300-410 Q&As

Implementing Cisco Enterprise Advanced Routing and Services (ENARSI) (Include 2023 Newest Simulation Labs)

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QUESTION 1

Which OSI model is used to insert an MPLS label?

A. between Layer 2 and Layer 3

B. between Layer 5 and Layer 6

C. between Layer 1 and Layer 2

D. between Layer 3 and Layer 4

Correct Answer: A

QUESTION 2

Which of the following are commonly used ports when implementing RADIUS based authentication and accounting? (Choose two.)

A. UDP port 1644 for authentication

B. UDP port 1812 for authentication

C. TCP port 1812 for authentication

D. UDP port 1813 for accounting

E. TCP port 1813 for accounting

F. UDP port 1644 for accounting

Correct Answer: BD

QUESTION 3

Your network team is assessing options available to translate IPv6 address to IPv4 addresses. You have focused your attention on the variants of NAT64. One of your requirements is the conservation of IPv4 addresses.

Which of the following versions of NAT 64 helps to conserve IPv4 addresses?

A. stateless

B. manual

C. static

D. stateful

Correct Answer: D

One of the characteristics of stateful NAT64 is that it conserves IPv4 addresses. NAT64 is a version of network address

translation that translates IPv6 address to IPv4 and vice versa. It has two variants, stateless and stateful. The following table describes some of the major differences between the two:

Stateless NAT64	Stateful NAT64
1:1 translation, hence applicable for limited number of endpoints	1: N translation, hence no constraint on the number of end points
No conservation of IPv4 address	Conserves IPv4 address
Helps ensure end-to-end address transparency and scalability	Uses address overloading; hence lacks end-to-end address transparency
No state or bindings created on the translation	State or bindings created on every unique translation

NAT64 has neither the variant static nor the variant manual.

Objective: Infrastructure Services Sub-Objective: Describe IPv6 NAT

References: Home > Products and services > Cisco IOS and NX-OS software > Cisco IOS technologies > Enterprise ipv6 solution > Data sheets and literature > White papers > NAT64 Technology: Connecting IPv6 and IPv4 Networks > Technologies Facilitating IPv6/IPv4 Translation

QUESTION 4

While troubleshooting connectivity issues to a router, these details are noticed:

1.

Standard pings to all router interfaces, including loopbacks, are successful.

2.

Data traffic is unaffected.

3.

SNMP connectivity is intermittent.

4.

SSH is either slow or disconnects frequently.

Which command must be configured first to troubleshoot this issue?

A. show policy-map control-plane

B. show policy-map

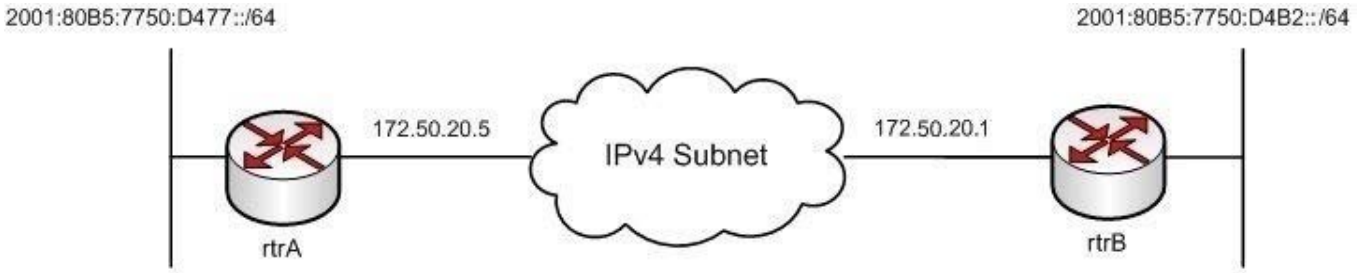
C. show interface | inc drop

D. show ip route

Correct Answer: A

QUESTION 5

You have implemented an automatic 6-to-4 tunnel between the routers rtrA and rtrB as shown in the following network diagram:



The routers rtrA and rtrB are connected to two IPv6 subnets and are separated by an IPv4 network. You decide to verify whether the tunnel was correctly implemented using the show running-config command. Which of the following commands should exist in the output of the show running-config command on rtrA and rtrB? (Choose all that apply.)

