



Exam : 642-055

Title : Advanced Routing and Switching for  
Field Engineers

Ver : 02.13.07

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### QUESTION 1:

Refer to the exhibit. In analyzing the configuration of the router, which three of these statements are correct? (Choose three.)

```
router bgp 12703
  no bgp default ipv4-unicast
  neighbor 172.16.32.14 remote-as 12703
  neighbor 172.16.32.15 remote-as 12703
  neighbor 172.16.32.27 remote-as 12703

  neighbor 172.16.32.14 activate
  neighbor 172.16.32.27 activate

address-family vpnv4
  neighbor 172.16.32.15 activate
  neighbor 172.16.32.27 activate
```

- A. Neighbor 172.16.32.15 will receive VPNv4 routes.
- B. Neighbor 172.16.32.15 will receive Internet routes.
- C. Neighbor 172.16.32.27 will receive VPNv4 routes.
- D. Neighbor 172.16.32.14 will receive both VPNv4 and Internet routes.
- E. Neighbor 172.16.32.14 will receive VPNv4 routes.
- F. Neighbor 172.16.32.27 will receive Internet routes.

Answer: A,C,F

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### QUESTION 2:

You are working with Certkiller .com. who has identified the following IP applications on their network: IP voice and voice signaling, streaming video, PeopleSoft, Microsoft SQL, e-mail, and Internet traffic. If the voice traffic was classified as EF and AF31, the e-mail was classified as AF11, and the Internet traffic was classified as DSCP 0, how would the transactional traffic represented as PeopleSoft and Microsoft SQL be classified?

- A. DSCP AF21
- B. DSCP CS4
- C. DSCP AF33
- D. DSCP AF13

Answer: A

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### QUESTION 3:

Which one of these class maps was configured to match traffic for CS5?

- A. router#show class-map passClass Map match-all real-time (id 2)Match ip dscp 40

- B. router#show class-map forwardClass Map match-all forward (id 3)Match ip dscp 18
- C. router#show class-map real-timeClass Map match-all block (id 5)Match ip dscp 16
- D. router#show class-map blockClass Map match-all block (id 4)Match ip dscp 43

Answer: A

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#### QUESTION 4:

When you enter the interface command auto qos voip cisco-phone on a port at the edge of a network, how does the Cisco Catalyst switch detect if a Cisco IP Phone is connected to the port?

- A. by using RTP hello messages between the switch port and the Cisco IP Phone
- B. by snooping the incoming 802.1Q VLAN tag
- C. by using CDP
- D. by snooping the CoS marking on the incoming frames
- E. by using DHCP snooping

Answer: C

---

#### QUESTION 5:

Referring to the partial Cisco Catalyst switch configuration shown, which two of these statements are correct? (Choose two.)

```
vlan 2
private-vlan community
!
vlan 3
private-vlan isolated
!
vlan 4
private-vlan primary
private-vlan association 2, 3
!
interface range fastethernet 1/1 1/2
switchport mode private-vlan host
switchport private-vlan host-association 4 2
!
interface fastethernet 1/3
switchport mode private-vlan host
switchport private-vlan host-association 4 3
!
interface fastethernet 1/4
switchport mode private-vlan promiscuous
switchport private-vlan mapping 4 2, 3
```

- A. A router connected to the fastethernet 1/4 interface will be able to communicate with hosts connected to interface fastethernet 1/1, 1/2, and 1/3.

- B. Hosts connected to interface fastethernet 1/1 and 1/2 can communicate with each other.
- C. Hosts connected to interface fastethernet 1/1, 1/2, and 1/3 can communicate with each other.
- D. A router connected to the fastethernet 1/4 interface will not be able to communicate with the host connected to interface fastethernet 1/3.

Answer: A,B

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#### **QUESTION 6:**

Which keyword is used with the show ip bgp neighbors [keyword] command to display all routes that are received and accepted from a neighbor?

- A. paths
- B. accepted-routes
- C. advertised-routes
- D. routes
- E. received-routes

Answer: D

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#### **QUESTION 7:**

Which tool allows a LAN client to determine which router should be the first hop to a particular remote destination, allowing simplified client configuration and processing without creating a single point of failure?

- A. Proxy ARP
- B. IRDP
- C. VRRP
- D. Dynamic Routing Protocol

Answer: C

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#### **QUESTION 8:**

You are working with a client to classify the different types of application traffic they will have on their network and to assign a QoS value to each traffic flow. The client has identified the following applications: Internet traffic, Oracle, network-based backups, AOL Instant Messenger, IP routing, voice, and voice signaling. Given these types of applications, how many different classes will need to be configured in QoS?

- A. 8
- B. 6
- C. 9

D. 5

Answer: A

---

**QUESTION 9:**

Which of these tools should you use to compress VoIP packets on a low-speed Frame Relay circuit?

- A. FRF.9 payload compression
- B. Cisco proprietary payload compression
- C. Predictor payload compression
- D. RTP header compression
- E. TCP header compression

Answer: D

---

**QUESTION 10:**

What is the purpose of the int-num variable in the Cisco IOS interface configuration command `mpls l2transport route` when you configure a Cisco 7600 Series router to do Ethernet over MPLS?

- A. It specifies the interface address of the remote router.
- B. It specifies the incoming interface of the Layer 2 traffic to be transported over the MPLS backbone.
- C. It specifies the outgoing interface through which to route the EoMPLS traffic.
- D. It specifies the desired VLAN interface number.

Answer: A

---

**QUESTION 11:**

Refer to the exhibit. MPLS has been enabled on router PE11. Which of these statements is correct regarding the output display shown in the exhibit?

```
Certkiller1#show cef interface s0/0.101
Serial0/0.101 is up
  Internet address is 150.1.11.18/28
  ICMP redirects are always sent
  Per packet load-sharing is disabled
  IP unicast RPF check is disabled
  Hardware idb is Serial0/0
  Fast switching type 5, interface type 57
  IP CEF switching enabled
  IP CEF Fast switching turbo vector
  NOTE private but user truncated
```

- A. CEF switching is not needed for MPLS operation.

- B. Interface-level CEF switching is needed only on ingress interfaces that are receiving IP packets on which the ingress LSR performs the label imposition process.
- C. Interface-level CEF switching is needed only on egress interfaces that are sending IP packets on which the egress LSR performs the label imposition process.
- D. CEF switching is only needed to forward labeled packets.
- E. CEF switching is needed on both ingress and egress interfaces on which MPLS is enabled.

