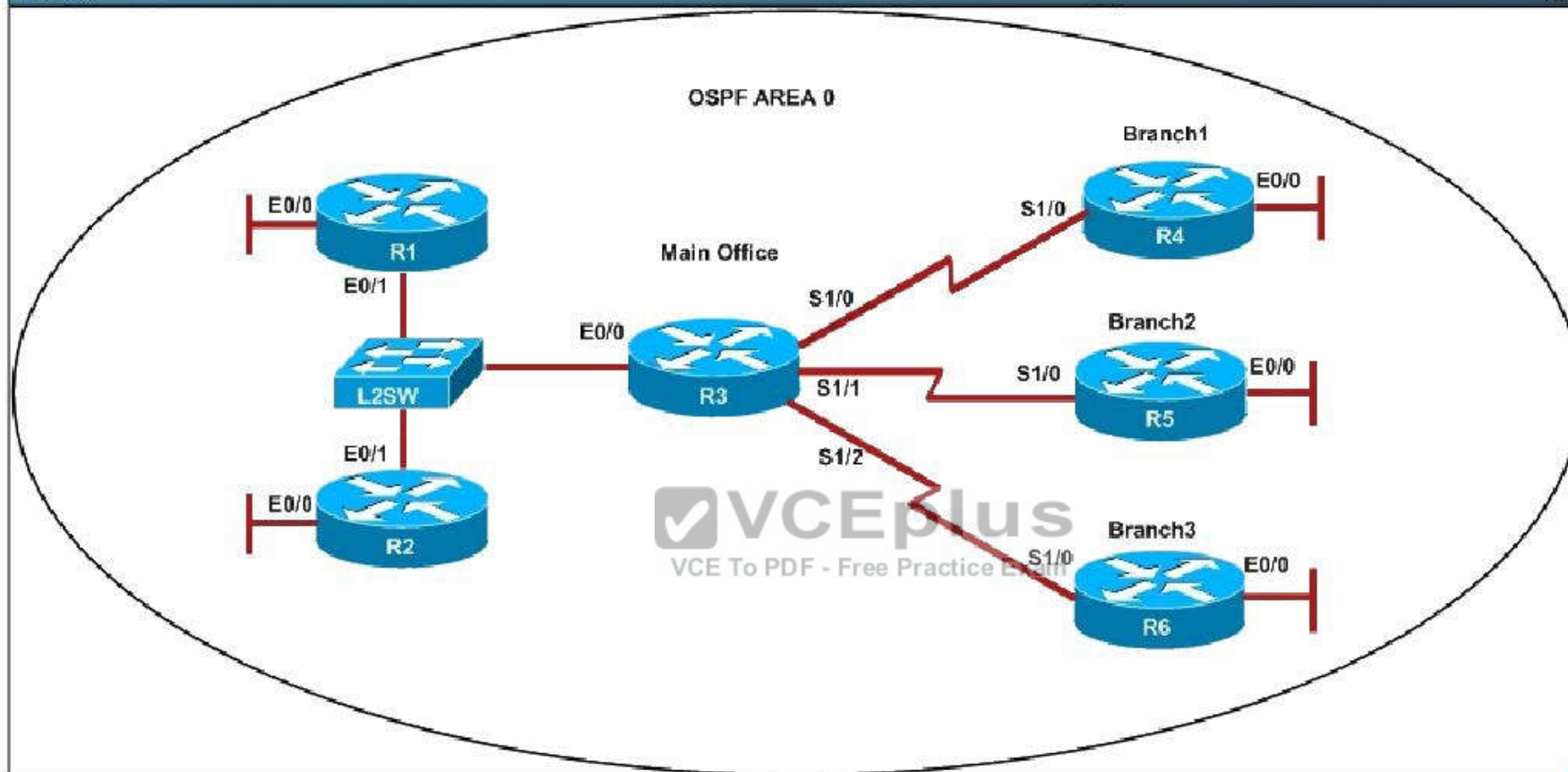
Refer to the topology. Your company has decided to connect the main office with three other remote branch offices using point-to-point serial links.

You are required to troubleshoot and resolve OSPF neighbor adjacency issues between the main office and the routers located in the remote branch offices.

Use appropriate show commands to troubleshoot the issues and answer all four questions.

Instructions

Topology



















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

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:





```

R1
interface Loopback0
description ***Loopback***
ip address 192.168.1.1
255.255.255.255
ip ospf 1 area 0
!
interface Ethernet0/0
description **Connected to R1-
LAN**
ip address 10.10.110.1
255.255.255.0
ip ospf 1 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.1
255.255.255.0
ip ospf hello-interval 25
ip ospf 1 area 0
!
router ospf 1
log-adjacency-changes
  
```

```

R2
!
interface Loopback0
description **Loopback**
ip address 192.168.2.2
255.255.255.255
ip ospf 2 area 0
!
interface Ethernet0/0
description **Connected to R2-
LAN**
ip address 10.10.120.1
255.255.255.0
ip ospf 2 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.2
255.255.255.0
ip ospf 2 area 0
!
router ospf 2
log-adjacency-changes
  
```

```

R3
username R6 password CISCO36
!
interface Loopback0
description **Loopback**
ip address 192.168.3.3
255.255.255.255
ip ospf 3 area 0
!
interface Ethernet0/0
description **Connected to
L2SW**
ip address 10.10.230.3
255.255.255.0
ip ospf 3 area 0
!
interface Serial1/0
description **Connected to R4-
Branch1 office**
ip address 10.10.240.1
255.255.255.252
encapsulation ppp
ip ospf 3 area 0
!
interface Serial1/1
description **Connected to R5-
Branch2 office**
ip address 10.10.240.5
255.255.255.252
encapsulation ppp
ip ospf hello-interval 50
ip ospf 3 area 0
!
interface Serial1/2
description **Connected to R6-
Branch3 office**
ip address 10.10.240.9
  
```

On both R3 and R4 use “show running-config” command to check their S1/0 interfaces

**R3#show running-config**

<<output omitted>>

!

interface Serial1/0

description \*\*Connected to R4-Branch1 office\*\*

ip address 10.10.240.1 255.255.255.252

encapsulation ppp

ip ospf 3 area 0

!

<<output omitted>>

**R4#show running-config**

<<output omitted>>

!

interface Serial1/0

description \*\*Connected to R3-Main Branch office\*\*

ip address 10.10.240.2 255.255.255.252

encapsulation ppp

ip ospf 4 area 2

!

<<output omitted>>

**QUESTION 15**

Scenario

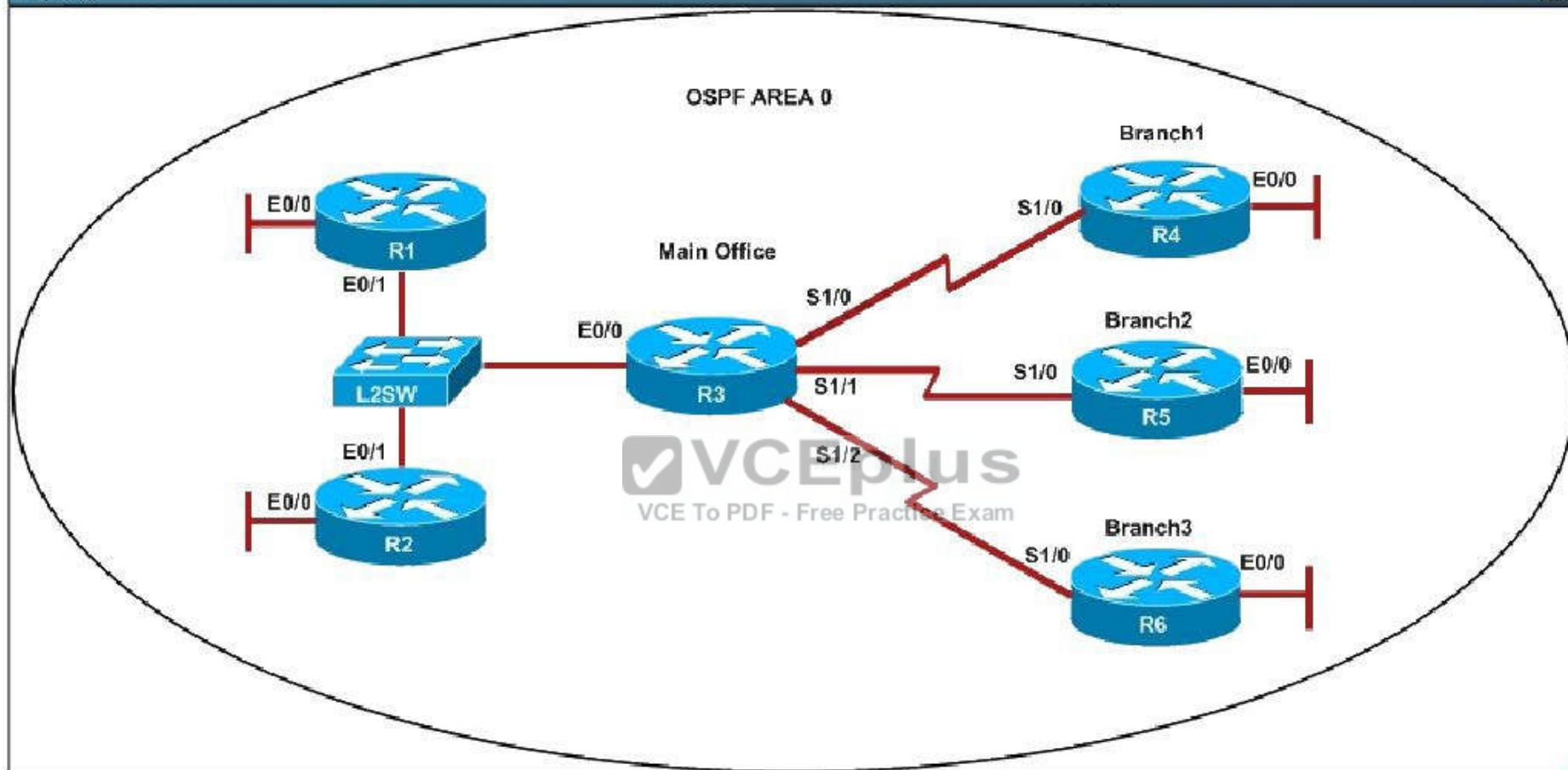
Refer to the topology. Your company has decided to connect the main office with three other remote branch offices using point-to-point serial links.

You are required to troubleshoot and resolve OSPF neighbor adjacency issues between the main office and the routers located in the remote branch offices.

Use appropriate show commands to troubleshoot the issues and answer all four questions.

Instructions

Topology



















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

- A. There is an area ID mismatch.
- B. There is a PPP authentication issue; a password mismatch.
- C. There is an OSPF hello and dead interval mismatch.
- D. There is a missing network command in the OSPF process on R5.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Here are the relevant parts of the router configs:



```
R1
interface Loopback0
description ***Loopback***
ip address 192.168.1.1
255.255.255.255
ip ospf 1 area 0
!
interface Ethernet0/0
description **Connected to R1-
LAN**
ip address 10.10.110.1
255.255.255.0
ip ospf 1 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.1
255.255.255.0
ip ospf hello-interval 25
ip ospf 1 area 0
!
router ospf 1
log-adjacency-changes
```

```
R2
!
interface Loopback0
description **Loopback**
ip address 192.168.2.2
255.255.255.255
ip ospf 2 area 0
!
interface Ethernet0/0
description **Connected to R2-
LAN**
ip address 10.10.120.1
255.255.255.0
ip ospf 2 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.2
255.255.255.0
ip ospf 2 area 0
!
router ospf 2
log-adjacency-changes
```

```
R3
username R6 password CISCO36
!
interface Loopback0
description **Loopback**
ip address 192.168.3.3
255.255.255.255
ip ospf 3 area 0
!
interface Ethernet0/0
description **Connected to
L2SW**
ip address 10.10.230.3
255.255.255.0
ip ospf 3 area 0
!
interface Serial1/0
description **Connected to R4-
Branch1 office**
ip address 10.10.240.1
255.255.255.252
encapsulation ppp
ip ospf 3 area 0
!
interface Serial1/1
description **Connected to R5-
Branch2 office**
ip address 10.10.240.5
255.255.255.252
encapsulation ppp
ip ospf hello-interval 50
ip ospf 3 area 0
!
interface Serial1/2
description **Connected to R6-
Branch3 office**
ip address 10.10.240.9
```

Continue checking their connected interfaces with the “show running-config” command:

**R3#show running-config**

```
<<output omitted>>
!
interface Serial1/1
description **Connected to R5-Branch2 office**
ip address 10.10.240.5 255.255.255.252
encapsulation ppp
ip ospf hello-interval 50
ip ospf 3 area 0
!
<<output omitted>>
```

**R5#show running-config**

```
<<output omitted>>
!
interface Serial1/0
description **Connected to R3-Main Branch office**
ip address 10.10.240.6 255.255.255.252
encapsulation ppp
ip ospf 5 area 0
!
<<output omitted>>
```

The only difference we can see here is the line “ip ospf hello-interval 50” on R3. This command sets the number of seconds R3 waits before sending the next hello packet out this interface. In this case after configuring this command, R3 will send hello packets to R5 every 50 seconds. But the default value of hello-interval is 10 seconds and R5 is using it. Therefore we can think of a hello interval mismatch problem here. You can verify with the “show ip ospf interface <interface>” command on each router.

**R3#sh ip ospf int s1/1**

Serial1/1 is up, line protocol is up  
Internet Address 10.10.240.5/30, Area 0  
Process ID 3, Router ID 192.168.3.3, Network Type POINT\_TO\_POINT, Cost: 64  
Enabled by interface config, including secondary ip addresses  
Transmit Delay is 1 sec, State POINT\_TO\_POINT,  
Timer intervals configured, Hello 50, Dead 200, Wait 200, Retransmit 5  
oob-resync timeout 200  
Hello due in 00:00:28  
Supports Link-local Signaling (LLS)  
Index 2/2, flood queue length 0  
Next 0×0(0)/0×0(0)  
Last flood scan length is 0, maximum is 0  
Last flood scan time is 0 msec, maximum is 0 msec  
Neighbor Count is 0, Adjacent neighbor count is 0  
Suppress hello for 0 neighbor(s)

**R5#sh ip ospf int s1/0**

Serial1/0 is up, line protocol is up  
Internet Address 10.10.240.6/30, Area 0  
Process ID 5, Router ID 10.10.240.6, Network Type POINT\_TO\_POINT, Cost: 64  
Enabled by interface config, including secondary ip addresses  
Transmit Delay is 1 sec, State POINT\_TO\_POINT,  
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5  
oob-resync timeout 40  
Hello due in 00:00:04  
Supports Link-local Signaling (LLS)  
Index 1/1, flood queue length 0  
Next 0×0(0)/0×0(0)  
Last flood scan length is 0, maximum is 0  
Last flood scan time is 0 msec, maximum is 0 msec  
Neighbor Count is 0, Adjacent neighbor count is 0  
Suppress hello for 0 neighbor(s)

So we can see both hello and dead interval are mismatched because the dead interval always four times the value of hello interval, unless you manually configure the dead interval (with the `ip ospf dead-interval <seconds>` command).

#### **QUESTION 16**

##### Scenario

Refer to the topology. Your company has decided to connect the main office with three other remote branch offices using point-to-point serial links.

You are required to troubleshoot and resolve OSPF neighbor adjacency issues between the main office and the routers located in the remote branch offices.

Use appropriate show commands to troubleshoot the issues and answer all four questions.

##### Instructions



















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

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

**Correct Answer:** B

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Here are the relevant parts of the router configs:





```

R1
interface Loopback0
description ***Loopback***
ip address 192.168.1.1
255.255.255.255
ip ospf 1 area 0
!
interface Ethernet0/0
description **Connected to R1-
LAN**
ip address 10.10.110.1
255.255.255.0
ip ospf 1 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.1
255.255.255.0
ip ospf hello-interval 25
ip ospf 1 area 0
!
router ospf 1
log-adjacency-changes
  
```

```

R2
!
interface Loopback0
description **Loopback**
ip address 192.168.2.2
255.255.255.255
ip ospf 2 area 0
!
interface Ethernet0/0
description **Connected to R2-
LAN**
ip address 10.10.120.1
255.255.255.0
ip ospf 2 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.2
255.255.255.0
ip ospf 2 area 0
!
router ospf 2
log-adjacency-changes
  
```

```

R3
username R6 password CISCO36
!
interface Loopback0
description **Loopback**
ip address 192.168.3.3
255.255.255.255
ip ospf 3 area 0
!
interface Ethernet0/0
description **Connected to
L2SW**
ip address 10.10.230.3
255.255.255.0
ip ospf 3 area 0
!
interface Serial1/0
description ***Connected to R4-
Branch1 office**
ip address 10.10.240.1
255.255.255.252
encapsulation ppp
ip ospf 3 area 0
!
interface Serial1/1
description **Connected to R5-
Branch2 office**
ip address 10.10.240.5
255.255.255.252
encapsulation ppp
ip ospf hello-interval 50
ip ospf 3 area 0
!
interface Serial1/2
description **Connected to R6-
Branch3 office**
ip address 10.10.240.9
  
```

Continue checking their connected interfaces with the “show running-config” command:

**R1#show running-config**

```
<<output omitted>>
!
interface Ethernet0/1
description **Connected to L2SW**
ip address 10.10.230.1 255.255.255.0
ip ospf hello-interval 25
ip ospf 1 area 0
!
<<output omitted>>
```

**R2#show running-config**

```
<<output omitted>>
!
interface Ethernet0/1
description **Connected to L2SW**
ip address 10.10.230.2 255.255.255.0
ip ospf 2 area 0
!
<<output omitted>>
```



Note: Maybe there are some versions of this question in the exam. For example there are some reports saying that Ethernet0/1 on R1 is shutdown (and this is the correct choice in the exam). So please be careful checking the config on the routers before choosing the correct answers.

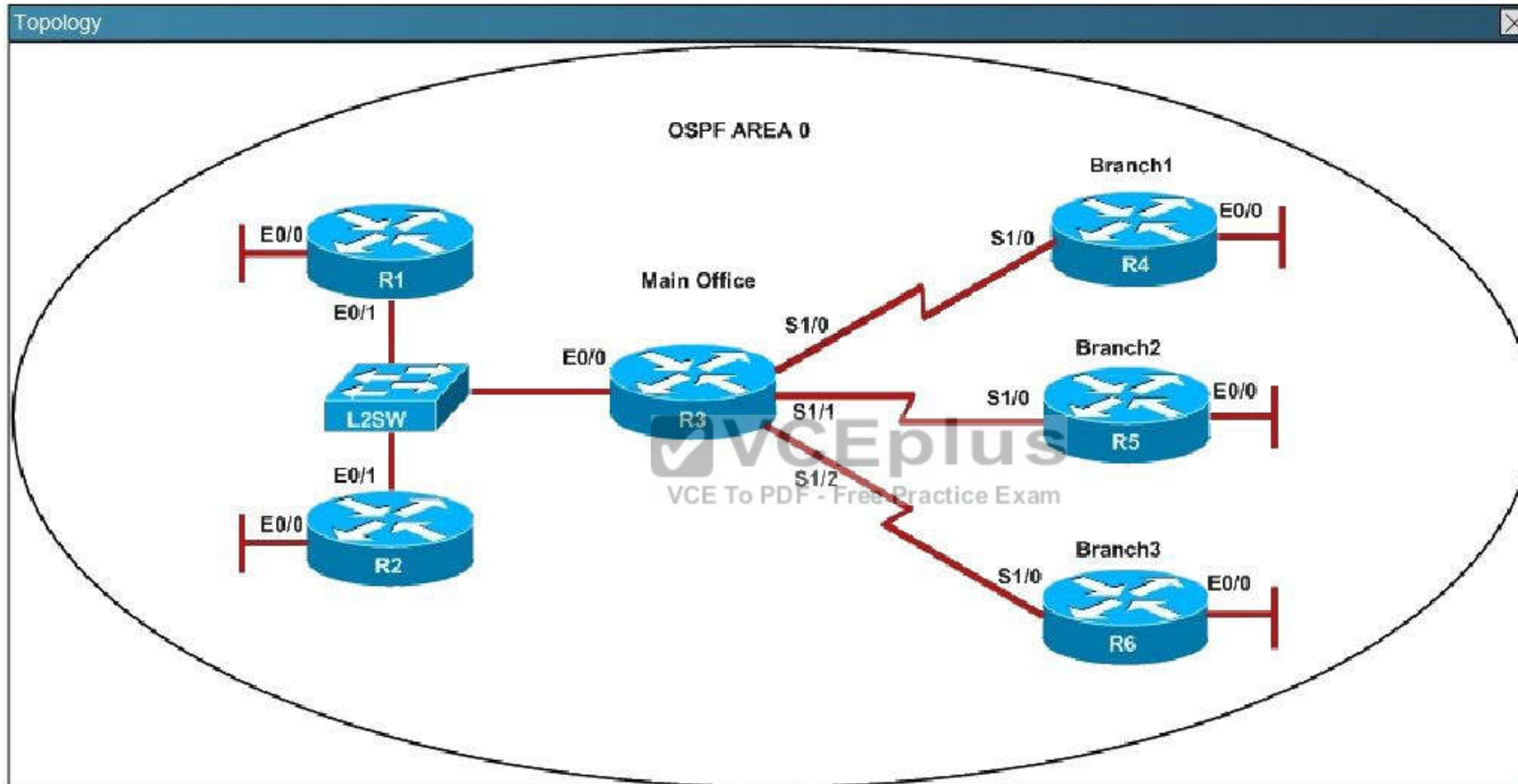
**QUESTION 17****Scenario**

Refer to the topology. Your company has decided to connect the main office with three other remote branch offices using point-to-point serial links.

You are required to troubleshoot and resolve OSPF neighbor adjacency issues between the main office and the routers located in the remote branch offices.

Use appropriate show commands to troubleshoot the issues and answer all four questions.

Instructions



















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

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

**Correct Answer:** D

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Here are the relevant parts of the router configs:



```

R1
interface Loopback0
description ***Loopback***
ip address 192.168.1.1
255.255.255.255
ip ospf 1 area 0
!
interface Ethernet0/0
description **Connected to R1-
LAN**
ip address 10.10.110.1
255.255.255.0
ip ospf 1 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.1
255.255.255.0
ip ospf hello-interval 25
ip ospf 1 area 0
!
router ospf 1
log-adjacency-changes
  
```

```

R2
!
interface Loopback0
description **Loopback**
ip address 192.168.2.2
255.255.255.255
ip ospf 2 area 0
!
interface Ethernet0/0
description **Connected to R2-
LAN**
ip address 10.10.120.1
255.255.255.0
ip ospf 2 area 0
!
interface Ethernet0/1
description **Connected to
L2SW**
ip address 10.10.230.2
255.255.255.0
ip ospf 2 area 0
!
router ospf 2
log-adjacency-changes
  
```

```

R3
username R6 password CISCO36
!
interface Loopback0
description **Loopback**
ip address 192.168.3.3
255.255.255.255
ip ospf 3 area 0
!
interface Ethernet0/0
description **Connected to
L2SW**
ip address 10.10.230.3
255.255.255.0
ip ospf 3 area 0
!
interface Serial1/0
description **Connected to R4-
Branch1 office**
ip address 10.10.240.1
255.255.255.252
encapsulation ppp
ip ospf 3 area 0
!
interface Serial1/1
description **Connected to R5-
Branch2 office**
ip address 10.10.240.5
255.255.255.252
encapsulation ppp
ip ospf hello-interval 50
ip ospf 3 area 0
!
interface Serial1/2
description **Connected to R6-
Branch3 office**
ip address 10.10.240.9
  
```



**R3#show running-config**

```
<<output omitted>>
username R6 password CISCO36
!
interface Serial1/2
description **Connected to R6-Branch3 office**
ip address 10.10.240.9 255.255.255.252
encapsulation ppp
ip ospf 3 area 0
ppp authentication chap
!
<<output omitted>>
!
router ospf 3
router-id 192.168.3.3
!
<<output omitted>>
```

**R6#show running-config**

```
<<output omitted>>
username R3 password CISCO36
!
interface Serial1/0
description **Connected to R3-Main Branch office**
ip address 10.10.240.10 255.255.255.252
encapsulation ppp
ip ospf 6 area 0
ppp authentication chap
!
<<output omitted>>
!
router ospf 6
router-id 192.168.3.3
!
<<output omitted>>
```

We are not sure about the configuration of ppp authentication in this case. Some reports said that only one router has the “ppp authentication chap” command but it is just a trick and is not the problem here. The real problem here is R6 uses the same router-id of R3 (192.168.3.3) so OSPF neighborship cannot be established. In real life, such configuration error will be shown in the command line interface (CLI). So please check carefully for this question.

**QUESTION 18**

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

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

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 19**

Which command can you enter to determine whether serial interface 0/2/0 has been configured using HDLC encapsulation?

- A. router#**show platform**
- B. router#**show interfaces Serial 0/2/0**
- C. router#**show ip interface s0/2/0**
- D. router#**show ip interface brief**

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 20**

Which function of the IP SLAs ICMP jitter operation can you use to determine whether a VoIP issue is caused by excessive end-to-end time?

- A. packet loss
- B. jitter
- C. successive packet loss
- D. round-trip time latency

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 21**

Refer to the exhibit.



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

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

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

D. More VLANs will need to be created for this switch.

**Correct Answer:** B

**Section:** (none)

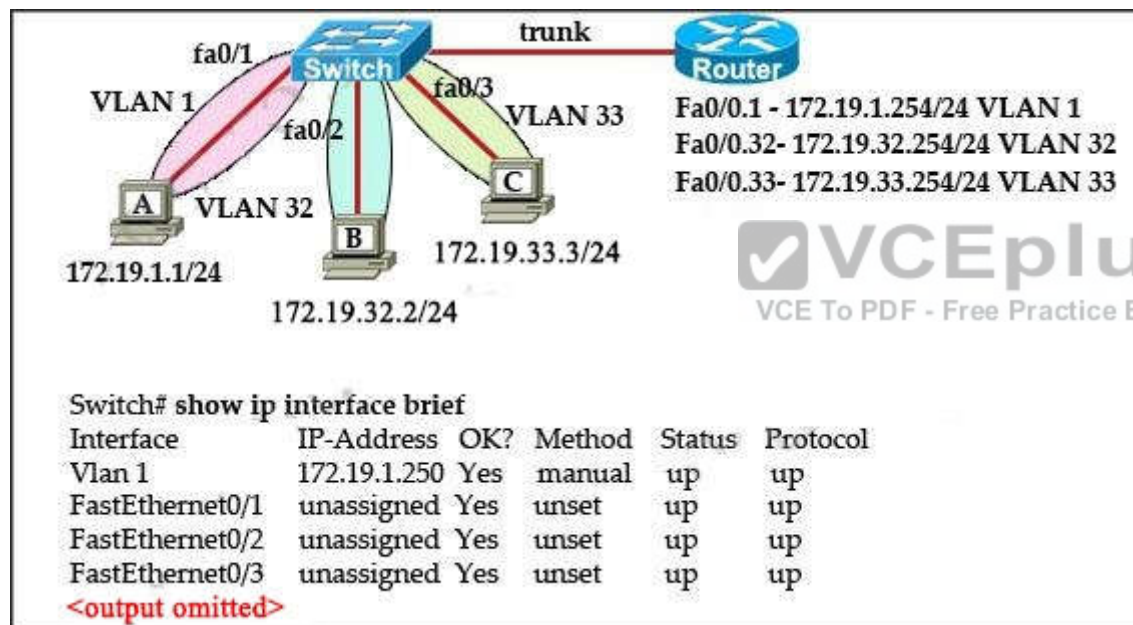
**Explanation**

**Explanation/Reference:**

Explanation:

## QUESTION 22

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. The switch interfaces need the appropriate IP addresses assigned.
- B. Host B and the switch need to be in the same subnet.
- C. The switch needs an appropriate default gateway assigned.
- D. The switch interface connected to the router is down.

E. Host B needs to be assigned an IP address in VLAN 1.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 23

Which condition does the err-disabled status indicate on an Ethernet interface?

- A. There is a duplex mismatch.
- B. The device at the other end of the connection is powered off.
- C. The serial interface is disabled.
- D. The interface is configured with the **shutdown** command.
- E. Port security has disabled the interface.
- F. The interface is fully functioning.

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 24

Which statement about RADIUS security is true?

- A. It supports EAP authentication for connecting to wireless networks.
- B. It provides encrypted multiprotocol support.
- C. Device-administration packets are encrypted in their entirety.
- D. It ensures that user activity is fully anonymous.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 25

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

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 26

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

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

**Correct Answer:** CE

**Section:** (none)

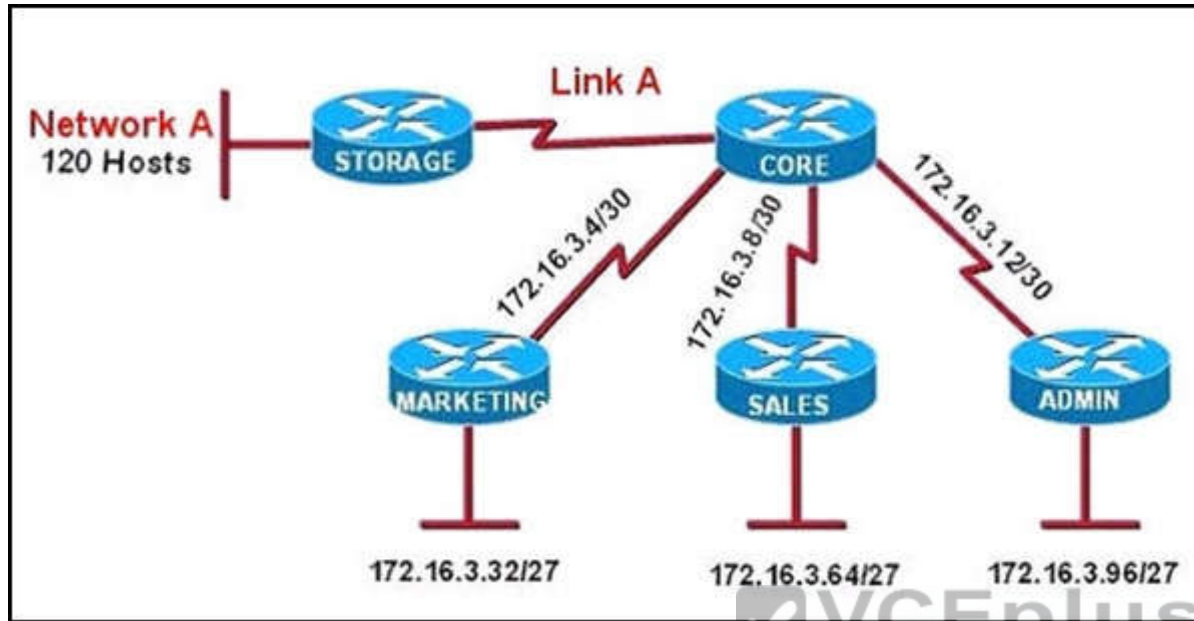
**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 27

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

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 28**

Which type of device can be replaced by the use of subinterfaces for VLAN routing?

- A. Layer 2 bridge
- B. Layer 2 switch
- C. Layer 3 switch
- D. router

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 29**

Which Layer 2 protocol encapsulation type supports synchronous and asynchronous circuits and has built-in security mechanisms?

- A. X.25
- B. HDLC
- C. PPP
- D. Frame Relay



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 30**

Which statement about LLDP is true?

- A. It is a Cisco proprietary protocol.
- B. It is configured in global configuration mode.
- C. The LLDP update frequency is a fixed value.
- D. It runs over the transport layer.

**Correct Answer:** B

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 31**

What are two benefits of private IPv4 IP addresses? (Choose two.)

- A. They are routed to the Internet the same as public IP addresses.
- B. They are less costly than public IP addresses.
- C. They can be assigned to devices without Internet connections.
- D. They eliminate the necessity for NAT policies.
- E. They eliminate duplicate IP conflicts.

**Correct Answer: BC**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 32**

If the primary root bridge experiences a power loss, which switch takes over?

- A. switch 0040.0BC0.90C5
- B. switch 00E0.F90B.6BE3
- C. switch 0004.9A1A.C182
- D. switch 00E0.F726.3DC6

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 33**

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 neighbors**
- B. Router# **show ip eigrp interfaces**
- C. Router# **show ip eigrp adjacency**
- D. Router# **show ip eigrp topology**

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 34**

What is the authoritative source for an address lookup?

- A. a recursive DNS search
- B. the operating system cache
- C. the ISP local cache
- D. the browser cache

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 35**

Which command can you enter to verify that a BGP connection to a remote device is established?

- A. show ip bgp summary
- B. show ip community-list
- C. show ip bgp paths
- D. show ip route



**Correct Answer:** A

**Section:** (none)

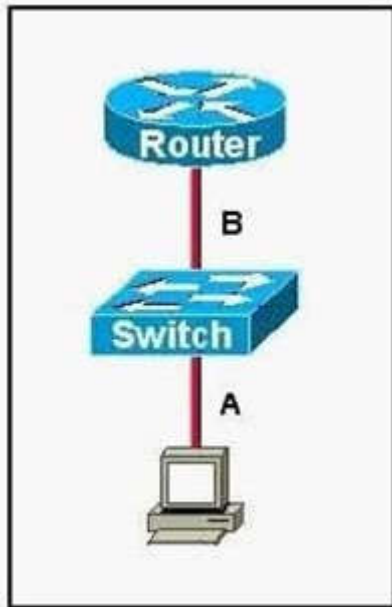
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 36**

Refer to the exhibit.



The two connected ports on the switch are not turning orange or green. Which three would be the most effective steps to troubleshoot this physical layer problem? (Choose three.)

- A. Ensure the switch has power.
- B. Reseat all cables.
- C. Ensure cable A is plugged into a trunk port.
- D. Ensure that the Ethernet encapsulations match on the interconnected router and switch ports.
- E. Reboot all of the devices.
- F. Ensure that cables A and B are straight-through cables.

**Correct Answer:** ABF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 37**

During which phase of PPPoE is PPP authentication performed?

- A. the PPP Session phase
- B. Phase 2
- C. the Active Discovery phase
- D. the Authentication phase
- E. Phase 1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 38**

Which three circumstances can cause a GRE tunnel to be in an up/down state? (Choose three.)

- A. The tunnel interface IP address is misconfigured.
- B. The tunnel source interface is down.
- C. A valid route to the destination address is missing from the routing table.
- D. The tunnel address is routed through the tunnel itself.
- E. The ISP is blocking the traffic.
- F. An ACL is blocking the outbound traffic.

**Correct Answer:** BCD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 39

Which three statements about IPv6 prefixes are true? (Choose three.)

- A. FEC0::/10 is used for IPv6 broadcast.
- B. FC00::/7 is used in private networks.
- C. FE80::/8 is used for link-local unicast.
- D. FE80::/10 is used for link-local unicast.
- E. 2001::1/127 is used for loopback addresses.
- F. FF00::/8 is used for IPv6 multicast.

**Correct Answer:** BDF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 40

Which command can you enter to display duplicate IP addresses that the DHCP server assigns?

- A. show ip dhcp conflict 10.0.2.12
- B. show ip dhcp database 10.0.2.12
- C. show ip dhcp server statistics
- D. show ip dhcp binding 10.0.2.12

**Correct Answer:** A

**Section:** (none)

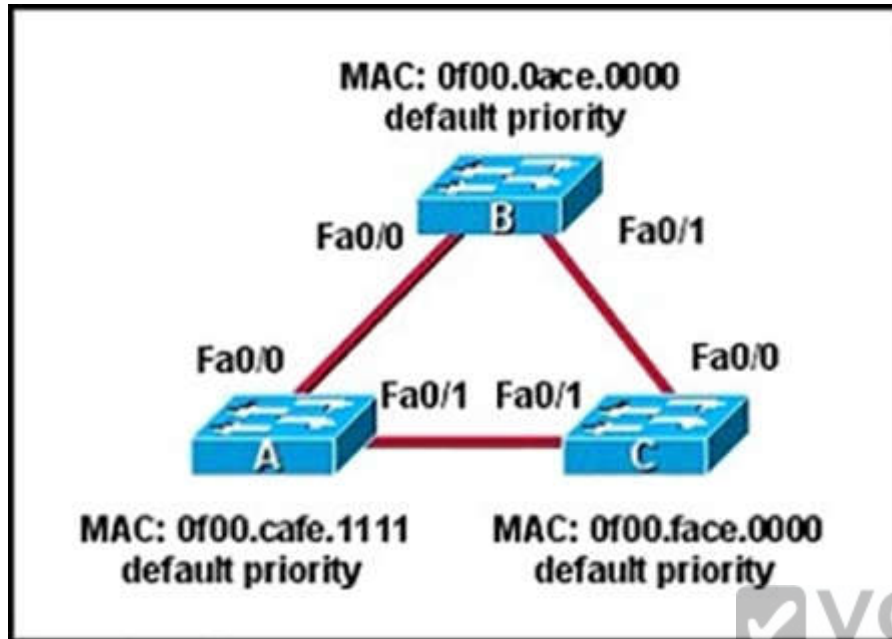
**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 41

Refer to the exhibit.



Which three ports will be STP designated ports if all the links are operating at the same bandwidth? (Choose three.)

- A. Switch B - Fa0/0
- B. Switch A - Fa0/1
- C. Switch B - Fa0/1
- D. Switch C - Fa0/1
- E. Switch A - Fa0/0
- F. Switch C - Fa0/0

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 42

Which two statements about using leased lines for your WAN infrastructure are true? (Choose two.)

- A. Leased lines provide inexpensive WAN access.
- B. Leased lines with sufficient bandwidth can avoid latency between endpoints.
- C. Leased lines require little installation and maintenance expertise.
- D. Leased lines provide highly flexible bandwidth scaling.
- E. Multiple leased lines can share a router interface.
- F. Leased lines support up to T1 link speeds.

**Correct Answer:** CD

**Section:** (none)

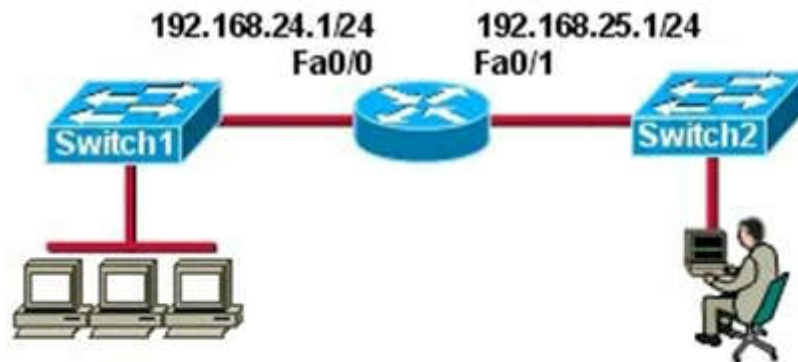
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 43**

Refer to the exhibit.



Switch1# **show running-config**

```
!
hostname Switch1
!
enable secret 5 $1$8V43Wm12DE8klwUjf8EcZnFT7/
enable password guess
!
<output omitted>
!
interface Vlan1
 ip address 192.168.24.2 255.255.255.0
 no ip route-cache
!
ip http server
!
line con 0
line vty 0 4
 password cisco
 login
!
end
```

The network administrator cannot connect to Switch 1 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)# **ip default-gateway 192.168.24.1**
- B. Switch1(config)# **interface fa0/1**  
Switch1(config-if)# **switchport mode trunk**
- C. Switch1(config)# **line con0**  
Switch1(config-line)# **password cisco**  
Switch1(config-line)# **login**
- D. Switch1(config)# **interface fa0/1**  
Switch1(config-if)# **ip address 192.168.24.3 255.255.255.0**
- E. Switch1(config)# **interface fa0/1**  
Switch1(config-if)# **duplex full**  
Switch1(config-if)# **speed 100**

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:



#### QUESTION 44

Which two statements about IPv6 and routing protocols are true? (Choose two.)

- A. EIGRPv3 was developed to support IPv6 routing.
- B. OSPFv3 was developed to support IPv6 routing.
- C. Loopback addresses are used to form routing adjacencies.
- D. EIGRP, OSPF, and BGP are the only routing protocols that support IPv6.
- E. Link-local addresses are used to form routing adjacencies.