A. interface tunnel

B. tunnel source

C. tunnel destination

D. tunnel mode ipv6ip

E. tunnel mode ipv6ip 6to4

Correct Answer: ABE

The following commands should exist in the output of the show running-config command on rtrA and rtrB: interface tunnel tunnel source

tunnel mode ipv6ip 6to4

The interface tunnel command is used to define a tunnel interface on the router. The tunnel source command allows you to specify the source of the tunnel, which is the router interface that faces the IPv4 network. The tunnel source must be

configured with an IPv4 address. The tunnel mode ipv6ip 6to4 command is used to specify the tunneling mechanism, which in this case is automatic 6-to-4.

The partial output of the show running-config command on rtrA is as follows:

!

interface Tunnel0

no ip address

tunnel mode ipv6ip 6to4

tunnel source 172.50.20.5

ipv6 address 2002:ac32:of06::1/48

!

The partial output of the show running-config command on rtrB is as follows:

!

interface Tunnel0

no ip address

tunnel mode ipv6ip 6to4

tunnel source 172.50.20.1

ipv6 address 2002:ac32:0f06::2/48

!

The tunnel destination command and the tunnel mode ipv6ip commands do not appear in the show running- config output when automatic 6-to-4 tunnels are implemented on rtrA and rtrB. Both of these commands are executed for manually

configured tunnels.

Objective:

Network Principles

Sub-Objective:

Recognize proposed changes to the network

References:

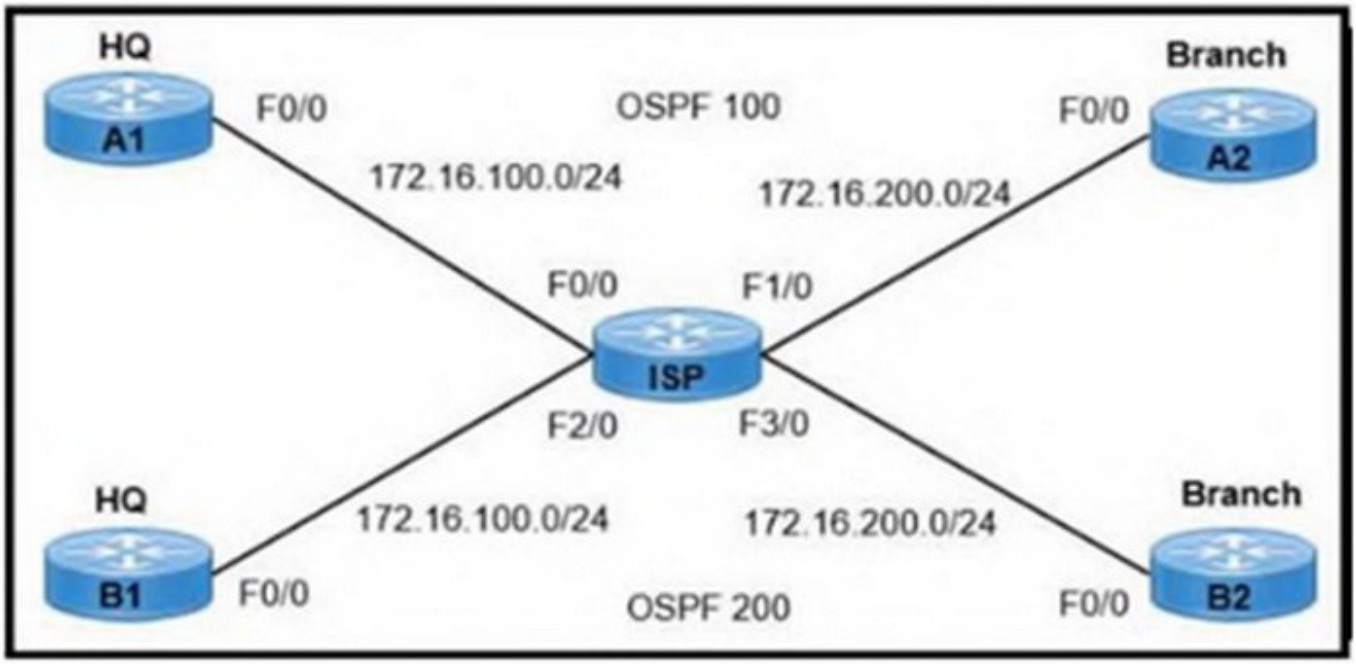
Cisco Press > Articles > Cisco Certification > CCNP > CCNP Self-Study: Advanced IP Addressing Cisco Interface and Hardware Component Configuration Guide > IPv6 Automatic 6to4 Tunnels Cisco > Support > Technology Support > IP >