Answer: B

---

**QUESTION 12:**

When HSRP is configured on a network, which two of these items are provided, which are shared between the routers that run HSRP? (Choose two.)

- A. shared single interface
- B. UDP-based hello packets
- C. MAC address
- D. TCP-based hello packets
- E. IP address

Answer: C,E

---

**QUESTION 13:**

On the Catalyst 6500 Series switch, which command is used to establish a console connection to the Firewall Services Module?

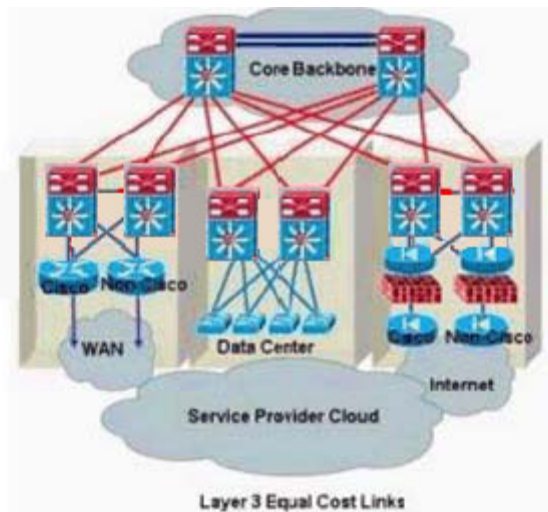
- A. ssh
- B. connect
- C. login
- D. session
- E. telnet

Answer: D

---

**QUESTION 14:**

Refer to the exhibit. You have a Cisco router and a non-Cisco router directly connected to a service provider cloud. You want to set up dual connectivity into the corporate network. Which protocol must you configure?



- A. Virtual Router Redundancy Protocol
- B. Multigroup Hot Standby Router Protocol
- C. Hot Standby Router Protocol
- D. Gateway Load Balancing Protocol

Answer: A

#### QUESTION 15:

On a Cisco Catalyst 4500 Series switch, the fail LED is lit for one of its two power supplies. Which command would you use to check on this problem?

- A. show diagnostic content
- B. show module
- C. show errdisable detect
- D. show hardware
- E. show environment

Answer: E

#### QUESTION 16:

Refer to the exhibit. Two switches connected to each other are having serious performance issues on the link. Which command(s) can you issue at switch B to correct this problem?



Certkiller A > (enable) show port 1/1

Port	Name	Status	Vlan	Level	Duplex	Speed	Type
1/1		connected	1	normal	full	10	10/100BaseTX

Certkiller B > (enable) show port 1/1

Port	Name	Status	Vlan	Level	Duplex	Speed	Type
1/1		connected	1	normal	a-half	a-10	10/100BaseTX

- A. set port duplex 1/1 full
- B. no set port duplex 1/1 autoset port duplex 1/1 full
- C. no set port duplex 1/1 auto
- D. set port speed 1/1 10set port duplex 1/1 full

Answer: D

---

### QUESTION 17:

Refer to the exhibit. You are working with a client to deploy QoS on their WAN. They would like to use a five-class WAN-edge strategy. The classes will include voice, call signaling, critical data, data, and scavenger. Their individual WAN links are 512 Kb. When they try to attach the service policy WAN-EDGE to the interface multilink1, the router returns an error message. Which command should you add to the interface configuration to allow the service policy statement to be configured?

```
interface Multilink1
description T1 to Branch#60
ip address 10.1.112.1 255.255.255.252
service-policy output WAN-EDGE
ppp multilink
ppp multilink group1
!
class-map match-all dscp
match ip dscp ef
class-map match-any Call Signaling
match ip dscp cs3
bandwidth percent 1
class-map match-any Critical Data
match ip dscp cs6
match ip dscp af21
match ip dscp cs2
class-map match-all Scavenger
match ip dscp cs1
!
policy-map WAN-EDGE
class Voice
priority percent 33
class Call Signaling
bandwidth percent 5
class Critical Data
bandwidth percent 36
random-detect dscp-based
class Scavenger
bandwidth percent 1
class-default
bandwidth percent 25
random-detect
!
```



- A. bandwidth 512
- B. max-bandwidth 75
- C. max-reserved-bandwidth 100
- D. bandwidth 100
- E. max-reserved-bandwidth 512
- F. max-bandwidth 100

Answer: C

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**QUESTION 18:**

You are configuring the Cisco IOS Firewall Websense URL Filtering feature set on a Cisco 3800 Series ISR. What would the Cisco IOS command `ip urlfilter exclusive-domain permit www.cisco.com` do?

- A. Specifies the URL for the location of the Firewall Websense URL filtering server.
- B. Specifies the only domain for which traffic should be allowed.
- C. Specifies the domain for which the firewall should permit traffic without sending lookup requests.
- D. Specifies that the designated domain receives exclusive traffic priorities.

Answer: C

---

**QUESTION 19:**

How many subnets are possible in an enterprise that has just been assigned an IPv6 prefix by its ISP?

- A. 65536
- B. 256
- C. 1024
- D. 16777216
- E. 16384
- F. 4096

Answer: A

---

**QUESTION 20:**

When an IP packet is Layer 3-switched from a source in one VLAN to a destination in another VLAN, which field in a packet will be rewritten?

- A. Layer 3 transport protocol
- B. Layer 3 TTL
- C. Layer 3 destination address

- D. Layer 2 TTL
- E. Layer 3 source address

Answer: B

---

**QUESTION 21:**

Which three of these items are found within the router advertisement message of IPv6 stateless autoconfiguration? (Choose three.)

- A. flags indicating the kind of autoconfiguration that can be done by hosts
- B. default router information
- C. /64 prefix that can be used on the link and the lifetime of the prefix
- D. IPv6 DHCP server address information
- E. IPv6 DNS server address information

Answer: A,B,C

---

**QUESTION 22:**

What is the most likely reason that an IBGP route that has been selected as a best route is not entered into the IP routing table?

- A. Route reflectors are not passing updates properly.
- B. BGP synchronization has been enabled.
- C. The next-hop address is unreachable.
- D. No loopback interface has been configured on a router.

Answer: B

---

**QUESTION 23:**

Which two statements are correct in verifying SPFv3 IPv6 routing configurations? (Choose two.)