**Correct Answer:** BE

**Section:** (none)

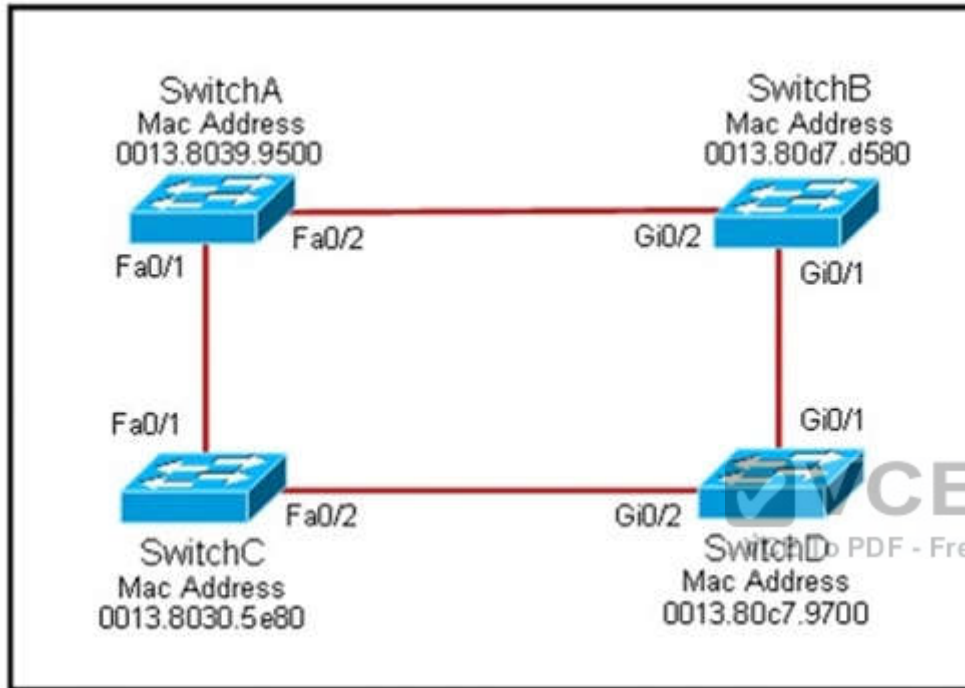
**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 45**

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

**Correct Answer:** ABD



**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 46**

Which feature builds a FIB and an adjacency table to expedite packet forwarding?

- A. cut through
- B. fast switching
- C. process switching
- D. Cisco Express Forwarding

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 47**

Which command can you enter to verify that a 128-bit address is live and responding?

- A. traceroute
- B. telnet
- C. ping
- D. ping ipv6

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 48**

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

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

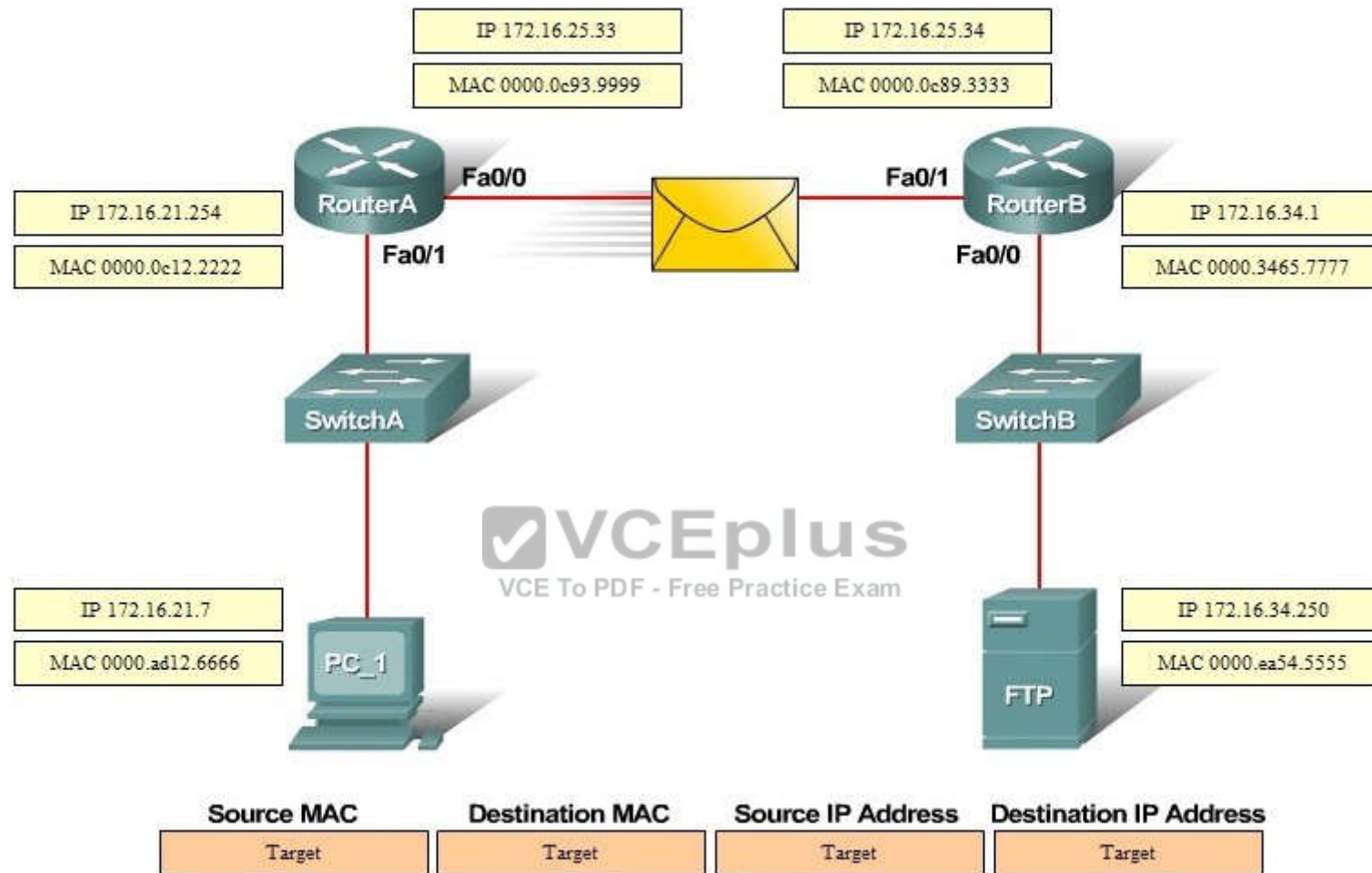
Explanation:

**QUESTION 49**

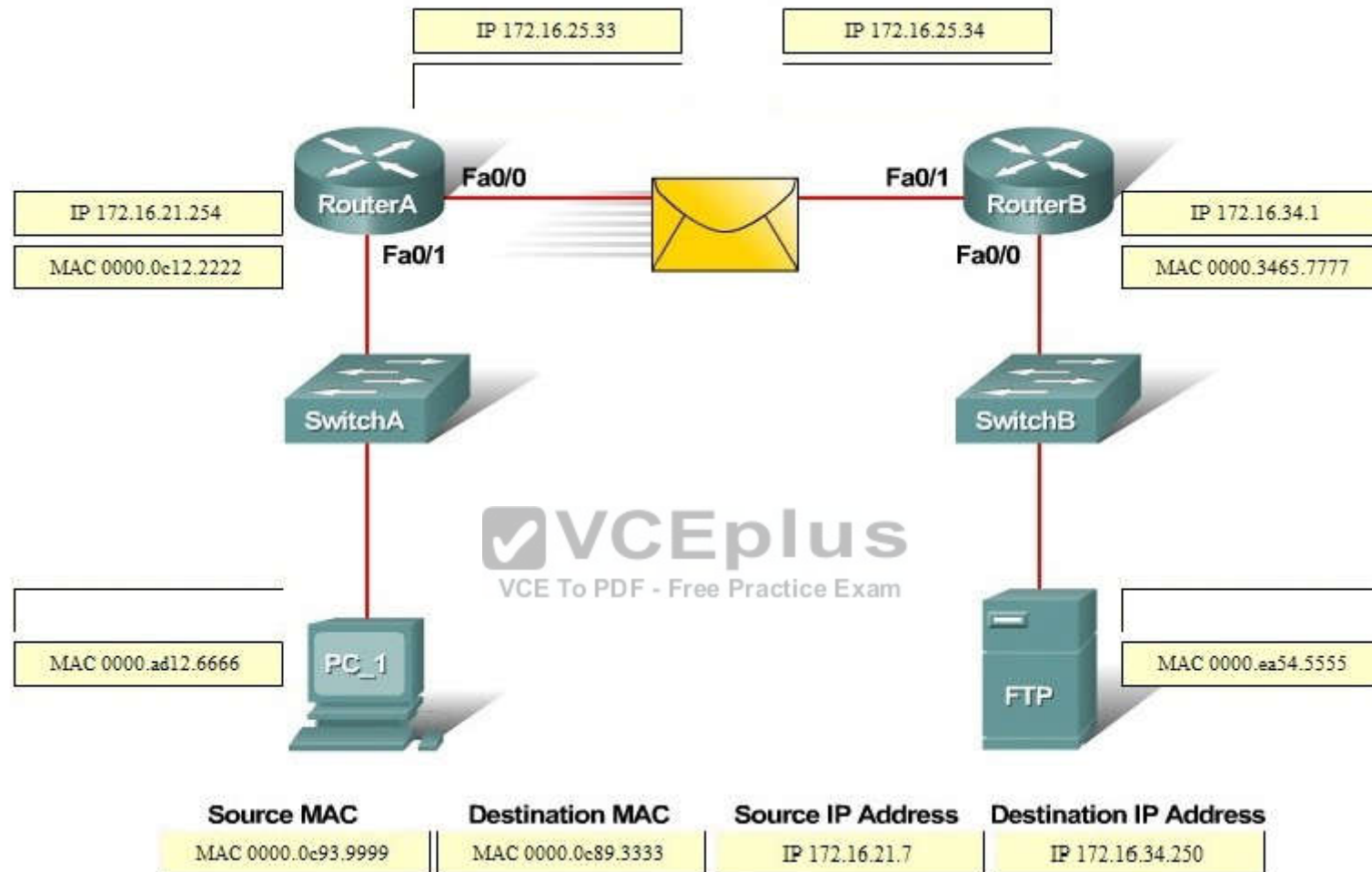
DRAG DROP

Refer to the exhibit.

**Select and Place:**



**Correct Answer:**



Section: (none)

Explanation

Explanation/Reference:

QUESTION 50

What are two reasons that duplex mismatches can be difficult to diagnose? (Choose two.)

- A. The interface displays a connected (up/up) state even when the duplex settings are mismatched.
- B. 1-Gbps interfaces are full-duplex by default.
- C. Full-duplex interfaces use CSMA/CD logic, so mismatches may be disguised by collisions.
- D. The symptoms of a duplex mismatch may be intermittent.
- E. Autonegotiation is disabled.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 51**

Which condition indicates that service password-encryption is enabled?

- A. The local username password is in clear text in the configuration.
- B. The enable secret is in clear text in the configuration.
- C. The local username password is encrypted in the configuration.
- D. The enable secret is encrypted in the configuration.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 52**

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

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 53**

Which two statements about wireless LAN controllers are true? (Choose two.)

- A. They can simplify the management and deployment of wireless LANs.
- B. They rely on external firewalls for WLAN security.
- C. They are best suited to smaller wireless networks.
- D. They must be configured through a GUI over HTTP or HTTPS.
- E. They can manage mobility policies at a systemwide level.

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 54**

Which two statements about northbound and southbound APIs are true? (Choose two.)

- A. Only southbound APIs allow program control of the network.
- B. Only northbound APIs allow program control of the network.
- C. Only southbound API interfaces use a Service Abstraction Layer.
- D. Only northbound API interfaces use a Service Abstraction Layer.
- E. Both northbound and southbound API interfaces use a Service Abstraction Layer.
- F. Both northbound and southbound APIs allow program control of the network.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 55**

Which command can you enter to set the default route for all traffic to an interface?

- A. router(config)#ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/1
- B. router(config-router)#default-information originate always
- C. router(config)#ip route 0.0.0.0 255.255.255.255 GigabitEthernet0/1
- D. route(config-router)#default-information originate

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 56**

Which step in the router boot process searches for an IOS image to load into the router?

- A. mini-IOS
- B. ROMMON mode
- C. bootstrap
- D. POST



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 57**

Which protocol advertises a virtual IP address to facilitate transparent failover of a Cisco routing device?

- A. FHRP
- B. DHCP
- C. RSMLT
- D. ESRP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 58**

If all switches are configured with default values, which switch will take over when the primary root bridge experiences a power loss?

- A. switch 00E0.F726 3DC6
- B. switch 00E0.F90B 6BE3
- C. switch 0004.9A1A C182
- D. switch 0040.0BC0 90C5

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

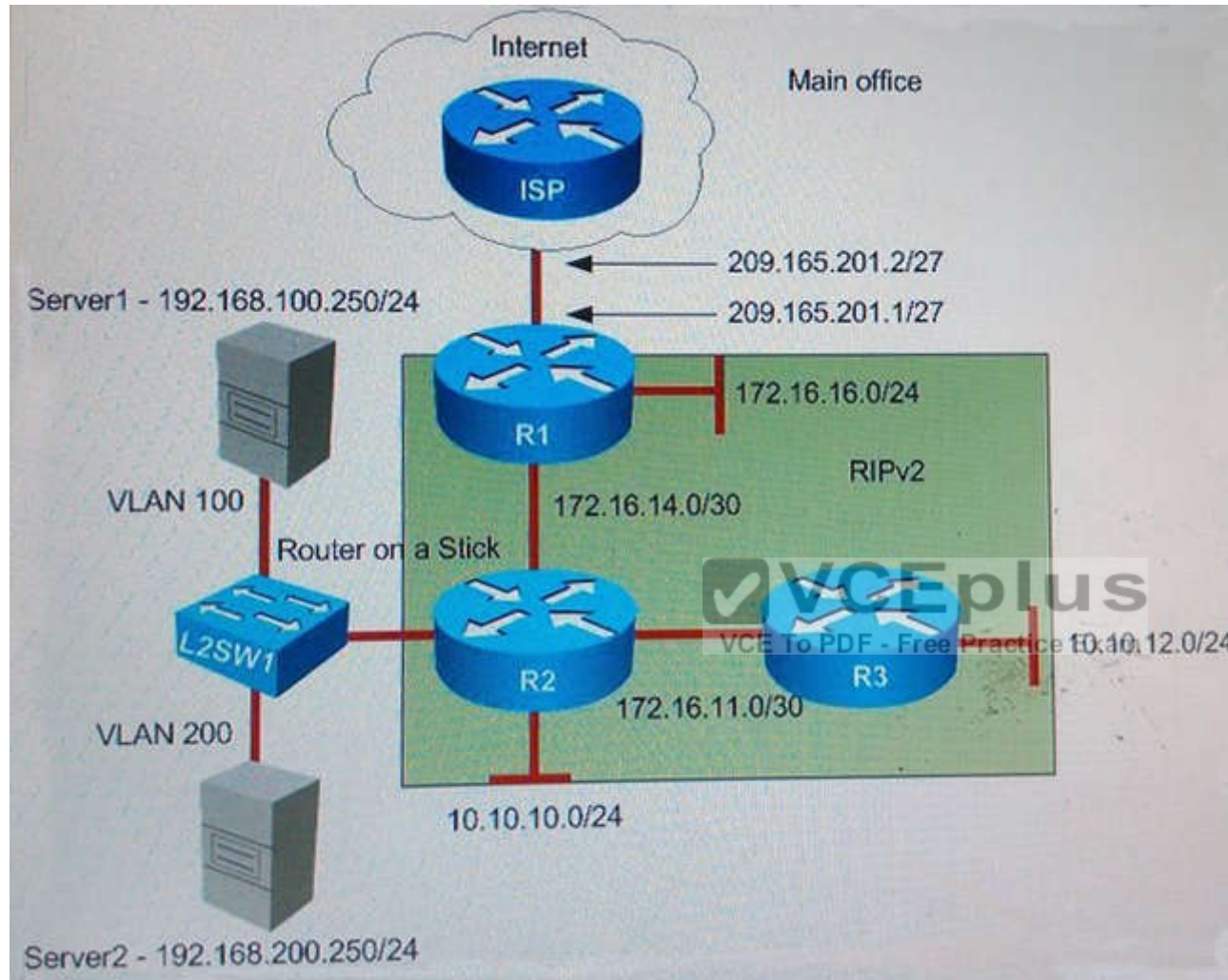


#### **QUESTION 59**

##### **Instructions:**

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- **THIS TASK DOES NOT REQUIRE DEVICE CONFIGURATION.**
- Click the device icon to gain access to the console device. No console or enable passwords are required.
- To access the multiple choice questions, click the numbered boxes on the left of the top panel.
- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next.





Server1 and Server2 are unable to communicate with the rest of the network. Your initial check with system administrators shows that IP address settings are correctly configured on the server side. What could be an issue?

- A. The VLAN encapsulation is misconfigured on the router subinterfaces.
- B. The IP address is misconfigured on the primary router interface.
- C. The Router is missing subinterface configuration.

D. The Trunk is not configured on the L2SW1 switch.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**Explanation**

Check the configuration of the interface that is connected to Server1 and Server2 on R2 with “show running-config” command.

```
R2#show running-config
```

```
<output omitted>
```

```
interface Ethernet0/1.100
```

```
description Link to Server1 Segment
```

```
encapsulation dot1Q 200
```

```
ip address 192.168.100.1 255.255.255.0
```

```
!
```

```
interface Ethernet0/1.200
```

```
description Link to Server2 Segment
```

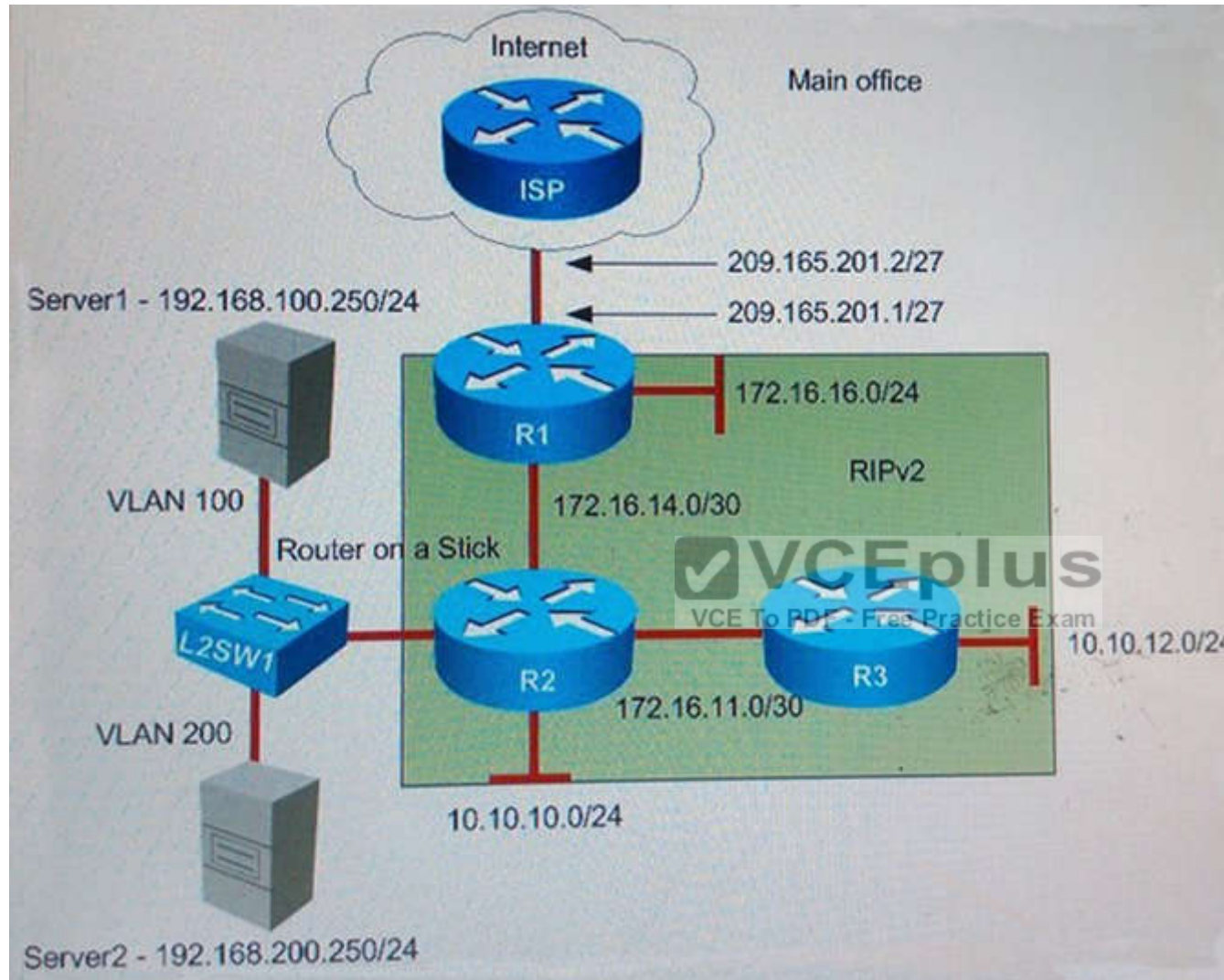
```
encapsulation dot1Q 100
```

```
ip address 192.168.200.1 255.255.255.0
```

```
!
```

We see that subinterface E0/1.100 has been configured with VLAN 200 (via “encapsulation dot1Q 200” command) while Server1 belongs to VLAN 100. Therefore this configuration is not correct. It should be “encapsulation dot1Q 100” instead. The same thing for interface E0/1.200, it should be “encapsulation dot1Q 200” instead.

**QUESTION 60**



**Instructions:**

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- **THIS TASK DOES NOT REQUIRE REVICE CONFIGURATION.**
- Click the device icon to gain access to the console device. No console or enable passwords are required.
- To access the multiple choice questions, click the numbered boxes on the left of the top panel.

- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next.

Users in the main office complain that they are unable to reach Internet sites. You observe that Internet traffic that is destined towards ISP router is not forwarded correctly on Router R1. What could be an issue?

Plug to the Internet server shows the following results from R1:

```
R1#ping 209.165.200.225
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 209.165.200.225, time out is 2 seconds.
```

Success rate is 0 percent (0/5)

- A. The next hop router address for the default route is incorrectly configured.
- B. Default route pointing to ISP router is configured with AD of 255.
- C. Default route pointing to ISP router is not configured on Router R1.
- D. Router R1 configured as DHCP client is not receiving default route via DHCP from ISP router.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

When all the users cannot reach internet sites we should check on the router connecting to the ISP to see if it has a default route pointing to the ISP or not. Use the "show ip route" command on R1:



```
R1#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B -
BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2
        i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS
level-2
        ia - IS-IS inter area, * - candidate default, U - per-user
static route
        o - ODR, P - periodic downloaded static route, H - NHRP, l -
LISP
        a - application route
        + - replicated route, % - next hop override
```

Gateway of last resort is not set

```

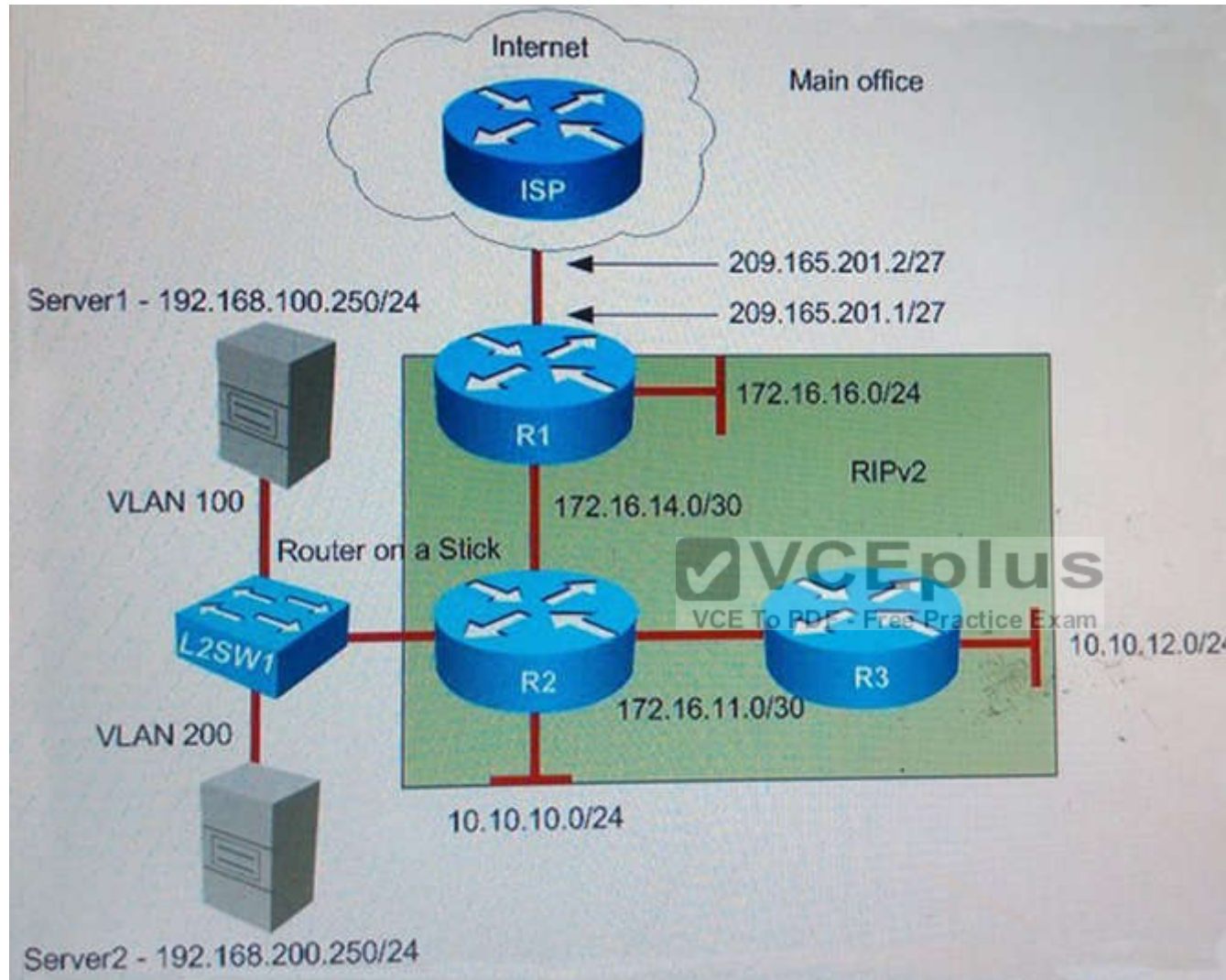
10.0.0.0/24 is subnetted, 1 subnets
R      10.10.10.0 [120/1] via 172.16.14.2, 00:00:06, Ethernet0/2
172.16.0.0/16 is variably subnetted, 5 subnets, 3 masks
R      172.16.11.0/30 [120/1] via 172.16.14.2, 00:00:14, Ethernet0/2
C      172.16.14.0/30 is directly connected, Ethernet0/2
L      172.16.14.1/32 is directly connected, Ethernet0/2
C      172.16.16.0/24 is directly connected, Ethernet0/1
L      172.16.16.1/32 is directly connected, Ethernet0/1
R      192.168.100.0/24 [120/1] via 172.16.14.2, 00:00:14, Ethernet0/2
R      192.168.200.0/24 [120/1] via 172.16.14.2, 00:00:14, Ethernet0/2
209.165.201.0/24 is variably subnetted, 2 subnets, 2 masks
C      209.165.201.0/27 is directly connected, Ethernet0/0
L      209.165.201.1/32 is directly connected, Ethernet0/0
```

We cannot find a default route on R1 (something like this: S\* 0.0.0.0/0 [1/0] via 209.165.201.2) so maybe R1 was not configured with a default route. We can check with the "show running-config" on R1:

```
R1#show running-config  
<output omitted>  
ip route 10.10.10.0 255.255.255.0 172.16.14.2 200  
<output omitted>
```

We need a configure a default route ( "ip route 0.0.0.0 0.0.0.0 209.165.201.2") but we cannot find here so we can conclude R1 was not be configured with a default route pointing to the ISP router.

#### QUESTION 61



**Instructions:**

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- **THIS TASK DOES NOT REQUIRE REVICE CFIGURATION.**
- Click the device icon to gain access to the console device. No console or enable passwords are required.
- To access the multiple choice questions, click the numbered boxes on the left of the top panel.

- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next.

Examine R2 configuration, the traffic that is destined to R3 LAN network sourced from Router R2 is forwarded to R1 instead R3. What could be an issue?

```
R2#traceroute 10.10.12.1 source 10.10.10.1
Type escape sequence to abort
Tracing the route to 10.10.12.1
```

```
VRF info: (vrf in name/id, vrf out name/id)
  1 172.16.14.1 0 msec 1 msec 0 msec
  2 172.16.14.1 !H !H *
R2#
```

- A. RIPv2 routing updates are suppressed between R2 and R3 using passive interface feature.
- B. RIPv2 enabled on R3, but R3 LAN network that is not advertised into RIPv2 domain.
- C. No issue that is identified; this behavior is normal since default route propagated into RIPv2 domain by Router R1.
- D. RIPv2 not enabled on R3.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

First we should check the routing table of R2 with the “show ip route” command.



```
R2#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B -
BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2
        i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS
level-2
        ia - IS-IS inter area, * - candidate default, U - per-user
static route
        o - ODR, P - periodic downloaded static route, H - NHRP, l -
LISP
        a - application route
        + - replicated route, % - next hop override
```

Gateway of last resort is 172.16.14.1 to network 0.0.0.0

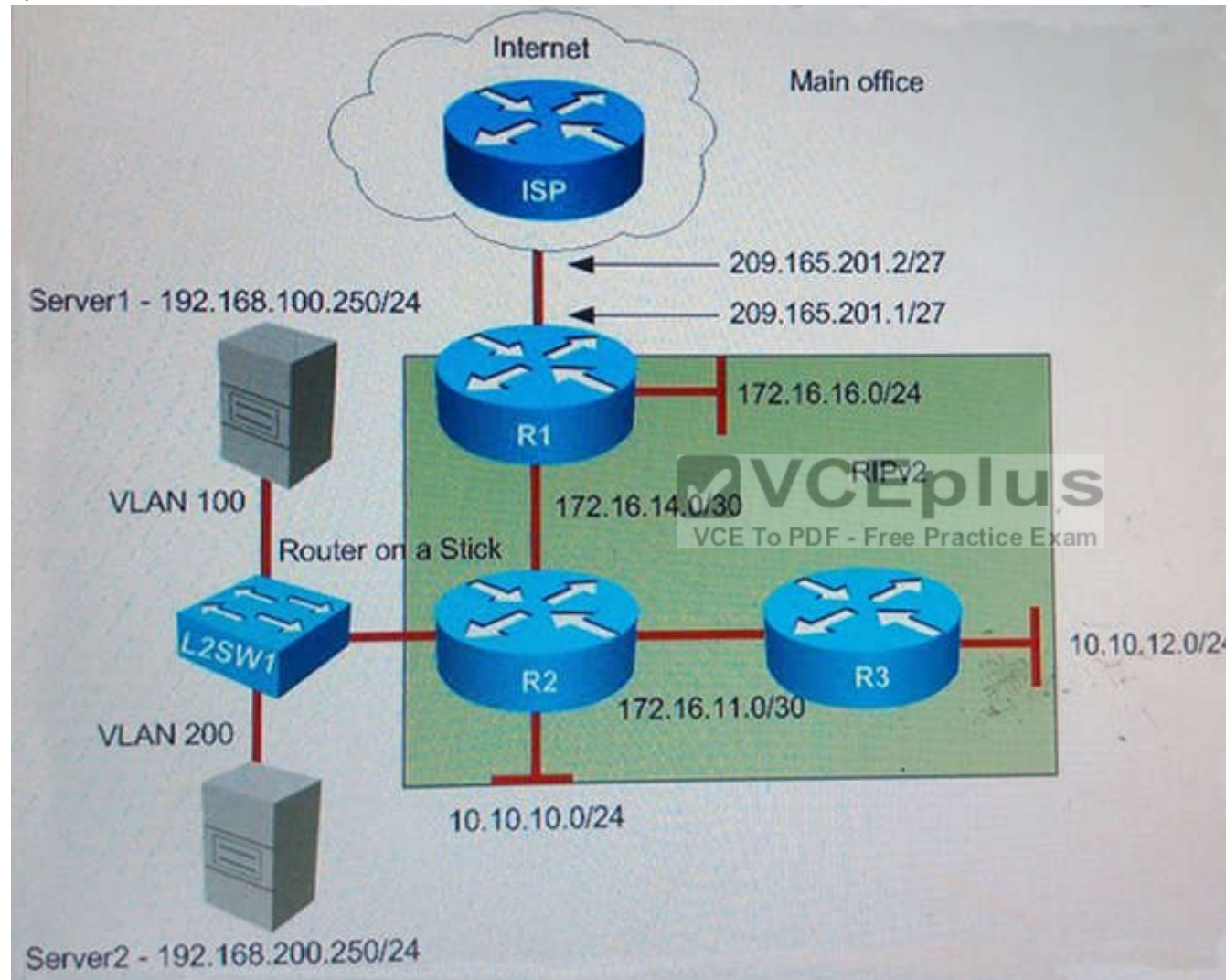
```
R*  0.0.0.0/0 [120/1] via 172.16.14.1, 00:00:26, Ethernet0/2
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    10.10.10.0/24 is directly connected, Ethernet0/3
L    10.10.10.1/32 is directly connected, Ethernet0/3
172.16.0.0/16 is variably subnetted, 5 subnets, 3 masks
C    172.16.11.0/30 is directly connected, Ethernet0/0
L    172.16.11.1/32 is directly connected, Ethernet0/0
C    172.16.14.0/30 is directly connected, Ethernet0/2
L    172.16.14.2/32 is directly connected, Ethernet0/2
R    172.16.16.0/24 [120/1] via 172.16.14.1, 00:00:26, Ethernet0/2
192.168.100.0/24 is variably subnetted, 2 subnets, 2 masks
C    192.168.100.0/24 is directly connected, Ethernet0/1.100
L    192.168.100.1/32 is directly connected, Ethernet0/1.100
192.168.200.0/24 is variably subnetted, 2 subnets, 2 masks
C    192.168.200.0/24 is directly connected, Ethernet0/1.200
L    192.168.200.1/32 is directly connected, Ethernet0/1.200
```

In this table we cannot find the subnet "10.10.12.0/24" (R3 LAN network) so R2 will use the default route advertised from R1 (with the command "default-information originate" on R1) to reach unknown destination, in this case subnet 10.10.12.0/24 -> R2 will send traffic to 10.10.12.0/24 to R1.

Next we need to find out why R3 did not advertise this subnet to R2. A quick check with the "show running-config" on R3 we will see that R3 was not configured with

RIP ( no "router rip" section). Therefore, we can conclude RIPv2 was not enabled on R3.

#### QUESTION 62



#### Instructions:

- Enter IOS commands on the device to verify network operation and answer the multiple questions.

**- THIS TASK DOES NOT REQUIRE REVICE CNFIGURATION.**

- Click the device icon to gain access to the console device. No console or enable passwords are required.
- To access the multiple choice questions, click the numbered boxes on the left of the top panel.
- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next.

What is the correct statement below after examining the R1 routing table?

- A. Traffic that is destined to 10.10.10.0/24 from the R1 LAN network uses static route instead of RIPv2, because the static route AD that is configured is less than the AD of RIPv2.
- B. Traffic that is destined to 10.10.10.0/24 from the R1 LAN network uses RIPv2 instead of static route, because the static route AD that is configured is higher than the AD of RIPv2.
- C. Traffic that is destined to 10.10.10.0/24 from the R1 LAN network uses static route instead of RIPv2, but the traffic is forwarded to the ISP instead of the internal network.
- D. Traffic that is destined to 10.10.10.0/24 from the R1 LAN network uses RIPv2 instead of static route, because the static route AD that is configured is 255.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

First use the "show ip route" command to check the R1 routing table.



```
R1#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B -
BGP
        D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2
        i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS
level-2
        ia - IS-IS inter area, * - candidate default, U - per-user
static route
        o  ODR, P - periodic downloaded static route, H - NHRP, l -
LISP
        a - application route
        + - replicated route, % - next hop override
```

Gateway of last resort is not set

```

10.0.0.0/24 is subnetted, 1 subnets
R    10.10.10.0 [120/1] via 172.16.14.2, 00:00:06, Ethernet0/2
172.16.0.0/16 is variably subnetted, 5 subnets, 3 masks
R    172.16.11.0/30 [120/1] via 172.16.14.2, 00:00:14, Ethernet0/2
C    172.16.14.0/30 is directly connected, Ethernet0/2
L    172.16.14.1/32 is directly connected, Ethernet0/2
C    172.16.16.0/24 is directly connected, Ethernet0/1
L    172.16.16.1/32 is directly connected, Ethernet0/1
R    192.168.100.0/24 [120/1] via 172.16.14.2, 00:00:14, Ethernet0/2
R    192.168.200.0/24 [120/1] via 172.16.14.2, 00:00:14, Ethernet0/2
209.165.201.0/24 is variably subnetted, 2 subnets, 2 masks
C    209.165.201.0/27 is directly connected, Ethernet0/0
L    209.165.201.1/32 is directly connected, Ethernet0/0
```

As we see here, 10.10.10.24 is learned from RIP. Notice that although there is a static route on R1 to this destination (you can check with the “show running-config” on R1 to see the line “ip route 10.10.10.0 255.255.255.0 172.16.14.2 200”), this static route is not installed to the routing table because it is not the best path because the Administrative Distance (AD) of this static route is 200 while the AD of RIP is 120 so R1 chose the path with lowest AD so it chose path advertised via RIP.

### QUESTION 63

## SIMULATION

A corporation want to add security to its network. The requirements are:

- Host C should be able to use a web browser (HTTP) to access the Finance Web Server.
- Other types of access from host C to the Finance Web Server should be blocked.
- All access from hosts in the Core or local LAN to the Finance Web Server should be blocked.
- All hosts in the Core and on local LAN should be able to access the Public Web Server.

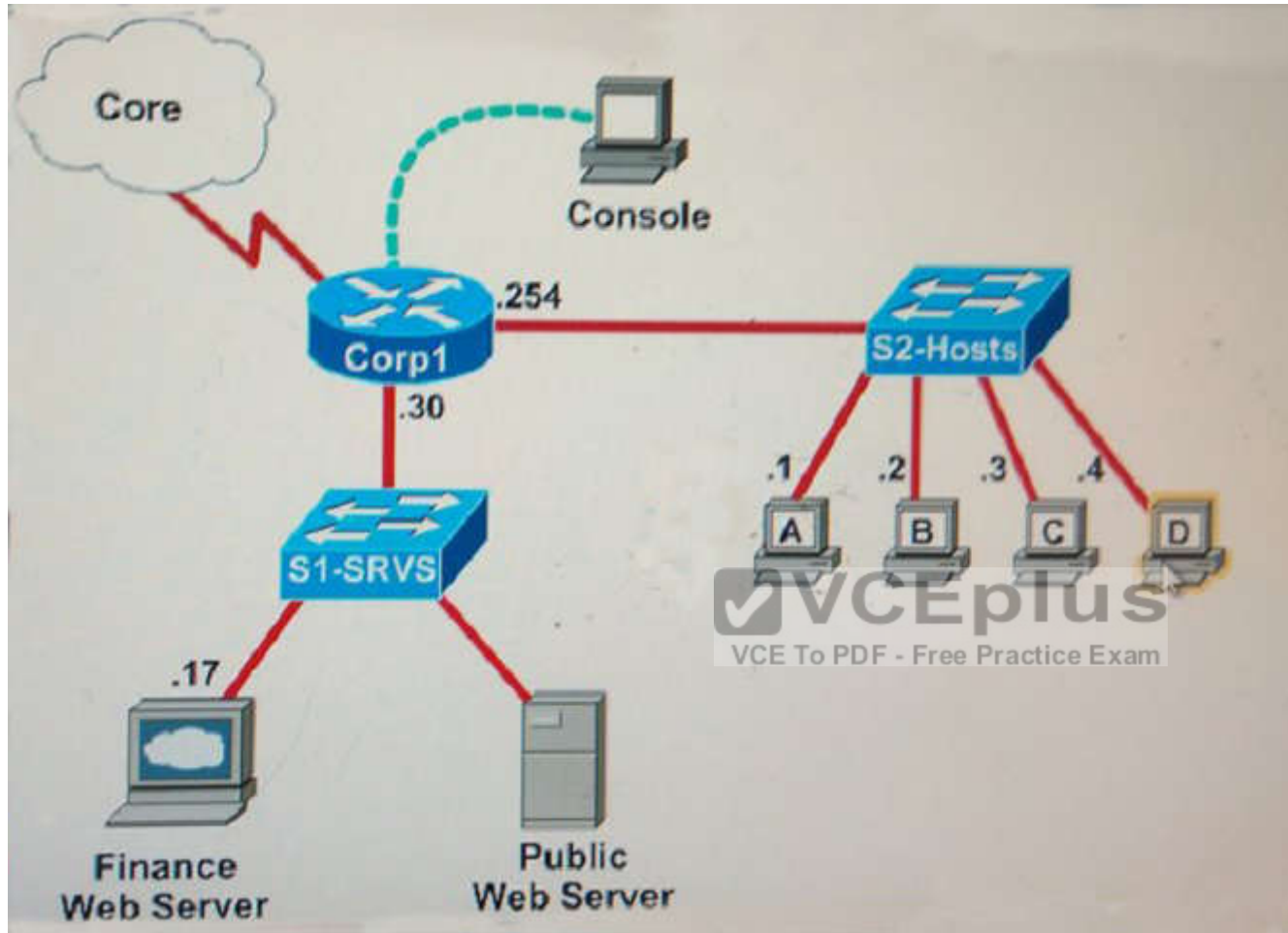
You have been tasked to create and apply a numbered access list to a single outbound interface. This access list can contain no more than three statements that meets these requirements.