IP Version 6 (IPV6) > Configure > Configuration Examples and Technotes > IPv6 Tunnel Through an IPv4 Network

Cisco IOS IPv6 Implementation Guide > Implementing Tunneling for IPv6

QUESTION 6

Refer to the exhibit.




```
ISP(config)# ip vrf EA
ISP(config-vrf)# ip vrf EB

ISP(config-if)# router ospf 100 vrf EA
ISP(config-router)# net 172.16.100.0 0.0.0.255 area 0
ISP(config-router)# net 172.16.200.0 0.0.0.255 area 0
ISP(config-router)# exit

ISP(config-if)# router ospf 200 vrf EB
ISP(config-router)# net 172.16.100.0 0.0.0.255 area 0
ISP(config-router)# net 172.16.200.0 0.0.0.255 area 0
ISP(config-router)# end
```

A network engineer is provisioning end-to-end traffic service for two different enterprise networks with these requirements:

1.

The OSPF process must differ between customers on HQ and Branch office routers, and adjacencies should come up instantly.

2.

The enterprise networks are connected with overtapping networks between HQ and a Branch office.

Which configuration meets the requirements for a customer site?

A. ISP(config-if)#int f1/0 ISP(config-if)#ip vrf forwarding EA ISP(config-if)#description TO->EA2_Branch ISP(config-if)#ip

add 172.16.200.2 255.255.255.0 ISP(config-if)#no shut

B. ISP(config-vrf)#int f0/0 ISP(config-if)#ip vrf forwarding EB ISP(config-if)#description TO->EB1_Branch ISP(config-if)#ip add 172.16.100.2 255.255.255.0 ISP(config-if)#no shut

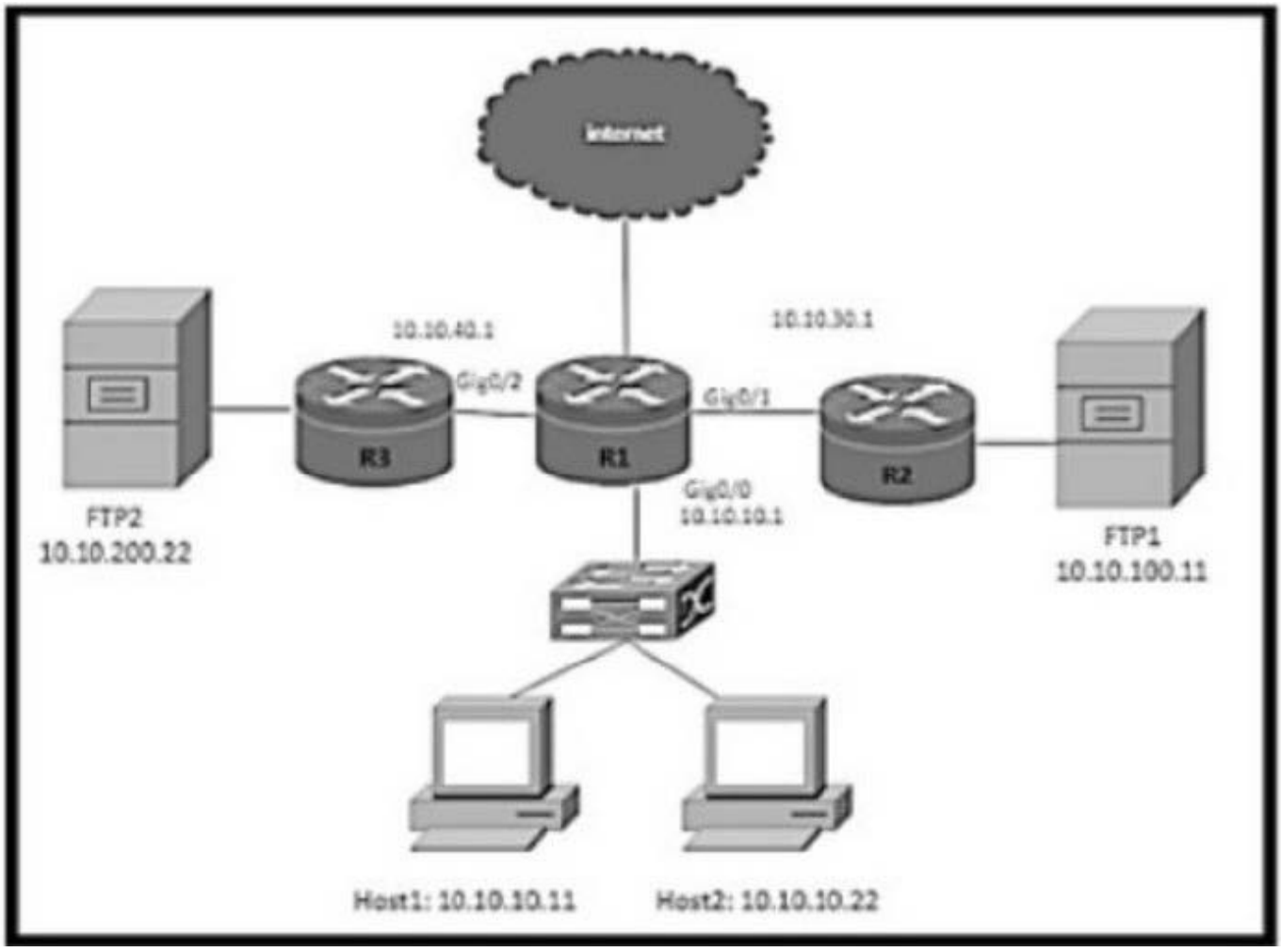
C. ISP(config)#int f2/0 ISP(config-if)#ip vrf forwarding EA ISP(config-if)#description TO->EA1_HQ ISP(config-if)#ip address 172.16.100.2 255.255.255.0 ISP(config-if)#no shut