- A. OSPFv3 is enabled per-link, not per-network.
- B. When configuring a broadcast interface, OSPFv3 requires a list of OSPFv3 neighbors to be manually configured.
- C. OSPFv3 requires router to be running CEF.
- D. OSPFv3 router ID is now 128 bits instead of 32 bits.
- E. OSPFv3 area ID and link-state ID are now 128 bits instead of 32 bits.

Answer: A,C

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**QUESTION 24:**

With a VPN Accelerator Module 2+ (VAM2+) installed in a Cisco 7200 series router, what will be the resulting action when entering the command no crypto engine accelerator slot number?

- A. disables OIR on the VAM2+ module
- B. removes the VAM2+ crypto engine feature and disables the associated configuration commands from the router
- C. disables dual VAM2+ hardware stateful failover capabilities
- D. disables the crypto engine hardware acceleration, resulting in all crypto functions to be performed in software

Answer: A

---

### QUESTION 25:

Refer to the exhibit. For the given configuration, on packets leaving the router on interface FastEthernet0/0 that matches the high traffic class, what will the MPLS experimental bit be set to?

```
policy-map high-priority
  class high
    set ip dscp 46
    set mpls experimental 4
policy-map low-priority
  class high
    set ip dscp 46
    set mpls experimental 3
policy-map mid-priority
  class high
    set ip dscp 46
    set mpls experimental 2

interface Loopback0
  ip address 10.100.2.1 255.255.255.0
!
interface FastEthernet0/0
  ip address 10.10.1.2 255.255.255.0
  service-policy output low-priority
  service-policy input mid-priority
```

- A. 3
- B. 4
- C. 5
- D. 0
- E. 1
- F. 2

Answer: A

---

### QUESTION 26:

On a Cisco Catalyst switch, which configuration command is used to apply a VACL named "test" to filter the traffic within VLAN100?

- A. interface vlan 100 ip access-group test out
- B. vlan filter test vlan-list 100
- C. interface vlan 100 ip access-group test in
- D. vlan access-map test 100
- E. interface vlan 100 ip access-group test

Answer: B

---

**QUESTION 27:**

Which of these commands can you use to show if an operational Catalyst switch port is set for autonegotiation of speed and duplex when running Cisco IOS software?

- A. show port network <interface>
- B. show running-config
- C. show controllers Ethernet-controller <interface>
- D. show interfaces <interface>

Answer: B

---

**QUESTION 28:**

Certkiller .com recently acquired a smaller competitor. The acquired company is not currently using Cisco routers, so you have connected the two WANs via an authenticated PPP link. After configuring both routers, issuing the show interface s0/0 command on the Cisco router shows the interface to be in the up/down state. Which two of these are possible causes? (Choose two.)

- A. CHAP passwords do not match.
- B. IP addresses are not in the same subnet.
- C. Bandwidth statements do not match.
- D. CDP versions do not match.
- E. MTUs do not match.

Answer: A,E

---

**QUESTION 29:**

Which keyword is used with the debug ipv6 [keyword] command to troubleshoot neighbor discovery problems?

- A. transaction
- B. icmp
- C. discovery
- D. packet
- E. nd

Answer: E

---

**QUESTION 30:**

Which command displays only those entries in a BGP table with specific AS\_PATH attributes?

- A. show ip bgp inconsistent-as
- B. show ip bgp paths
- C. show ip bgp community-list
- D. show ip bgp regexp

Answer: D

---

**QUESTION 31:**

Refer to the exhibit. Which two configuration changes will result in Router Certkiller A peering with neighbor Router Certkiller B using address 192.168.1.2? (Choose two.)

```
CertkillerA#show ip bgp neighbor 192.168.1.2

BGP neighbour is 192.168.1.2, remote AS 10, external
link
  Index 17 offset 07 week ok
  BGP version 4, remote router ID 0.0.0.0
  BGP state = Idle, table version = 0
  Last Read 00:00:34, hold time is 180, keepalive
interval is 60 seconds
  Minimum time between advertisement runs is 30 seconds
  Received 0 messages, 0 notifications, 0 in queue
  Sent 0 messages, 0 notifications, 0 in queue
  Prefix advertised 0, suppressed 0, withdrawn 0
  Connections established 0, cropped 0
  Last read server
  0 accepted prefixes consume 0 bytes
  0 history paths consume 0 bytes
  External BGP neighbor not directly connected.
  No active TCP connection
```

- A. Use a route reflector to allow the routes to be propagated correctly.
- B. Configure Router Certkiller A and Router Certkiller B in the same AS.
- C. Use the neighbor next-hop-self command to allow the routers to peer using their loopback addresses instead of their directly connected addresses.
- D. Use the no synchronization command to allow the neighbor relationship to be established without an IGP route.
- E. Use the neighbor ebgp-multihop command to override the one-hop EBGP limit.
- F. Use a confederation to make Router Certkiller A and Router Certkiller B appear to be IBGP neighbors.

Answer: B,E

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**QUESTION 32:**

Refer to the exhibit. Analyze the two traceroutes that are displayed. Which of these statements is correct in describing what most likely caused the traceroute differences?



- A. MPLS has been disabled on routers P11 and P12.
- B. The no mpls ip propagate-ttl local command has been configured on PE11.
- C. Do not fragment has been configured on PE11.
- D. ICMP has been disabled on the intermediary routers between PE11 and PE12.
- E. An access list has been created on P11 to block traceroutes from PE11.

Answer: B

**QUESTION 33:**

When BGP is used as the PE-CE routing protocol, which of these statements is correct?

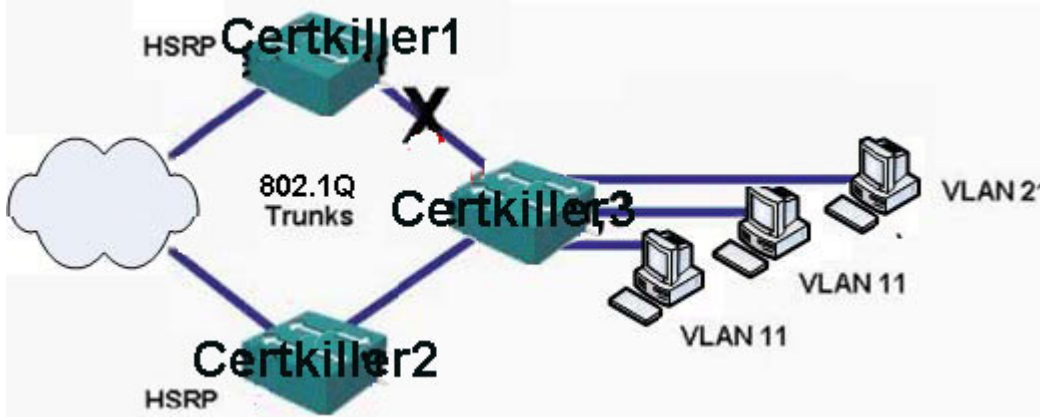
- A. On PE routers, the CE IBGP neighbors are configured in the global BGP configuration.
- B. On PE routers, the CE EBGP neighbors are configured in the VRF context.
- C. When using BGP as the PE-CE routing protocol, only public AS numbers can be used when configuring the BGP neighbor relationships.
- D. On the CE router, PE neighbors must be configured in the VRF context on the CE router.
- E. A separate BGP process must be used on the PE routers for CE routers so that they do not use the same BGP routing process as that used for the PE router's other provider neighbors.