Access to the router CLI can be gained by clicking on the appropriate host.

1. All passwords have been temporarily set to "cisco".
2. The core connection uses an IP address of 192.168.228.65.
3. The computers in the hosts LAN been assigned addresses of 192.168.40.1 – 192.168.40.254.
  - host A 192.168.40.1
  - host B 192.168.40.2
  - host C 192.168.40.3
  - host D 192.168.40.4
4. The Finance Web Server has been assigned an addresses of 172.22.135.17.
5. The Public Web Server in the Server LAN has been assigned an addresses of 172.22.135.18.

Note: - You may need to scroll this window and the problem statement window.

- Click on picture of cost connected to the specified router and select the CiscoTerminal option to configure the router. If you select the wrong host, click on the show topology button and select a different host.
- To access a host, simply click on picture of host that you want to use and configure it. Certain hosts have dotted lines that represent the serial "console" cables.
- The help command does not display all commands of the help system. The help supports the first level of help system and selected lower layers.



**Correct Answer:** See the solution below

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**Corp1>enable** (you may enter "cisco" as it passwords here)

We should create an access-list and apply it to the interface which is connected to the Server LAN because it can filter out traffic from both Sw-2 and Core

networks. The Server LAN network has been assigned addresses of 172.22.242.17 – 172.22.242.30 so we can guess the interface connected to them has an IP address of 172.22.242.30 (.30 is the number shown in the figure). Use the “show running-config” command to check which interface has the IP address of 172.22.242.30.

**Corp1#show running-config**

```
Corp1# show running-config
<output omitted>
!
interface FastEthernet0/0
ip address 192.168.33.254 255.255.255.0
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 172.22.242.30 255.255.255.240
duplex auto
speed auto
!
<output omitted>
```

We learn that interface FastEthernet0/1 is the interface connected to Server LAN network. It is the interface we will apply our access-list (for outbound direction).

**Corp1#configure terminal**

Our access-list needs to allow host C – 192.168.33.3 to the Finance Web Server 172.22.242.23 via web (port 80)

**Corp1(config)#access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80**

Deny other hosts access to the Finance Web Server via web

**Corp1(config)#access-list 100 deny tcp any host 172.22.242.23 eq 80**

All other traffic is permitted

**Corp1(config)#access-list 100 permit ip any any**

Apply this access-list to Fa0/1 interface (outbound direction)

**Corp1(config)#interface fa0/1**

**Corp1(config-if)#ip access-group 100 out**

Notice: We have to apply the access-list to Fa0/1 interface (not Fa0/0 interface) so that the access-list can filter traffic coming from both the LAN and the Core networks. If we apply access list to the inbound interface we can only filter traffic from the LAN network.

In the exam, just click on host C to open its web browser. In the address box type **http://172.22.242.23** to check if you are allowed to access Finance Web Server via HTTP or not. If your configuration is correct then you can access it.

Click on other hosts (A, B and D) and check to make sure you can't access Finance Web Server from these hosts.

Finally, save the configuration

**Corp1(config-if)#end**

**Corp1#copy running-config startup-config**

(This configuration only prevents hosts from accessing Finance Web Server via web but if this server supports other traffic – like FTP, SMTP... then other hosts can access it, too.)

Notice: You might be asked to allow other host (A, B or D) to access the Finance Web Server so please read the requirement carefully.

**Some modifications (mods):**

**Modification 1 (Mod 1):**

permit host B from accessing finance server	access-list 100 permit ip host 192.168.33.2 host 172.22.242.23
deny host B from accessing other servers (not the whole network)	access-list 100 deny ip host 192.168.33.2 172.22.242.16 0.0.0.15
permit everything else	access-list 100 permit ip any any

**Modification 2 (Mod 2):**



Only allow Host C to to access the financial server	access-list 100 permit ip host 192.168.33.3 host 172.22.242.23
Not allow anyone else in any way communicate with the financial server	access-list 100 deny ip any host 172.22.242.23
Allow all other traffic	access-list 100 permit ip any any

### Modification 3 (Mod 3):2

– Host C should be able to use a web browser(HTTP)to access the Finance Web Server	access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80
– Other types of access from host C to the Finance Web Server should be blocked – All access from hosts in the Core or local LAN to the Finance Web Server should be blocked	access-list 100 deny ip any host 172.22.242.23 (because the requirement says we can not use more than 3 statements so we have to use “any” here for the hosts in the Core and hosts in local LAN)
– All hosts in the Core and local LAN should be able to access the Public Web Server *	access-list 100 permit ip any host (If the question asks this, surely it has to give you the IP of Public Web Server) but in the exam you should use “access-list 100 permit ip any any”

### Modification 4 (Mod 4):

Host C should be able to use a web browser to access the financial web server	<code>access-list 100 permit tcp host 192.168.33.3 host 172.22.242.23 eq 80</code>
Other types of access from host C to the finance web server should be blocked	<code>access-list 100 deny ip host 192.168.33.3 host 172.22.242.23</code>
All hosts in the core and on the local LAN should be able to access the Public web server *	<code>access-list 100 permit ip any host</code> (The IP of Public Web Server will surely be given in this question) but in the exam you should use “ <code>access-list 100 permit ip any any</code> ”

\* There are some reports about the command of “All hosts in the core and on the local LAN should be able to access the Public web server” saying that the correct command should be “`access-list 100 permit ip any any`”, not “`access-list 100 permit ip any host (IP of Public Web Server)`”. Although I believe the second command is better but maybe you should use the first command “`access-list 100 permit ip any any`” instead as some reports said they got 100% when using this command (even if the question gives you the IP address of Public Web Server). It is a bug in this sim.  
 (Note: Don't forget to apply this access list to the suitable interface or you will lose points)

**interface fa0/1**

**ip access-group 100 out**

And in the exam, they may slightly change the requirements, for example host A, host B instead of host C... so make sure you read the requirement carefully and use the access-list correctly)

#### QUESTION 64

You are a junior network engineer for a financial company, and the main office network is experiencing network issues. Troubleshoot the network issues.

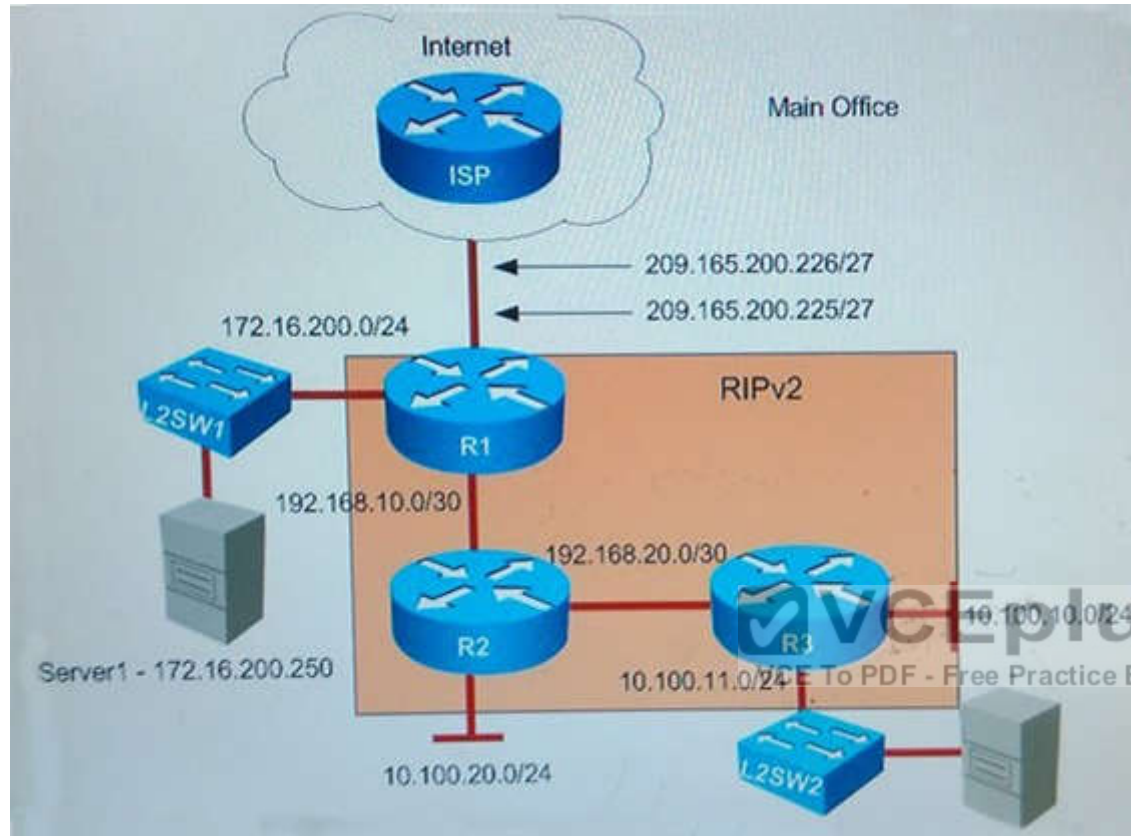
Router R1 connects the main office to the Internet, and routers R2 and R3 are internal routers.

NAT is enabled on router R1.

The routing protocol that is enabled between routers R1, R2 and R3 is RIPv2.

R1 sends the default route into RIPv2 for the internal routers to forward Internet traffic to R1.

You have console access on R1, R2 and R3 devices. Use only show commands to troubleshoot the issues.



Examine the DHCP configuration between R2 and R3, R2 is configured as the DHCP server and R3 as the client. What is the reason R3 is not receiving the IP address via DHCP?

- A. On R2, the network statement in the DHCP pool configuration is incorrectly configured.
- B. On R3, DHCP is not enabled on the interface that is connected to R2.
- C. On R2, the interface that is connected to R3 is in shutdown condition.
- D. On R3, the interface that is connected to R2 is in shutdown condition.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

First we should check which interface on R3 that is connected to R2 via the “show run” command.

```
R3#show running-config
```

```
<output omitted>
```

```
interface Ethernet0/1
  description Link to R2
  no ip address
!
```

From the description we learn interface E0/1 is connected to R2. Use the “show ip interface brief” command to verify the IP address of this interface.

```
R3#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	10.100.10.1	YES	manual	up	up
Ethernet0/1	unassigned	YES	unset	up	up
Ethernet0/2	10.100.11.1	YES	manual	up	up
Ethernet0/3	unassigned	YES	unset	administratively down	down
Loopback0	192.168.250.3	YES	manual	up	up

Therefore we can conclude this interface does not have any IP address and there is no configuration on this interface (except the “description Link to R2” line). If R3 wants to receive an IP address from R2 via DHCP, interface E0/1 should be configured with the command “ip address dhcp” so the answer “DHCP is not enabled on this interface” is correct.

**QUESTION 65**

You are a junior network engineer for a financial company, and the main office network is experiencing network issues. Troubleshoot the network issues.

Router R1 connects the main office to the Internet, and routers R2 and R3 are internal routers.

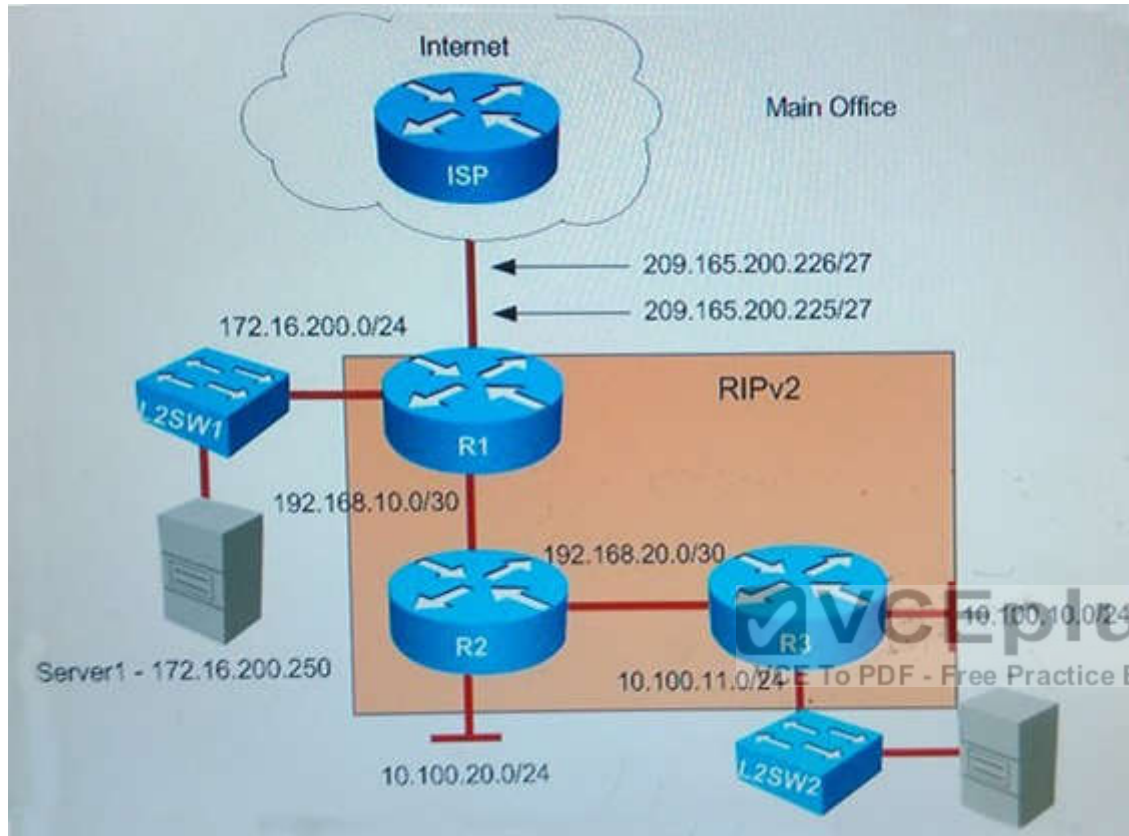
NAT is enabled on router R1.

The routing protocol that is enabled between routers R1, R2 and R3 is RIPv2.

R1 sends the default route into RIPv2 for the internal routers to forward Internet traffic to R1.

You have console access on R1, R2 and R3 devices. Use only show commands to troubleshoot the issues.





R1 router clock is synchronized with ISP router. R2 is supposed to receive NTP updates from R1. But you observe that R2 clock is not synchronized with R1. What is the reason R2 is not receiving NTP updates from R1?

- A. The IP address that is used in the NTP configuration on R2 router is incorrect.
- B. The NTP server command not configured on R2 router.
- C. R2 router Ethernet interface that is connected to R1 is placed in shutdown condition.
- D. R1 router Ethernet interface that is connected to R2 is placed in shutdown condition.

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

First we should verify if the ports connected between R1 and R2 is in "up/up" state with the "show ip interface brief" command on R1 & R2.

```
R1#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	209.165.200.225	YES	manual	up	up
Ethernet0/1	172.16.200.1	YES	manual	up	up
Ethernet0/2	192.168.10.1	YES	manual	up	up
Ethernet0/3	unassigned	YES	unset	administratively down	down
Loopback0	192.168.250.1	YES	manual	up	up
NVI0	192.168.250.1	YES	unset	up	up

```
R2#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	192.168.20.1	YES	manual	up	up
Ethernet0/1	unassigned	YES	unset	up	up
Ethernet0/2	192.168.10.2	YES	manual	up	up
Ethernet0/3	10.100.20.1	YES	manual	up	up
Loopback0	192.168.250.2	YES	manual	up	up

Note: We learn R1 & R2 connect to each other via E0/2 interface because the IP addresses of these interfaces belong to 192.168.10.0/30 subnet. Both of them are "up/up" so the link connecting between R1 & R2 is good.

Next we need to verify the ntp configuration on R2 with the "show running-config" command.

```
R2#show running-config
<output omitted>
ntp server 192.168.100.1
!
end
```

So there is only one command related to NTP configuration on R2 so we need to check if the IP address of 192.168.100.1 is correct or not. But from the "show ip interface brief" command on R1 we don't see this IP -> This IP address is not correct. It should be 192.168.10.1 (IP address of interface E0/2 of R1), not 192.168.100.1.

#### QUESTION 66

You are a junior network engineer for a financial company, and the main office network is experiencing network issues. Troubleshoot the network issues.

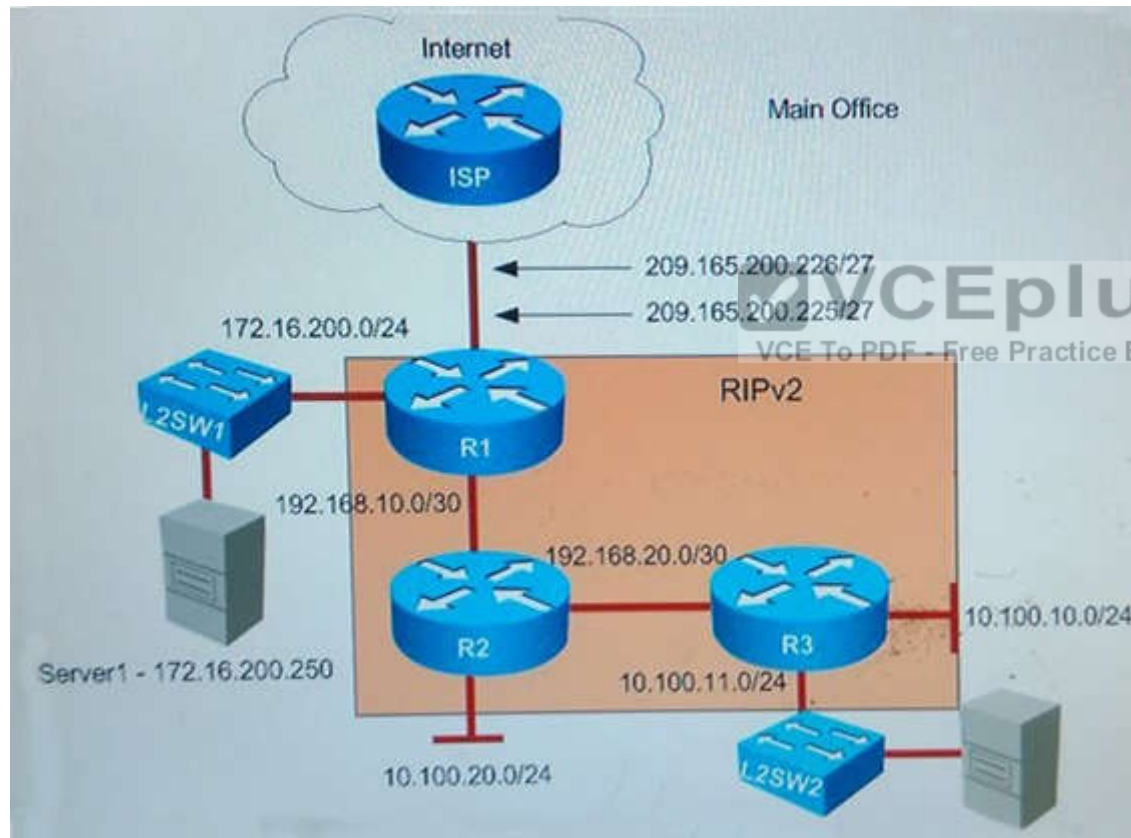
Router R1 connects the main office to the Internet, and routers R2 and R3 are internal routers.

NAT is enabled on router R1.

The routing protocol that is enabled between routers R1, R2 and R3 is RIPv2.

R1 sends the default route into RIPv2 for the internal routers to forward Internet traffic to R1.

You have console access on R1, R2 and R3 devices. Use only show commands to troubleshoot the issues.



Why applications that are installed on PC's in R2 LAN network 10.100.20.0/24 are unable to communicate with server1?

- A. A standard ACL statement that is configured on R1 is blocking the traffic sourced from Server1 network.
- B. A standard ACL statement that is configured on R2 is blocking the traffic sourced from Server1 network.
- C. A standard ACL statement that is configured on R2 is blocking the traffic sourced from R2 network.
- D. A standard ACL statement that is configured on R1 is blocking traffic sourced from R2 LAN network.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

We should check if we can ping from R1 to Server 1 or not:

```
R1#ping 172.16.200.250
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.200.250, timeout is 2 seconds:
!!!!!!
```

The ping worked well so maybe R1 is good so we should check R2 first. We notice on R2 there is an access-list:

```
R2# show running-config
<output omitted>
interface Ethernet0/2
  description Link to R1
  ip address 192.168.10.2 255.255.255.252
  ip access-group SERVER1BLOCK in
!
<output omitted>
ip access-list standard SERVER1BLOCK
  deny 172.16.200.0 0.0.0.255
  permit any
```



This access-list is applied to E0/2 interface with inbound direction. The purpose of this access-list is to block traffic with source IP address of 172.16.200.0/24 so it will block all traffic sent from Server 1 to us.

#### QUESTION 67

You are a junior network engineer for a financial company, and the main office network is experiencing network issues. Troubleshoot the network issues.

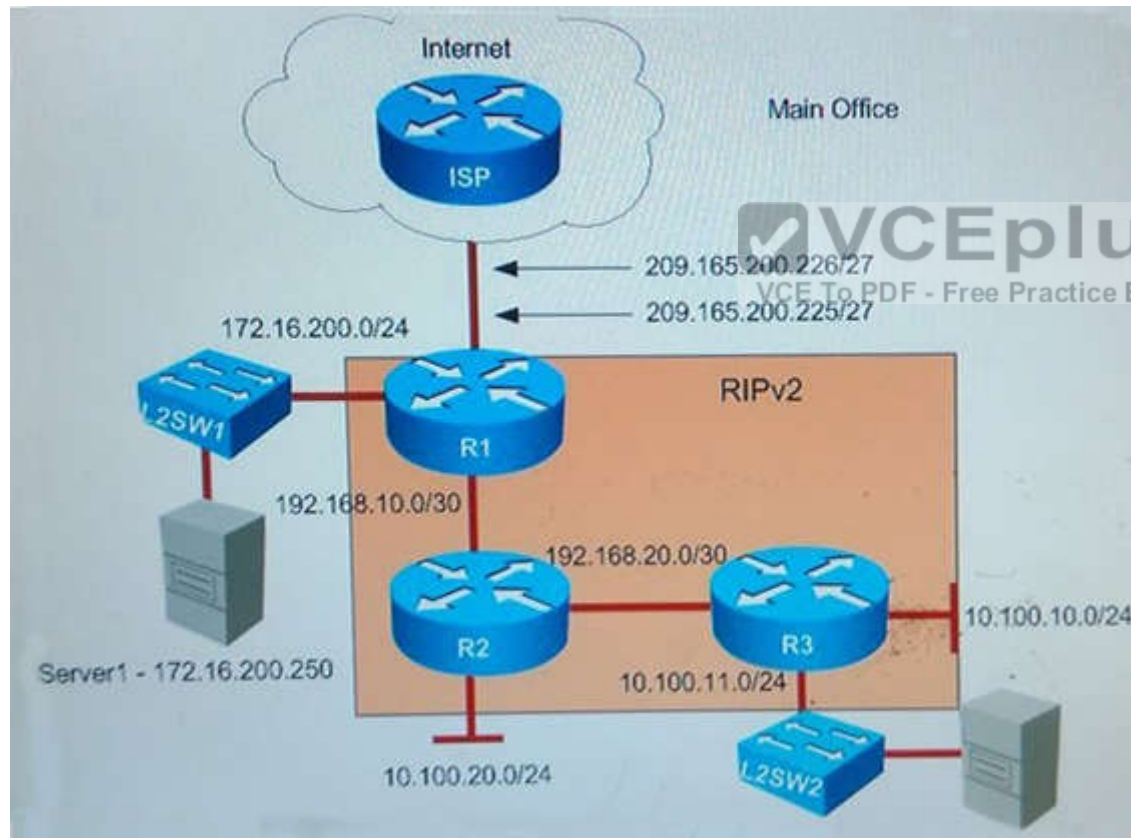
Router R1 connects the main office to the Internet, and routers R2 and R3 are internal routers.

NAT is enabled on router R1.

The routing protocol that is enabled between routers R1, R2 and R3 is RIPv2.

R1 sends the default route into RIPv2 for the internal routers to forward Internet traffic to R1.

You have console access on R1, R2 and R3 devices. Use only show commands to troubleshoot the issues.



Users complain that they are unable to reach Internet sites. You are troubleshooting Internet connectivity problem at main office. Which statement correctly identifies the problem on Router R1?

- A. Interesting traffic for NAT ACL is incorrectly configured.
- B. NAT configurations on the interfaces are incorrectly configured.
- C. NAT translation statement incorrectly configured.
- D. Only static NAT transaction configured for the server, missing Dynamic NAT or Dynamic NAT overloading for Internet networks.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If all users cannot access internet, then R1 is most likely to cause the problem so we should check it first. From the “show running-config” command we will see:

```
R1# show running-config  
<output omitted>
```

```
interface Ethernet0/0  
  description Link to ISP  
  ip address 209.165.200.225 255.255.255.224  
  ip nat inside  
  ip virtual-reassembly in  
!  
interface Ethernet0/1  
  description Link to Server 1  
  ip address 172.16.200.1 255.255.255.0  
  ip nat outside  
  ip virtual-reassembly in  
!  
interface Ethernet0/2  
  description Link to R2  
  ip address 192.168.10.1 255.255.255.252  
  ip nat outside  
  ip virtual-reassembly in
```

We notice that interface E0/0 (connected to ISP) has been configured as “nat inside” while interfaces E0/1 & E0/2 (connected to our company) have been configured as “nat outside”. This is not correct because “nat inside” should be configured with interfaces connected to our company while “nat outside” should be configured with interfaces connected to the internet. Therefore, we can conclude the NAT configuration on these interfaces is not correct.

#### QUESTION 68

```
R1@show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.13.0/24 is directly connected, FastEthernet0/1
C    192.168.14.0/24 is directly connected, FastEthernet1/0
     192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O     192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O     192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O     192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D     192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

Refer to the exhibit. If R1 sends traffic to 192.168.10.45, the traffic is sent through which interface?

- A. FastEthernet0/1
- B. FastEthernet0/0
- C. FastEthernet1/0
- D. FastEthernet1/1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 69**

```
Router(config) # interface gigabitEthernet 0/1
Router(config) # ip address 192.168.1.1 255.255.255.0
Router(config) # speed 100
Router(config) # duplex full
```

Refer to the exhibit. Which command can you enter to verify link speed and duplex setting on the interface?

- A. router#show ip protocols
- B. router#show startup-config
- C. router#show line
- D. router#show interface gig 0/1

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 70**

To enable router on a stick on a router subinterface, which two steps must you perform? (Choose two.)

- A. Configure an IP route to the VLAN destination network.
- B. Configure encapsulation dot1q.
- C. Configure a default to route traffic between subinterfaces.
- D. Configure full duplex and speed.
- E. Configure the subinterface with an IP address.

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 71**

Which command can you use to test whether a switch supports secure connections and strong authentication?

- A. Router#ssh -v 1 -l admin 10.1.1.1
- B. Switch>ssh -v 1 -l admin 10.1.1.1
- C. Switch#ssh -l admin 10.1.1.1
- D. Router>ssh -v 2 -l admin10.1.1.1

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 72**

Which utility can you use to determine whether a switch can send echo requests and replies?

- A. SSH
- B. Telnet
- C. traceroute
- D. ping



**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 73**

Which two protocols can detect native VLAN mismatch errors? (Choose two.)

- A. STP
- B. PAgP
- C. Cisco Discovery Protocol
- D. DTP
- E. VTP

**Correct Answer:** AC

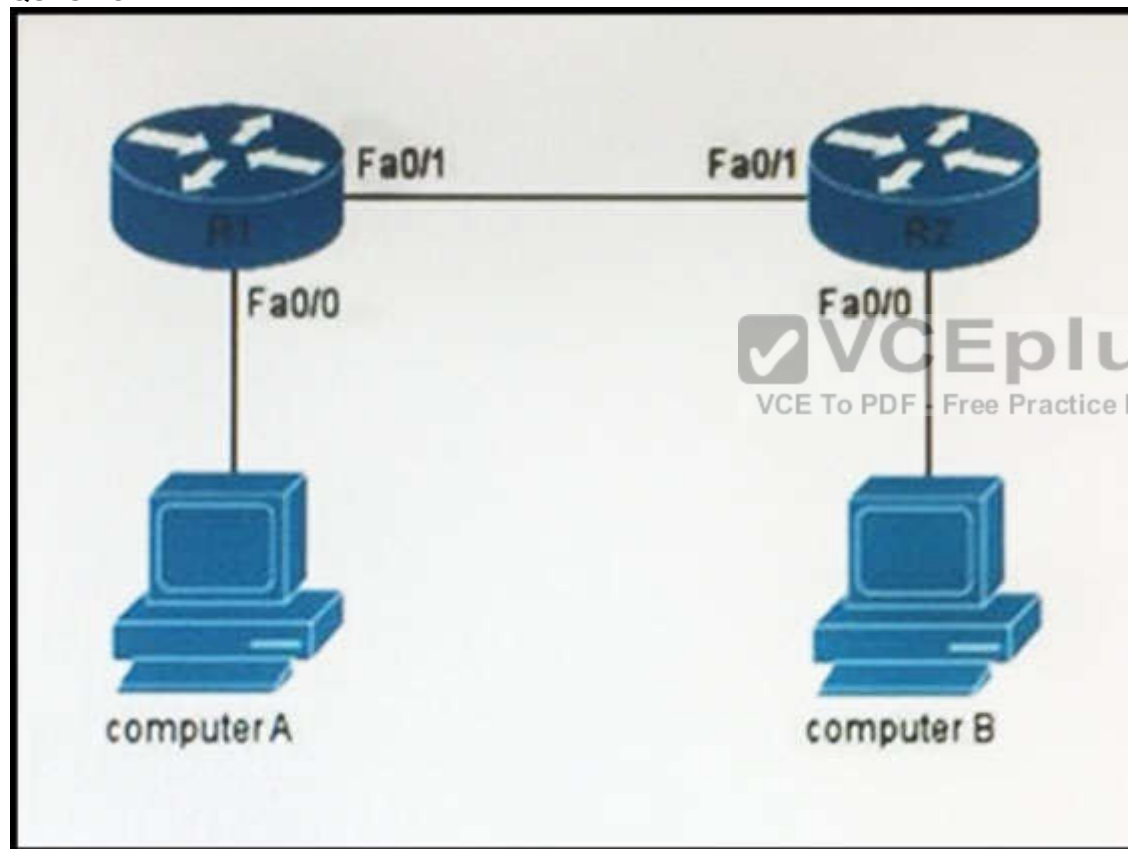
**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 74**



Refer to the exhibit. If computer A is sending traffic to computer B, which option is the source IP address when a packet leaves R1 on interface F0/1?

A. IP address of computer B



- B. IP address of the R2 interface F0/1
- C. IP address of the R1 interface F0/1
- D. IP address of computer A

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 75

Which functionality does split horizon provide?

- A. It prevents switching loops in distance-vector protocols.
- B. It prevents switching loops in link-state protocols.
- C. It prevents routing loops in distance-vector protocols.
- D. It prevents routing loops in link-state protocols.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 76

Which command can you enter to block HTTPS traffic from the whole Class A private network range to a host?

- A. R1(config)#access-list 105 deny tcp 10.0.0.0 0.255.255.255 40.0.0.2 0.0.0.0 eq 53
- B. R1(config)#access-list 105 deny tcp 10.1.0.0 0.0.255.255 40.0.0.2 0.0.0.0 eq 53
- C. R1(config)#access-list 105 deny tcp 10.1.0.0 0.0.255.255 40.0.0.2 0.0.0.0 eq 443
- D. R1(config)#access-list 105 deny tcp 10.0.0.0 0.255.255.255 40.0.0.2 0.0.0.0 eq 443

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

**QUESTION 77**

Which MAC protocol sets a random timer to reattempt communication?

- A. CSMA/CD
- B. IEEE 802.1x
- C. RARP
- D. CSMA/CA

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 78**

How many host addresses are available on the network 192.168.1.0 subnet 255.255.255 240?

- A. 6
- B. 8
- C. 14
- D. 16

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 79**

Which command can you enter in global configuration mode to create a DHCP address pool?

- A. ip dhcp pool DHCP\_pool
- B. ip dhcp conflict logging
- C. service dhcp
- D. ip dhcp excluded-address 10.0.2.1 10.0.2.49

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 80**

Which two statements about unique local IPv6 addresses are true? (Choose two.)

- A. They are defined by RFC 1884.
- B. They use the prefix FEC0::/10.
- C. They can be routed on the IPv6 global internet.
- D. They are identical to IPv4 private addresses.
- E. They use the prefix FC00::/7.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:



#### **QUESTION 81**

While viewing the running configuration of a router, you observe the command logging trap warning. Which syslog messages will the router send?

- A. levels 1-4
- B. levels 0-4
- C. levels 0-5
- D. warnings only
- E. levels 1-5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 82**

Which statement about SNMPv2 is true?

- A. It requires passwords to be encrypted.
- B. It requires passwords at least eight characters in length.
- C. Its privacy algorithms use MD5 encryption by default.
- D. Its authentication and privacy algorithms are enabled without default values.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 83**

Which DTP switch port mode allows the port to create a trunk link if the neighboring port is in trunk mode, dynamic desirable mode, or desirable auto mode?

- A. trunk
- B. access
- C. dynamic desirable
- D. dynamic auto



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 84**

Which feature is configured by setting a variance that is at least two times the metric?

- A. equal cost load balancing
- B. path count
- C. path selection
- D. unequal cost load balancing

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 85**

Which VTP mode prevents you from making changes to VLANs?

- A. server
- B. off
- C. client
- D. transparent

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 86**

Which value indicates the distance from the NTP authoritative time source?

- A. stratum
- B. layer
- C. location
- D. priority

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 87**

Which two statements about floating static routes are true? (Choose two.)

- A. They have a higher administrative distance than the default static route administrative distance.
- B. They are routes to the exact /32 destination address.
- C. They are used as backup routes when the primary route goes down.
- D. They are dynamic routes that are learned from a server.
- E. They are used when a route to the destination network is missing.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 88**

If three devices are plugged into one port on a switch and two devices are plugged into a different port, how many collision domains are on the switch?

- A. 2
- B. 4
- C. 5
- D. 6

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 89**

Which two options are valid numbers for a standard access list? (Choose two.)

- A. 50
- B. 150
- C. 1250
- D. 1550
- E. 2050

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 90

```
RTR01 (config) #router eigrp 103
RTR01 (config-router) #network 10.4.3.0
RTR01 (config-router) #network 172.16.4.0
RTR01 (config-router) #network 192.168.2.0
RTR01 (config-router) #auto-summary
```

Refer to the exhibit. If RTR01 is configured as shown, which three addresses will be received by other routers that are running EIGRP on the network?

- A. 172.16.4.0
- B. 192.168.2.0
- C. 10.0.0.0
- D. 192.168.0.0
- E. 172.16.0.0
- F. 10.4.3.0

**Correct Answer:** BCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 91

```
ip dhcp pool test
  network 192.168.10.0 /27
  domain-name cisco.com
  dns-server 172.16.1.1 172.16.2.1
  netbios-name-server 172.16.1.10 172.16.2.10
```

Refer to the exhibit. After you apply the given configuration to a router, the DHCP clients behind the device cannot communicate with hosts outside of their subnet. Which action is most likely to correct the problem?

- A. Configure the DNS server on the same subnet as the clients.
- B. Configure the default gateway.
- C. Correct the subnet mask.
- D. Activate the DHCP pool.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 92**

```
R1
interface Loopback0
  ip address 172.16.1.33 255.255.255.224

interface FastEthernet0/0
  ip address 192.168.12.1 255.255.255.0

router bgp 100
neighbor 192.168.12.2 remote-as 100
```

Refer to the exhibit. Which command do you enter so that R1 advertises the Loopback0 interface to the BGP peers?

- A. network 172.16.1.32 mask 255.255.255.224
- B. network 172.16.1.0 0.0.0.255
- C. network 172.16.1.32 255.255.255.224
- D. network 172.16.1.33 mask 255.255.255.224
- E. network 172.16.1.32 mask 0.0.0.31
- F. network 172.16.1.32 0.0.0.31

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

### QUESTION 93

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

- A. It is a proprietary protocol.
- B. It is a universal protocol.
- C. It is a Layer 2-based protocol.
- D. It is enabled by default.
- E. It is disabled by default.



F. It is a Layer 3-based protocol.

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 94

Which definition of a host route is true?

- A. a route used when a route to the destination network is missing
- B. a route to the exact /32 destination address
- C. a dynamic route learned from a server
- D. a route that is manually configured

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### QUESTION 95

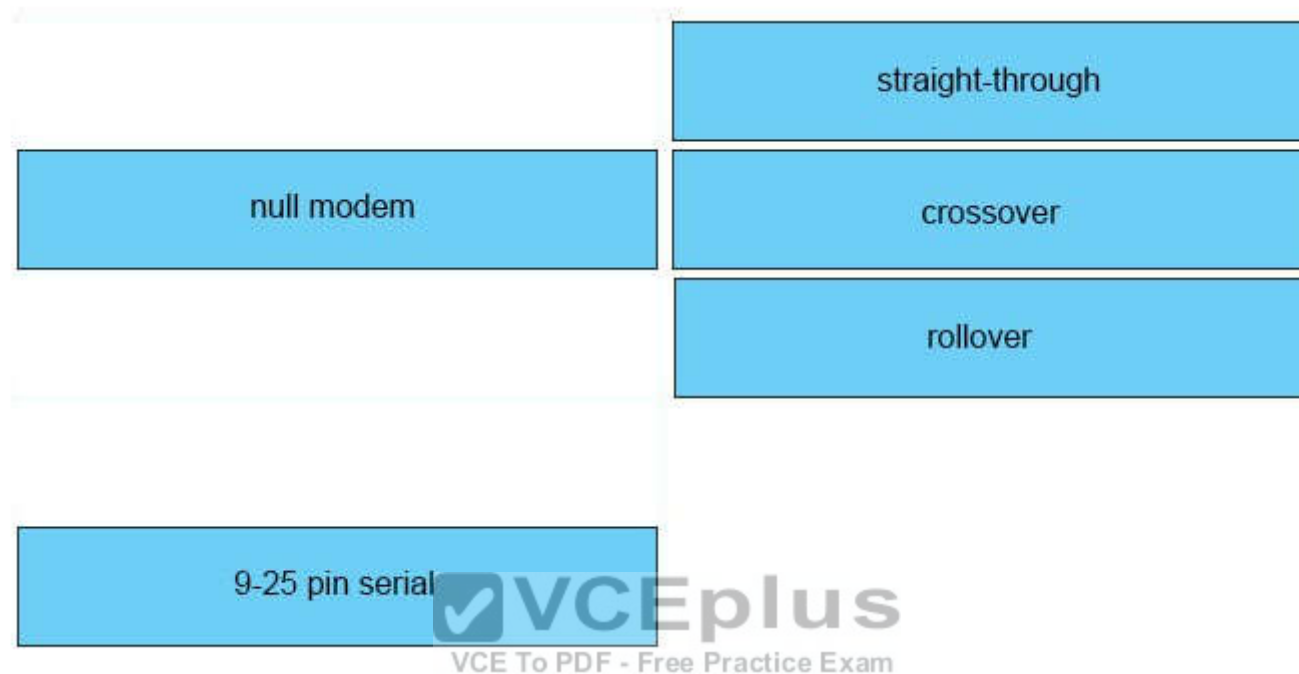
DRAG DROP

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

**Select and Place:**

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

**Correct Answer:**



**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 96**

Which statement about DHCP snooping is true?

- A. it can be configured on switches and routers.
- B. It uses DHCPDiscover packets to identify DHCP servers.
- C. It blocks traffic from DHCP servers on untrusted interfaces.
- D. It allows packets from untrusted ports if their source MAC address is found in the binding table.

**Correct Answer: C**

**Section: (none)**

### Explanation

#### Explanation/Reference:

Explanation:

#### QUESTION 97

DRAG DROP

Drag the IPv6 multicast address type on the left to their purpose on the right.

#### Select and Place:

FF02::1	all EIGRPv6 routers
FF02::5	all link-local nodes on a segment
FF02::6	all OSPFv3 routers
FF02::A	all PIM routers
FF02::D	all site-local routers
FF05::2	OSPFv3 designated routers

#### Correct Answer:

	FF02::A
	FF02::1
	FF02::5
	FF02::D
	FF05::2
	FF02::6

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 98**

Which two statements about the extended traceroute command are true? (Choose two.)

- A. It can validate the reply data.
- B. It can be repeated automatically at a specified interval.
- C. It can send packets from a specified interface or IP address.

- D. It can use a specified ToS.
- E. It can use a specified TTL value.