Answer: B

**QUESTION 34:**

Refer to the exhibit. Users complain that they intermittently lose data and connections to

important servers. After investigation, you discover that the 802.1Q trunk between Certkiller 1 and Certkiller 3 is down. Even though the HSRP group 11 is being serviced by Certkiller 2, you discover that the SVI for VLAN 11 is in the up state on Certkiller 1. Which three Cisco Catalyst IOS commands should you use on Certkiller 1 to find the source of this problem? (Choose three.)



- A. show interfaces <fast | gig> mod/port trunk
- B. show vtp status
- C. show standby vlan 11 brief
- D. show interfaces vlan 11
- E. show spanning-tree vlan 11

Answer: A,D,E

### QUESTION 35:

What is required to enable fragmentation of large FTP packets when voice quality on the network is affected by FTP transfers?

- A. Fragmentation is not supported with service internetworking.
- B. Configure TCP header compression on interfaces.
- C. Configure FRF.12 fragmentation on the Frame Relay interfaces.
- D. Configure MLP on the Frame Relay interfaces.

Answer: D

### QUESTION 36:

What would the first line in this debug serial interface output indicate?

```
*Jul 4 00:00:17.15: Serial0 - Got keepalive with none configured
*Jul 4 00:00:17.22: Serial0: HDLC myseq 29, mineseen 29*, yourseen 42, line up
*Jul 4 00:00:17.33: Serial0: HDLC myseq 27, mineseen 27*, yourseen 28, line up
```

- A. The HDLC myseq has missed more than three keepalive messages, the WAN link keepalive activity will not occur, and you should expect to see a Layer 2 issue.



- B. Keepalives are being received from the other end of a point-to-point link and this end is not sending them.
- C. The mineseen HDLC sequence has missed more than three keepalives.
- D. The yourseen HDLC sequence number is out of order.

Answer: B

---

### QUESTION 37:

Refer to the exhibit. Which show command would be used to display NBAR classified traffic on interface FastEthernet0/1?

FastEthernet0/1

Prorocol	input Packet Count Byte Count 5 minute bit rate (bps)	Output Packet Count Byte Count 5 minute bit rate (bps)
-----	-----	-----
bgp	0	0
	0	0
	0	0
citrix	0	0
	0	0
	0	0
cuseeme	0	0
	0	0
	0	0
custom-01	0	0
	0	0
	0	0
	0	0
----- output omitted -----		

- A. show policy-map int fa 0/1
- B. show int fa 0/1 policy-map
- C. show ip nbar protocol-discovery
- D. show int fa 0/1 nbar

Answer: C

---

### QUESTION 38:

While troubleshooting a network outage, you discover that an employee brought a switch from home into the office to connect additional equipment to the network. In order to increase his speed, he connected this switch to both network ports in his office, resulting in a bridge loop. Which of these can you implement to prevent future occurrences of this issue?

- A. root guard
- B. GLBP
- C. RSTP
- D. BPDU guard

Answer: D

---

**QUESTION 39:**

Refer to the exhibit. Which two of these statements are correct? (Choose two.)

```
Certkiller1 #show mpls ip binding 192.168.1.33 32
192.168.1.33/32
      in label:      20
      out label:     21    lsr: 192.168.1.81:0
```

- A. Certkiller 1 originated label 20.
- B. Certkiller 1 will append label 21 to incoming packets labeled 32.
- C. The Certkiller 1 downstream neighbor originated label 20.
- D. Certkiller 1 originated label 21.
- E. Certkiller 1 will impose label 20 on incoming packets labeled 32.
- F. The Certkiller 1 upstream neighbor originated label 21.

Answer: A,F

---

**QUESTION 40:**

Referring to the debug output shown below, which one of the statements is correct?

```
CertkillerA # debug ipv6 icmp
ICMPv6: Sending echo request to 2001:DB8:C18:1::D0C
ICMPv6: Received ICMPv6 packet from 2001:DB8:C18:1::D0C, type 129
ICMPv6: Received ICMPv6 packet from FE80::260:3EFF:FE47:1530, type 134
```

- A. The type 129 message is an ICMP redirect message.
- B. FE80::260:3EFF:FE47:1530 is the site-local address of R1.
- C. The last ICMP message received is a router advertisement message.
- D. 2001:DB8:C18:1::D0C is a link-local address.
- E. The type 129 ICMP echo reply message indicates an MTU error.

Answer: C

---

**QUESTION 41:**

Refer to the exhibit. What is the HSRP state and priority of this interface after HSRP reaches its steady state?

```
SB: Vlll Grp ll Tracked interface Port-channel10 Down
SB: Vlll Grp ll Priority 201/251 -> 151/251
SBll: Vlll Coup in 172.16.11.111 Standby pri 200 ip 172.16.11.115
SBll: Vlll Active: j/Coup rcvd from higher pri router (200/172.16.11.111)
SBll: Vlll Active router is 172.16.11.111, was local
SBll: Vlll Standby router is unknown vas 172.16.11.111
SBll: Vlll Active > Speak
%STANDBY-6-STATECHANGE: Vlan11 Group 11 state Active -> Speak
SBll: Vlll Redundancy "hsrp-Vlll-11" state Active -> Speak
SBll: Vlll Speak: d/Standby timer expired (unknown)
SBll: Vlll Standby router is local
SBll: Vlll Speak -> Standby
SBll: Vlll Redundancy "hsrp-Vlll-11" state Speak -> Standby
```

- A. Standby, Priority 201
- B. Standby, Priority 151
- C. Active, Priority 201
- D. Standby, Priority 251
- E. Active, Priority 151
- F. Active, Priority 251

Answer: B

---

#### QUESTION 42:

Refer to the exhibit. You have a Cisco router directly connected to a non-Cisco router via a leased T1 line. The service provider has validated that the T1 is operational. What should be completed for communications between routers to commence?

```
Serial0/1 is up, line protocol is down
  Hardware is PowerQUICC serial
  Internet address is 142.16.13.4/24
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
    Reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive set (10 sec)
...some internet
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 259810 packet input, 33080103 bytes, 0 no buffer
  Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
  1 input errors, 0 CRC, 1 frame, 0 overrun, 0 ignored, 0 abort
 260370 packets output, 32082918 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 output buffer failures, 0 output buffers swapped out
  3 carrier transitions
 DCD=up DSR=up DTR=up RTS=up CTS=up
```

- A. Enable Frame Relay on both routers.
- B. Enable PPP encapsulation on both routers.
- C. Reload both routers.
- D. Configure a routing protocol on both routers.
- E. Reset the interface on both routers.

Answer: B

---

**QUESTION 43:**

Refer to the Router exhibit. Which two of these events will be the result of issuing the above command? (Choose two.)

Certkiller1 (config-vrf) # rd 115:43

- A. The route distinguisher is 64 bits and will be prepended to an existing IPv4 route to make it globally unique.
- B. Extended BGP communities will be used to encode route distinguishers.
- C. A 64-bit IPv4 prefix will be created.
- D. A 96-bit VPNv4 prefix will be created and propagated across the IP network.
- E. The route distinguisher will be used to indicate VPN membership.

Answer: A,D

---

**QUESTION 44:**

What is a new feature of the Cisco ISR router?

- A. advanced integration module
- B. FICON ports
- C. Cisco CallManager 5.0 support
- D. warm Cisco IOS upgrade feature
- E. packet voice data module

Answer: D

---

**QUESTION 45:**

What is the maximum number of Cisco Catalyst 3750 Series switches that can be united into a single manageable unit using the Cisco StackWise technology?

- A. 12
- B. 9
- C. 6
- D. 3

Answer: B

---

**QUESTION 46:**

Which three of these items are IPv6 transition mechanisms? (Choose three.)

- A. automatic 4to6 relay tunnels
- B. PATv6

- C. ISATAP
- D. NATv6
- E. manually configured overlay tunnels
- F. dual stack configurations

Answer: C,E,F

---

### QUESTION 47:

Refer to the Switch exhibit. Which command will correctly set the holdtime for HSRP Group 11 to 300 milliseconds?

Output from **Certkiller1**

```
Certkiller1#show standby vlan 11
Vlan11 - Group 11
  Local state is Active, priority 200, may preempt
  Hellotime 100 msec, holdtime 1 sec
  Next hello sent in 0.024
  Virtual IP address is 172.16.11.115 configured
  Active router is local
  Standby router is 172.16.11.112 expires in 0.924
  Virtual mac address is 0000.0c07.ac0b
  1 state changes, last state change 16:10:30
  IP redundancy name is "hsrp-Vlan11-11" (default)
  Priority tracking 2 interfaces or objects, 2 up:
    Interface or object      Decrement  State
    Port-channel10          50         Up
    Port-channel11          50         Up
```

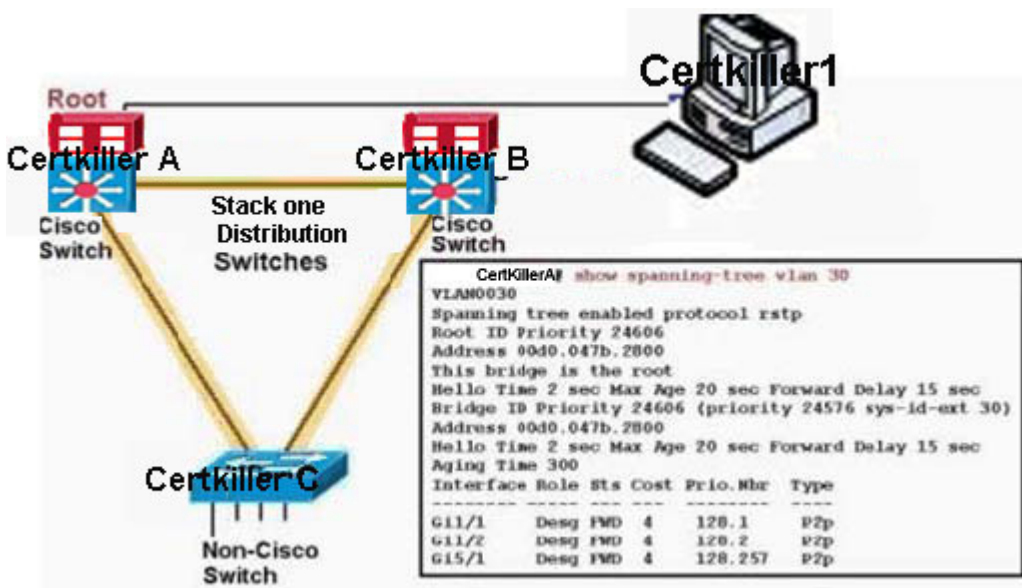
- A. standby 11 timers holddown msec 100
- B. standby 11 timers msec 300 msec 100
- C. standby 11 timers msec 100 msec 300
- D. standby 11 timers msec 100 holddown

Answer: C

---

### QUESTION 48:

Refer to the exhibit. You have a non-Cisco switch that is not communicating properly while connected to the distribution-layer Cisco switching fabric. Which two best-practice actions can you take to overcome this problem? (Choose two.)



- A. Turn on MST (802.1s) on all switches.
- B. Turn off RSTP (802.1w) on all switches.
- C. Turn off MST (802.1s) on all switches.
- D. Turn on RSTP (802.1w) on all switches.

Answer: A,B

#### QUESTION 49:

What is the function of the no switchport Catalyst switch interface configuration command?

- A. disables the interface to prevent traffic flow
- B. enables the interface for Layer 2 switching
- C. converts the port from physical Layer 2 port to physical Layer 3 port
- D. clears all the configurations on the interface
- E. switches the port from access mode to trunk mode

Answer: C

#### QUESTION 50:

Refer to the exhibit. You are troubleshooting a high availability network that is having longer-than-acceptable failover times. What command will have the most significant impact in this problem?

```

...
ip multicast-routing !Enable IP multicast routing
!
interface loopback 1
  description the Loopback address for this routers Sparse
  Mode RP function
  ip address 10.0.2.1. 255.255.255.0
  ip pim sparse-dense-mode
...