**Correct Answer:** CE

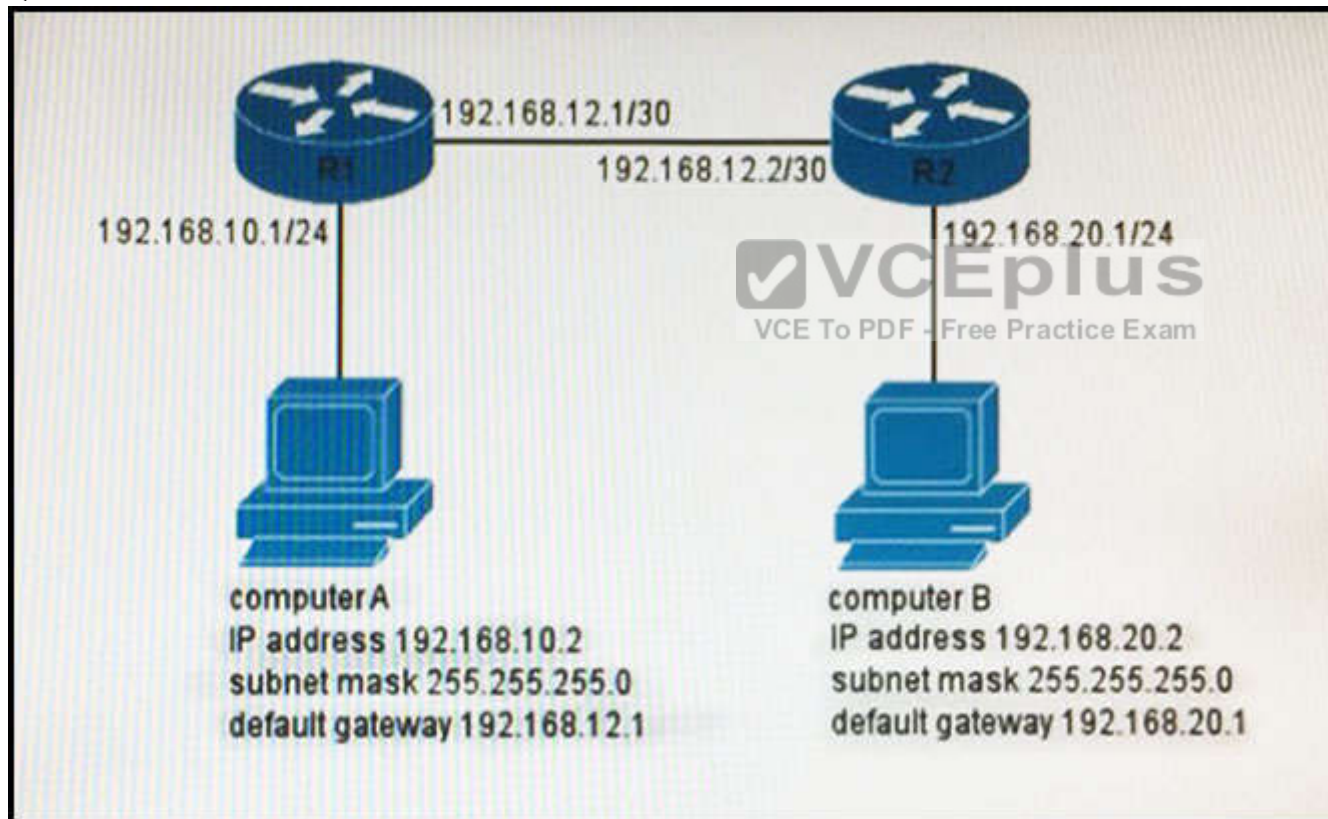
**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 99**



Refer to the exhibit. You have determined that computer A cannot ping computer B. Which reason for the problem is most likely true?

- A. The computer B default gateway address is incorrect.
- B. The computer B subnet mask is incorrect.
- C. The computer A subnet mask is incorrect.
- D. The computer A default gateway address is incorrect.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 100**

Which three commands must you enter to create a trunk that allows VLAN 20? (Choose three.)

- A. Switch(config-if)#switchport mode trunk
- B. Switch(config-if)#switchport mode dynamic desirable
- C. Switch(config-if)#switchport trunk native vlan 20
- D. Switch(config-if)#switchport trunk encapsulation dot1q
- E. Switch(config-if)#switchport trunk allowed vlan 20
- F. Switch(config-if)#switchport mode dynamic auto



**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 101**

How does a router handle an incoming packet whose destination network is missing from the routing table?

- A. It broadcasts the packet to each interface on the router.
- B. It broadcasts the packet to each network on the router.
- C. It routes the packet to the default route.
- D. It discards the packet.

**Correct Answer:** C

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 102**

Which two statements about Ethernet standards are true? (Choose two.)

- A. When an Ethernet network uses CSMA/CA, it terminates transmission as soon as a collision occurs.
- B. Ethernet is defined by IEEE standard 802.2.
- C. When an Ethernet network uses CSMA/CD, it terminates as soon as a collision occurs.
- D. Ethernet 10BASE-T does not support full-duplex.
- E. Ethernet is defined by IEEE standard 802.3.

**Correct Answer: CE**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 103**

If you configure syslog messages without specifying the logging trap level, which log messages will the router send?

- A. error conditions only
- B. all levels except debugging
- C. normal but significant conditions only
- D. warning and error conditions only
- E. informational messages only

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 104**



Which feature facilitates the tagging of frames on a specific VLAN?

- A. hairpinning
- B. encapsulation
- C. switching
- D. routing

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 105**

Which statement about spanning-tree root-bridge election is true?

- A. Every root bridge must reside on the same root switch.
- B. Every VLAN must use the same root bridge.
- C. It is always performed automatically.
- D. Each VLAN must have its own root bridge.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 106**

Which two steps must you perform to enable router-on-a-stick on a switch? (Choose two.)

- A. Configure the subinterface number exactly the same as the matching VLAN.
- B. Assign the access port to a VLAN.
- C. Configure an IP route to the VLAN destination network.
- D. Connect the router to a trunk port.
- E. Configure full duplex.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 107**

Which type of routing protocol operates by using first-hand information from each device's peers?

- A. distance vector protocols
- B. link-state protocols
- C. path vector protocols
- D. exterior gateway protocols

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:



**QUESTION 108**

On which type of port can switches interconnect for multi-VLAN communication?

- A. trunk port
- B. interface port
- C. access port
- D. switch port

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 109**

```
R1@show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.13.0/24 is directly connected, FastEthernet0/1
C    192.168.14.0/24 is directly connected, FastEthernet1/0
     192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O     192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O     192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O     192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D     192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

Refer to the exhibit. What is the metric for the route from R1 to 192.168.10.1?

- A. 2
- B. 90
- C. 110
- D. 52778

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 110**

Which two statements about data VLANs on access ports are true? (Choose two.)

- A. Two or more VLANs can be configured on the interface.
- B. They can be configured as host ports.
- C. Exactly one VLAN can be configured on the interface.
- D. They can be configured as trunk ports.
- E. 802.1Q encapsulation must be configured on the interface.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 111**

Which two options are benefits of DHCP snooping? (Choose two.)

- A. It simplifies the process of adding DHCP servers to the network.
- B. It prevents the deployment of rogue DHCP servers.
- C. It prevents DHCP reservations.
- D. It tracks the location of hosts in the network.
- E. It prevents static reservations.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 112**

Which command can you enter to configure the switch as an authoritative NTP server?

- A. switch(config)#ntp master 3
- B. switch(config)#ntp server 193.168.2.2
- C. switch(config)#ntp peer 193.168.2.2

D. switch(config)#ntp source 193.168.2.2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 113**

Where does a switch maintain DHCP snooping information?

- A. in the DHCP binding database
- B. in the MAC address table
- C. in the VLAN database
- D. in the CAM table

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

#### **QUESTION 114**

How does NAT overloading provide one-to-many address translation?

- A. It converts IPv4 addresses to unused IPv6 addresses.
- B. It assigns a unique TCP/UDP port to each session.
- C. It uses a pool of addresses.
- D. It uses virtual MAC addresses and virtual IP addresses.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 115**

Which HSRP feature was new in HSRPv2?

- A. preemption
- B. VLAN group numbers that are greater than 255
- C. tracking
- D. virtual MAC addresses

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

**QUESTION 116**

Which symptom most commonly indicates that two connecting interfaces are configured with a duplex mismatch?

- A. an interface with a down/down status
- B. the spanning-tree process shutting down
- C. collisions on the interface
- D. an interface with an up/down status



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 117**

Which three technical services support cloud computing? (Choose three.)

- A. IP localization
- B. VPN connectivity
- C. extended SAN services
- D. redundant connections
- E. Layer 3 network routing

F. network-monitored power sources

**Correct Answer:** CDF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 118

Which two statements about syslog logging are true? (Choose two.)

- A. The size of the log is dependent on the resources of the device.
- B. Messages can be erased when the device reboots.
- C. Messages are stored external to the device.
- D. Messages are stored in the internal memory of the device.
- E. Syslog logging is disabled by default.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 119

Which three options are switchport configurations that can always avoid duplex mismatch errors between two switches? (Choose three.)

- A. Set both sides of the connection to auto-negotiate.
- B. Set both sides of the connection to half duplex.
- C. Set one of the connection to auto-negotiate and the other side to half duplex.
- D. Set one of the connection to auto-negotiate and the other side to full duplex.
- E. Set one of the connection to full duplex and the other side to half duplex.
- F. Set both sides of the connection to full duplex.

**Correct Answer:** ABF

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 120**

Under normal operations, Cisco recommends that you configure switch ports on which VLAN?

- A. on the management VLAN
- B. on the native VLAN
- C. on the default VLAN
- D. on any VLAN except the default VLAN

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 121**

Which command enables IPv6 forwarding on a Cisco router?



- A. ipv6 local
- B. ipv6 neighbor
- C. ipv6 host
- D. ipv6 unicast-routing

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 122**

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

- A. When a packet is received from an 802.1Q trunk, then VLAN ID can be determined from the source MAC address and the MAC address table.
- B. Broadcast and multicast frames are retransmitted to ports that are configured on different VLAN.



- C. Ports between switches should be configured in access mode so that VLANs can span across the ports.
- D. Unknown unicast frames are retransmitted only to the ports that belong to the same VLAN.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 123**

Which statement about Cisco Discovery Protocol is true?

- A. It can discover information from routers, firewalls, and switches
- B. It runs on the network layer.
- C. It is a Cisco-proprietary protocol.
- D. It runs on the physical layer and the data link layer.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 124**

When troubleshooting client DNS issues, which two tasks must you perform? (Choose two.)

- A. Ping a public website IP address.
- B. Ping the DNS server.
- C. Determine whether the hardware address is correct.
- D. Determine whether a DHCP address has been assigned.
- E. Determine whether the name servers have been configured.

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 125**

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

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

**Correct Answer:** BD

**Section:** (none)

**Explanation**

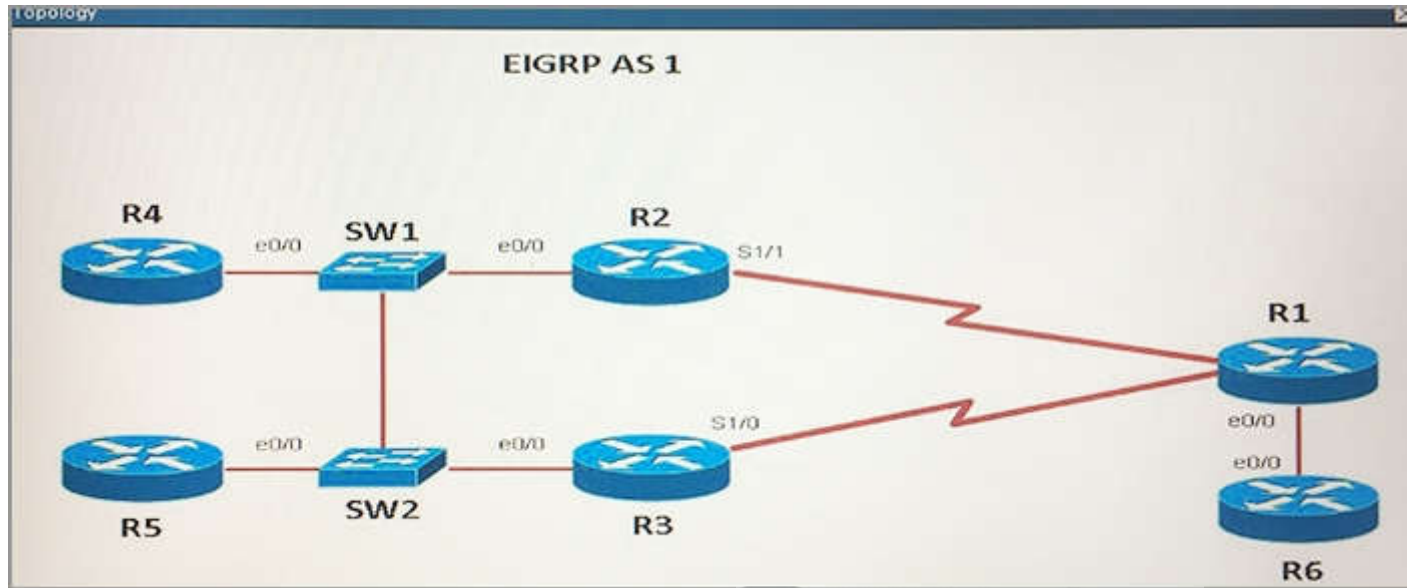
**Explanation/Reference:**

**QUESTION 126**

Instructions:

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- THIS TASK DOES NOT REQUIRE DEVICE CONFIGURATION.
- Click the device icon to gain access to the console device of the router. No console or enable passwords are required.
- To access the multiple-choice questions, click the numbered boxes on the left of the top panel.
- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario:



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

The EIGRP routing protocol is configured.

You are required to troubleshoot and resolve the EIGRP issues between the various routers.

Use the appropriate **show** commands to troubleshoot the issues.

Study the following output taken on R1:

```

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

```

Why are the pings failing?

A. The network statement is missing on R5.

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Relevant parts of the config shown below:

<b>R1:</b> int lo0 ip address 10.1.1.1 255.255.255.255 int e0/0 ip address 192.168.16.1 255.255.255.0 no shut int s1/1 ip address 192.168.13.1 255.255.255.0 bandwidth 1000 no shut int s1/3 ip address 192.168.12.1 255.255.255.0 no shut ! router eigrp 1 network 192.168.12.0 network 192.168.13.0 network 192.168.16.0	<b>R2:</b> int lo0 ip address 10.2.2.2 255.255.255.255 int e0/0 ip address 192.168.123.2 255.255.255.0 int s2/1 ip address 192.168.12.2 255.255.255.0 ! router eigrp 1 network 10.2.2.2 0.0.0.0 network 192.168.12.0 network 192.168.123.0	<b>R3:</b> int lo0 ip address 10.3.3.3 255.255.255.255 int e0/0 ip address 192.168.123.3 255.255.255.0 int s2/1 ip address 192.168.13.3 255.255.255.0 ! router eigrp 1 network 10.3.3.3 0.0.0.0 network 192.168.13.0 network 192.168.123.0
<b>R4:</b> int lo0 ip address 10.4.4.4 255.255.255.255 int lo1 ip address 10.4.4.5 255.255.255.255 int lo2 ip address 10.4.4.6 255.255.255.255 int e0/0 ip address 192.168.123.4	<b>R5:</b> int lo0 ip address 10.5.5.5 255.255.255.255 int lo1 ip address 10.5.5.55 255.255.255.255 int e0/0 ip address 192.168.123.5 255.255.255.0 router eigrp 1	<b>R6:</b> int lo0 ip address 10.6.6.6 255.255.255.255 int e0/0 ip address 192.168.16.6 255.255.255.0 ! router eigrp 1 network 10.6.6.6 0.0.0.0

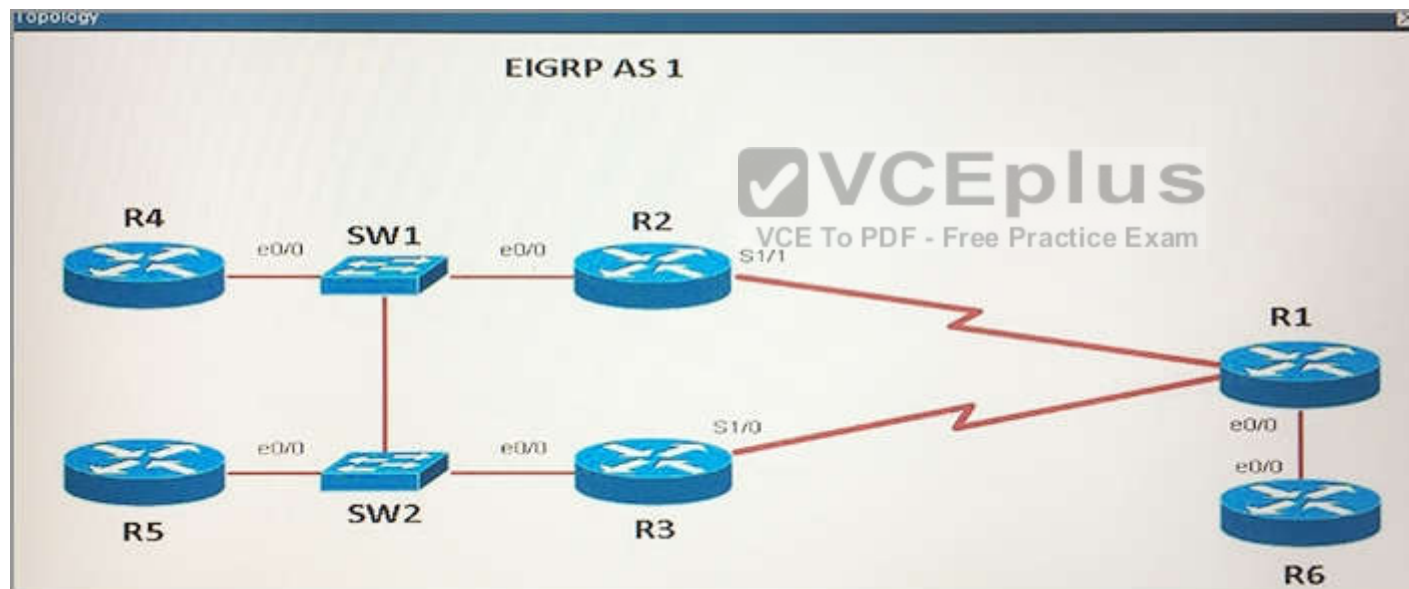
R1 does not advertise its loopback 0 (10.1.1.1) to EIGRP therefore a ping to destination 10.5.5.55 (R5) from 10.1.1.1 will not be successful because R5 does not know how to reply to R1.

### QUESTION 127

Instructions:

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- THIS TASK DOES NOT REQUIRE REVICE CONFIGURATION.
- Click the device icon to gain access to the console device of the router. No console or enable passwords are required.
- To access the multiple-choice questions, click the numbered boxes on the left of the top panel.
- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario:



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

The EIGRP routing protocol is configured.

You are required to troubleshoot and resolve the EIGRP issues between the various routers.

Use the appropriate **show** commands to troubleshoot the issues.

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

Why are the interfaces missing?

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Relevant parts of the config shown below:





<b>R1:</b> int lo0 ip address 10.1.1.1 255.255.255.255 int e0/0 ip address 192.168.16.1 255.255.255.0 no shut int s1/1 ip address 192.168.13.1 255.255.255.0 bandwidth 1000 no shut int s1/3 ip address 192.168.12.1 255.255.255.0 no shut ! router eigrp 1 network 192.168.12.0 network 192.168.13.0 network 192.168.16.0	<b>R2:</b> int lo0 ip address 10.2.2.2 255.255.255.255 int e0/0 ip address 192.168.123.2 255.255.255.0 int s2/1 ip address 192.168.12.2 255.255.255.0 ! router eigrp 1 network 10.2.2.2 0.0.0.0 network 192.168.12.0 network 192.168.123.0	<b>R3:</b> int lo0 ip address 10.3.3.3 255.255.255.255 int e0/0 ip address 192.168.123.3 255.255.255.0 int s2/1 ip address 192.168.13.3 255.255.255.0 ! router eigrp 1 network 10.3.3.3 0.0.0.0 network 192.168.13.0 network 192.168.123.0
<b>R4:</b> int lo0 ip address 10.4.4.4 255.255.255.255 int lo1 ip address 10.4.4.5 255.255.255.255 int lo2 ip address 10.4.4.6 255.255.255.255 int e0/0 ip address 192.168.123.4	<b>R5:</b> int lo0 ip address 10.5.5.5 255.255.255.255 int lo1 ip address 10.5.5.55 255.255.255.255 int e0/0 ip address 192.168.123.5 255.255.255.0 router eigrp 1	<b>R6:</b> int lo0 ip address 10.6.6.6 255.255.255.255 int e0/0 ip address 192.168.16.6 255.255.255.0 ! router eigrp 1 network 10.6.6.6 0.0.0.0

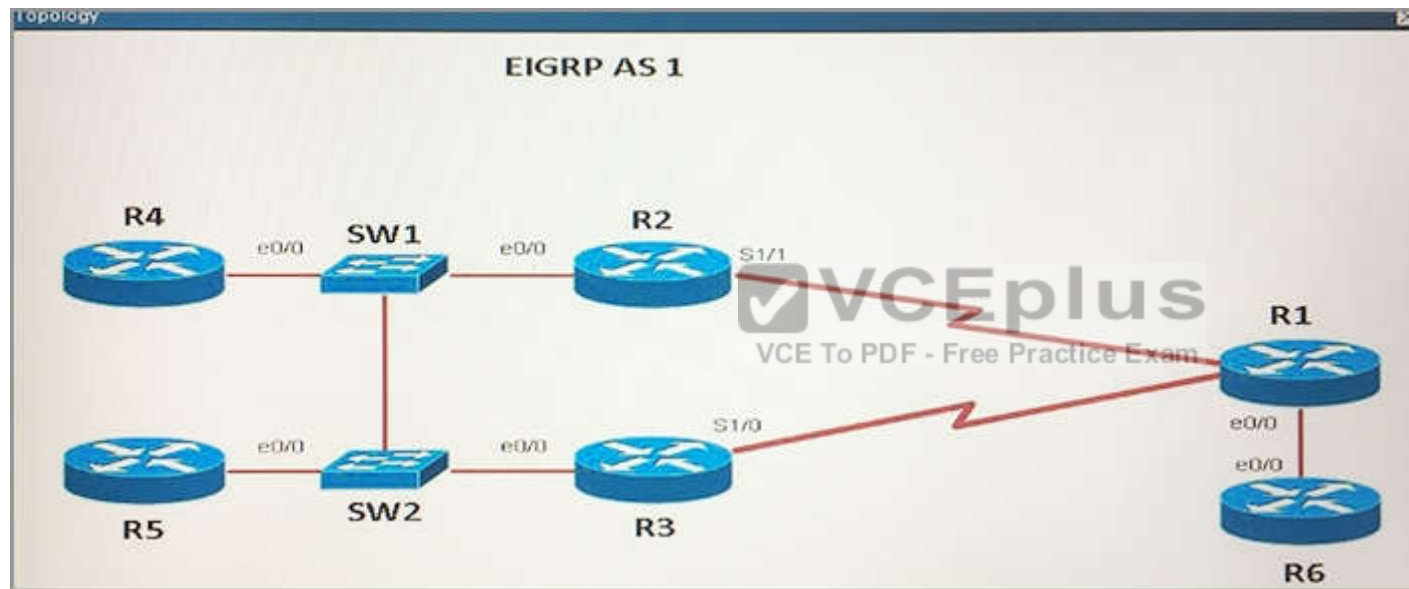


### QUESTION 128

Instructions:

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- THIS TASK DOES NOT REQUIRE REVICE CONFIGURATION.
- Click the device icon to gain access to the console device of the router. No console or enable passwords are required.
- To access the multiple-choice questions, click the numbered boxes on the left of the top panel.
- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario:



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

The EIGRP routing protocol is configured.

You are required to troubleshoot and resolve the EIGRP issues between the various routers.

Use the appropriate **show** commands to troubleshoot the issues.

Which path does traffic take from R1 to R5?

- A. The traffic goes through R2.
- B. The traffic goes through R3.
- C. The traffic is equally load-balanced over R2 and R3.
- D. The traffic is unequally load-balanced over R2 and R3.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Relevant parts of the config shown below:

<b>R1:</b> int lo0 ip address 10.1.1.1 255.255.255.255 int e0/0 ip address 192.168.16.1 255.255.255.0 no shut int s1/1 ip address 192.168.13.1 255.255.255.0 bandwidth 1000 no shut int s1/3 ip address 192.168.12.1 255.255.255.0 no shut ! router eigrp 1 network 192.168.12.0 network 192.168.13.0 network 192.168.16.0	<b>R2:</b> int lo0 ip address 10.2.2.2 255.255.255.255 int e0/0 ip address 192.168.123.2 255.255.255.0 int s2/1 ip address 192.168.12.2 255.255.255.0 ! router eigrp 1 network 10.2.2.2 0.0.0.0 network 192.168.12.0 network 192.168.123.0	<b>R3:</b> int lo0 ip address 10.3.3.3 255.255.255.255 int e0/0 ip address 192.168.123.3 255.255.255.0 int s2/1 ip address 192.168.13.3 255.255.255.0 ! router eigrp 1 network 10.3.3.3 0.0.0.0 network 192.168.13.0 network 192.168.123.0
<b>R4:</b> int lo0 ip address 10.4.4.4 255.255.255.255 int lo1 ip address 10.4.4.5 255.255.255.255 int lo2 ip address 10.4.4.6 255.255.255.255 int e0/0 ip address 192.168.123.4 255.255.255.0 ! router eigrp 2	<b>R5:</b> int lo0 ip address 10.5.5.5 255.255.255.255 int lo1 ip address 10.5.5.55 255.255.255.255 int e0/0 ip address 192.168.123.5 255.255.255.0 ! router eigrp 1 network 10.5.5.5 0.0.0.0 network 10.5.5.55 0.0.0.0 network 10.10.10.0 0.0.0.255	<b>R6:</b> int lo0 ip address 10.6.6.6 255.255.255.255 int e0/0 ip address 192.168.16.6 255.255.255.0 ! router eigrp 1 network 10.6.6.6 0.0.0.0

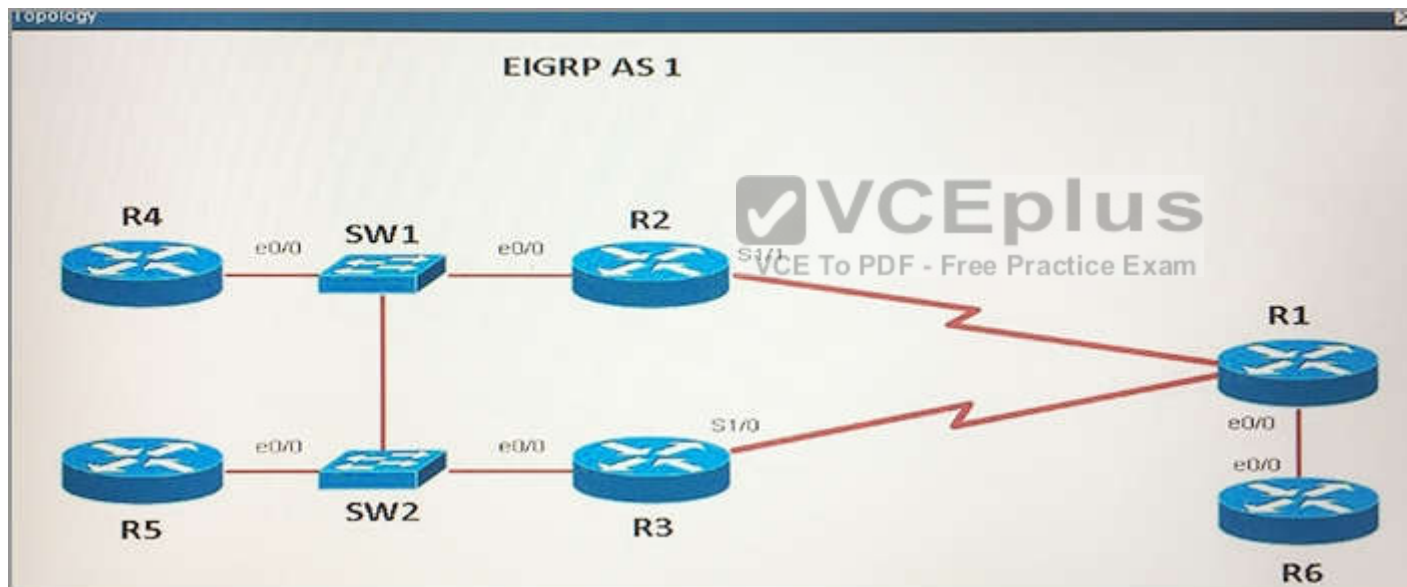
There are three interfaces on R5 which are Loopback0: 10.5.5.5 ; Loopback1: 10.5.5.55; Ethernet0/0: 192.168.123.5 and all of them are advertised via 192.168.12.2 so we can conclude traffic from R1 to R5 goes through R2 (192.168.12.2 is the IP address of S2/1 interface of R2).

### QUESTION 129

Instructions:

- Enter IOS commands on the device to verify network operation and answer the multiple questions.
- THIS TASK DOES NOT REQUIRE REVICE CONFIGURATION.
- Click the device icon to gain access to the console device of the router. No console or enable passwords are required.
- To access the multiple-choice questions, click the numbered boxes on the left of the top panel.
- there are four multiple-choice questions with this task. Be sure to answer all four questions before clicking Next button.

Scenario:



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

The EIGRP routing protocol is configured.

You are required to troubleshoot and resolve the EIGRP issues between the various routers.

Use the appropriate **show** commands to troubleshoot the issues.

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

- A. The K values mismatch.
- B. The K values mismatch.
- C. The **network** command is missing.
- D. The **passive interface** command is enabled.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Relevant parts of the config shown below:

<b>R1:</b> int lo0 ip address 10.1.1.1 255.255.255.255 int e0/0 ip address 192.168.16.1 255.255.255.0 no shut int s1/1 ip address 192.168.13.1 255.255.255.0 bandwidth 1000 no shut int s1/3 ip address 192.168.12.1 255.255.255.0 no shut ! router eigrp 1 network 192.168.12.0 network 192.168.13.0 network 192.168.16.0	<b>R2:</b> int lo0 ip address 10.2.2.2 255.255.255.255 int e0/0 ip address 192.168.123.2 255.255.255.0 int s2/1 ip address 192.168.12.2 255.255.255.0 ! router eigrp 1 network 10.2.2.2 0.0.0.0 network 192.168.12.0 network 192.168.123.0	<b>R3:</b> int lo0 ip address 10.3.3.3 255.255.255.255 int e0/0 ip address 192.168.123.3 255.255.255.0 int s2/1 ip address 192.168.13.3 255.255.255.0 ! router eigrp 1 network 10.3.3.3 0.0.0.0 network 192.168.13.0 network 192.168.123.0
<b>R4:</b> int lo0 ip address 10.4.4.4 255.255.255.255 int lo1 ip address 10.4.4.5 255.255.255.255 int lo2 ip address 10.4.4.6 255.255.255.255 int e0/0 ip address 192.168.123.4 255.255.255.0 ! router eigrp 2	<b>R5:</b> int lo0 ip address 10.5.5.5 255.255.255.255 int lo1 ip address 10.5.5.55 255.255.255.255 int e0/0 ip address 192.168.123.5 255.255.255.0 ! router eigrp 1 network 10.5.5.5 0.0.0.0 network 10.5.5.55 0.0.0.0 network 10.10.10.0 0.0.0.255	<b>R6:</b> int lo0 ip address 10.6.6.6 255.255.255.255 int e0/0 ip address 192.168.16.6 255.255.255.0 ! router eigrp 1 network 10.6.6.6 0.0.0.0

From the configuration of R6 we learn that R6 is missing “network 192.168.16.0” command (the network between R1 & R6) under EIGRP so EIGRP neighbor relationship will not be formed between them.

**QUESTION 130**

What are the two minimum required components of a DHCP binding? (Choose two.)

- A. an IP address
- B. an ip-helper statement
- C. an exclusion list
- D. a DHCP pool
- E. a hardware address

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 131**

Which command can you enter to display the operational status of the network ports on a router?

- A. show ip interface brief
- B. show interface switchport
- C. show running-config interface fastethernet 0/1
- D. show interface status

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 132**

Which IEEE mechanism is responsible for the authentication of devices when they attempt to connect to a local network?

- A. 802.11

- B. 802.3x
- C. 802.1x
- D. 802.2x

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 133**

Which port security mode can assist with troubleshooting by keeping count of violations?

- A. shutdown
- B. access
- C. restrict
- D. protect

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 134**



```
R1@show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C 192.168.12.0/24 is directly connected, FastEthernet0/0
C 192.168.13.0/24 is directly connected, FastEthernet0/1
C 192.168.14.0/24 is directly connected, FastEthernet1/0
  192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O   192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O   192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O   192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D   192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

Refer to the exhibit. If R1 receives a packet destined to 172.16.1.1, to which IP address does it send the packet?

- A. 192.168.14.4
- B. 192.168.12.2
- C. 192.168.13.3
- D. 192.168.15.5

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 135**

Which option describes a benefit of a point-to-point leased line?

- A. full-mesh capability
- B. simplicity of configuration
- C. flexibility of design
- D. low cost

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 136**

Which two options describe benefits of aggregated chassis technology? (Choose two.)

- A. It supports redundant configuration files.
- B. It reduces management overhead.
- C. It requires only three IP addresses per VLAN.
- D. It requires only one IP address per VLAN.
- E. It supports HSRP, VRRP, and GLBP.
- F. Switches can be located anywhere regardless of their physical distance from one another.



**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 137**

Which address prefix does OSPFv3 use when multiple IPv6 addresses are configured on a single interface?

- A. the lowest prefix on the interface
- B. all prefixes on the interface
- C. the highest prefix on the interface

D. the prefix that the administrator configures for OSPFv3 use

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 138**

Which utility can you use to identify the cause of a traffic-flow blockage between two devices in a network?

- A. iWan application
- B. ACL analysis tool in APIC-EM
- C. ACL path analysis tool in APIC-EM
- D. APIC-EM automation scheduler

**Correct Answer:** C

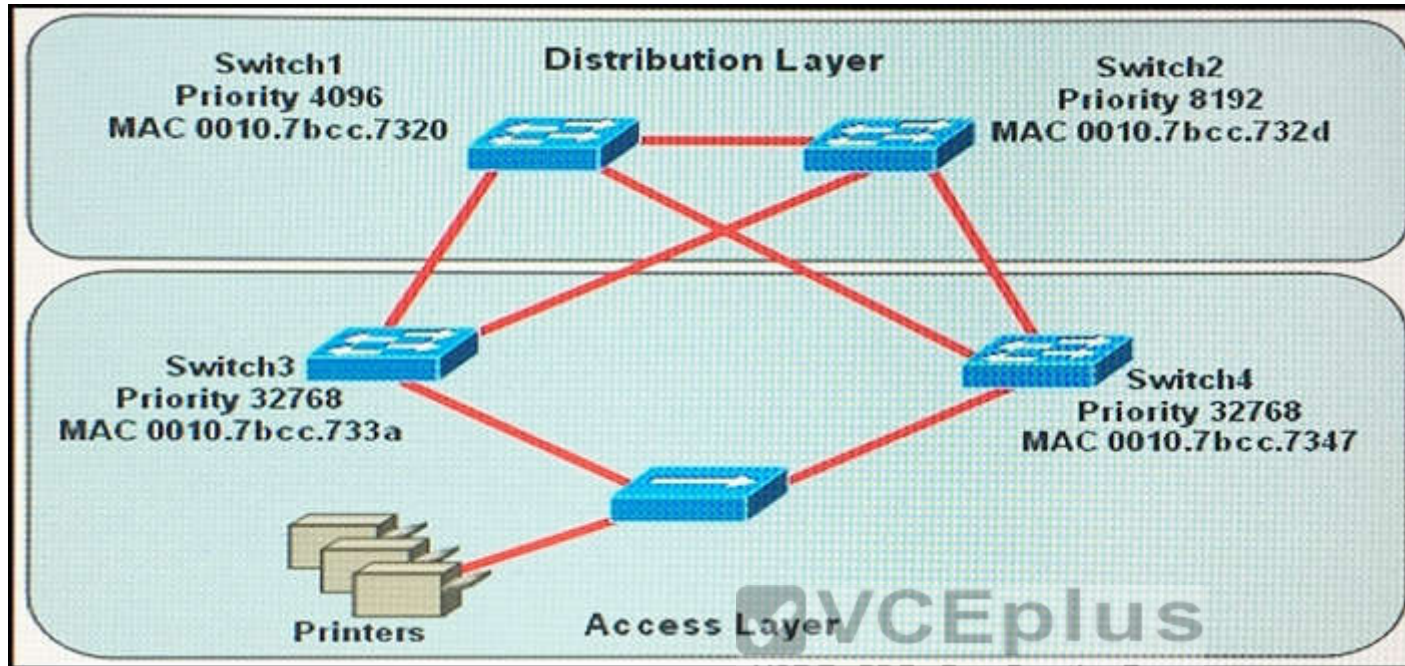
**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### **QUESTION 139**



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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 140

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

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 141**

When a router is unable to find a known route in the routing table, how does it handle the packet?

- A. It sends the packet over the route with the best metric.
- B. It sends the packet to the gateway of last resort.
- C. It sends the packet to the next hop address.
- D. It discards the packet.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 142**

If router R1 knows a static route to a destination network and then learns about the same destination network through a dynamic routing protocol, how does R1 respond?

- A. It refuses to advertise the dynamic route to other neighbors.
- B. It prefers the static route.
- C. It disables the routing protocol.
- D. It sends a withdrawal notification to the neighboring router.

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 143**

Which two options are requirements for configuring RIPv2 on an IPv4 network router? (Choose two.)

- A. enabling automatic route summarization
- B. allowing unicast updates for RIP
- C. enabling RIP authentication
- D. enabling RIP on the router
- E. connecting RIP to a WAN interface

**Correct Answer:** BD

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 144**

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

**Correct Answer:** BCD

**Section:** (none)

**Explanation****Explanation/Reference:**

**QUESTION 145**

What is the purpose of the POST operation on a router?

- A. locate an IOS image for booting
- B. set the configuration register
- C. determine whether additional hardware has been added
- D. enable a TFTP server

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 146**

Which type of MAC address is aged automatically by the switch?

- A. dynamic
- B. manual
- C. automatic
- D. static



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 147**

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

- A. to uniquely identify devices at Layer 2
- B. to allow detection of a remote device when its physical address is unknown
- 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 communication with devices on a different network

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 148**

Which option is the correct CIDR notation for 192.168.0.0 subnet 255.255.255.252?

A. /29

B. /30

C. /31

D. /32

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 149**

When you enable PortFast on a switch port, the port immediately transitions to which state?

A. forwarding

B. learning

C. blocking

D. listening

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 150**

Which configuration command can you apply to a HSRP router so that its local interface becomes active if all other routers in the group fail?

- A. Router(config)#**standby 1 priority 250**
- B. No additional configuration is required
- C. Router(config)#**standby 1 preempt**
- D. Router(config)#**standby 1 track Ethernet**

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 151**

Which function does the IP SLAs ICMP Echo operation perform to assist with troubleshooting?

- A. packet-loss detection
- B. congestion detection
- C. hop-by-hop response time
- D. one way jitter measurements



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 152**

Which statement about EIGRP on IPv6 devices is true?

- A. The configuration uses process numbers.
- B. It is configured directly on the interface.
- C. The configuration uses secondary IP addresses.
- D. The neighbors of each device are directly configured.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 153**

In which byte of an IP packet can traffic be marked?

- A. the ToS byte
- B. the QoS byte
- C. the CoS byte
- D. the DSCP byte

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 154**

Which two authentication methods are compatible with MLPPP on a serial interface? (Choose two.)

- A. LEAP
- B. CHAP
- C. PAP
- D. PEAP
- E. TACACS+

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 155**

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**

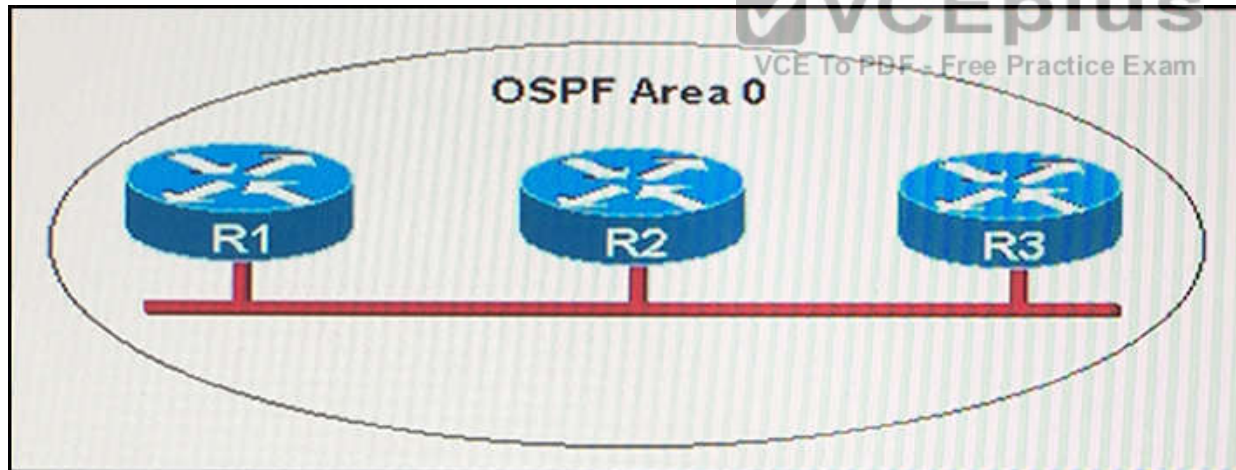
**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 156



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

- A. EIGRP is also configured on these routers with a lower administrative distance.
- B. All of the routers need to be configured for backbone Area 1.