```

- A. pim query-interval 100 msec
- B. ip pim query-interval 100 msec
- C. pim query-interval 1 sec
- D. ip query pim-interval 10 msec

Answer: B

### QUESTION 51:

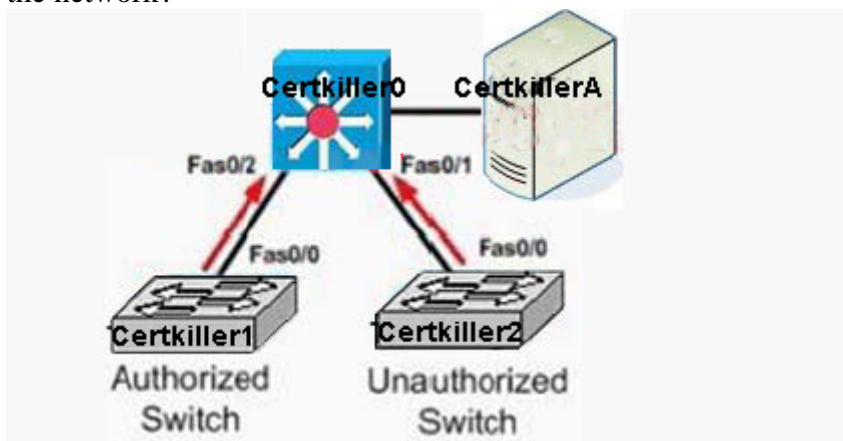
What are two requirements to perform a warm Cisco IOS upgrade on a Cisco ISR router?  
(Choose two.)

- A. at least one enabled Ethernet interface
- B. Cisco IOS version 12.3(2)T or greater
- C. enough memory to decompress the new Cisco IOS image
- D. internal flash memory equaling two times the space required for the current Cisco IOS image
- E. physical access to the router to be upgraded

Answer: B,C

### QUESTION 52:

Refer to the exhibit. Which Catalyst switch configuration would protect a customer network from possible disruption in the case in which an unauthorized switch is added to the network?



- A. Certkiller 0#show running-configuration!hostname Certkiller 0!no spanning-tree



optimize bpdutransmissionsspanning-tree extend system-id!interface  
FastEthernet0/1switchport port-security violation restrict!  
B. Certkiller 0#show running-configuration!hostname Certkiller 0!no spanning-tree  
optimize bpdutransmissionsspanning-tree extend system-id!interface  
FastEthernet0/1switchport protected!  
C. Certkiller 0#show running-configuration!hostname Certkiller 0!no spanning-tree  
optimize bpdutransmissionsspanning-tree extend system-id!interface  
FastEthernet0/1switchport mode access!  
D. Certkiller 0#show running-configuration!hostname Certkiller 0!spanning-tree portfast  
bpduguard defaultno spanning-tree optimize bpdutransmissionsspanning-tree extend  
system-id!interface FastEthernet0/1spanning-tree guard root!

Answer: D

### QUESTION 53:

Refer to the exhibit. For interface FastEthernet0/0, what will happen to dscp af11 traffic if the queue for class "newclass" reaches a depth of 40?

```
Certkiller1#show policy-map int fa0/0
FastEthernet0/0

Class-map: newclass (match-all)
  0 packets, 0 bytes
  30 second offered rate 0 bps, drop rate 0 bps
  Match: ip precedence 3 4
  Match: ip dscp 16 18 20 22
  Weighted Fair Queueing
    Output Queue: Conversation 265
    Bandwidth 40 (%)
    (pkts matched/bytes matched) 0/0
    (depth/total drops/no-buffer drops) 0/0/0
    exponential weight: 9
    mean queue depth: 0
```

dscp	Transmitted pkts/bytes	Random drop pkts/bytes	Tail drop pkts/bytes	Minimum thresh	Maximum thresh	Mark prob
af11	0/0	0/0	0/0	32	0	1/10
af12	0/0	0/0	0/0	28	0	1/10

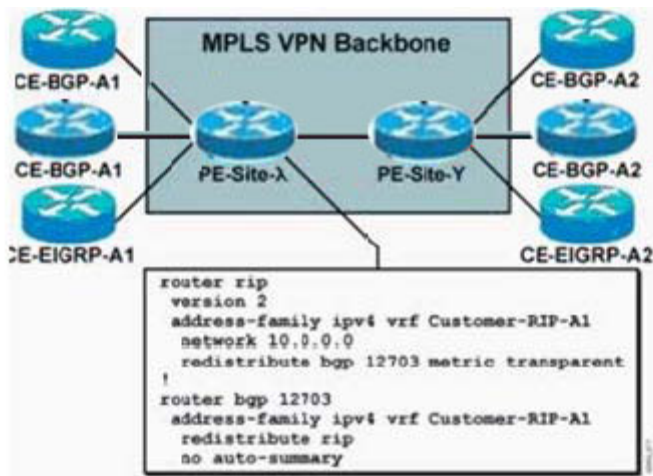
-----output omitted-----

- A. No packets will be dropped until the queue depth reaches 265.
- B. All packets will be dropped.
- C. One out of ten packets will be dropped.
- D. A random number of packets will be dropped.
- E. Packets will be dropped according to the exponential weight setting.

Answer: B

### QUESTION 54:

Refer to the exhibit. As shown in the configuration, RIP is being used as the PE-CE routing protocol. Which of these statements is correct?



- A. Though preferred, it is not necessary that the RIP parameters be specified in the VRF.
- B. Because RIP is being used as the PE-CE routing protocol, the redistribution commands in the configuration are not necessary because redistribution occurs automatically between RIP and BGP.
- C. Though RIPv2 is specified in the configuration, any version of RIP supports VRFs.
- D. On the sending end, the RIP hop count is copied into the BGP multi-exit discriminator attribute.
- E. On the receiving end, the RIP hop count is copied into a BGP extended community attribute.

Answer: D

#### QUESTION 55:

A Catalyst switch has just been installed and configured, and is not working as expected. You have decided to capture multiple show command outputs to study. Which one command could you use that includes the output of many other show commands, such as show version and show running-config?