- C. A static route has been configured from R1 to R3 and prevents the neighbor adjacency from being established.
- D. R1 and R2 are the DR and BDR, so OSPF will not establish neighbor adjacency with R3.
- E. R1 and R3 are configured in different areas.
- F. The hello and dead interval timers are not set to the same values on R1 and R3.

**Correct Answer:** EF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 157**

Which command can you enter to troubleshoot the failure of address assignments?

- A. **show ip dhcp database**
- B. **show ip dhcp pool**
- C. **clear ip dhcp server statistics**
- D. **show ip dhcp import**

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 158**

Which two EtherChannel PAgP modes can you configure? (Choose two.)

- A. on
- B. desirable
- C. passive
- D. auto
- E. active

**Correct Answer:** BD

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 159**

Which WAN topology provides a direct connection from each site to all other sites on the network?

- A. hub-and-spoke
- B. full mesh
- C. point-to-point
- D. single-homed

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 160**

Which two options are primary responsibilities of the APIC-EM controller? (Choose two.)

- A. It makes network functions programmable.
- B. It automates network actions between legacy equipment.
- C. It automates network actions between different device types.
- D. It tracks license usage and Cisco IOS versions.
- E. It provides robust asset management.

**Correct Answer:** AC

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 161**

Which six-byte field in a basic Ethernet frame must be an individual address?

- A. SOF
- B. FCS
- C. DA
- D. SA

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 162**

Which utility can you use to identify redundant or shadow rules?

- A. the ACL analysis tool in Cisco APIC-EM
- B. the Cisco APIC-EM automation scheduler
- C. the Cisco IWAN application
- D. the ACL trace tool in Cisco APIC-EM

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 163**

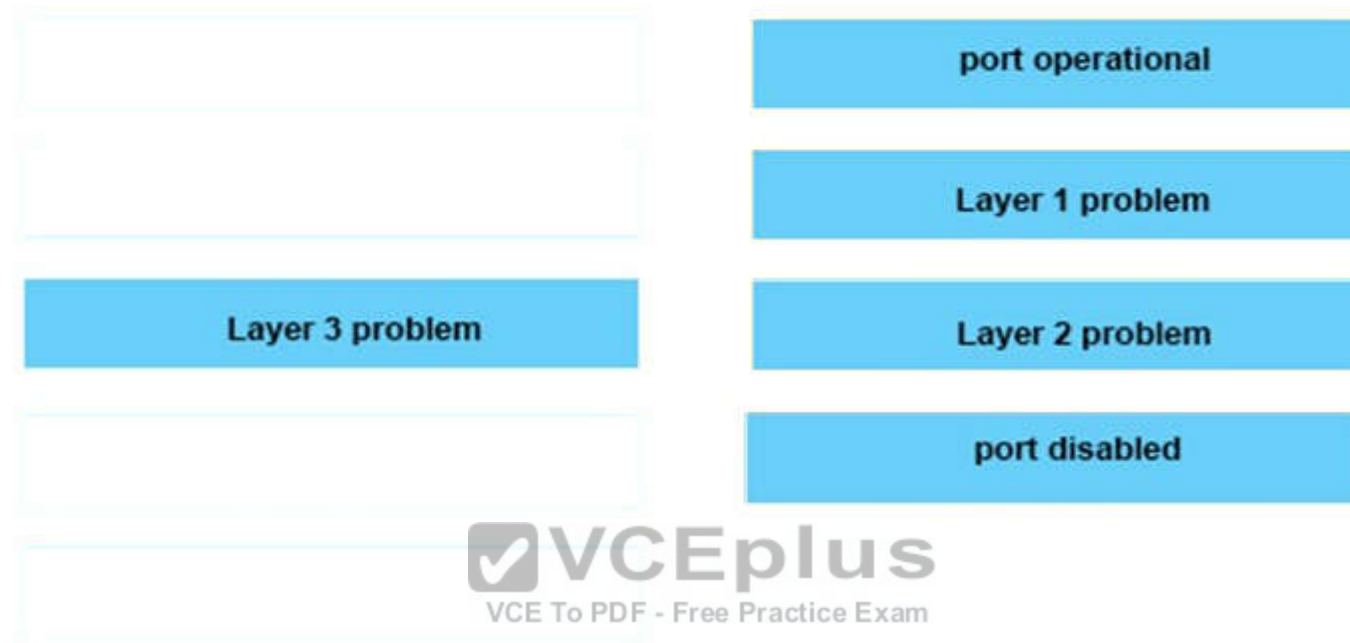
DRAG DROP

Drag each category on the left to its corresponding router output line on the right. Each router output line is in the result of a show ip interface command. Not all categories are used.

**Select and Place:**

Layer 1 problem	Serial0/1 is up, line protocol is up
Layer 2 problem	Serial0/1 is up, line protocol is down
Layer 3 problem	Serial0/1 is down, line protocol is down
port operational	Serial0/1 is administratively down, line protocol is down
port disabled	

**Correct Answer:**



**Section: (none)**

**Explanation**

**Explanation/Reference:**

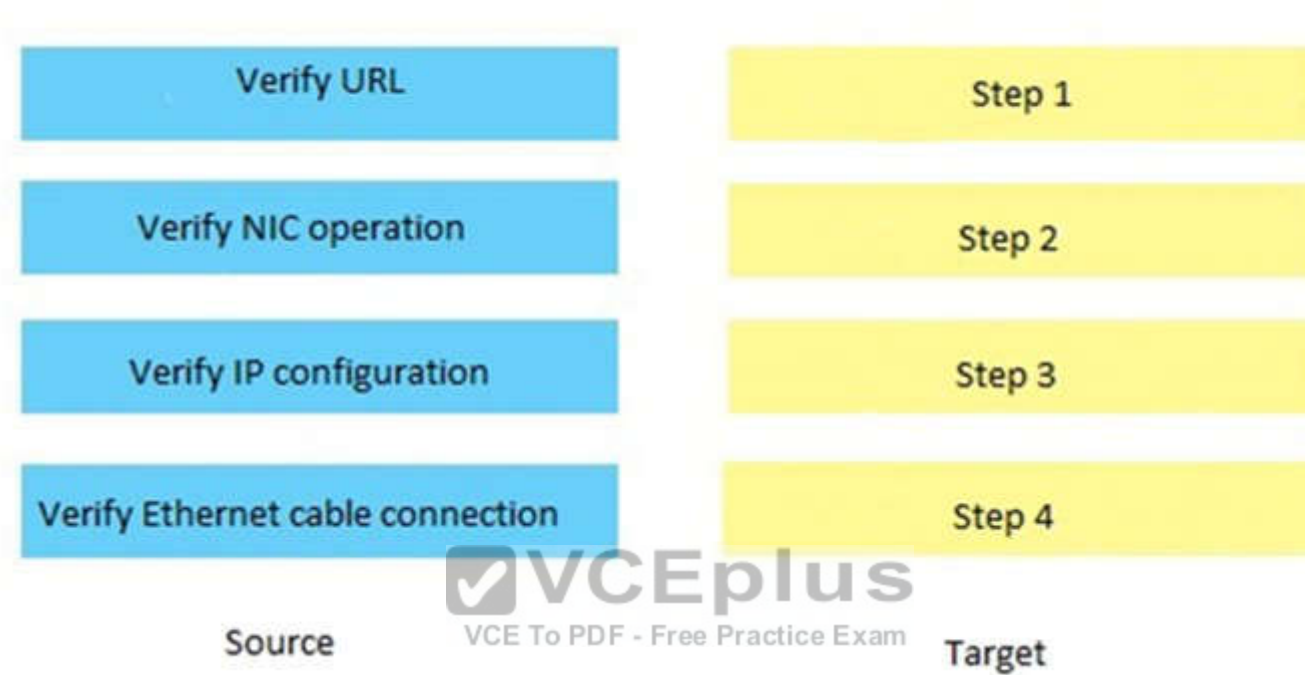
**QUESTION 164**

DRAG DROP

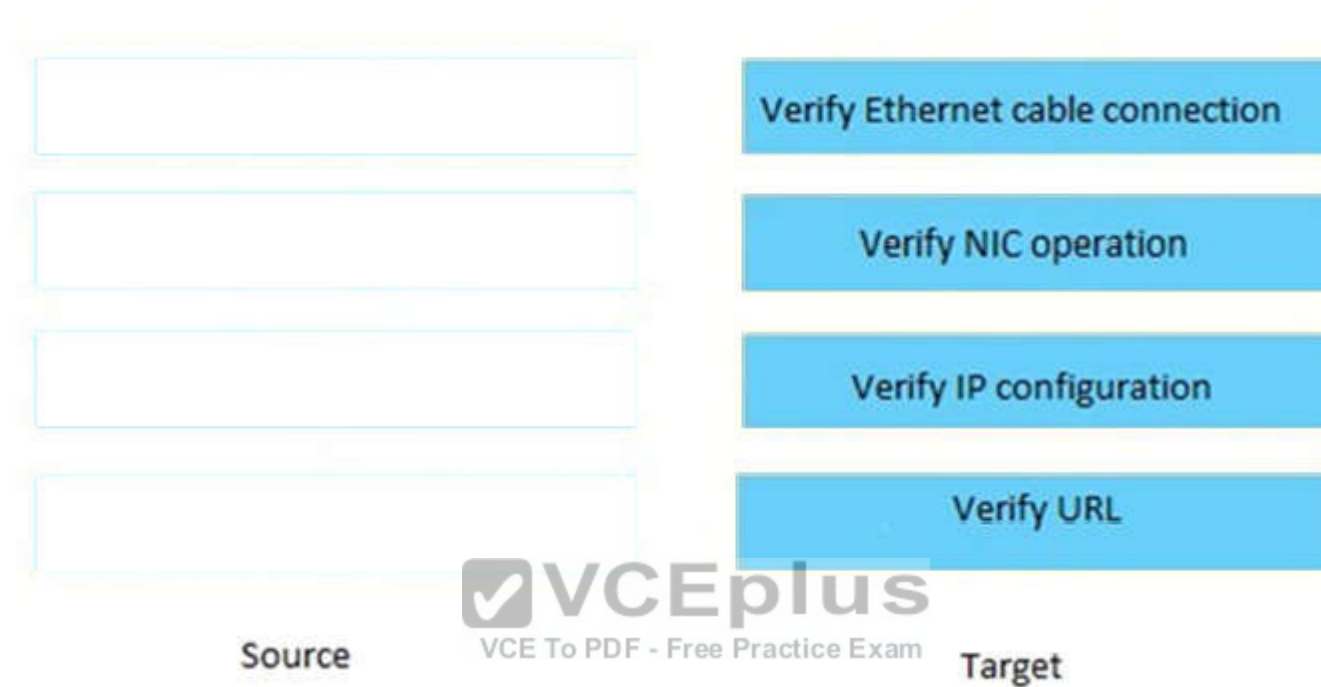
The user is unable to connect to the Internet. Based on the layered approach to troubleshooting and beginning with the lowest layer. Follow the guide and drag the content to relevant modules.

**Select and Place:**





**Correct Answer:**



**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 165**

Which technology supports the stateless assignment of IPv6 addresses? (Choose two)

- A. DNS
- B. DHCPv6
- C. DHCP
- D. autoconfiguration

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 166

After you configure the Loopback0 interface, which command can you enter to verify the status of the interface and determine whether fast switching is enabled?

- A. Router#show ip interface loopback 0
- B. Router#show run
- C. Router#show interface loopback 0
- D. Router#show ip interface brief

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### QUESTION 167

What are two requirements for an HSRP group? (Choose two)

- A. exactly one active router
- B. one or more standby routers
- C. one or more backup virtual routers
- D. exactly one standby active router
- E. exactly one backup virtual router

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 168

Which command sequence can you enter to create VLAN 20 and assign it to an interface on a switch?

- A. `Switch(config)#vlan 20`  
`Switch(config)#Interface gig x/y`  
`Switch(config-if)#switchport access vlan 20`
- B. `Switch(config)#Interface gig x/y`  
`Switch(config-if)#vlan 20`  
`Switch(config-vlan)#switchport access vlan 20`
- C. `Switch(config)#vlan 20`  
`Switch(config)# Interface vlan 20`  
`Switch(config-if)#switchport trunk native vlan 20`
- D. `Switch(config)#vlan 20`  
`Switch(config)#Interface vlan 20`  
`Switch(config-if)#switchport access vlan 20`
- E. `Switch(config)#vlan 20`  
`Switch(config)#Interface vlan 20`  
`Switch(config-if)#switchport trunk allowed vlan 20`



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 169

Which three commands can you use to set a router boot image? (Choose three)

- A. Router(config)# boot system flash c4500-p-mz.121-20.bin
- B. Router(config)# boot system tftp c7300-js-mz.122-33.SB8a.bin
- C. Router(config)#boot system rom c7301-advipservicesk9-mz.124-24.T4.bin
- D. Router> boot flash:c180x-adventerprisek9-mz-124-6T.bin
- E. Router(config)#boot flash:c180x-adventerprisek9-mz-124-6T.bin
- F. Router(config)#boot bootldr bootflash:c4500-jk9s-mz.122-23f.bin

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 170

If primary and secondary root switches with priority 16384 both experience catastrophic losses, which tertiary switch can take over?

- A. a switch with priority 20480
- B. a switch with priority 8192
- C. a switch with priority 4096
- D. a switch with priority 12288



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 171

Which two statements about late collisions are true? (Choose two.)

- A. They may indicate a duplex mismatch.
- B. By definition, they occur after the 512th bit of the frame has been transmitted.
- C. They indicate received frames that did not pass the FCS match.
- D. They are frames that exceed 1518 bytes.
- E. They occur when CRC errors and interference occur on the cable.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 172**

If a router has four interfaces and each interface is connected to four switches, how many broadcast domains are present on the router?

- A. 1
- B. 2
- C. 4
- D. 8

**Correct Answer:** C

**Section:** (none)

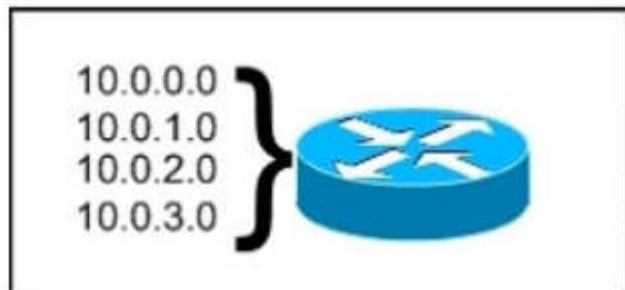
**Explanation**

**Explanation/Reference:**



**QUESTION 173**

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 174**

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

**Correct Answer:** E

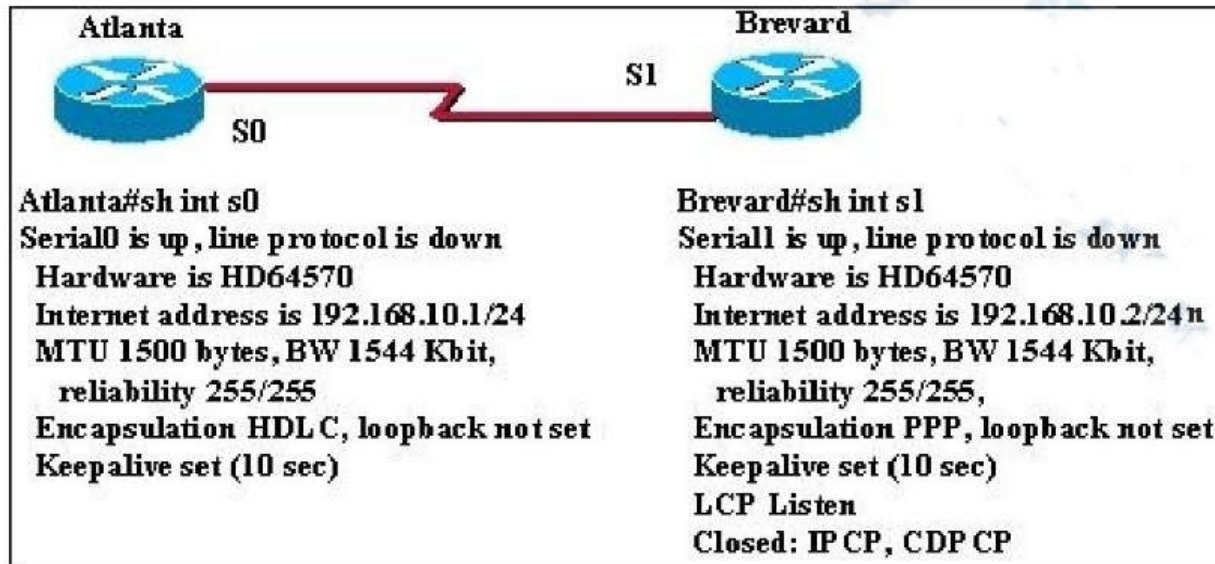
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 175**

Two routers named Atlanta and Brevard are connected via their serial interfaces as illustrated, but they are unable to communicate. The Atlanta router is known to have the correct configuration.



Given the partial configurations, identify the fault on the Brevard router that is causing the lack of connectivity.

- A. incompatible IP address
- B. insufficient bandwidth
- C. incorrect subnet mask
- D. incompatible encapsulation
- E. link reliability too low
- F. IPCP closed

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 176

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



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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 177**

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

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

---

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

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

**Correct Answer:** D

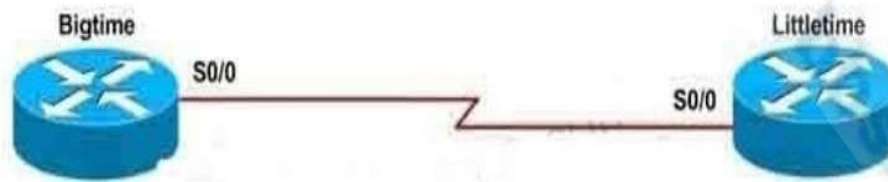
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 178

Refer to the exhibit. The Bigtime router is unable to authenticate to the Littletime router. What is the cause of the problem?



```
Bigtime(config)# username Littletime password little123
Bigtime(config)# interface serial0/0
Bigtime(config-if)# encapsulation ppp
Bigtime(config-if)# ppp authentication chap
```

```
Littletime(config)# username Bigtime password big123
Littletime(config)# interface serial0/0
Littletime(config-if)# encapsulation ppp
Littletime(config-if)# ppp authentication chap
```

- 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.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 179

What will be the result if the following configuration commands are implemented on a Cisco switch?

```
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.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 180

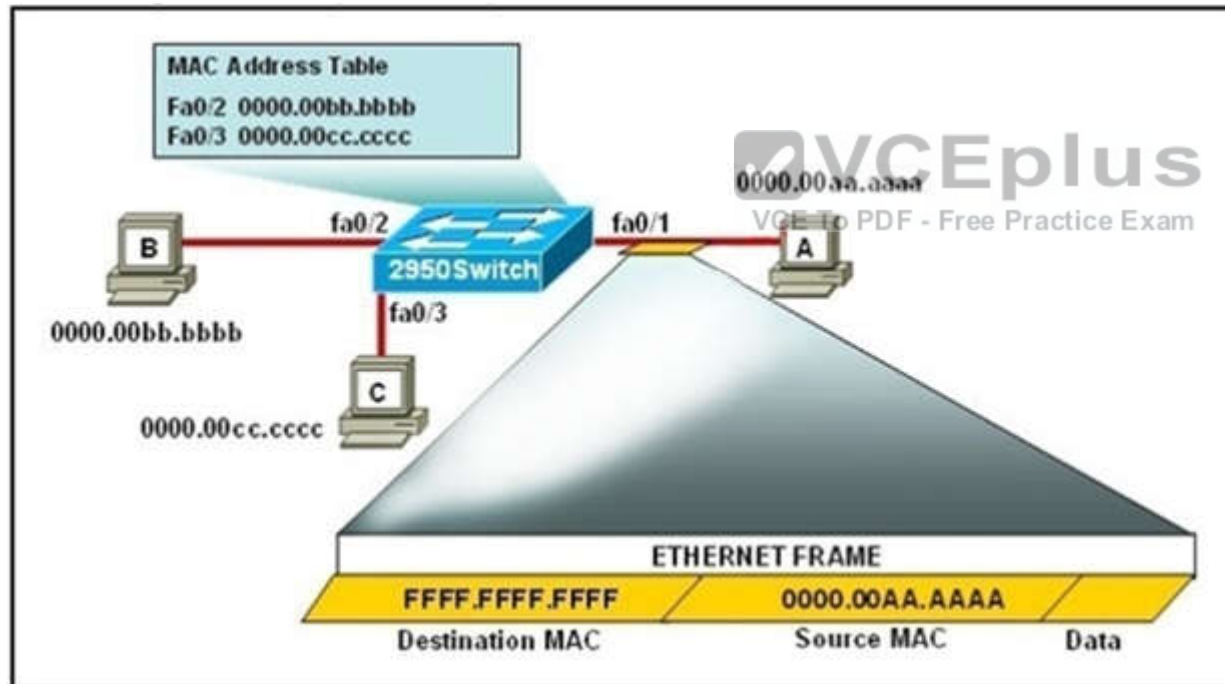
Refer to the exhibit. The following commands are executed on interface fa0/1 of 2950Switch.

```
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.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 181

Which command can you enter to re-enable Cisco Discovery Protocol on a local router after it has been disabled?

- A. Router(config-if)#cdp run
- B. Router(config-if)#cdp enable
- C. Router(config)#cdp run
- D. Router(config)#cdp enable

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 182

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

### Explanation/Reference:

#### QUESTION 183

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

```
Switch# show spanning-tree vlan 30
VLAN0030
Spanning tree enabled protocol rstp
Root ID Priority 24606
Address 00d0.047b.2800
This bridge is the root
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Bridge ID Priority 24606 (priority 24576 sys-id-ext 30)
Address 00d0.047b.2800
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
```

Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa1/1	Desg	FWD	4	128.1	p2p
Fa1/2	Desg	FWD	4	128.2	p2p
Fa5/1	Desg	FWD	4	128.257	p2p

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

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 184**

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

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

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 185**

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

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

**Correct Answer:** CD

**Section:** (none)

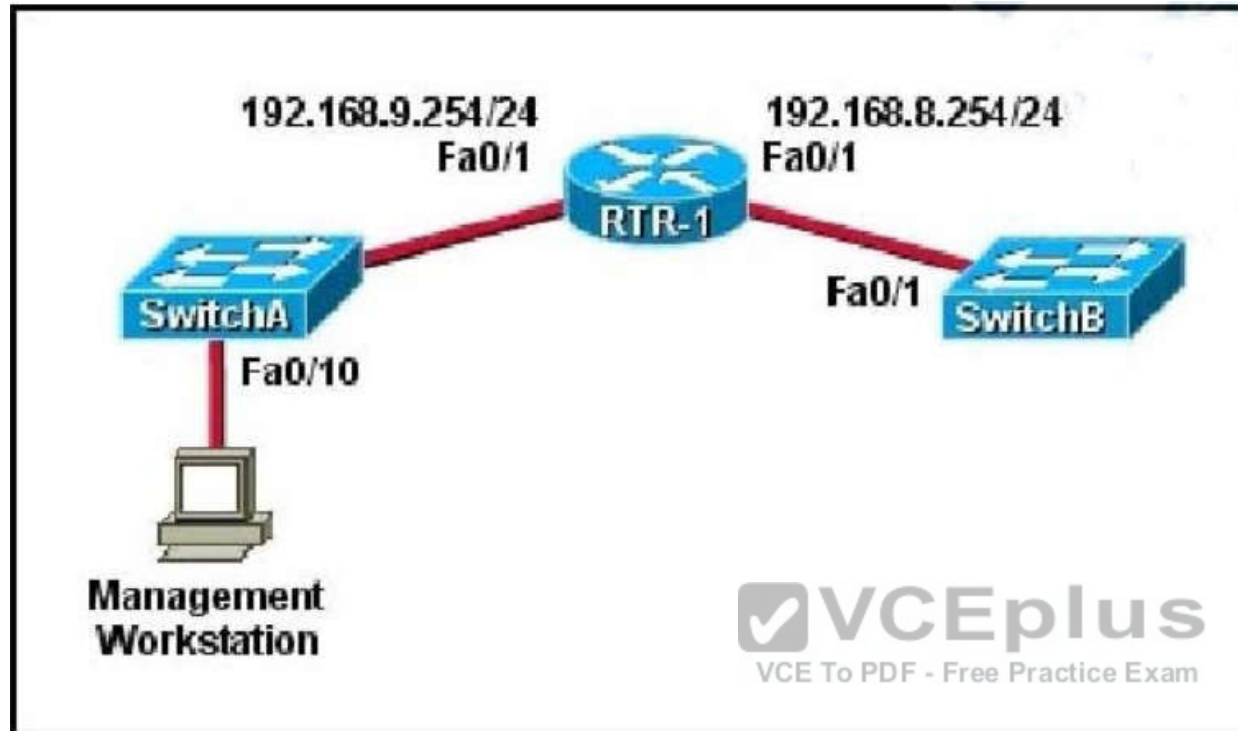
**Explanation**

**Explanation/Reference:**

**QUESTION 186**

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





- A. SwitchB(config)#interface FastEthernet 0/1  
SwitchB(config)#ip address 192.168.8.252 255.255.255.0  
SwitchB(config)#no shutdown
- B. SwitchB(config)#ip default-gateway 192.168.8.254  
SwitchB(config)#interface vlan 1  
SwitchB(config)#ip address 192.168.8.252 255.255.255.0  
SwitchB(config)#no shutdown



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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### QUESTION 187

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.

**Correct Answer:** BCE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 188

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.

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 189

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

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 190

Which interface counter can you use to diagnose a duplex mismatch problem?

- A. no earner
- B. late collisions
- C. giants

- D. CRC errors
- E. deferred
- F. runts

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 191

Which two statements about IPv4 multicast traffic are true? (Choose two.)

- A. It burdens the source host without affecting remote hosts.
- B. It uses a minimum amount of network bandwidth.
- C. It is bandwidth-intensive.
- D. It simultaneously delivers multiple streams of data.
- E. It is the most efficient way to deliver data to multiple receivers.

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

IP multicast is a bandwidth-conserving technology that reduces traffic by simultaneously delivering a single stream of information to potentially thousands of corporate recipients and homes. Applications that take advantage of multicast include video conferencing, corporate communications, distance learning, and distribution of software, stock quotes, and news.

Reference: [http://www.cisco.com/c/en/us/td/docs/ios/solutions\\_docs/ip\\_multicast/White\\_papers/mcst\\_ovr.html](http://www.cisco.com/c/en/us/td/docs/ios/solutions_docs/ip_multicast/White_papers/mcst_ovr.html)

#### QUESTION 192

If you are configuring syslog messages specifying 'logging trap warning', which log messages will the router send?

- A. 0-4
- B. 0-5
- C. 0-6
- D. 0-2

E. 0-1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 193**

Which command can you enter to configure an IPV6 floating static route?

- A. Router(config)# ipv6 route FE80:0202::/32 serial 0/1 201
- B. Router(config)# ipv6 route::/0 serial0/1
- C. Router(config)# ipv6 route static resolve default
- D. Router(config)# ipv6 route FE80:0202::/32 serial 0/1 1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### **QUESTION 194**

What is true about Ethernet? (Choose two.)

- A. 802.2 Protocol
- B. 802.3 Protocol
- C. 10BaseT half duplex
- D. CSMA/CD Stops transmitting when congestion occurs
- E. CSMA/CA Stops transmitting when congestion occurs

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 195**

Which function does the IP SLA ICMP ECHO operation perform to assist with troubleshooting?

- A. packet-loss detection
- B. congestion detection
- C. hop-by-hop response time
- D. one way jitter measurements

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 196**

What are types of IPv6 static routes? (Choose three.)

- A. Recursive Static routes
- B. Directly connected static routes
- C. Fully specified static routes
- D. Dynamically specified static routes
- E. injected static routes
- F. Redistributed static routes

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 197**

How to configure RIPv2? (Choose two.)

- A. Enable RIP
- B. Connect RIP to WAN interface

- C. Enable no auto-summary
- D. Enable authentication

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 198**

What is the status of port-channel if LACP is misconfigured?

- A. Forwarding
- B. Enabled
- C. Disabled
- D. errdisabled

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### **QUESTION 199**

How to create a trunk port and allow VLAN 20? (Choose three.)

- A. switchport trunk encapsulation dot1q
- B. switchport mode trunk
- C. switchport trunk allowed vlan 20
- D. switchport trunk native vlan 20

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 200**

What 8-bit field exists in IP packet for QoS?

- A. Tos Field
- B. DSCP
- C. IP Precedence
- D. Cos

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 201**

What feature uses a random time to re-send a frame?

- A. CSMA/CA
- B. disabled by default
- C. Cisco proprietary
- D. CSMA/CD

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 202**

Which mode is compatible with Trunk, Access, and desirable ports?

- A. Trunk Ports
- B. Access Ports
- C. Dynamic Auto
- D. Dynamic Desirable

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 203**

If you configure syslog messages without specifying the logging trap level, which log messages will the router send?

- A. 0-4
- B. 0-5
- C. 0-6
- D. 0-2
- E. 0-1

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### **QUESTION 204**

Which command can you execute to set the user inactivity timer to 10 seconds?

- A. SW1(config-line)#exec-timeout 0 10
- B. SW1(config-line)#exec-timeout 10
- C. SW1(config-line)#absolute-timeout 0 10
- D. SW1(config-line)#absolute-timeout 10

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 205**



Which standards-based First Hop Redundancy Protocol is a Cisco supported alternative to Hot Standby Router Protocol?

- A. VRRP
- B. GLBP
- C. TFTP
- D. DHCP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 206

Two hosts are attached to a switch with the default configuration. Which statement about the configuration is true?

- A. IP routing must be enabled to allow the two hosts to communicate.
- B. The two hosts are in the same broadcast domain.
- C. The switch must be configured with a VLAN to allow the two hosts to communicate.
- D. Port security prevents the hosts from connecting to the switch

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 207

If a router has 3 hosts connected in one port and two other hosts connected in another port, how many broadcast domains are present on the router?

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

**Correct Answer:** B

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 208**

What are three parts of an IPv6 global unicast address? (Choose three.)

- A. an interface ID that is used to identify the local host on the network
- B. an interface ID that is used to identify the local network for a particular host.
- C. a subnet ID that is used to identify networks inside of the local enterprise site
- D. a global routing prefix that is used to identify the network portion of the address that has been provided by an ISP
- E. a global routing prefix that is used to identify the portion of the network address provided by a local administrator

**Correct Answer:** ACD

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 209**

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 max number of subnets. Which network address and subnet mask meet this requirement?

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

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 210**

What parameter can be different on ports within an EtherChannel?

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 211**

Which two statements about IPv6 router advertisement messages are true? (Choose two.)

- A. They use ICMPv6 type 134.
- B. The advertised prefix length must be 64 bits.
- C. The advertised prefix length must be 48 bits.
- D. They are sourced from the configured IPv6 interface address.
- E. Their destination is always the link-local address of the neighboring node.



**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 212**

Which spanning-tree protocol rides on top of another spanning-tree protocol?

- A. MSTP
- B. RSTP
- C. PVST+
- D. Mono Spanning Tree

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 213**

Refer to the exhibit.

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

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.

**Correct Answer:** B

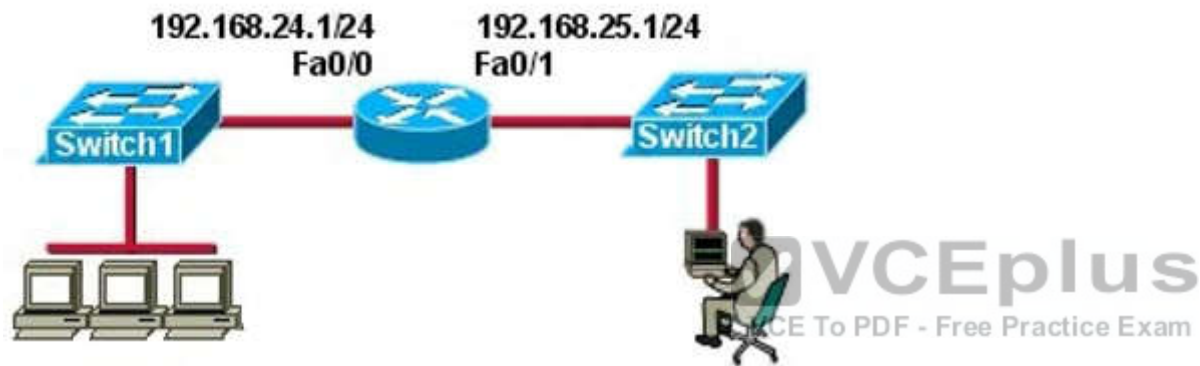
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 214**

Refer to the exhibit.



```
Switch1# show running-config
!
hostname Switch1
!
enable secret 5 $1$8V43Wm12DE8klwUjf8EcZnFT7/
enable password guess
!
<output omitted>
!
interface Vlan1
  ip address 192.168.24.2 255.255.255.0
  no ip route-cache
!
ip http server
!
line con 0
line vty 0 4
  password cisco
  login
!
end
```



The network administrator cannot connect to Switch 1 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. Switch 1 (config)# interface fa0 /1  
Switch1 (config-if)# duplex full  
Switch1 (config-if)# speed 100
- D. Switch1 (config-if)# default-gateway 192.168.24.1
- E. Switch1 (config)# line con 0  
Switch1(config-line)# password cisco  
Switch1 (config-line)#login

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 215

Which command can you enter to verify that a 128-bit address is live and responding?

- A. traceroute
- B. telnet
- C. ping
- D. show ipv6

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 216

What is the correct routing match to reach 172.16.1.5/32?

- A. 172.16.1.0/26
- B. 172.16.1.0/25
- C. 172.16.1.0/24

D. the default route

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 217**

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

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### **QUESTION 218**

Which protocol is the Cisco proprietary implementation of FHRP?

- A. HSRP
- B. VRRP
- C. GLBP
- D. CARP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 219**

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

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 220**

Which part of the PPPoE server configuration contains the information used to assign an IP address to a PPPoE client?

- A. virtual-template interface
- B. DHCP
- C. dialer interface
- D. AAA authentication

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 221**

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

- A. RSTP significantly reduces topology reconverging time after a link failure.
- B. RSTP expends the STP port roles by adding the alternate and backup roles.
- C. RSTP port states are blocking, discarding, learning, or forwarding.

- D. RSTP also uses the STP proposal-agreement sequence.
- E. RSTP use 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.

**Correct Answer:** ABF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 222

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

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

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 223

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

- A. SW1#show swithport port-security interface FastEthernet 0/12
- B. SW1# show swithport port-secure 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

**Correct Answer:** DE

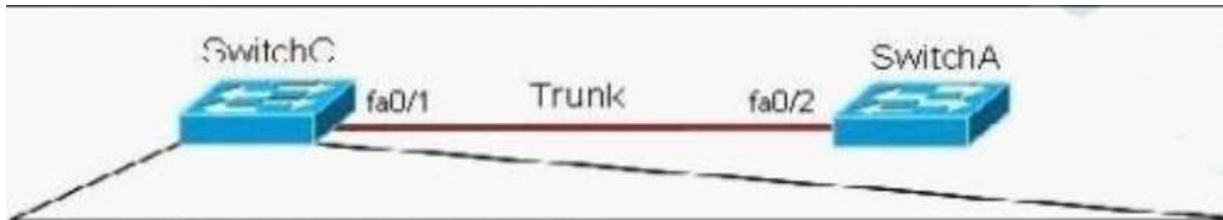
Section: (none)

Explanation

Explanation/Reference:

**QUESTION 224**

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



```
SwitchC# show interface fa0/1
FastEthernet0/1 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 0010.0000.5e00)
  MTU 1500 bytes, BW 100000 Kb, DLY 100 usec,
    reliability 255/255, txload 14/255, rxload 14/255
  Encapsulation ARPA, loopback not set
  Keepalive sec (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow control is off, output flow control is unsupported
Text omitted
5 minutes input rate 364000 bite/sec, 344 packets/sec
5 minutes output rate 367000 bite/sec, 338 packets/sec
  10970 packets input, 2400010 bytes, 0 no buffer
  Received 1244 broadcasts (0 multicast)
  0 runts, 3 giants, 0 throttles
  741 input errors, 738 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1243 multicast, 0 pause input
  0 input packets with dribble condition detected
  16420 packets output, 2375034 bytes, 0 underruns
Text omitted
```

- 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.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 225

Which statement is correct regarding the operation of DHCP?

- A. A DHCP client uses a ping to detect address conflicts.
- B. A DHCP server uses a gratuitous ARP to detect DHCP clients.
- C. A DHCP client uses a gratuitous ARP to detect a DHCP server.
- D. If an address conflict is detected, the address is removed from the pool and an administrator must resolve the conflict.
- E. If an address conflict is detected, the address 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 server is rebooted.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 226

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

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

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 227

Refer to the exhibit.

AlSwitch1# **show interfaces FastEthernet 0/24 switchport**

Name: Fa0/24

Switchport: Enabled

Administrative Mode: static access

Operational Mode: static access

Administrative Trunking Encapsulation: dot1q

Operational Trunking Encapsulation: native

Negotiation of Trunking: Off

Access Mode VLAN: 1 (default)

Voice VLAN: none

Administrative private-vlan host association: none

Administrative private-vlan mapping: none

Operational private-vlan: none

Trunking VLANs Enabled: ALL

Pruning VLANs Enabled: 2-1001

Capture Mode Disabled

Capture VLANs Allowed: ALL



Protected: false

Voice VLAN: none (Inactive)

Appliance trust none

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

**Correct Answer:** C

**Section:** (none)

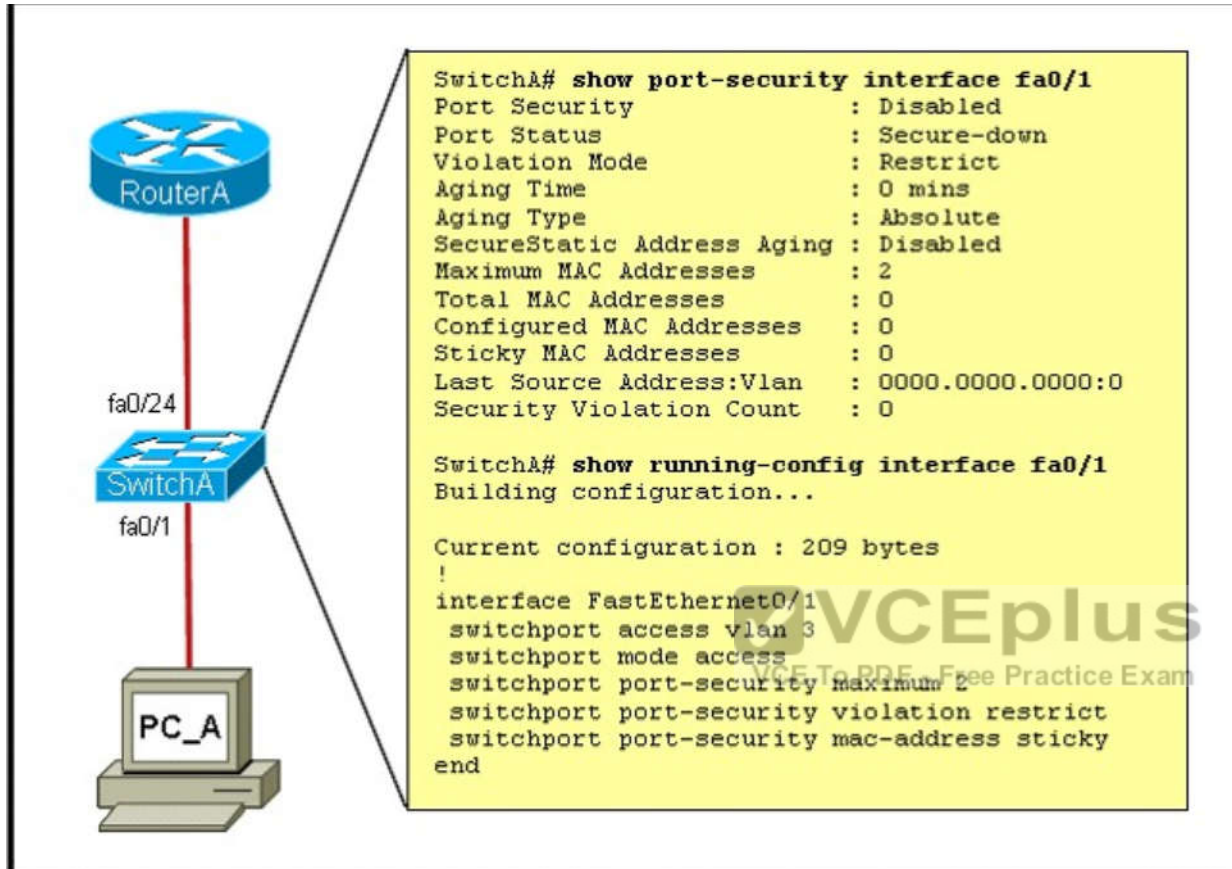
**Explanation**

**Explanation/Reference:**

**QUESTION 228**

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

**Correct Answer:** BD

**Section:** (none)

**Explanation**



**Explanation/Reference:****QUESTION 229**

Which three statements about static routing are true? (Choose three.)

- A. It uses consistent route determination
- B. It is best used for small-scale deployments.
- C. Routing is disrupted when links fail.
- D. It requires more resources than other routing methods.
- E. It is best used for large-scale deployments.
- F. Routers can use update messages to reroute when links fail.

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 230**

What are the address that will show at the show ip route if we configure the above statements? (Choose three.)

```
router eigrp 100
network 172.15.4.0
network 10.4.3.0
network 192.168.4.0
auto summary
```

- A. 10.0.0.0
- B. 10.4.3.0
- C. 172.15.4.0
- D. 172.15.0.0
- E. 192.168.4.0
- F. 192.168.0.0

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 231**

Which feature facilitates the tagging of a specific VLAN?

- A. Routing
- B. Hairpinning
- C. Encapsulation
- D. Switching

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 232**

What does split horizon prevent?

- A. routing loops, link-state
- B. routing loops, distance vector
- C. switching loops, STP
- D. switching loops, VTP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 233**

Which value to use in HSRP protocol election process?

- A. interface
- B. virtual IP address
- C. priority
- D. router ID

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 234**

Which of the following is needed to be enable back the role of active in HSRP?

- A. preempt
- B. priority
- C. failover
- D. revert

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 235**

Which command is used to show the interface status of a router?

- A. show interface status
- B. show ip interface brief
- C. show ip route
- D. show interface

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 236**

Which of the following privilege level is the most secured?

- A. Level 0
- B. Level 1
- C. Level 15
- D. Level 16

**Correct Answer: C**

**Section: (none)**

**Explanation****Explanation/Reference:****QUESTION 237**

Which IPV6 feature is supported in IPV4 but is not commonly used?

- A. unicast
- B. multicast
- C. anycast
- D. broadcast

**Correct Answer: C**

**Section: (none)**

**Explanation****Explanation/Reference:****QUESTION 238**

Which range represents the standard access list?

- A. 99

- B. 150
- C. 299
- D. 2000

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 239**

What to do when the router password was forgotten?

- A. use default password cisco to reset
- B. access router physically
- C. use ssl/vpn
- D. Type confreg 0x2142 at the rommon 1

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 240**

Which statement about Cisco Discovery Protocol is true?

- A. It discovers the routers, switches and gateways
- B. It is network layer protocol
- C. It is physical and data link layer protocol
- D. It is a proprietary protocol

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 241**

Which of the following encrypts the traffic on a leased line?

- A. telnet
- B. ssh
- C. vtp
- D. vpn
- E. dmvpn

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 242**

How do you configure a hostname?

- A. Router(config)#hostname R1
- B. Router(config-if)#hostname R1
- C. Router(config)#name R1
- D. Router(config)#host R1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 243**

Which technology you will choose to connect multiple sites with secure connections?

- A. Point-to-point
- B. DMVPN
- C. MPLS

D. Remote access

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 244

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 flood the data out all of its ports except the port from which the data originated
- C. switch-1 will forward the data to its default gateway
- D. switch-1 will send an ARP request out all its ports except the port from which the data originated

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 245**

interface fa0/0  
ip address x.x.x.33 255.255.255.224  
router bgp XXX  
neighbor x.x.x.x remote as x.x.x.x

You need to advertise the network of Int fa0/0.

- A. x.x.x.32 mask 255.255.255.224
- B. x.x.x.32 255.255.255.224
- C. x.x.x.32 mask 0.0.0.31
- D. x.x.x.33 mask 255.255.255.224

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 246**

Which routing protocol use first-hand information?

- A. link-state protocols
- B. distance vector protocols
- C. path vector protocols
- D. static protocols

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 247**

Refer to the exhibit. You have discovered that computers on the 192.168.10.0/24 network can ping their default gateway, but they cannot connect to any resources on a remote network. Which reason for the problem is most likely true?

R1

```
interface Loopback0
  ip address 172.16.1.1 255.255.255.255
```

```
interface FastEthernet0/0
  ip address 192.168.12.1 255.255.255.0
```

```
interface FastEthernet0/1
  ip address 192.168.10.1 255.255.255.0
```

```
router ospf 1
  router-id 172.16.1.1
  network 172.16.1.1 0.0.0.0 area 0
  network 192.168.10.0.0.0.255 area 0
```



- A. The 192.168.12.0/24 network is missing from OSPF.
- B. The OSPF process ID is incorrect.
- C. The OSPF area number is incorrect.
- D. An ARP table entry is missing for 192.168.10.0.
- E. A VLAN number is incorrect for 192.168.10.0.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 248**

What field is consisted of 6 bytes in the field identification frame in IEEE 802.1Q?

- A. SA
- B. DA
- C. FCS
- D. SOF

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 249**

What is new in HSRPv2?

- A. preempt
- B. a greater number in hsrp group field
- C. Multiple backup routers
- D. higher priority values

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 250**

Which two statements about MPLS are true? (Choose two)

- A. It provides automatic authentication
- B. It can carry multiple protocols, including IPv4 and IPv6
- C. It encapsulates all traffic in an IPv4 header
- D. It uses labels to separate and forward customer traffic
- E. It tags customer traffic using 802.1q

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 251**

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 252**

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 253**

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.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 254**

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 flash:output.txt
- E. snmp-server enable traps syslog

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 255**

Which component of the Cisco SDN solution serves as the centralized management system?

- A. Cisco OpenDaylight
- B. Cisco ACI
- C. Cisco APIC

D. Cisco IWAN

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 256**

Which command is used to build DHCP pool?

- A. ip dhcp pool DHCP pool
- B. ip dhcp conflict
- C. ip dhcp-server pool DHCP
- D. ip dhcp-client pool DHCP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 257**

What is the two benefits of DHCP snooping? (Choose two.)

- A. prevent static reservation.
- B. prevent reservation
- C. prevent DHCP rogue server
- D. track users hosts on the network.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 258**

What are the three major components of cisco network virtualization? (Choose three.)

- A. network access control
- B. path isolation
- C. virtual network services
- D. policy enforcement

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 259**

Standard industrialized protocol of EtherChannel?

- A. LACP
- B. PAGP
- C. PRP
- D. REP



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 260**

Two features of the extended ping command? (Choose two.)

- A. It can send a specific number of packet
- B. It can send packet from specified interface of IP address
- C. It can resolve the destination host name
- D. It can ping multiple host at the same time

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 261**

Which command is used to configure a switch as an authoritative NTP server?

- A. switch(config)#ntp master 3
- B. switch(config)#ntp peer 193.168.2.2
- C. switch(config)#ntp server 193.168.2.2
- D. switch(config)#ntp source 193.168.2.2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### **QUESTION 262**

How to enable vlans automatically across multiple switches?

- A. Configure VLAN
- B. Configure NTP
- C. Configure each VLAN
- D. Configure VTP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 263**

Which password types are encrypted?

- A. SSH
- B. Telnet
- C. enable secret
- D. enable password

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 264**

What is the binary pattern of unique ipv6 unique local address?

- A. 00000000
- B. 11111100
- C. 11111111
- D. 11111101

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 265**

Which statement about ACLs is true?

- A. An ACL have must at least one permit action, else it just blocks all traffic.
- B. ACLs go bottom-up through the entries looking for a match
- C. An ACL has an implicit permit at the end of ACL.
- D. ACLs will check the packet against all entries looking for a match.

**Correct Answer:** A

**Section:** (none)



**Explanation****Explanation/Reference:****QUESTION 266**

What is the cause of the Syslog output messages?

```
*Mar 01, 00:37:57.3737: %SYS-5-CONFIG_I: Configured from console by console
*LINK-5-CHANGED: Interface FastEthernet0/1, changed state to administratively
down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed
state to down
%DUAL-5-WEBCHANGE: IP-EIGRP 1: Neighbor 10.10.11.2 (FastEthernet0/1) is down:
interface down
```

- A. The EIGRP neighbor on Fa0/1 went down due to a failed link.
- B. The EIGRP neighbor connected to Fa0/1 is participating in a different EIGRP process, causing the adjacency to go down.
- C. A shut command was executed on interface Fa0/1, causing the EIGRP adjacency to go down.
- D. Interface Fa0/1 has become error disabled, causing the EIGRP adjacency to go down.

**Correct Answer: C**

**Section: (none)**

**Explanation****Explanation/Reference:****QUESTION 267**

What are contained in layer 2 Ethernet frame? (Choose three.)

- A. Preamble
- B. TTL
- C. Type/length
- D. Frame check sequence
- E. version

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 268**

Describe the best way to troubleshoot and isolate a network problem?

- A. Create an action plan
- B. Implement an action plan
- C. Gather facts
- D. Change one variable at a time

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 269**

In which byte of an IP packet can traffic be marked?

- A. the QoS byte
- B. the CoS byte
- C. the ToS byte
- D. the DSCP byte

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 270**

Which command can you enter to route all traffic that is destined for 192.168.0.0/20 to a specific interface?

- A. router(config)#ip route 192.168.0.0 255.255.240.0 GigabitEthernet0/1
- B. router(config)#ip route 0.0.0.0 255.255.255.0 GigabitEthernet0/1
- C. router(config)#ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/1
- D. router(config)#ip route 192.168.0.0 255.255.255.0 GigabitEthernet0/1

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 271

Which three options are switchport configurations that can always avoid duplex mismatch errors between the switches? (Choose three.)

- A. Set both side auto-negotiation
- B. Set both sides on half duplex
- C. Set one side auto and the other side half duplex.
- D. Set both sides of connection to full duplex.
- E. Set one side auto and the other side on full duplex.
- F. Set one side full duplex and the other side half duplex.



**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 272

What are two benefits of private IPv4 IP addresses? (Choose two.)

- A. they can be implemented without requiring admin to coordinate with IANA
- B. they are managed by IANA
- C. increase the flexibility of network design
- D. provide network isolation from the internet
- E. they are routable over internet

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 273**

How many bits represent network id in a IPv6 address?

- A. 32
- B. 48
- C. 64
- D. 128

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 274**

Which WAN topology is most appropriate for a centrally located server farm with several satellite branches?

- A. star
- B. hub and spoke
- C. point-to-point
- D. full mesh

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 275**

Which function allows EIGRP peers to receive notice of implementing topology changes?

- A. successors
- B. advertised changes
- C. goodbye messages
- D. expiration of the hold timer

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 276

Which three options are benefits of using TACACS+ on a device? (Choose three)

- A. It ensures that user activity is untraceable
- B. It provides a secure accounting facility on the device.
- C. device-administration packets are encrypted in their entirety.
- D. It allows the user to remotely access devices from other vendors.
- E. It allows the users to be authenticated against a remote server.
- F. It supports access-level authorization for commands.

**Correct Answer:** CEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 277

What layer of the OSI Model is included in TCP/IP Model's INTERNET layer?

- A. Application
- B. Session
- C. Data Link
- D. Presentation

E. Network

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 278**

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

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

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 279**

Which two features can dynamically assign IPv6 addresses? (Choose two.)

- A. IPv6 stateless autoconfiguration
- B. DHCP
- C. NHRP
- D. IPv6 stateful autoconfiguration
- E. ISATAP tunneling

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 280**

A security administrator wants to profile endpoints and gain visibility into attempted authentications. Which 802.1x mode allows these actions?

- A. Monitor mode
- B. High-Security mode
- C. Low-impact mode
- D. Closed mode

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 281**

How to verify SSH connections was secured?

- A. `ssh -v 1 -l admin IP`
- B. `ssh -v 2 -l admin IP`
- C. `ssh -l admin IP`
- D. `ssh -v -l admin IP`

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 282**

How many usable host are there per subnet if you have the address of 192.168.10.0 with a subnet mask of 255.255.255.240?

- A. 4
- B. 8
- C. 16
- D. 14

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 283**

Which type of cable must you use to connect two devices with MDI interfaces?

- A. cut-through
- B. straight-through
- C. crossover
- D. rollover

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 284**

which command is used to know the duplex speed of serial link?

- A. show line
- B. show interface
- C. show protocol
- D. show run

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 285**



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

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

**Correct Answer:** ABF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 286

Which function does traffic shaping perform?

- A. it buffers and queues excess packets
- B. it drops packets to control the output rate
- C. it buffers traffic without queuing it
- D. it queues traffic without buffering it

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 287

A BPDU guard is configured on an interface that has PortFast Enable. Which state does the interface enter when it receives a BPDU?

- A. Blocking
- B. Shutdown
- C. Listening
- D. Errdisable

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 288**

Which type of IPv6 address also exists in IPv4 but is barely used?

- A. unicast
- B. multicast
- C. anycast
- D. broadcast

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 289**

Which symptom most commonly indicates that two connecting interfaces are configured with a duplex mismatch?

- A. an interface with an up/down state
- B. an interface with a down/down state
- C. late collisions on the interface
- D. the spanning tree process shutting down

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 290**

How is EIGRP for ipv6 configuration done? (Choose two.)

- A. uses process number
- B. neighbor configured directly
- C. configured directly on interface
- D. configured globally interface
- E. have shutdown feature

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 291

Which mode are in PAgP? (Choose two.)

- A. auto
- B. desirable
- C. on
- D. active
- E. passive

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 292

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

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 293**

At which layer of the OSI model does PPP perform?

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 294**

Which IPv6 header field is equivalent to the TTL?

- A. Hop Limit
- B. Flow Label
- C. TTD
- D. Hop Count
- E. Scan Timer

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 295**

Which configuration command can you apply to a HSRP router so that its local interface becomes active if all other routers in the group fail?

- A. no additional configuration is required
- B. standby 1 track Ethernet
- C. standby 1 preempt
- D. standby 1 priority 250

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 296**

Which three technical services support cloud computing? (Choose three.)

- A. network-monitored power sources
- B. Layer 3 network routing
- C. IP localization
- D. redundant connections
- E. VPN connectivity
- F. extended SAN services



**Correct Answer:** DEF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 297**

Which IP configuration does the CIDR notation 192.168.1.1/25 refer?

- A. 192.168.1.1 255.255.255.64
- B. 192.168.1.1 255.255.255.1

- C. 192.168.1.1 255.255.255.32
- D. 192.168.1.1 255.255.255.128
- E. 192.168.1.1 255.255.255.256

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 298**

Which option is the correct CIDR notation for 192.168.0.0 subnet 255.255.255.252?

- A. 30
- B. 31
- C. 32
- D. 33

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 299**

Which path does a router choose when it receives a packet with multiple possible paths to the destination over different routing protocols?

- A. the path with both the lowest administrative distance and the highest metric
- B. the path with the lowest administrative distance
- C. the path with the lowest metric
- D. the path with both the lowest administrative distance and lowest metric

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 300**

How to see dhcp conflict?

- A. show ip dhcp pool
- B. show dhcp database
- C. show ip dhcp conflict
- D. show ip conflict

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 301**

Which Cisco platform can verify ACLs?

- A. Cisco Prime Infrastructure
- B. Cisco Wireless LAN Controller
- C. Cisco APIC-EM
- D. Cisco IOS-XE

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 302**

Which major component of the network virtualization architecture isolate users according to policy?

- A. policy enforcement
- B. access control
- C. network services virtualization
- D. Path Isolation.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 303

Which two statements about firewalls are true?

- A. They can be used with an intrusion prevention system
- B. They can limit unauthorized user access to protect data
- C. Each wireless access point requires its own firewall
- D. They must be placed only at locations where the private network connects to the internet
- E. They can prevent attacks from the internet only

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**



### QUESTION 304

Where does the configuration reside when a helper address is configured to support DHCP?

- A. on the switch trunk interface.
- B. on the router closest to the client.
- C. on the router closest to the server.
- D. on every router along the path.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 305**

Which three options are types of Layer 2 network attack? (Choose three)

- A. Spoofing attacks
- B. Vlan Hopping
- C. botnet attacks
- D. DDOS attacks
- E. ARP Attacks
- F. Brute force attacks

**Correct Answer:** ABE

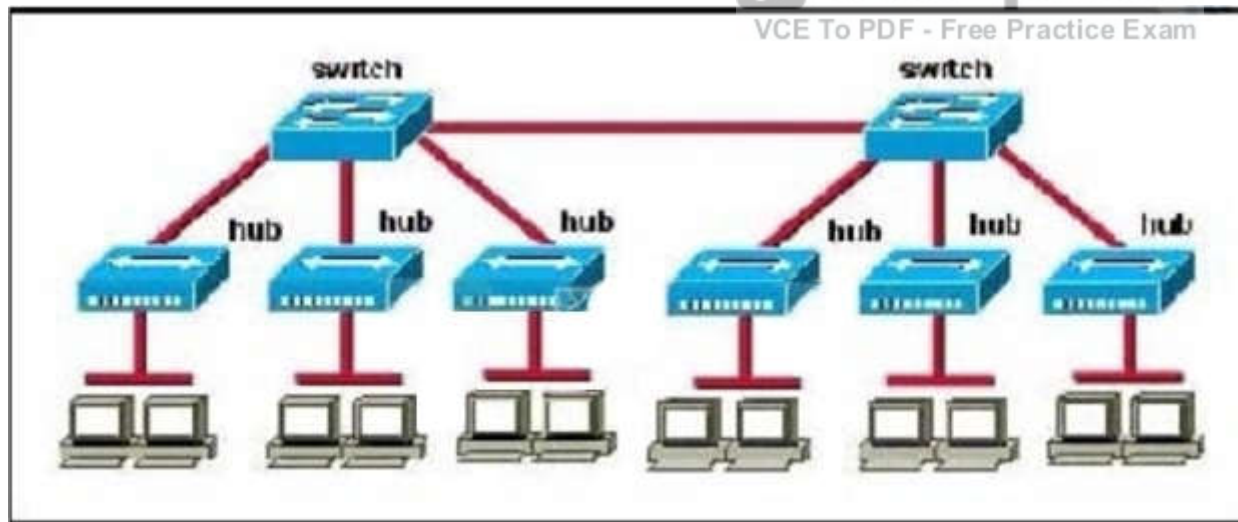
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 306**

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 307**

After you apply the given configuration to R1, you notice that it failed to enable OSPF. Which action can you take to correct the problem?

R1

```
ipv6 cef
```

```
interface FastEthernet 0/0
```

```
no ip address
```

```
ipv6 enable
```

```
    ipv6 address 2001:DB8:1::1/64
```

```
    ipv6 ospf 1 area 0
```

```
ipv6 router ospf 1
```

```
    router-id 172.16.1.1
```

- A. Configure a loopback interface on R1
- B. Enable IPv6 unicast routing on R1.
- C. Configure an IPv4 address on interface F0/0.
- D. Configure an autonomous system number on OSPF.

**Correct Answer:** B

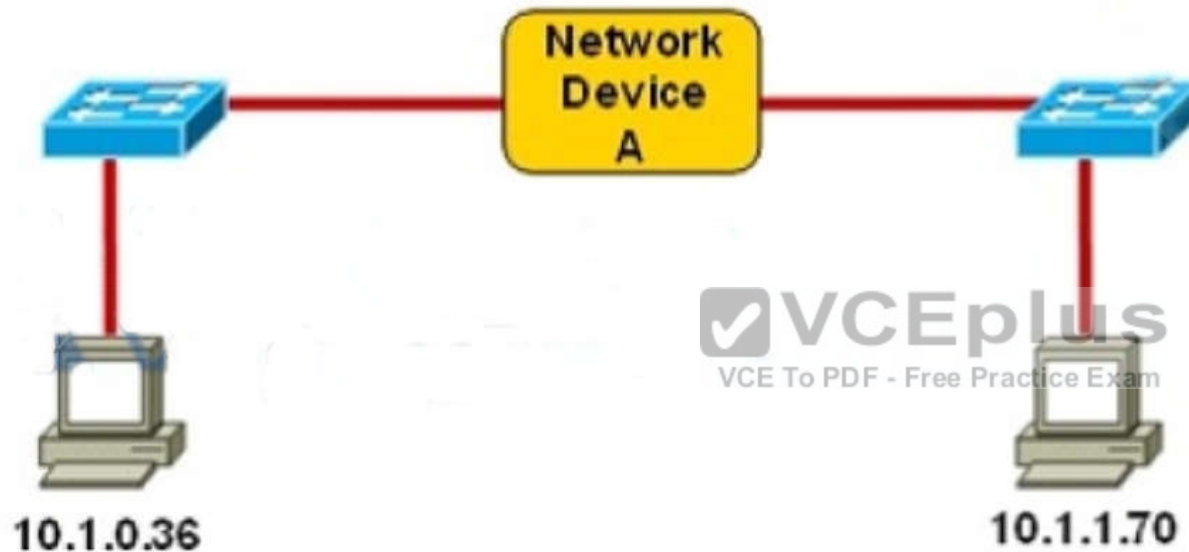
Section: (none)

Explanation

Explanation/Reference:

**QUESTION 308**

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.

**Correct Answer:** BDE

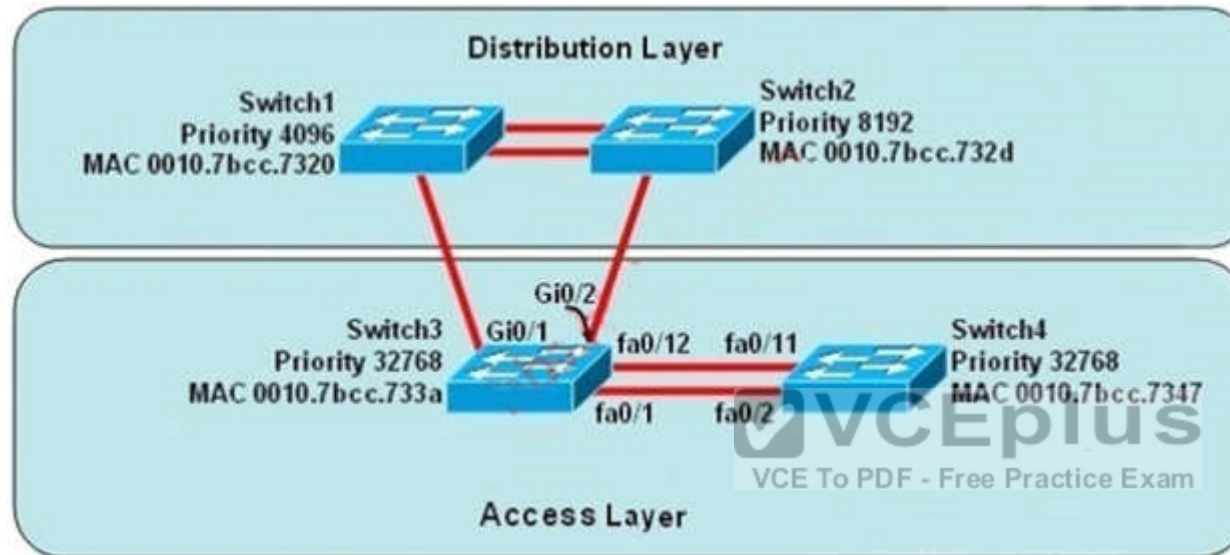
Section: (none)

Explanation

**Explanation/Reference:**

**QUESTION 309**

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

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 310**

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

```
Router# copy tftp flash
Address or name of remote host []? 192.168.2.167
Source filename []? c1600-k8sy-mz.123-16a.bin
Destination filename [c1600-k8sy-mz.123-16a.bin]?
Accessing tftp: //192.168.2.167/ c1600-k8sy-mz.123-16a.bin...
Erasing flash before copying? [confirm]
Erasing the flash filesystem will remove all files! Continue? [con-
firm]
Erasing device...
Eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
Eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee ... erased
Erase of flash: complete
Loading c1600-k8sy-mz.123-16a.bin from 192.168.2.167 (via Ethernet0):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[ok - 6888962/13777920 bytes]

Verifying checksum... ok (0x7BF3)
6888962 bytes copied in 209.920 secs (32961 bytes/sec)
Router#
```

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

**Correct Answer: C**

**Section: (none)**

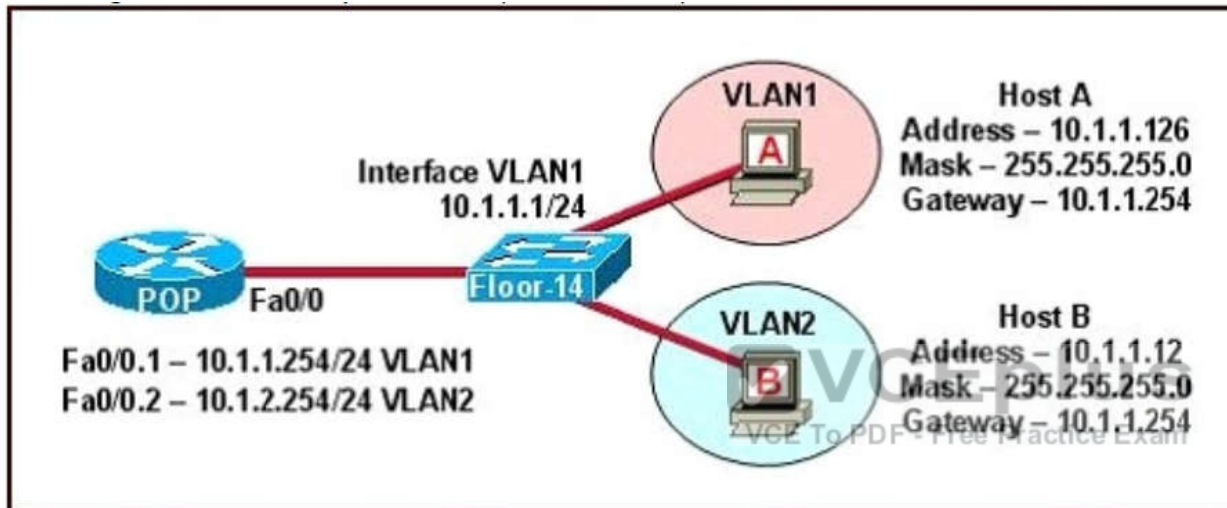
**Explanation**

**Explanation/Reference:**

**QUESTION 311**

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.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 312**

On which layer tcp/ip is ACL Apic-EM path

- A. Layer 1
- B. Layer 2
- C. Layer 3
- D. Layer 4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 313**

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



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 314**

What is the danger of the permit any entry in a NAT access list?

- A. It can lead to overloaded resources on the router
- B. It can cause too many addresses to be assigned to the same interface.
- C. It can disable the overload command.
- D. It prevents the correct translation of IP addresses on the inside network.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 315**

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

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 316**

Which command can you enter to determine the addresses that have been assigned on a DHCP Server?

- A. show ip dhcp statistic
- B. show ip dhcp pool
- C. show ip dhcp binding
- D. show ip dhcp database

**Correct Answer:** C

**Section:** (none)

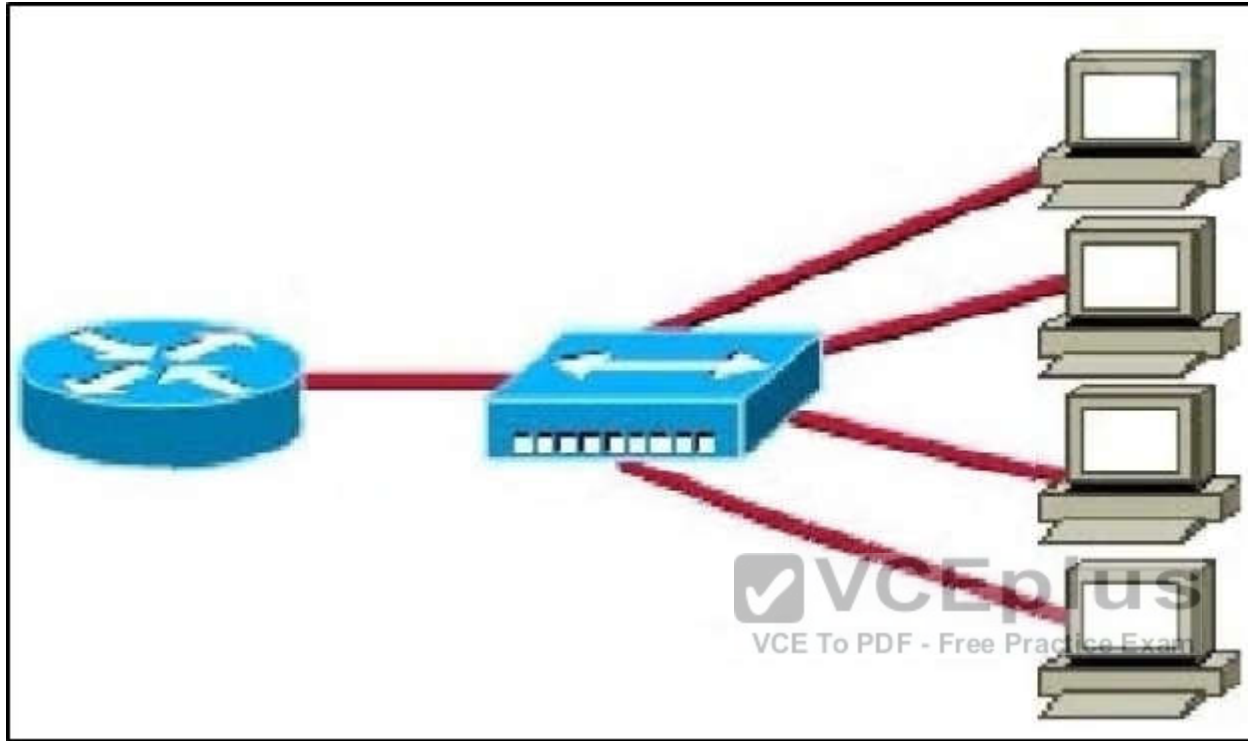
**Explanation**

**Explanation/Reference:**

**QUESTION 317**

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

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 318**

For which two protocols can PortFast alleviate potential host startup issues? (Choose two.)

- A. DHCP
- B. DNS
- C. OSPF
- D. RIP
- E. CDP

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 319**

Which effect of the passive-interface command on R1 is true?

R1

```
interface FastEthernet0/0
  description site id:14254489
  ip address 172.16.0.1 255.255.0.0
```

```
interface FastEthernet0/1
  description site id:14254489
  ip address 172.17.0.1 255.255.0.0
```

```
router rip
  passive-interface FastEthernet0/0
  network 172.16.0.0
  network 172.17.0.0
  version 2
```

- A. It prevents interface Fa0/0 from sending updates.

- B. Interface Fa 0/0 operates in RIPv1 mode.
- C. It removes the 172.16.0.0 network from all updates on all interfaces on R1.
- D. It removes the 172.16.0.0 network from all updates on all interfaces on R1.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 320

Which three encapsulation layers in the OSI model are combined into the TCP/IP application layer? (Choose three)

- A. Session
- B. transport
- C. presentation
- D. application
- E. data-link
- F. network



**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 321

When is the most appropriate time to escalate an issue that you troubleshooting?

- A. When you lack the proper resources to resolve the issue.
- B. When a more urgent issue that requires your intervention is detected
- C. When you have gathered all available information about an issue
- D. When you have been unable to resolve the issue after 30 min

**Correct Answer:** C

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 322**

Which two command can you enter to display the current time sources statistics on devices? (Choose two)

- A. Show ntp associations.
- B. Show clock details
- C. Show clock.
- D. Show time.
- E. Show ntp status

**Correct Answer:** AE

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 323**

Which address class includes network 191.168.0.1/27?

- A. Class C
- B. Class B
- C. Class D
- D. Class A

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 324**

What does it take for BGP to establish connection? (Choose two)

- A. Enable cdp
- B. AS number on local router
- C. AS number on remote router
- D. IGP
- E. EGP

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 325

Which IPV6 function serves the same purpose as ARP entry verification on an IPv4 network?

- A. interface ip address verification
- B. MAC address table verification
- C. neighbor discovery verification
- D. Routing table entry verification



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 326

When you troubleshoot an IPv4 connectivity issue on a router, which three router configuration checks you must perform? (choose three)

- A. Verify that the router interface IP address IP address is correct.
- B. Verify that the DNS is configured correctly.
- C. Verify that the router and the host use the same subnet mask.
- D. Verify that the router firmware is up-to-date.
- E. Verify that a default route is configured.
- F. Verify that the route appears in the Routing table

**Correct Answer:** ACF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 327**

Configuration of which option is required on a Cisco switch for the Cisco IP phone to work?

- A. PortFast on the interface
- B. the interface as an access port to allow the voice VLAN ID
- C. a voice VLAN ID in interface and global configuration mode
- D. Cisco Discovery Protocol in global configuration mode

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 328**

Which method does a connected trunk port use to tag VLAN traffic?

- A. IEEE 802 1w
- B. IEEE 802 1D
- C. IEEE 802 1Q
- D. IEEE 802 1p

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 329**

Which RFC was created to alleviate the depletion of IPv4 public addresses?

- A. RFC 4193
- B. RFC 1519
- C. RFC 1518
- D. RFC 1918

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 330**

What is the default lease time for a DHCP binding?

- A. 24 hours
- B. 12 hours
- C. 48 hours
- D. 36 hours

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 331**

Which NAT type is used to translate a single inside address to a single outside address?

- A. dynamic NAT
- B. NAT overload
- C. PAT
- D. static NAT

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 332**

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

- A. bus
- B. star
- C. mesh
- D. ring

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 333**

Which statement about a router on a stick is true?

- A. Its data plane router traffic for a single VLAN over two or more switches
- B. It uses multiple subinterfaces of a single interface to encapsulate traffic for different VLANs on the same subnet
- C. It requires the native VLAN to be disabled
- D. It uses multiple subinterfaces of a single interface to encapsulate traffic for different VLANs.

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 334**

By default, how many MAC addresses are permitted to be learned on a switch port with port security enabled?

- A. 8



- B. 2
- C. 1
- D. 0

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 335**

Which device allows users to connect to the network using a single or double radio?

- A. access point
- B. switch
- C. wireless controller
- D. firewall

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 336**

When enabled, which feature prevents routing protocols from sending hello messages on an interface?

- A. virtual links
- B. passive-interface
- C. directed neighbors
- D. OSPF areas

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 337**

Refer to the exhibit. Which statement describes the effect of this configuration?

```
Router# configure terminal
Router(config)# vlan 10
Router(config-vlan)# do show vlan
```

- A. The VLAN 10 VTP configuration is displayed
- B. VLAN 10 spanning-tree output is displayed
- C. The VLAN 10 configuration is saved when the router exits VLAN configuration mode
- D. VLAN 10 is added to the VLAN database

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 338**

Which route source code represents the routing protocol with a default administrative distance of 90 in the routing table?

- A. S
- B. E
- C. D
- D. R
- E. O

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 339**

Which statement about native VLAN traffic is true?

- A. Cisco Discovery Protocol traffic travels on the native VLAN by default
- B. Traffic on the native VLAN is tagged with 1 by default
- C. Control plane traffic is blocked on the native VLAN.
- D. The native VLAN is typically disabled for security reasons

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 340**

Which statement about unicast frame forwarding on a switch is true?

- A. The TCAM table stores destination MAC addresses
- B. If the destination MAC address is unknown, the frame is flooded to every port that is configured in the same VLAN except on the port that it was received on
- C. The CAM table is used to determine whether traffic is permitted or denied on a switch
- D. The source address is used to determine the switch port to which a frame is forwarded

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 341**

Which component of the routing table ranks routing protocols according to their preferences?

- A. administrative distance
- B. next hop
- C. metric
- D. routing protocol code

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 342**

What is the effect of the overload keyword in a static NAT translation configuration?

- A. It enables port address translation
- B. It enables the use of a secondary pool of IP addresses when the first pool is depleted.
- C. It enables the inside interface to receive traffic.
- D. It enables the outside interface to forward traffic.

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 343**

Which two statements about VTP are true? (Choose two.)

- A. All switches must be configured with the same VTP domain name
- B. All switches must be configured to perform trunk negotiation.
- C. All switches must be configured with a unique VTP domain name
- D. The VTP server must have the highest revision number in the domain
- E. All switches must use the same VTP version.

**Correct Answer: AD**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 344**

```
R1@show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.13.0/24 is directly connected, FastEthernet0/1
C    192.168.14.0/24 is directly connected, FastEthernet1/0
     192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O     192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O     192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O     192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D     192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

Refer to the exhibit. On R1 which routing protocol is in use on the route to 192.168.10.1?

- A. RIP
- B. OSPF
- C. IGRP
- D. EIGRP

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 345

Which two options are the best reasons to use an IPV4 private IP space? (Choose two)

- A. to enable intra-enterprise communication
- B. to implement NAT
- C. to connect applications
- D. to conserve global address space
- E. to manage routing overhead

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 346**

Assuming a subnet mask of 255.255.248.0, three of the following addresses are valid host addresses.

Which are these addresses? (Choose three.)

- A. 172.16.9.0
- B. 172.16.8.0
- C. 172.16.31.0
- D. 172.16.20.0



**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 347**

Which type does a port become when it receives the best BPDU on a bridge?

- A. The designated port
- B. The backup port
- C. The alternate port
- D. The root port

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 348**

Which value can you modify to configure a specific interface as the preferred forwarding interface?

- A. The interface number
- B. The port priority
- C. The VLAN priority
- D. The hello time

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 349**

Which statement about VLAN configuration is true?

- A. The switch must be in VTP server or transparent mode before you can configure a VLAN
- B. The switch must be in config-vlan mode before you configure an extended VLAN
- C. Dynamic inter-VLAN routing is supported on VLAN2 through VLAN 4064
- D. A switch in VTP transparent mode save the VLAN databases to the running configuration only

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 350**

In which two situations should you use out-of-band management?

- A. when a network device fails to forward packets
- B. when you require ROMMON access
- C. when management applications need concurrent access to the device
- D. when you require administrator access from multiple locations
- E. when the control plane fails to respond

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 351**

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. SAP
- E. STP



**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 352**

Which command can you enter to configure a local username with an encrypted password and EXEC mode user privileges?

- A. Router(config)#username jdone privilege 1 password 7 08314D5D1A48
- B. Router(config)#username jdone privilege 1 password 7 PASSWORD1
- C. Router(config)#username jdone privilege 15 password 0 08314D5D1A48
- D. Router(config)#username jdone privilege 15 password 0 PASSWORD1



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 353**

What happens when an 802.11a node broadcasts within the range of an 802.11g access point?

- A. The access point transmits, but the node is unable to receive.
- B. A connection occurs.
- C. Both the node and the access point are unable to transmit.
- D. The node transmits, but the access point is unable to receive.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 354**

Which value is indicated by the next hop in a routing table?

- A. preference of the route source
- B. IP address of the remote router for forwarding the packets
- C. how the route was learned
- D. exit interface IP address for forwarding the packets

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 355**

Which statement about the inside interface configuration in a NAT deployment is true?

- A. It is defined globally
- B. It identifies the location of source addresses for outgoing packets to be translated using access or route maps.
- C. It must be configured if static NAT is used
- D. It identifies the public IP address that traffic will use to reach the internet

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 356**

Which option is the default switch port port-security violation mode?

- A. shutdown
- B. protect
- C. shutdown vlan
- D. restrict



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 357**

Which entity assigns IPv6 addresses to end users?

- A. ICANN
- B. APNIC
- C. RIR
- D. ISPs

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 358**

Which NTP type designates a router without an external reference clock as an authoritative time source?

- A. server
- B. peer
- C. master
- D. client

**Correct Answer:** C

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 359**

Which 3 feature are represented by A letter in AAA? (Choose three)

- A. authorization
- B. accounting
- C. authentication
- D. accountability
- E. accessibility
- F. authority

**Correct Answer:** ABC

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 360**

When you deploy multilink PPP on your network, where must you configure the group IP Address on each device?

- A. in the global config
- B. Under serial interface
- C. Under the routing protocol
- D. Under the multilink interface

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 361**

What are two statement for SSH?

- A. use port 22
- B. unsecured
- C. encrypted
- D. most common remote-access method
- E. operate at transport



**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 362**

What is a possible reason why a host is able to ping a web server but it is not able to do an HTTP request?

- A. ACL blocking port 23
- B. ACL blocking All ports
- C. ACL blocking port 80
- D. ACL blocking port 443
- E. None of the above

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 363**

Which NTP command configures the local devices as an NTP reference clock source?

- A. NTP Peer
- B. NTP Broadcast
- C. NTP Master
- D. NTP Server

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 364**

Which item represents the standard IP ACL?

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 365**

Which statement about recovering a password on a Cisco router is true?

- A. The default reset password is cisco
- B. It requires a secure SSI/VPN connection
- C. A factory resset is required if you forget the password
- D. It requires physical access to the router

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 366**

Where information about untrusted hosts are stored?

- A. CAM table
- B. Trunk table
- C. MAC table
- D. binding database



**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 367**

Which two statements about TACACS+ are true? (Choose two.)

- A. It can run on a UNIX server.
- B. It authenticates against the user database on the local device.
- C. It is more secure than AAA authentication.
- D. It is enabled on Cisco routers by default.
- E. It uses a managed database.

**Correct Answer:** AE

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 368**

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

**Correct Answer: BC**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 369**

In order to comply with new auditing standards, a security administrator must be able to correlate system security alert logs directly with the employee who triggers the alert. Which of the following should the security administrator implement in order to meet this requirement?

- A. Access control lists on file servers
- B. Elimination of shared accounts
- C. Group-based privileges for accounts
- D. Periodic user account access reviews

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 370**

If you want multiple hosts on a network, where do you configure the setting?

- A. in the IP protocol
- B. in the multicast interface
- C. in the serial interface
- D. in the global configuration

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 371**

Which option is the benefit of implementing an intelligent DNS for a cloud computing solution?

- A. It reduces the need for a backup data center.
- B. It can redirect user requests to locations that are using fewer network resources.
- C. It enables the ISP to maintain DNS records automatically.
- D. It eliminates the need for a GSS.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 372**

Which statement about the IP SLAs ICMP Echo operation is true?

- A. The frequency of the operations specified in milliseconds.
- B. It is used to identify the best source interface from which to send traffic.
- C. It is used to identify the best source interface from which to send traffic.
- D. It is used to determine the frequency of ICMP packets.



**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 373**

Which action can change the order of entries in a named access-list?

- A. removing an entry
- B. opening the access-list in notepad
- C. adding an entry
- D. resequencing

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 374**

Which two components are used to identify a neighbor in a BGP configuration? (Choose two.)

- A. autonomous system number
- B. version number
- C. router ID
- D. subnet mask
- E. IP address

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 375**

Which component of a routing table entry represents the subnet mask?

- A. Routing protocol code
- B. Prefix
- C. metric
- D. Network mask

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 376

How can you disable DTP on a switch port?

- A. Configure the switch port as a trunk.
- B. Add an interface on the switch to a channel group.
- C. Change the operational mode to static access
- D. Change the administrative mode to access



**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 377

What are three components that comprise the SNMP framework? (Choose three)

- A. MIB
- B. manager
- C. supervisor
- D. agent
- E. set
- F. AES

**Correct Answer:** ABD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 378**

Which technology can enable multiple VLANs to communicate with one another?

- A. inter-VLAN routing using a Layer 3 switch
- B. inter-VLAN routing using a Layer 2 switch
- C. intra-VLAN routing using router on a stick
- D. intra-VLAN routing using a Layer 3 switch

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 379**

Which command you enter on a switch to display the ip address associated with connected devices?

- A. Show cdp neighbors detail
- B. Show cdp neighbor
- C. Show cdp interface
- D. Show cdp traffic

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 380**

Which protocol is a Cisco proprietary implementation of STP?

- A. CST
- B. RSTP
- C. MSTP
- D. PVST+

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 381**

Which Type of ipv6 unicast ip address is reachable across the Internet?

- A. Unique Local
- B. Compatible
- C. Link local
- D. Globa



**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 382**

Refer to the exhibit. Which command do you enter so that R1 advertises the Loopback0 interface to the BGP peers?