- A. show configuration
- B. show memory
- C. show stacks
- D. show tech-support
- E. show processes

Answer: D

#### QUESTION 56:

Refer to the exhibit. Which Cisco IOS show command would produce output showing that the FastEthernet 0/1 interface correctly trusts the DSCP values of the endpoint to which it is connected?

```
FastEthernet0/1
 trust state: trust dscp
 trust mode: trust dscp
 COS override: dis
 default COS: 0
 pass-through: none
 trust device: none
```

- A. show mls qos interface fastethernet0/1
- B. show mls qos interface fastethernet0/1 statistics
- C. show mls qos interface fastethernet0/1 queueing
- D. show mls qos maps

Answer: A

### QUESTION 57:

Refer to the exhibit. For interface FastEthernet0/0, what will happen to dscp af11 traffic if the queue for class "newclass" reaches a depth of 32?

```
Certkiller1#show policy-map int fa0/0
FastEthernet0/0

Class-map: newclass (match-all)
 0 packets, 0 bytes
 30 second offered rate 0 bps, drop rate 0 bps
 Match: ip precedence 3 4
 Match: ip dscp 16 18 20 22
 Weighted Fair Queueing
  Output Queue: Conversation 265
  Bandwidth 40 (%)
  (pkts matched/bytes matched) 0/0
  (depth/total drops/no-buffer drops) 0/0/0
  exponential weight: 9
  mean queue depth: 0
```

dscp	Transmitted pkts/bytes	Random drop pkts/bytes	Tail drop pkts/bytes	Minimum thresh	Maximum thresh	Mark prob
af11	0/0	0/0	0/0	32	40	1/10
af12	0/0	0/0	0/0	28	40	1/10

-----output omitted-----

- A. One out of ten packets will be dropped.
- B. All packets will be dropped.
- C. A random number of packets will be dropped.
- D. Packets will be dropped according to the exponential weight setting.
- E. No packets will be dropped until the queue depth reaches 40.

Answer: A

---

**QUESTION 58:**

Refer to the exhibit. Which show command would display the information in the exhibit?

```
FastEthernet0/1

Service-policy input: high-priority

Class-map: high (match-all)
  0 packets, 0 bytes
  5 minute offered rate 0 bps, drop rate 0 bps
  Match:  precedence 6
  QoS Set
    ip dscp 46
      Packets marked 0
    mpls experimental 4
      Packets marked 0

Class-map: class-default (match-any)
  0 packets, 0 bytes
  5 minute offered rate 0 bps, drop rate 0 bps
  Match: any
```

- A. show policy-map high-priority
- B. show policy-map
- C. show interfaces fastEthernet 0/1 policy-map
- D. show policy-map interfaces fastEthernet 0/1

Answer: D

---

**QUESTION 59:**

What are four advantages to using tunnel brokers in an IPv6 transition environment?  
(Choose four.)

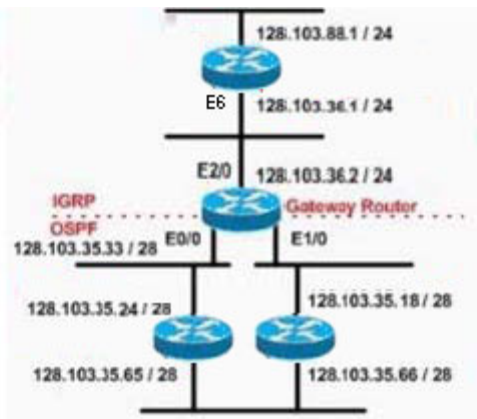
- A. Tunnel brokers automatically provide configuration parameters to peer routers.
- B. IPv6 enabling a node looks automatic to the end user.
- C. Tunnel broker configuration is automated in Cisco IOS.
- D. Tunnel information is sent via IPv4.
- E. Tunnel brokers make it simpler for nontechnical users to deploy manual tunnels.

Answer: A,B,D,E

---

**QUESTION 60:**

Refer to the exhibit. You are migrating a network from IGRP to OSPF. What must you do to ensure that connectivity and reachability of all networks is maintained between routing protocols when OSPF has the longer subnet mask?



- A. Use the default metric of 1.
- B. Add a static route in the gateway router for 128.103.35.0/24 pointing to null0.
- C. Add multiple static routes in the gateway router pointing to the OSPF network.
- D. This scenario should not present any reachability problems if the autonomous systems are the same.

Answer: B

#### QUESTION 61:

In MPLS networks, what is the benefit of disabling TTL propagation?

- A. to provide a visible extension of MPLS TTL functionality in a non-MPLS-enabled domain
- B. to improve MPLS convergence time
- C. to hide visibility to the core (provider) routers in the MPLS network
- D. to provide a visible extension of IP TTL functionality in an MPLS-enabled domain
- E. to improve the IGP convergence time

Answer: C

#### QUESTION 62:

Which of these is a prerequisite for and must always run with Cisco NSF?

- A. BGP
- B. SRM
- C. RPR
- D. SSO

Answer: D

#### QUESTION 63:

Which configuration will enable OSPF for IPv6 on FastEthernet 0/0/0?

- A. interface FastEthernet0/0/0ipv6 address 2001:0db8:0:0:1::/64 eui-64ipv6 enablerouter ospf 1router-id 10.11.11.1network 2001:0db8:0:0:1::/64 area 1
- B. interface FastEthernet0/0/0ipv6 address 2001:0db8:0:0:1::/64 eui-64ipv6 enableipv6 ospf 1 area 1router ospf 1router-id 10.11.11.1
- C. interface FastEthernet0/0/0ipv6 address 2001:0db8:0:0:1::/64 eui-64ipv6 enableipv6 ospf 1 area 1ipv6 router ospf 1router-id 10.11.11.1
- D. interface FastEthernet0/0/0ipv6 address 2001:0db8:0:0:1::/64 eui-64ipv6 enableipv6 router ospf 1router-id 10.11.11.1network 2001:0db8:0:0:1::/64

Answer: C

---

**QUESTION 64:**

Certkiller .com wants to build a network for a financial trading floor that has a requirement for multiple high-value transactions, which are also vital to the customer. What are the two most critical requirements? (Choose two.)

- A. trading database server location
- B. deterministic response to all failures
- C. determine which protocol to use
- D. no single point of failure
- E. redundant application servers location

Answer: B,D

---

**QUESTION 65:**

You have just reinstalled a VIP 6-80 in a Cisco 7500 Series router. What must you do to bring up the port adapter interfaces?