```
interface Loopback0  
  ip address 172.16.1.33 255.255.255.224  
router bgp 999  
  neighbor 10.1.5.2 remote-as 65001
```

- A. network 172.16.1.32 mask 255.255.255.224
- B. network 172.16.1.0 0.0.0.255
- C. network 172.16.1.32 255.255.255.224
- D. network 172.16.1.33 mask 255.255.255.224
- E. network 172.16.1.32 mask 0.0.0.31
- F. network 172.16.1.32 0.0.0.31

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 383

Which networking Technology is currently recognized as the standard for computer networking?

- A. System network architecture
- B. Transmission control protocol/Internet protocol
- C. Open system Interconnect
- D. Open network architecture



**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 384

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.

**Correct Answer:** CF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 385**

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

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 386**

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

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

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 387**

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

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

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 388**

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 389**

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

**Correct Answer:** A

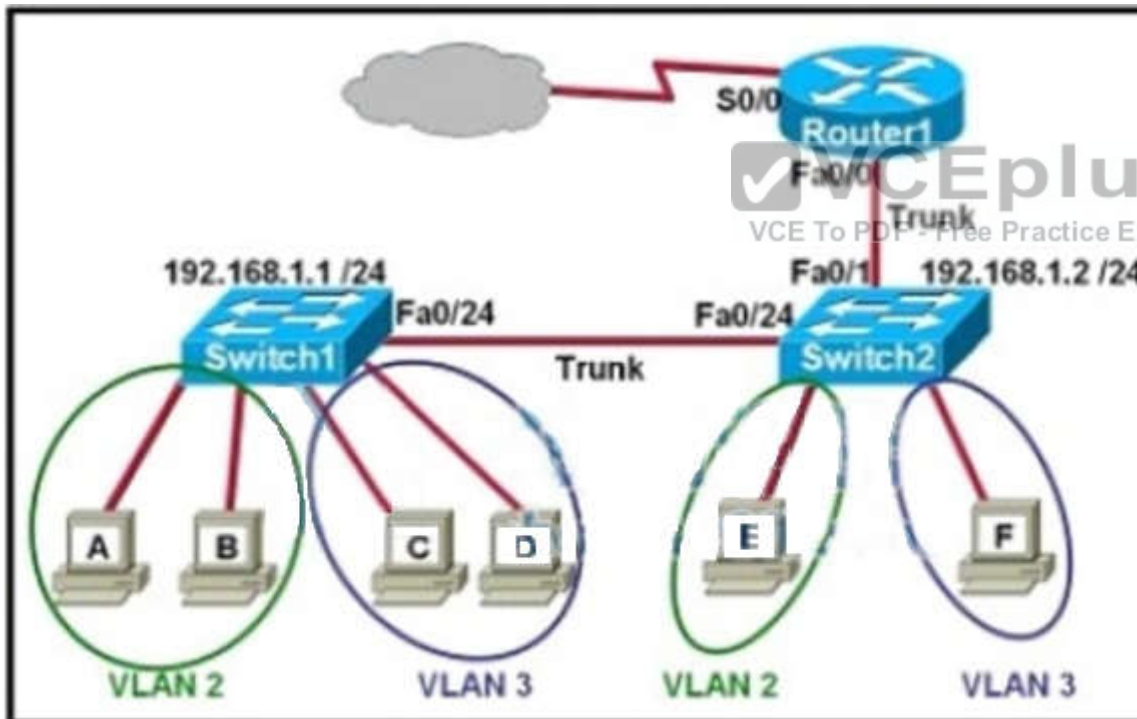
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 390**

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.

**Correct Answer:** DF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 391**

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

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



**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 392**

Which command enables RSTP on a switch?

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

**Correct Answer:** A

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 393**

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.

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 394**

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.

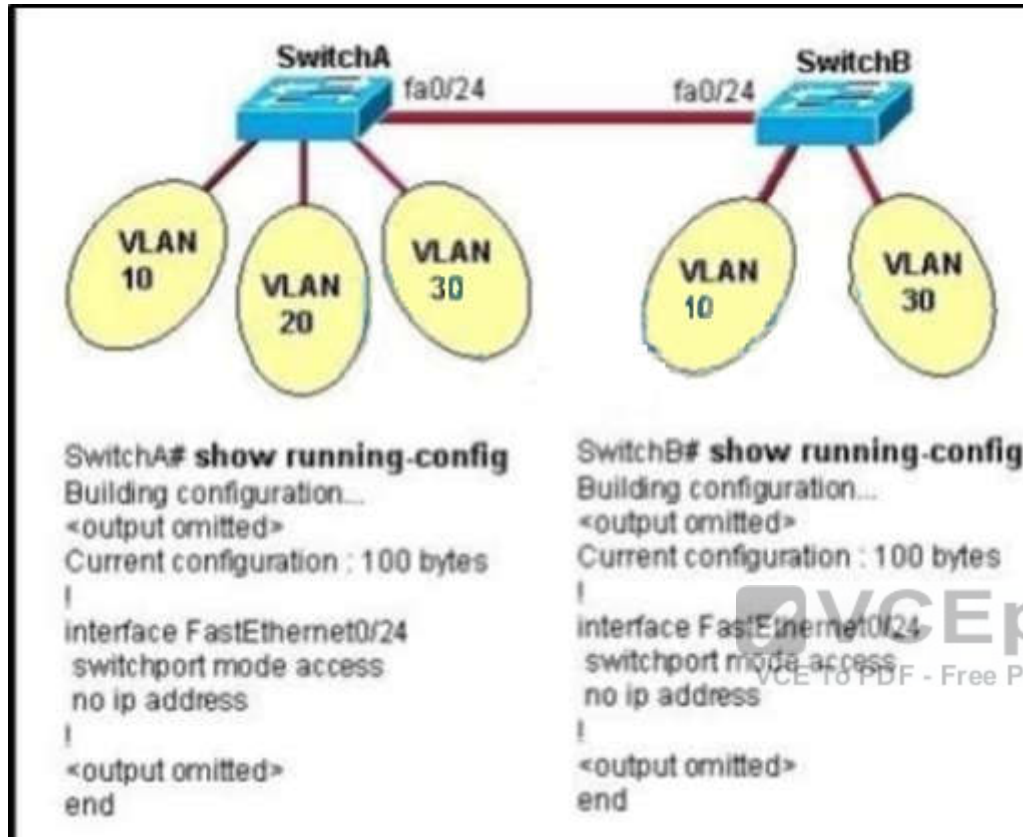
**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 395**



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

**Correct Answer: C**

**Section: (none)**

**Explanation****Explanation/Reference:****QUESTION 396**

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

**Correct Answer:** A

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 397**

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

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

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 398**

Which command shows your active Telnet connections?

- A. show session

- B. show cdp neighbors
- C. show users
- D. show queue

**Correct Answer:** A

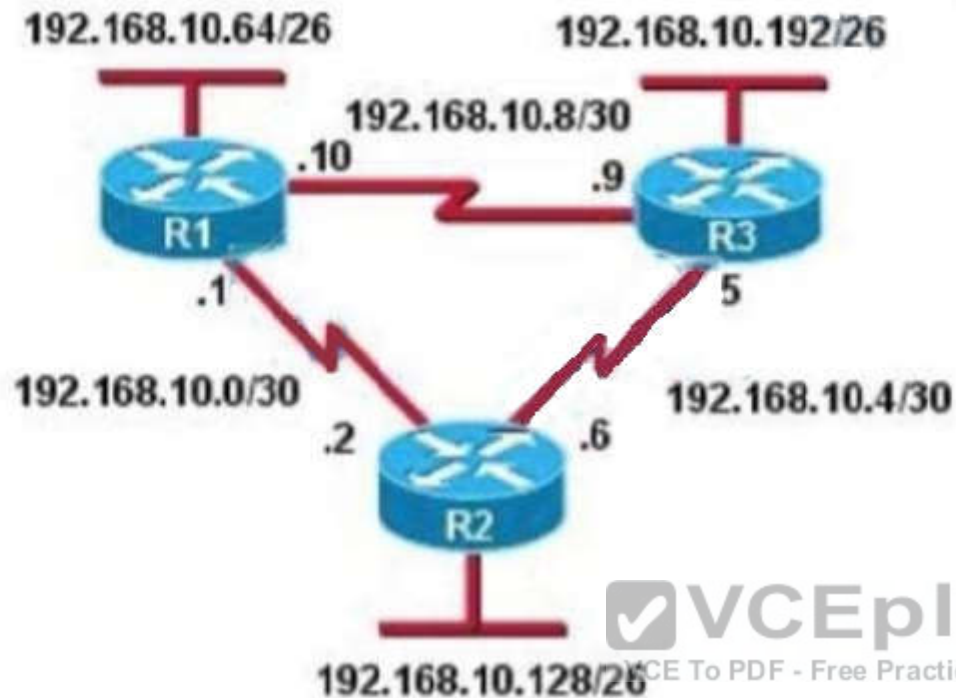
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 399**

Refer to the exhibit.



R3#show ip route

Gateway of last resort is not set

192.168.10.0/24 is variably subnetted, 6 subnets, 2 masks

- D 192.168.10.64/26 [90/2195456] via 192.168.10.9, 00:03:31, Serial0/0
- D 192.168.10.0/30 [90/2681856] via 192.168.10.9, 00:03:31, Serial0/0
- [90/2681856] via 192.168.10.5, 00:03:31, Serial0/1
- C 192.168.10.4/30 is directly connected, Serial0/1
- C 192.168.10.8/30 is directly connected, Serial0/0
- C 192.168.10.192/26 is directly connected, FastEthernet0/0
- D 192.168.10.128/26 [90/2195456] via 192.168.10.5, 00:03:31, Serial0/1

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 400

```
Router#config
```

```
Router(config)#line vty 0 4
```

```
Router(config-line)#password c1sc0
```

```
Router(config-line)#login
```



Refer to the exhibit. Which user-mode password has just been set?

- A. Telnet
- B. Auxiliary
- C. SSH
- D. Console

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 401**

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.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 402**

How is provided master redundancy on a stacked switches?

- A. 1:N
- B. N:1
- C. 1:1
- D. 1+N

**Correct Answer:** A

**Section:** (none)

**Explanation**

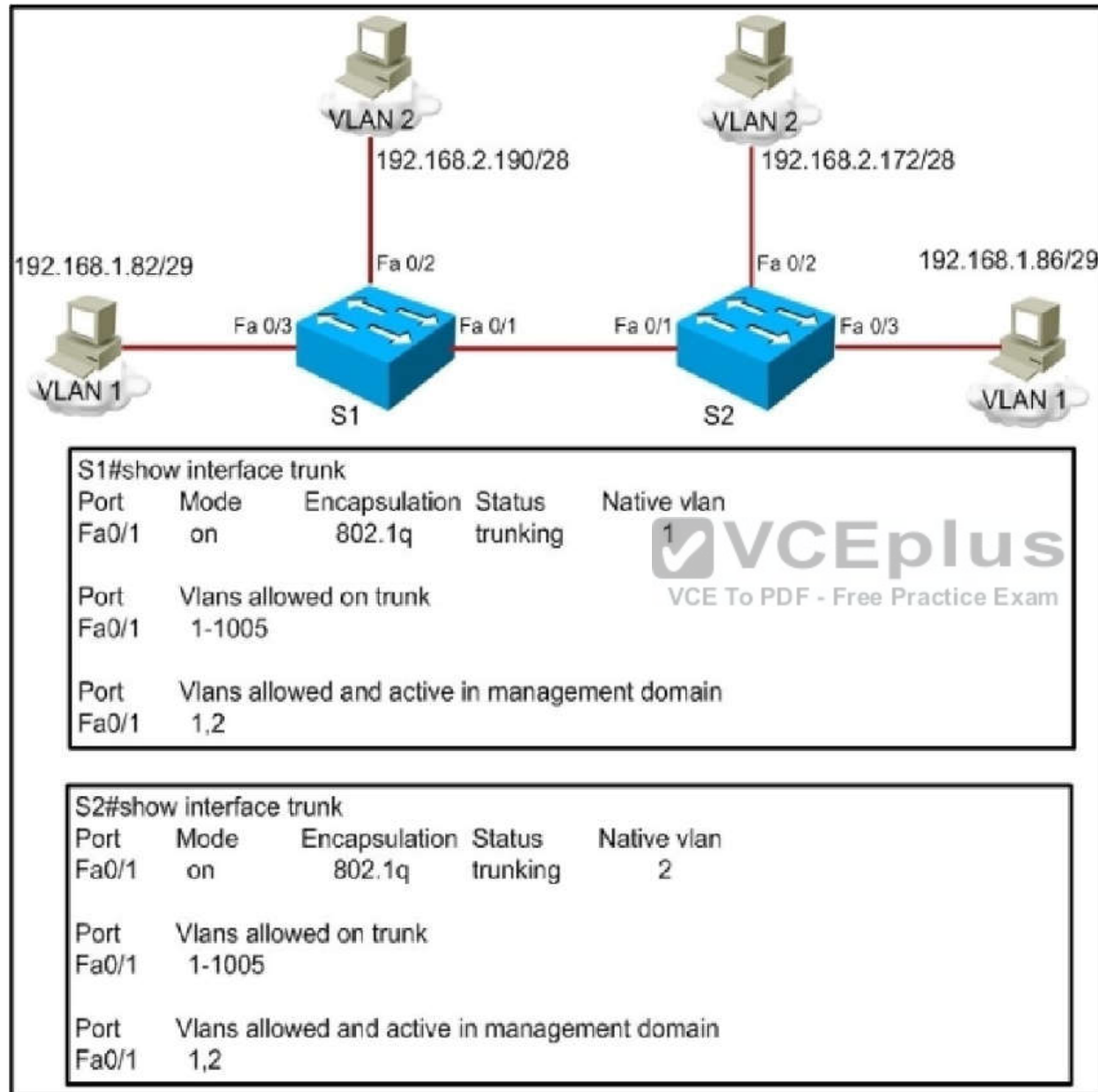
**Explanation/Reference:**



**QUESTION 403**

Refer to the exhibit A frame on vlan 1 on switch s1 is sent to switch s2 when the frame is received on vlan2, what causes this behavior?





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

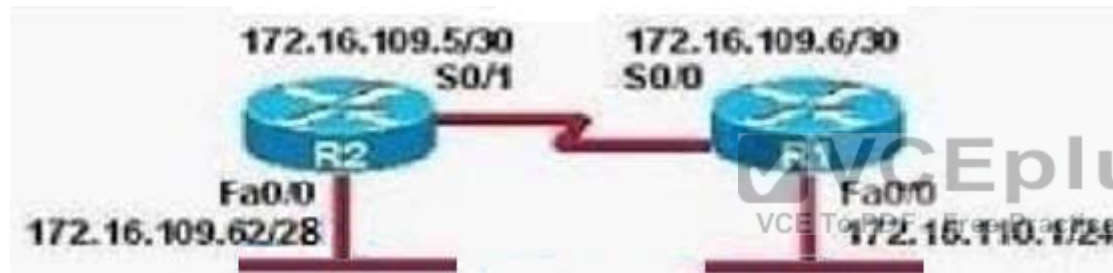
**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 404



**R2# show interface brief**

Interface	IP Address	OK?	Method	Status	Protocol
FastEthernet0/0	172.16.109.62	YES	manual	up	up
Serial0/0	unassigned	YES	unset	administratively down	down
Serial0/1	172.16.109.5	YES	manual	up	up

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

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 405**

Why will a switch never learn a broadcast address?

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 406**

Which definition of default route is true?

- A. A route that is manually configured.
- B. A route used when a destination route is missing.
- C. A route to the exact /32 destination address
- D. Dynamic route learned from the server.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 407**

Which value must a device send as its username when using CHAP to authenticate with a remote peer site id:17604704 over a PPP link?

- A. the username defined by the administrator
- B. the local hostname
- C. the automatically-generated username
- D. the hostname of the remote device

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 408**

What can you change to select switch as root bridge?

- A. make lower priority
- B. make higher priority
- C. make lower path cost
- D. make higher path cost

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 409**

Refer to exhibit. What Administrative distance has route to 192.168.10.1?

```
R1@show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C    192.168.12.0/24 is directly connected, FastEthernet0/0
C    192.168.13.0/24 is directly connected, FastEthernet0/1
C    192.168.14.0/24 is directly connected, FastEthernet1/0
     192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O     192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O     192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O     192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D     192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

- A. 1
- B. 90
- C. 110
- D. 120

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 410

Which statement about IPv6 link-local addresses is true?

- A. They must be configured on all IPv6 interface

- B. They must be globally unique
- C. They must be manually configured
- D. They are advertised globally on the network

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 411**

Which configuration can be used with PAT to allow multiple inside address to be translated to a single outside address?

- A. Dynamic Routing
- B. DNS
- C. Preempt
- D. overload

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### **QUESTION 412**

Which two types of information are held in the MAC address table? (Choose two)

- A. MAC address
- B. source IP address
- C. destination IP address
- D. Protocols
- E. Port numbers

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 413**

Which command can you enter to create a NAT pool of 6 addresses?

- A. Router(config)#ip nat pool test 175.17.12.69 175.17.12.74 prefix-length 24
- B. Router(config)#ip nat pool test 175.17.12.69 175.17.13.74 prefix-length 16
- C. Router(config)#ip nat pool test 175.17.12.66 175.17.12.72 prefix-length 8
- D. Router(config)#ip nat pool test 175.17.12.69 175.17.12.76 prefix-length 8

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 414**

Which header field is new on IPv6?

- A. Version
- B. Hop Limit
- C. Flow Label
- D. Traffic Class

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 415**

Which value is used to determine the active router in an HSRP default configuration?

- A. Router loopback address
- B. Router IP address



- C. Router priority
- D. Router tracking number

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 416**

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

- A. Desirable
- B. Auto
- C. On
- D. Blocking
- E. Transparent
- F. Forwarding

**Correct Answer:** ABC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 417**

Which value must you configure on a device before EIGRP for IPv6 can start running?

- A. public IP address
- B. loopback interface
- C. router ID
- D. process ID

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 418**

Which type of attack can be mitigated by configuring the default native VLAN to be unused?

- A. CAM table overflow
- B. switch spoofing
- C. VLAN hopping
- D. MAC spoofing

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 419**

Which option describes a difference between EIGRP for IPv4 and IPv6?

- A. Only EIGRP for IPv6 advertises all connected networks.
- B. Only EIGRP for IPv6 requires a router ID to be configured under the routing process
- C. As numbers are configured in EIGRP but not in EIGRPv3.
- D. Only EIGRP for IPv6 is enabled in the global configuration mode.

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 420**

Which option describes the purpose of traffic policing?

- A. It prioritizes routing protocol traffic.
- B. It remarks traffic that is below the CIR

- C. It drops traffic that exceeds the CIR.
- D. It queues and then transmits traffic that exceeds the CIR.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 421**

Which process is associated with spanning-tree convergence?

- A. determining the path cost
- B. electing designated ports
- C. learning the sender bridge ID
- D. assigning the port ID

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 422**

What is a difference between TACACS+ and RADIUS in AAA?

- A. Only TACACS+ allows for separate authentication.
- B. Only RADIUS encrypts the entire access-request packet.
- C. Only RADIUS uses TCP
- D. Only TACACS+ couples authentication and authorization.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 423**

Which option is a benefit of switch stacking?

- A. It provides redundancy with no impact on resource usage
- B. It simplifies adding and removing hosts.
- C. It supports better performance of high-needs applications.
- D. It provides higher port density with better resource usage.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 424**

Which port state is introduced by Rapid-PVST?

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 425**

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

- A. transparent
- B. auto
- C. on
- D. desirable

- E. client
- F. forwarding

**Correct Answer:** BCD

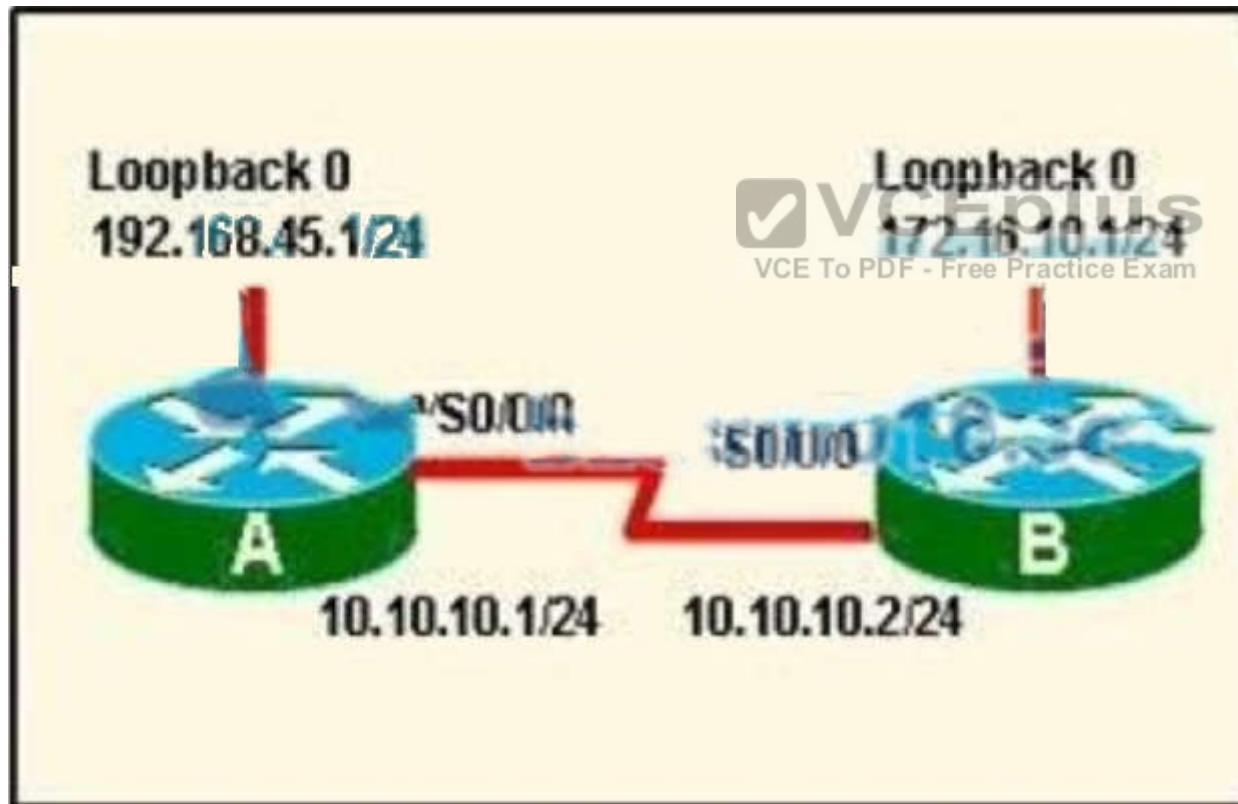
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 426**

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 value of the dead timers on the router 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.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 427

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

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### QUESTION 428

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

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

- 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 on`  
`Switchport trunk encapsulation dot1q`  
`Switchport mode trunk`
- D. `interface FastEthernet 0/3`  
`Channel-group 2 mode active`  
`Switchport trunk encapsulation dot1q`  
`Switchport mode trunk`



**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 429

While troubleshooting a connection problem on a computer, you determined that the computer can ping a specific web server but it cannot connect to TCP port 80 on that server. Which reason for the problem is most likely true?

- A. A VLAN number is incorrect
- B. An ARP table entry is missing
- C. A route is missing

D. An ACL is blocking the TCP port

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 430

When troubleshooting Ethernet connectivity issues, how can you verify that an IP address is known to a router?

- A. Check whether the IP address is in the routing table
- B. Check whether an ACL is blocking the IP address
- C. Check whether the IP address is in the CAM table
- D. Check whether the IP address is in the ARP table

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### QUESTION 431

```
R1
interface FastEthernet0/0
  ip address 172.16.10.1 255.255.255.224

interface FastEthernet0/1
  ip address 172.16.10.33 255.255.255.240

router rip
  network 172.16.0.0
no auto-summary
```

Refer to the exhibit. After you apply the given configuration to R1, you determine that it is failing to advertise the 172.16.10.32/27 network. Which action most likely to correct the problem.



- A. Enable passive interface
- B. Enable RIPv2
- C. Enable manual summarization
- D. Enable autosummarization.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 432**

Which two steps must you perform on each device that is configured for IPv4 routing before you implement OSPFv3? (Choose two)

- A. configure an autonomous system number
- B. configure a loopback interface
- C. configure a router ID
- D. Enable IPv6 on an interface
- E. Enable IPv6 unicast routing



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 433**

Which option is the main function of congestion management?

- A. discarding excess traffic
- B. queuing traffic based on priority
- C. classifying traffic
- D. providing long-term storage of buffered data

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 434**

Which command must you enter to enable OSPFV2 in an IPV4 network?

- A. ip ospf hello-interval seconds
- B. router ospfv2 process-id
- C. router ospf value
- D. router ospf process-id

**Correct Answer:** D

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 435**

Which type of secure MAC address must be configured manually?

- A. dynamic
- B. bia
- C. static
- D. sticky

**Correct Answer:** C

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 436**

Which two options are fields in an Ethernet frame? (Choose two.)

- A. frame check sequence

- B. header
- C. source IP address
- D. destination IP address
- E. type

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 437**

Which command can you enter on a switch to determine the current SNMP security model?

- A. show snmp group
- B. show snmp pending
- C. snmp-server contact
- D. show snmp engineID

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 438**

Which two statements about access points are true? (Choose two)

- A. They can provide access within enterprises and to the public.
- B. in Most cases, they are physically connected to other network devices to provide network connectivity
- C. They can protect a network from internal and external threats.
- D. Most access points provide Wi-Fi and Bluetooth connectivity.
- E. They must be hardwired to a modem.

**Correct Answer:** BD

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 439**

Which two statements about IPv6 address 2002:ab10:beef::/48 are true? (Choose two.)

- A. The embedded IPv4 address can be globally routed.
- B. It is used for an ISATAP tunnel
- C. The embedded IPv4 address is an RFC 1918 address
- D. The MAC address 20:02:b0:10:be:ef is embedded into the IPv6 address
- E. It is used for a 6to4 tunnel

**Correct Answer:** AE

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 440**

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 optimized bandwidth usage.
- C. PVST+allow the root switch location to be optimized per vlan.
- D. PVST+supports Layer 3 load balancing without loops.

**Correct Answer:** C

**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 441**

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.

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 442**

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

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



**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 443**

Which PPP subprotocol negotiates authentication options?

- A. NCP
- B. LCP
- C. ISDN
- D. DLCI
- E. SLIP

**Correct Answer:** B

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 444**

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.

**Correct Answer: AD**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 445**

While troubleshooting a DHCP client that is behaving erratically, you discover that the client has been assigned the same IP address as a printer that is a static IP address. Which option is the best way to resolve the problem?

- A. Configure a static route to the client.
- B. Assign the client the same IP address as the router.
- C. Move the client to another IP subnet
- D. Move the printer to another IP subnet.
- E. Reserve the printer IP address.

**Correct Answer: E**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 446**

Under which circumstance is a router on a stick most appropriate?

- A. When a router has multiple subnets on a single physical link.
- B. When a router has single subnet on multiple physical links.
- C. When a router has multiple interface on single physical links.
- D. When a router has single interface on multiple physical links.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 447**

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

```
router# show ip eigrp topology 10.0.0.5 255.255.255.255
IP-EIGRP topology entry for 10.0.0.5/32 State is Passive, Query
origin flag is 1, 1 Successor(s), FD is 41152000
```

- A. 10.1.0.1 (Serial0), from 10.1.0.1, Send flag is 0x0  
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 0x0  
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

- C. 10.1.0.3 (Serial0), from 10.1.0.3, Send flag is 0x0  
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 0x0  
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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 448**

Which of the port is not part of STP protocol?

- A. Listening
- B. Learning
- C. Forwarding
- D. Discarding

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 449**

Which port security violation mode allows traffic from valid mac address to pass but block traffic from invalid mac address?

- A. protect
- B. shutdown
- C. shutdown vlan
- D. restrict

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 450**

Which type of routing protocol operates by exchanging the entire routing information?

- A. distance vector protocols
- B. link state protocols
- C. path vector protocols
- D. exterior gateway protocols



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 451**

Which IPsec security protocol should be used when confidentiality is required?

- A. MD5
- B. PSK
- C. AH
- D. ESP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 452**

Which IPv6 routing protocol uses multicast group FF02::9 to send updates?

- A. static
- B. RIPng
- C. OSPFv3
- D. IS-IS for IPv6

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 453**

Which statement about upgrading a cisco IOS device with TFTP server?

- A. the operation is performed in active mode
- B. the operation is performed in unencrypted format
- C. the operation is performed in passive mode
- D. the cisco IOS device must be on the same LAN as the TFTP server

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 454**

Which three commands are required to enable NTP authentication on a Cisco router? (Choose three)

- A. ntp peer
- B. ntp max-associations
- C. ntp authenticate
- D. ntp trusted-key
- E. ntp authentication-key
- F. ntp refclock

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 455

Which functionality does an SVI provide?

- A. OSI Layer 2 connectivity to switches
- B. remote switch administration
- C. traffic routing for VLANs
- D. OSI Layer 3 connectivity to switches

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 456

Which three statements about IPv6 address fd14:920b:f83d:4079::/64 are true? (Choose three)

- A. The subnet ID is 14920bf83d
- B. The subnet ID is 4079
- C. The global ID is 14920bf83d
- D. The address is a link-local address
- E. The global ID is 4079

F. The address is a unique local address

**Correct Answer:** BCF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 457**

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

- A. It allows a single strand of fiber to support bidirectional communications
- B. It is used for long-distance and submarine cable systems
- C. It can multiplex up to 256 channels on a single fiber
- D. It supports both the SDH and SONET standards
- E. Each channel can carry up to a 1-Gbps signal
- F. It supports simplex communications over multiple strands of fiber

**Correct Answer:** CDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 458**

If two OSPF neighbors have formed complete adjacency and are exchanging link-state advertisements, which state have they reached?

- A. Exstart
- B. 2-Way
- C. FULL
- D. Exchange

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 459**

Which tunneling mechanism embeds an IPv4 address within an IPv6 address?

- A. Teredo
- B. 6to4
- C. 4to6
- D. GRE
- E. ISATAP

**Correct Answer:** B

**Section:** (none)

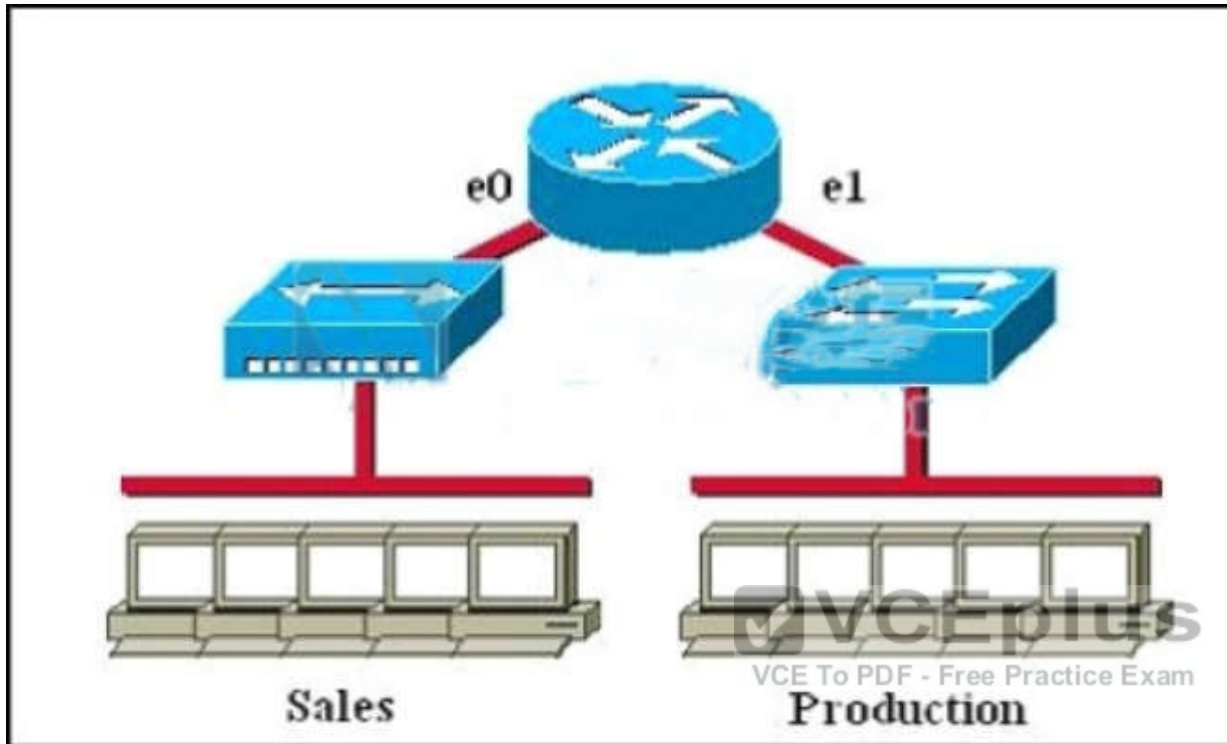
**Explanation**

**Explanation/Reference:**

**QUESTION 460**

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.

**Correct Answer:** AF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 461**

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

- A. 0000.0C07.AC15
- B. 0000.5E00.01A3
- C. 0007.B400.AE01
- D. 0007.5E00.B301

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 462**

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

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



**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 463**

Refer to the exhibit. Which two statements are true of the interfaces on switch1? (choose two)

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	Address Type	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. A hub is connected directly to FastEthernet0/5
- B. FastEthernet0/1 is configured as a trunk link.
- C. FastEthernet0/5 has statically assigned mac address



- D. Interface FastEthernet0/2 has been disable.
- E. Multiple devices are connected directly to FastEthernet0/1.
- F. FastEthernet0/1 is connected to a host with multiple network interface cards.

**Correct Answer:** AB

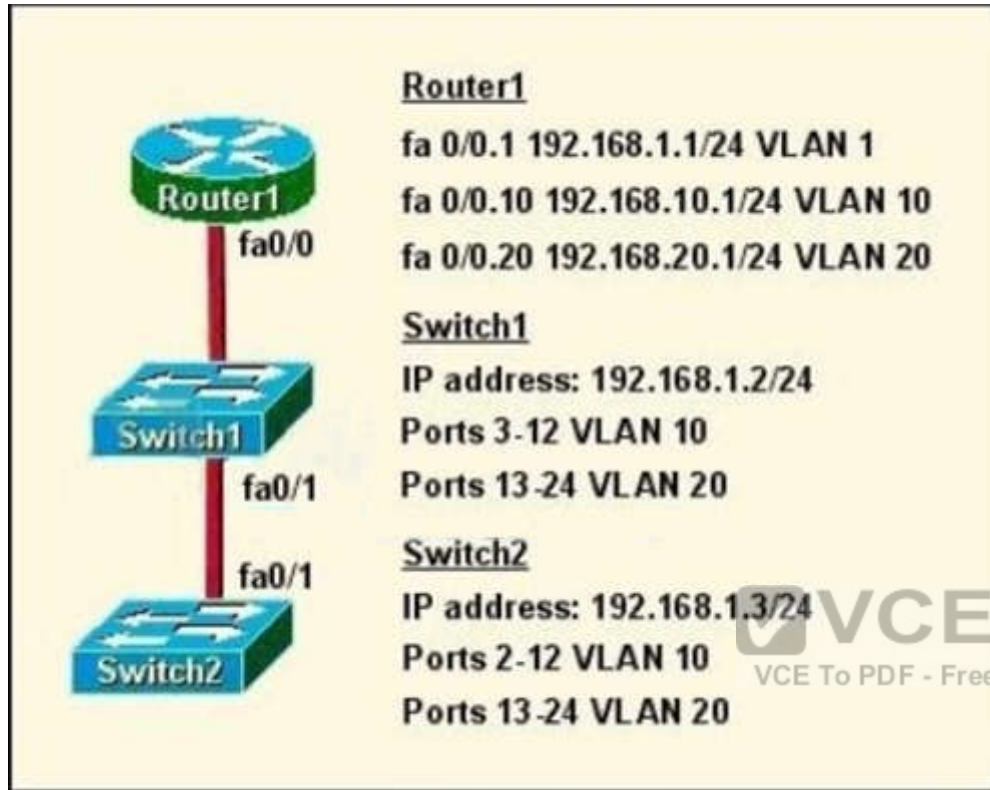
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 464**

Refer to the exhibit. How should the FastEthernet0/1 port on the 2950 model switches that are shown in the exhibit be configured to allow connectivity between all devices?



- A. The ports only need to be connected by a crossover cable.
- B. SwitchX(config)# interface FastEthernet 0/1  
SwitchX(config-if)# switchport mode trunk
- C. SwitchX(config)# interface FastEthernet 0/1  
SwitchX(config-if)# switchport mode access  
SwitchX(config-if)# switchport access vlan 1

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 465

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

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



**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 466

Which command do use we to see SNMP version

- A. show snmp pending
- B. show snmp engineID
- C. show snmp-server

D. show snmp version

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 467**

Which protocol does ipv6 use to discover other ipv6 nodes on the same segment?

- A. CLNS
- B. TCPv6
- C. NHRP
- D. NDP
- E. ARP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 468**

What is the most efficient subnet mask for a point to point ipv6 connection?

- A. /127
- B. /128
- C. /64
- D. /48
- E. /32

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 469**

What are three features of the IPV6 protocol? (Choose three.)

- A. complicated header
- B. plug-and-play
- C. no broadcasts
- D. checksums
- E. optional IPsec
- F. autoconfiguration

**Correct Answer:** BCF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 470**

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

**Correct Answer:** ACF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 471**

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

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 472**

Which feature can you use to restrict SNMP queries to a specific OID tree?

- A. server group
- B. a community
- C. a view record
- D. an access group

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 473**

Refer to the exhibit:

```
R1
ipv6 unicast-routing

interface FastEthernet0/0
  no ip address
ipv6 enable
  ipv6 address 3001:DBB:13::1/64
  ipv6 ospf 1 area 0
ipv6 router ospf 1
router-id 172.16.1.1
```

```
R2
ipv6 unicast-routing

interface FastEthernet0/0
  no ip address
  ipv6 enable
  ipv6 address 2001:DBB:12::12/64
  ipv6 ospf 1 area 3
ipv6 router ospf 1
router-id 172.16.3.3
```

After you apply the give configurations to R1 and R2 you notice that OSPFv3 fails to start.  
Which reason for the problem is most likely true?