- A. All interfaces are online by default once the VIP is up and running normally.
- B. All interfaces must be manually brought online, even those previously configured.
- C. The previous VIP configuration must be reloaded to bring interfaces online.
- D. Any interfaces not previously configured must be manually configured and brought online.

Answer: D

---

**QUESTION 66:**

What is the purpose of IP Event Dampening?

- A. to configure a subinterface so that it can be applied to the primary interface in order to prevent exponential selective dampening

- B. to suppress the effects of excessive interface flapping events on routing protocols and routing tables in the network
- C. to introduce a nonconfigurable exponential delay mechanism
- D. to allow the network operator to configure a router to automatically dampen and selectively identify a local interface that is failing

Answer: D

---

### QUESTION 67:

Refer to the exhibit. Which of these statements is correct regarding the output display shown in the exhibit?

```
PE#debug mpls bindings
*Nov 7 16:22:46:159: tagcon: route_tag_change for: 192.168.1.64/28
    inlabel 19, outlabel 17, nexthop lsr 192.168.1.81:0
*Nov 7 16:22:46:159: tagcon: subnet (150.1.12.16/28) label 19 from
    192.168.1.80
Nov 7 16:22:46:159: tagcon: route_tag_change for: 150.1.12.16/28
    inlabel 21, outlabel 19, nexthop lsr 192.168.1.81:0
```

- A. For destination 150.1.12.16, label 19 will be on the incoming packet and PE11 will impose label 21.
- B. For destination 192.168.1.64, label 19 will be on the incoming packet and PE11 will impose label 17.
- C. For destination 150.1.12.16, PE11 has sent information to its neighbor that it will impose label 21 on packets for that destination.
- D. Label 19 has been advertised by PE11 and is assigned to prefix 150.1.12.16.

Answer: B

---

### QUESTION 68:

Which command retrieves and displays information about each Cisco product in the form of a UDI?

- A. show hardware
- B. show inventory
- C. show status
- D. show environment

Answer: B

---

### QUESTION 69:

In a high-availability network, which command, when placed on ports that have connected end stations, will allow you to prevent delays in service for end stations by placing a port in blocking mode?



- A. enable backbone fast
- B. enable uplink fast
- C. disable portfast
- D. disable uplink fast
- E. enable portfast

Answer: E

---

**QUESTION 70:**

Which Cisco IOS command is used to troubleshoot a problem in which a BGP session stays in the active state?

- A. debug ip bgp updates
- B. debug ip tcp events
- C. debug ip bgp transactions
- D. debug ip bgp events
- E. debug ip tcp updates
- F. debug ip tcp transactions

Answer: F

---

**QUESTION 71:**

How can Cisco NetFlow be used to aid in the operation and troubleshooting of QoS issues?

- A. NetFlow can discover the protocols in use and automatically adjust QoS traffic classes to meet policy-map requirements.
- B. NetFlow can report on the number of traffic matches for each class map in a configured QoS policy configuration.
- C. NetFlow records can be used to understand traffic profiles per class of service for data, voice, and video traffic.
- D. NetFlow can be configured to identify voice and video traffic flows and place them into a low-latency queue for expedited processing.

Answer: C

---

**QUESTION 72:**

You are working with a client to deploy QoS on their Frame Relay WAN. They would like to be able to allow packets to cross the Frame Relay WAN but have them marked as discard eligible if they exceed the QoS policy. How would you accomplish this task?

- A. Configure a class map that sets the DE bit so that the policy map can correctly apply a

violate-action if the policy is exceeded.

B. Configure a service policy that sets the DE bit and apply it to the serial interface connected to the Frame Relay WAN.

C. Configure a policy map that has a burst-max action of setting the DE bit if the policy is exceeded.

D. Configure a policy map that has a violate-action to change the DE bit from 0 to 1.

Answer: D

---

**QUESTION 73:**

Which command is used to view IPv6 parameters related to the BGP process?

A. show ip bgp ipv6

B. show protocols ipv6

C. show ipv6 bgp

D. show ip bgp

E. show bgp ipv6

Answer: E

---

**QUESTION 74:**

Which QoS mechanism will allow a single policy to be applied to multiple interfaces?

A. policy map

B. class map

C. ACL

D. service policy

Answer: D

---

**QUESTION 75:**

Refer to the exhibit. On the switch named CatosSwitch, how many VLANs did the administrator manually configure?

```
Certkiller1 > (enable) show vlan
```

VLAN	Name	Status	IfIndex	Mod/Ports, Vlans
1	default	active		1/1-2 3/16-48 4/1-162
2	cisco_vlan_2	active	75	3/1-12
	VLAN0003	active	76	3/13-15
1002	fddi-default	active	6	
1003	token-ring-default	active	9	
1004	fddinet-default	active	7	
1005	trnet-default	active	8	

VLAN	Type	SAID	MTU	Parent	RingNo	BrdgNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
3	enet	101003	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	trcrf	101003	1500	-	-	-	-	-	0	0
1004	fdnet	101004	1500	-	-	-	-	-	0	0
1005	trbrf	101005	1500	-	-	-	IBM	-	0	0

!--- Output suppressed.

- A. 7
- B. 3
- C. 2
- D. 1

Answer: C

### QUESTION 76:

When HSRP is configured on a network, which two of these items are provided, which are shared between the routers that run HSRP? (Choose two.)

- A. the ability to track serial interfaces
- B. TCP-based hello packets
- C. a shared single interface
- D. the impact of flapping links if timers are too low
- E. UDP-based hello packets

Answer: A,D

### QUESTION 77:

When EIGRP is used as the PE-CE routing protocol, which of these statements is correct?

- A. Configuration of the VPN is only required on the PE router.
- B. When using EIGRP as the PE-CE routing protocol, EIGRP does not require a VRF.
- C. Other EIGRP AS routes are automatically advertised to the CE router and do not

require a redistribution configuration command to be configured.

D. Unlike other routing protocols that are used between PE and CE routers, EIGRP supports backdoor links.

E. EIGRP can be used only as the PE-CE routing protocol if the PE and CE routers are in the same AS.

Answer: A

---

**QUESTION 78:**

What are three pieces of information that the Cisco IOS show inventory command displays on a Cisco ISR router? (Choose three.)

A. installed hardware

B. system internal temperature

C. Unique Device Identifier

D. main power supply condition

E. installed hardware serial numbers

F. the status of installed hardware

Answer: A,C,E