- A. The area numbers on R1 and R2 are mismatched
- B. The IPv6 network addresses on R1 and R2 are mismatched
- C. The autonomous system numbers on R1 and R2 are mismatched
- D. The router ids on R1 and R2 are mismatched

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 474**

Which command can you enter in a network switch configuration so that learned mac addresses are saved in configuration as they connect?

- A. Switch(config-if)#Switch port-security
- B. Switch(config-if)#Switch port-security Mac-address sticky
- C. Switch(config-if)#Switch port-security maximum 10
- D. Switch(config-if)#Switch mode access

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 475**

Which RPVST+ port state is excluded from all STP operations?

- A. learning
- B. forwarding
- C. blocking
- D. disabled

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 476**

When is a routing table entry identified as directly connected?

- A. when the local router is in use as the network default gateway
- B. when the network resides on a remote router that is physically connected to the local router
- C. when an interface on the router is configured with an ip address and enabled



D. when the route is statically assigned to reach a specific network

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 477**

Which address block identifies all link-local addresses?

- A. FC00::/7
- B. FC00::/8
- C. FE80::/10
- D. FF00::/8

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 478**

Which option is the industry-standard protocol for EtherChannel?

- A. PAgP
- B. LACP
- C. Cisco Discovery Protocol
- D. DTP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 479**

For which two reasons was RFC 1918 address space defining (Choose two.)

- A. to preserve public IPv4 address space
- B. to reduce the occurrence of overlapping IP addresses
- C. to preserve public IPv6 address space
- D. reduce the size of ISP routing tables
- E. to support the NAT protocol

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 480**

Which two statements about RIPv2 are true? (Choose two.)

- A. It must be manually enabled after RIP is configured as the routing protocol
- B. It uses multicast address 224.0.0.2 to share routing information between peers
- C. its default administrative distances 120
- D. It is a link-state routing protocol
- E. It is an EGP routing protocol

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 481**

In which CLI configuration mode can you configure the hostname of a device?

- A. line mode
- B. interface mode
- C. global mode

D. router mode

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 482

In which two circumstances are private IPv4 addresses appropriate? (Choose two.)

- A. on internal hosts that stream data solely to external resources
- B. on hosts that communicates only with other internal hosts
- C. on the public-facing interface of a firewall
- D. on hosts that require minimal access to external resources
- E. to allow hosts inside an enterprise to communicate in both directions with hosts outside the enterprise

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### QUESTION 483

Which two statements about eBGP neighbor relationships are true? (Choose two.)

- A. The two devices must reside in different autonomous systems
- B. Neighbors must be specifically declared in the configuration of each device
- C. They can be created dynamically after the network statement is configured.
- D. The two devices must reside in the same autonomous system
- E. The two devices must have matching timer settings

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 484**

Which two pieces of information can be shared with LLDP TLVs? (Choose two.)

- A. device management address.
- B. device type
- C. spanning-tree topology
- D. routing configuration
- E. access-list configuration

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 485**

You work as a network engineer for SASCOM Network Ltd company. On router HQ, a provider link has been enabled and you must configure an IPv6 default route on HQ and make sure that this route is advertised in IPv6 OSPF process. Also, you must troubleshoot another issue. The router HQ is not forming an IPv6 OSPF neighbor relationship with router BR.

**Topology Details**

Two routers HQ and BR are connected via serial links.

Router HQ has interface Ethernet0/1 connected to the provider cloud and interface Ethernet0/0 connected to RA1.

Router BR has interface Ethernet0/0 connected to another router RA2.

**IPv6 Routing Details**

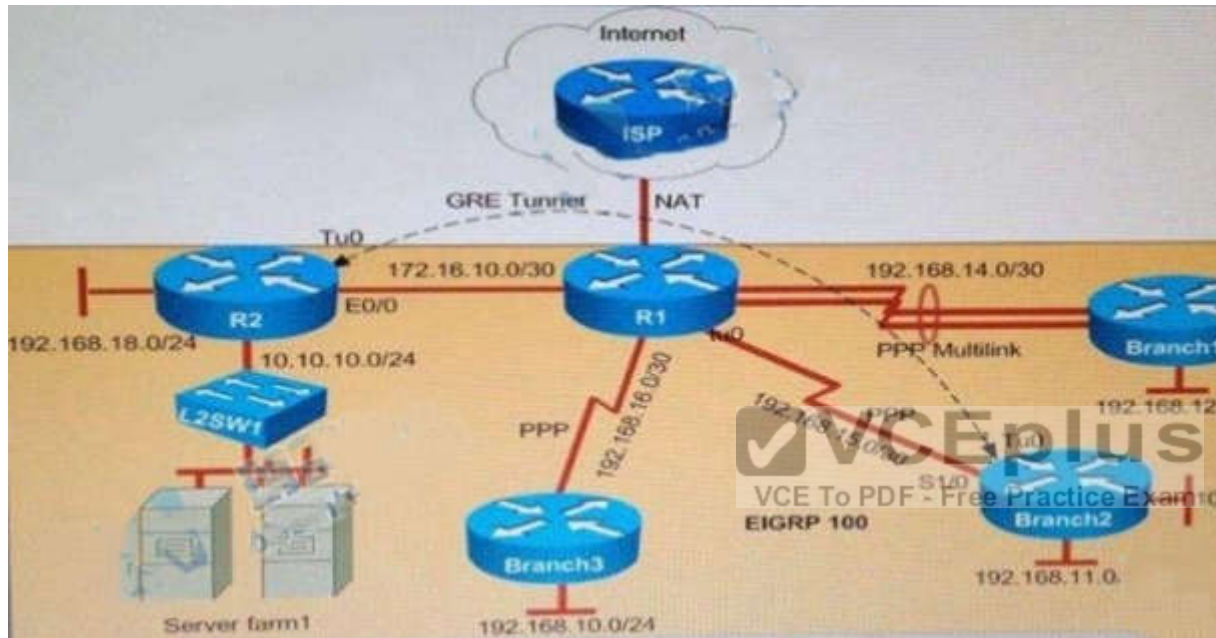
All routers are running IPv6 OSPF routing with process ID number 100. Refer to the topology diagram for information about the OSPF areas. The Loopback 0 IPv4 address is the OSPF router ID on each router.

**Configuration requirements**

- Configure IPv6 default route on router HQ with default gateway as 2001:DB8:B:B1B2::1
- Verify by pinging provider test IPv6 address 2001:DB8:0:1111::1 after configuring default route on HQ.
- Make sure that the default route is advertised in IPv6 OSPF on router HQ. This default route should be advertised only when HQ has a default route in its routing table.
- Router HQ is not forming IPv6 OSPF neighbor with BR. You must troubleshoot and resolve this issue.

**Special Note:** To gain the maximum numbers of points, you must complete the necessary configurations and fix IPv6 OSPF neighbor issue with router BR. IPv6 OSPFv3 must be configured without using address families. Do not change the IPv6 OSPF process ID.

Refer to the topology below and answer the following question.



Why is the Branch2 network 10.1 0.20.0/24 unable to communicate with the Server farm1 network 10.1 0.10.0/24 over the GRE tunnel?

- A. The GRE tunnel destination is not configured on the R2 router
- B. The GRE tunnel destination is not configured on the Branch2 router
- C. The static route points to the tunnel0 interface that is misconfigured on the Branch2 router
- D. The static route points to the tunnel0 interface that is misconfigured on the R2 router.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Branch2 network is communicating to the Server farm, which is connected to R2, via GRE Tunnel so we should check the GRE tunnel first to see if it is in “up/up” state with the “show ip interface brief” command on the two routers.

On Branch2:

Branch2#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	10.10.20.1	YES	manual	up	up
Ethernet0/1	192.168.11.1	YES	manual	up	up
Ethernet0/2	unassigned	YES	unset	administratively down	down
Ethernet0/3	unassigned	YES	unset	administratively down	down
Serial1/0	192.168.15.2	YES	manual	up	up
Serial1/1	unassigned	YES	unset	administratively down	down
Serial1/2	unassigned	YES	unset	administratively down	down
Serial1/3	unassigned	YES	unset	administratively down	down
Tunnel0	192.168.24.2	YES	manual	up	up

On R2:

R2#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	172.16.10.2	YES	manual	up	up
Ethernet0/1	10.10.10.1	YES	manual	up	up
Ethernet0/2	192.168.18.1	YES	manual	up	up
Ethernet0/3	unassigned	YES	unset	administratively down	down
Tunnel0	192.168.24.1	YES	manual	up	up

We see interfaces Tunnel0 at two ends are “up/up” which are good so we should check for the routing part on two routers with the “show running-config” command and pay attention to the static routing of each router. On Branch2 we see:

```
Branch2#show running-config
```

```
<output omitted>
```

```
ip route 10.10.10.0 255.255.255.0 192.168.24.10
```

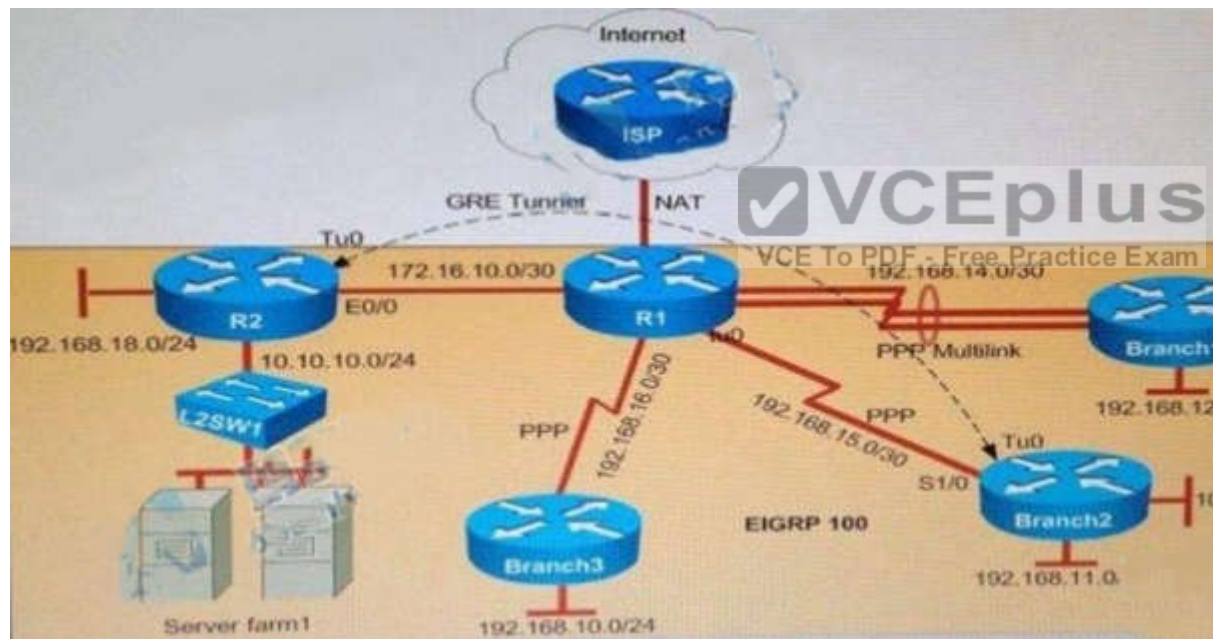
The destination IP address for this static route is not correct. It should be 192.168.24.1 (Tunnel0's IP address of R2), not 192.168.24.10 -> Answer C is correct.

Note: You can use the "show ip route" command to check the routing configuration on each router but if the destination is not reachable (for example: we configure "ip route 10.10.10.0 255.255.255.0 192.168.24.10" on Branch2, but if 192.168.24.10 is unknown then Branch2 router will not display this routing entry in its routing table.

Note: The IP address or configuration may be different in the exam.

#### QUESTION 486

Refer to the topology below and answer the following question.



Why has the Branch3 router lost connectivity with R1? Use only show commands to troubleshoot because usage of the debug command is restricted on the Branch3 and R1 routers.

- A. A PPP chap hostname mismatch is noticed between Branch3 and R1
- B. A PPP chap password mismatch is noticed between Branch3 and R1



- C. PPP encapsulation is not configured on Branch3
- D. The PPP chap hostname and PPP chap password commands are missing on the Branch3 router

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

First we should check Branch3 (and R1) with the “show ip interface brief” command to find any Layer1/Layer2 issue.

Branch3# show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	192.168.10.1	YES	manual	up	up
Ethernet0/1	unassigned	YES	unset	administratively down	down
Ethernet0/2	unassigned	YES	unset	administratively down	down
Ethernet0/3	unassigned	YES	unset	administratively down	down
Serial1/0	192.168.16.2	YES	manual	up	up
Serial1/1	unassigned	YES	unset	administratively down	down
Serial1/2	unassigned	YES	unset	administratively down	down
Serial1/3	unassigned	YES	unset	administratively down	down

We see interfaces connecting between them are in “up/down” states which indicates a Layer 2 issue so we should check the configuration of these interfaces carefully with the “show running-config” command and pay attention to these interfaces.



```
R1#show running-config
<output omitted>
interface Serial1/2
  ip address 192.168.16.1 255.255.255.252
  ip nat inside
  ip virtual-reassembly in
  encapsulation ppp
  ppp authentication chap
  serial restart-delay 0
```

and on Branch3:

```
Branch3# show running-config
<output omitted>
interface Serial1/0
  ip address 192.168.16.2 255.255.255.252
  encapsulation ppp
  ppp chap hostname Branch_3
  ppp chap password 0 Branch3 Secret!
  serial restart-delay 0
```

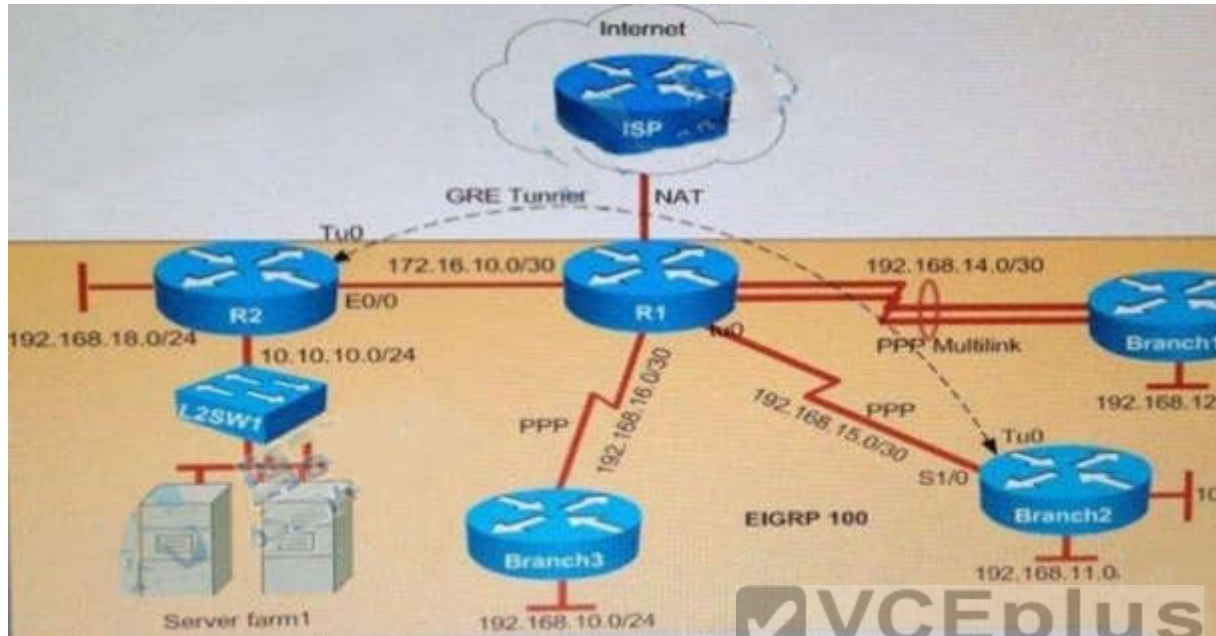
We learn from above config is R1 is using CHAP to authenticate Branch3 router (via the “ppp authentication chap” command on R1). Branch3 router is sending CHAP hostname “Branch\_3” and CHAP password “Branch3\_Secret!” to R1 to be authenticated. Therefore, we should check if R1 has already been configured with such username and password or not with the “show running-config” command on R1:

```
R1# show running-config
<output omitted>
username Branch2 password 0 Branch2_Secret!
username Branch3 password 0 Branch3_Secret!
```

On R1 we see the configured username is “Branch3”, not “Branch\_3” so the usernames here are mismatched and this is the problem -> Answer A is correct.

#### QUESTION 487

Refer to the topology below and answer the following question.



Which statement about the router configurations is correct?

- A. PPP PAP is authentication configured between Branch2 and R1
- B. Tunnel keepalives are not configured for the tunnel0 interface on Branch2 and R2
- C. The Branch 2 LAN network 192.168.11 0/24 is not advertised into the EIGRP network
- D. The Branch3 LAN network 192.168.10 0/24 is not advertised into the EIGRP network
- E. PPP CHAP is authentication configured between Branch1 and R1

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

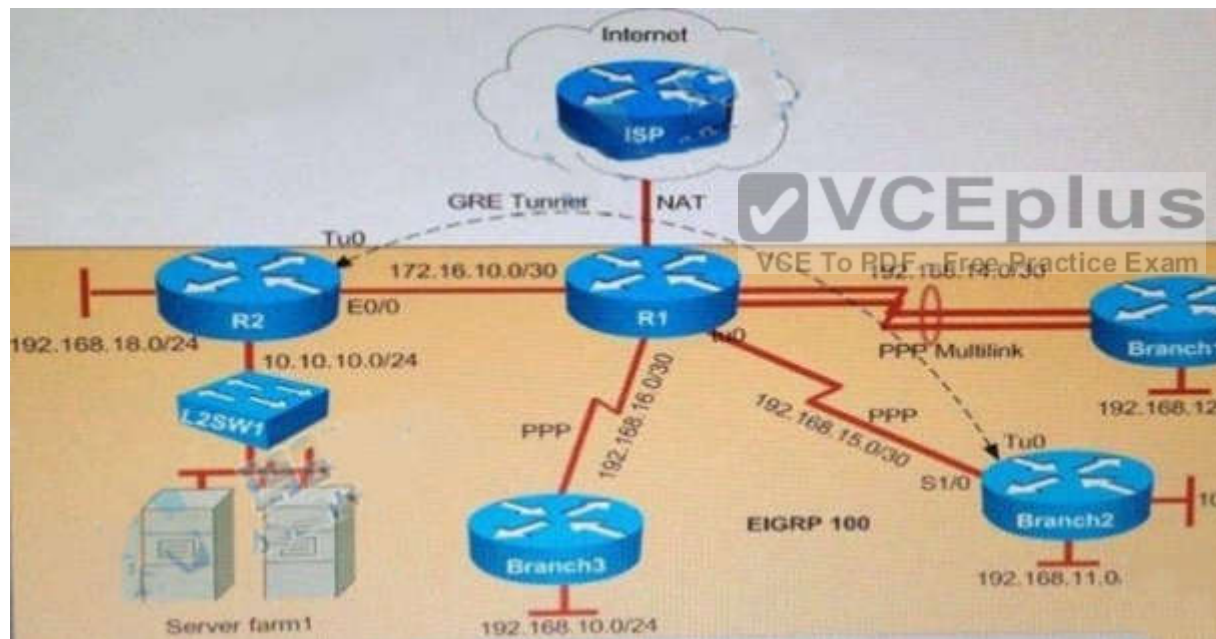
Explanation:

In this question we have to check each option to see if it is correct. When we check Branch3 router we notice that "network 192.168.10.0" command is missing under "router eigrp 100" -> Answer D is correct.

```
Branch3#show running-config
<output omitted>
!
router eigrp 100
  network 192.168.16.
!
```

#### QUESTION 488

Refer to the topology below and answer the following question.



Why did Branch1 router lose WAN connectivity with R1 router?

- A. The IP address is misconfigured on PPP multilink interface on the Branch1 router
- B. The PPP multilink group is misconfigured on the Branch1 serial interfaces

- C. The PPP multilink group is misconfigured on the R1 serial interfaces
- D. The Branch1 serial interfaces are placed in a shutdown condition

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

This question clearly stated there is a WAN connectivity issue between R1 and Branch1 so we should check both of them with the “show ip interface brief” command. On R1:

R1#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	172.16.10.1	YES	manual	up	up
Ethernet0/1	203.1.1.2	YES	manual	up	up
Ethernet0/2	unassigned	YES	unset	administratively down	down
Ethernet0/3	unassigned	YES	unset	administratively down	down
Serial1/0	unassigned	YES	unset	up	up
Serial1/1	unassigned	YES	unset	up	up
Serial1/2	192.168.16.1	YES	manual	up	down
Serial1/3	192.168.15.1	YES	manual	up	up
<u>Multilink1</u>	<u>192.168.14.1</u>	YES	manual	up	up
NV10	unassigned	NO	unset	up	up

On Branch1:

Branch1#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
Ethernet0/0	192.168.12.1	YES	manual	up	up
Ethernet0/1	unassigned	YES	unset	administratively down	down
Ethernet0/2	unassigned	YES	unset	administratively down	down
Ethernet0/3	unassigned	YES	unset	administratively down	down
Serial1/0	unassigned	YES	unset	up	up
Serial1/1	unassigned	YES	unset	up	up
Serial1/2	unassigned	YES	unset	administratively down	down
Serial1/3	unassigned	YES	unset	administratively down	down
<u>Multilink1</u>	<u>192.168.41.2</u>	YES	manual	up	up

We can see that although the Multilink1 interfaces are in “up/up” state but they are not in the same subnet. According to the IP address scheme shown on the topology we can deduce the Multilink interface on Branch1 has been misconfigured, it should be 192.168.14.2 instead.

#### QUESTION 489

DRAG DROP

Drag and drop the QoS features from the left onto the correct descriptions on the right.

**Select and Place:**

best effort	service level that provides basic connectivity without differentiation
CAR	service level that provides preferred handling
hard QoS	service level that provides reserved network resources
NBAR	identification tool ideal for handling web applications
PBR	policies traffic based on its bandwidth allocation
soft QoS	uses route maps to match traffic criteria

**Correct Answer:**



	best effort
	soft QoS
	hard QoS
	NBAR
	CAR
	PBB

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 490

DRAG DROP

Drag and drop the DHCP client states from the left into the standard order in which the client passes through them on the right.

**Select and Place:**

bound	first
initializing	second
rebinding	third
renewing	fourth
requesting	fifth
selecting	sixth

**Correct Answer:**



	initializing
	selecting
	requesting
	bound
	renewing
	rebinding

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 491**

After you configure the **ip dns spoofing** command globally on a device, under which two conditions is DNS spoofing enabled on the device? (Choose two.)

- A. The **ip host** command is disabled
- B. The **ip dns spoofing** command addresses are removed
- C. All configured IP name server addresses are removed
- D. The **no ip domain lookup** command is configured
- E. The DNS server queue limit is disabled

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

DNS spoofing is designed to allow a router to act as a proxy DNS server and "spoof" replies to any DNS queries using either the configured IP address in the **ip dns spoofing ip-address** command or the IP address of the incoming interface for the query. This feature is useful for devices where the interface toward the Internet service provider (ISP) is not up. Once the interface to the ISP is up, the router forwards DNS queries to the real DNS servers.

This feature turns on DNS spoofing and is functional if any of the following conditions are true:

- The **no ip domain lookup** command is configured.
- IP name server addresses are not configured.
- There are no valid interfaces or routes for sending to the configured name server addresses.

#### **QUESTION 492**

**DRAG DROP**

Drag and drop the IEEE standard cable names from the left onto the correct cable types on the right.

**Select and Place:**

10BASE-T	Copper
10GBASE-LR	
10GBASE-T	
100BASE-TX	Fiber
1000BASE-LX	
1000BASE-SC	

**Correct Answer:**

	Copper
	10BASE-T
	10GBASE-T
	100BASE-TX
	Fiber
	10GBASE-LR
	1000BASE-LX
	100GBASE-SC

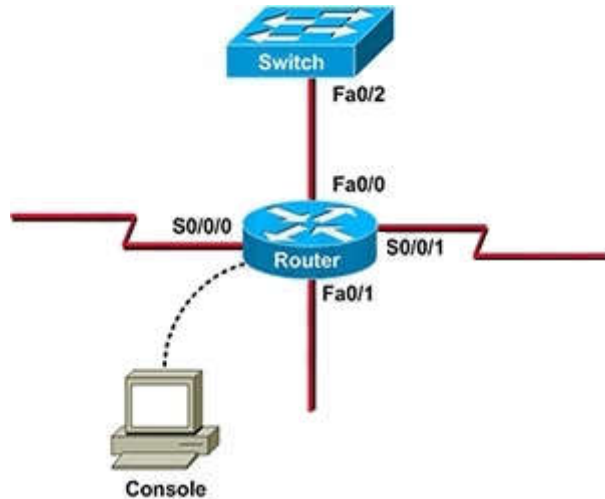
Section: (none)

Explanation

Explanation/Reference:

QUESTION 493

Scenario



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

```

Switch>ping 10.4.4.3
Type escape sequence to abort.
Sending 5, 100-bytes ICMP Echos to 10.4.4.3, timeout is 2 seconds:
.U.U.U.
Success rate is 0 percent (0/5)

Switch>telnet 10.4.4.3
Trying 10.4.4.3...

%Destination unreachable; gateway or host down
Switch>
  
```

For this question we only need to use the show running-config command to answer all the questions below:

```

Router>enable
Router#show running-config
  
```

Building configuration...

Current configuration : 807 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname weaver

!

!

!

enable password cisco

!

!

!

!

!

!

```
!  
interface Loopback1  
  ip address 172.164.1.255 255.255.255.0  
!  
  
interface Loopback2  
  ip address 10.145.145.1 255.255.255.0  
  ipv6 address 2001:410:2:3:164 eui-64  
!  
interface FastEthernet0/0  
  ip address 10.4.4.3 255.255.255.0  
  ip access-group 106 in  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial0/0/0  
  bandwidth 64  
  no ip address  
  ip access-group 102 out  
  encapsulation frame-relay  
  ip ospf authentication  
  ip ospf authentication-key san-fran  
!  
interface Serial0/0/0.1 point-to-point  
  ip address 10.140.3.2 255.255.255.0  
  ip authentication mode eigrp 100 md5  
  ip authentication key-chain eigrp 100 icndchain  
  frame-relay interface-dlci 120  
!
```

```
router eigrp 100
  network 10.0.0.0
  network 172.16.0.0
  network 192.168.2.0
  no auto-summary
!
router ospf 100
  log-adjacency-changes
  network 10.4.4.3 0.0.0.0 area 0
  network 10.45.45.1 0.0.0.0 area 0
  network 10.140.3.2 0.0.0.0 area 0
  network 192.168.2.62 0.0.0.0 area 0
!
router rip
  version 2
  network 10.0.0.0
  network 172.16.0.0
!
ip default-gateway 40.1.1.2
!
ip http server
no ip http secure-server
!
```



```
!  
access-list 102 permit tcp any any eq ftp  
access-list 102 permit tcp any any eq ftp-data  
access-list 102 deny tcp any any eq telnet  
access-list 102 deny icmp any any echo-reply  
access-list 102 permit ip any any  
!  
access-list 104 permit tcp any any eq ftp  
access-list 104 permit tcp any any eq ftp-data  
access-list 104 deny tcp any any eq telnet  
access-list 104 permit icmp any any echo  
access-list 104 deny icmp any any echo-reply  
access-list 104 permit ip any any  
!  
access-list 106 permit tcp any any eq ftp  
access-list 106 permit tcp any any eq ftp-data  
access-list 106 deny tcp any any eq telnet  
access-list 106 permit icmp any any echo-reply  
!  
access-list 110 permit udp any any eq domain  
access-list 110 permit udp any eq domain any  
access-list 110 permit tcp any any eq domain  
access-list 110 permit tcp any eq domain any  
access-list 110 permit tcp any any  
!  
access-list 114 permit ip 10.4.4.0 0.0.0.255 any  
!  
access-list 115 permit ip 0 0.0.0 255.255.255.0 any  
!  
access-list 122 deny tcp any any  
access-list 122 deny icmp any any echo-reply  
access-list 122 permit ip any any  
!
```

Which will fix the issue and allow ONLY ping to work while keeping telnet disabled?

- A. Correctly assign an IP address to interface fa0/1
- B. Change the ip access-group command on fa0/0 from “in” to “out”
- C. Remove access-group 106 in from interface fa0/0 and add access-group 115 in.
- D. Remove access-group 102 out from interface s0/0/0 and add access-group 114 in
- E. Remove access-group 106 in from interface fa0/0 and add access-group 104 in

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
!  
access-list 104 permit tcp any any eq ftp  
access-list 104 permit tcp any any eq ftp-data  
access-list 104 deny tcp any any eq telnet  
access-list 104 permit icmp any any echo  
access-list 104 deny icmp any any echo-reply  
access-list 104 permit ip any any  
!
```



The question was not about FTP so skip line #1 and line #2.

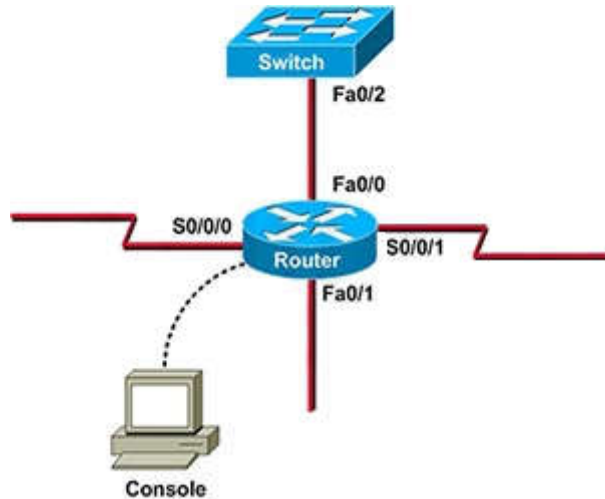
The line #3 denies telnet traffic and line #4 permits icmp-echo traffic.

Line #5 denies echo-reply traffic. If any device pings a device that attached to Fa0/0, the packet will be denied.

Line #6 permits all other traffic.

**QUESTION 494**

**Scenario**



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

```

Switch>ping 10.4.4.3
Type escape sequence to abort.
Sending 5, 100-bytes ICMP Echos to 10.4.4.3, timeout is 2 seconds:
.U.U.U.
Success rate is 0 percent (0/5)
  
```

```

Switch>telnet 10.4.4.3
Trying 10.4.4.3...
  
```

```

%Destination unreachable; gateway or host down
Switch>
  
```

For this question we only need to use the show running-config command to answer all the questions below:

```

Router>enable
Router#show running-config
  
```

Building configuration...

Current configuration : 807 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname weaver

!

!

!

enable password cisco

!

!

!

!

!

!

```
!  
interface Loopback1  
  ip address 172.164.1.255 255.255.255.0  
!  
  
interface Loopback2  
  ip address 10.145.145.1 255.255.255.0  
  ipv6 address 2001:410:2:3:164 eui-64  
!  
interface FastEthernet0/0  
  ip address 10.4.4.3 255.255.255.0  
  ip access-group 106 in  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial0/0/0  
  bandwidth 64  
  no ip address  
  ip access-group 102 out  
  encapsulation frame-relay  
  ip ospf authentication  
  ip ospf authentication-key san-fran  
!  
interface Serial0/0/0.1 point-to-point  
  ip address 10.140.3.2 255.255.255.0  
  ip authentication mode eigrp 100 md5  
  ip authentication key-chain eigrp 100 icndchain  
  frame-relay interface-dlci 120  
!  
interface Serial0/0/1  
  bandwidth 64
```

```
router eigrp 100
 network 10.0.0.0
 network 172.16.0.0
 network 192.168.2.0
 no auto-summary
!
router ospf 100
 log-adjacency-changes
 network 10.4.4.3 0.0.0.0 area 0
 network 10.45.45.1 0.0.0.0 area 0
 network 10.140.3.2 0.0.0.0 area 0
 network 192.168.2.62 0.0.0.0 area 0
!
router rip
 version 2
 network 10.0.0.0
 network 172.16.0.0
!
ip default-gateway 40.1.1.2
!
ip http server
no ip http secure-server
!
```



```
!  
access-list 102 permit tcp any any eq ftp  
access-list 102 permit tcp any any eq ftp-data  
access-list 102 deny tcp any any eq telnet  
access-list 102 deny icmp any any echo-reply  
access-list 102 permit ip any any  
!  
access-list 104 permit tcp any any eq ftp  
access-list 104 permit tcp any any eq ftp-data  
access-list 104 deny tcp any any eq telnet  
access-list 104 permit icmp any any echo  
access-list 104 deny icmp any any echo-reply  
access-list 104 permit ip any any  
!  
access-list 106 permit tcp any any eq ftp  
access-list 106 permit tcp any any eq ftp-data  
access-list 106 deny tcp any any eq telnet  
access-list 106 permit icmp any any echo-reply  
!  
access-list 110 permit udp any any eq domain  
access-list 110 permit udp any eq domain any  
access-list 110 permit tcp any any eq domain  
access-list 110 permit tcp any eq domain any  
access-list 110 permit tcp any any  
!  
access-list 114 permit ip 10.4.4.0 0.0.0.255 any  
!  
access-list 115 permit ip 0 0.0.0 255.255.255.0 any  
!  
access-list 122 deny tcp any any  
access-list 122 deny icmp any any echo-reply  
access-list 122 permit ip any any  
!
```

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

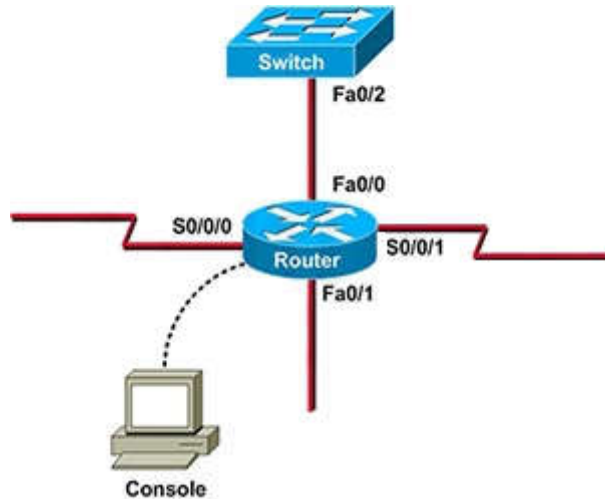
```
!  
access-list 114 permit ip 10.4.4.0 0.0.0.255 any  
!
```

There is only one command that is associated with access-list 114 and it is **access-list 114 permit ip 10.4.4.0 0.0.0.255 any**. This command will permit traffic from 10.4.4.0 /24 network.

**QUESTION 495**

**Scenario**





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

```

Switch>ping 10.4.4.3
Type escape sequence to abort.
Sending 5, 100-bytes ICMP Echos to 10.4.4.3, timeout is 2 seconds:
.U.U.U.
Success rate is 0 percent (0/5)
  
```

```

Switch>telnet 10.4.4.3
Trying 10.4.4.3...
  
```

```

%Destination unreachable; gateway or host down
Switch>
  
```

For this question we only need to use the show running-config command to answer all the questions below:

```

Router>enable
Router#show running-config
  
```

Building configuration...

Current configuration : 807 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname weaver

!

!

!

enable password cisco

!

!

!

!

!

!

!

```
!  
interface Loopback1  
  ip address 172.164.1.255 255.255.255.0  
!  
  
interface Loopback2  
  ip address 10.145.145.1 255.255.255.0  
  ipv6 address 2001:410:2:3:164 eui-64  
!  
interface FastEthernet0/0  
  ip address 10.4.4.3 255.255.255.0  
  ip access-group 106 in  
  duplex auto  
  speed auto  
!  
interface FastEthernet0/1  
  no ip address  
  shutdown  
  duplex auto  
  speed auto  
!  
interface Serial0/0/0  
  bandwidth 64  
  no ip address  
  ip access-group 102 out  
  encapsulation frame-relay  
  ip ospf authentication  
  ip ospf authentication-key san-fran  
!  
interface Serial0/0/0.1 point-to-point  
  ip address 10.140.3.2 255.255.255.0  
  ip authentication mode eigrp 100 md5  
  ip authentication key-chain eigrp 100 icndchain  
  frame-relay interface-dlci 120  
!  
interface Serial0/0/1  
  bandwidth 64
```

```
router eigrp 100
 network 10.0.0.0
 network 172.16.0.0
 network 192.168.2.0
 no auto-summary
!
router ospf 100
 log-adjacency-changes
 network 10.4.4.3 0.0.0.0 area 0
 network 10.45.45.1 0.0.0.0 area 0
 network 10.140.3.2 0.0.0.0 area 0
 network 192.168.2.62 0.0.0.0 area 0
!
router rip
 version 2
 network 10.0.0.0
 network 172.16.0.0
!
ip default-gateway 40.1.1.2
!
ip http server
no ip http secure-server
!
```

```
!  
access-list 102 permit tcp any any eq ftp  
access-list 102 permit tcp any any eq ftp-data  
access-list 102 deny tcp any any eq telnet  
access-list 102 deny icmp any any echo-reply  
access-list 102 permit ip any any  
!  
access-list 104 permit tcp any any eq ftp  
access-list 104 permit tcp any any eq ftp-data  
access-list 104 deny tcp any any eq telnet  
access-list 104 permit icmp any any echo  
access-list 104 deny icmp any any echo-reply  
access-list 104 permit ip any any  
!  
access-list 106 permit tcp any any eq ftp  
access-list 106 permit tcp any any eq ftp-data  
access-list 106 deny tcp any any eq telnet  
access-list 106 permit icmp any any echo-reply  
!  
access-list 110 permit udp any any eq domain  
access-list 110 permit udp any eq domain any  
access-list 110 permit tcp any any eq domain  
access-list 110 permit tcp any eq domain any  
access-list 110 permit tcp any any  
!  
access-list 114 permit ip 10.4.4.0 0.0.0.255 any  
!  
access-list 115 permit ip 0 0.0.0 255.255.255.0 any  
!  
access-list 122 deny tcp any any  
access-list 122 deny icmp any any echo-reply  
access-list 122 permit ip any any  
!
```

What would be the effect of issuing the command **access-group 115 in** on the s0/0/1 interface?

- A. No host could connect to Router 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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
!
access-list 115 permit ip 0.0.0.0 255.255.255.0 any
!
```

The above command will only the IP (0.0.0.0). Also there is no such IP address exists.

The wildcard mask of access-list 115 is 255.255.255.0, means that only host with IP addresses x.x.x.0 will be accepted. If the 4th part of an IP address is 0, then definitely it would be a network address. So no host can communicate with other network using S0/0/1 interface.

But it will accept the packet with source IP address – 10.10.0.0/8. The 4th octet is 0, and is not a network address but a valid IP address. So confusion... confusion... Anyhow other 3 choices (B, C, D) will definitely not the answer and Choice A is closest to the result, So the Answer is A.

#### **QUESTION 496**

**DRAG DROP**

Drag and drop the DNS lookup commands from the left onto the correct effects on the right.

**Select and Place:**

ip dns server	enables DNS lookup on an individual interface
ip domain list	enables the DNS server on the device
ip domain lookup source-interface	identifies a DNS server to provide lookup services
ip domain name	specifies a sequence of domain names
ip host	specifies the default domain to append to unqualified host names
ip name-server	statically maps an IP address to a hostname

**Correct Answer:**



	ip domain lookup source-interface
	ip dns server
	ip name-server
	ip domain list
	ip domain name
	ip host

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 497**

**DRAG DROP**

Drag and drop the values in a routing table from the left onto the correct meanings on the right.

**Select and Place:**



administrative distance	code that indicates the method by which the router learned the route
destination network	value used by the router to determine the preferred route
metric	indicator of the trustworthiness of the route
next hop	network to which the router forwards packets on the associated route
route source	remote network address

**Correct Answer:**

	route source
	metric
	administrative distance
	next hop
	destination network

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 498**  
**DRAG DROP**

Drag and drop the BGP components from the left onto the correct descriptions on the right

**Select and Place:**

autonomous system number	device that is running BGP
BGP Speaker	neighbor device that shares the same AS number as the local device
eBGP Peer	neighbor that located outside of administrative domain of the local device
BGP Peer	Value that identifies an administrative domain
Prefix	value that is advertised with the network keyword

**Correct Answer:**

	BGP Speaker
	BGP Peer
	eBGP Peer
	autonomous system number
	Prefix

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 499**

Which major component of the Cisco network virtualization architecture isolates users according to policy?

- A. network services virtualization
- B. policy enforcement
- C. access control
- D. path isolation

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 500**

Which two statements about EIGRP on IPv6 networks are true? (Choose two.)

- A. It is configured on the interface
- B. It is globally configured
- C. It is vendor agnostic
- D. It supports a shutdown feature
- E. It is configured using a network statement

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**