D. ISP(config-if)#int f3/0 ISP(config-if)#ip vrf forwarding EA ISP(config-if)#description TO->EA2_Branch ISP(config-if)#ip address 172.16.200.2 255.255.255.0 ISP(config-if)#no shut

Correct Answer: A

QUESTION 7

Refer to the exhibit.



The R1 routing table has the prefixes for the FTP1 and FTP2 file servers. A network engineer must configure the R1 with these requirements:

1.

Host1 must use the FTP1 fileserver.

2.

Host2 must use the FTP2 fileserver.

Which configuration meets the requirement on R1?

A.
```
ip access-list extended FTP1_R1
 permit ip host 10.10.10.11 host 10.10.100.11
ip access-list extended FTP2_R1
 permit ip host 10.10.10.22 host 10.10.200.22
!
route-map PBR_FTP  permit 10
 match ip address FTP1_R1
 set ip next-hop 10.10.40.1
route-map PBR_FTP  permit 20
 match ip address FTP2_R1
 set ip next-hop 10.10.30.1
!
ip local policy route-map PBR_FTP
```

B.
```
ip access-list extended FTP1_R1
 permit ip host 10.10.10.11 host 10.10.100.11
ip access-list extended FTP2_R1
 permit ip host 10.10.10.22 host 10.10.200.22
!
route-map PBR_FTP  permit 10
 match ip address FTP1_R1
 set ip next-hop 10.10.30.1
!
route-map PBR_FTP  permit 20
 match ip address FTP2_R1
 set ip next-hop 10.10.40.1
!
ip local policy route-map PBR_FTP
```

C.
```
ip access-list extended FTP1_R1
 permit ip host 10.10.10.11 host 10.10.100.11
ip access-list extended FTP2_R1
 permit ip host 10.10.10.22 host 10.10.200.22
!
route-map PBR_FTP  permit 10
 match ip address FTP1_R1
 set ip next-hop 10.10.30.1
!
route-map PBR_FTP  permit 20
 match ip address FTP2_R1
 set ip next-hop 10.10.40.1
!
interface GigabitEthernet 0/0
 ip policy route-map PBR_FTP
```

D.
```
ip access-list extended FTP1_R1
 permit ip host 10.10.10.11 any
ip access-list extended FTP2_R1
 permit ip host 10.10.10.22 any
route-map PBR_FTP  permit 10
 match ip address FTP1_R1
 set ip next-hop 10.10.30.1
!
route-map PBR_FTP  permit 20
 match ip address FTP2_R1
 set ip next-hop 10.10.40.1
!
interface GigabitEthernet 0/0
 ip policy route-map PBR_FTP
```

A. Opiton A

B. Opiton B

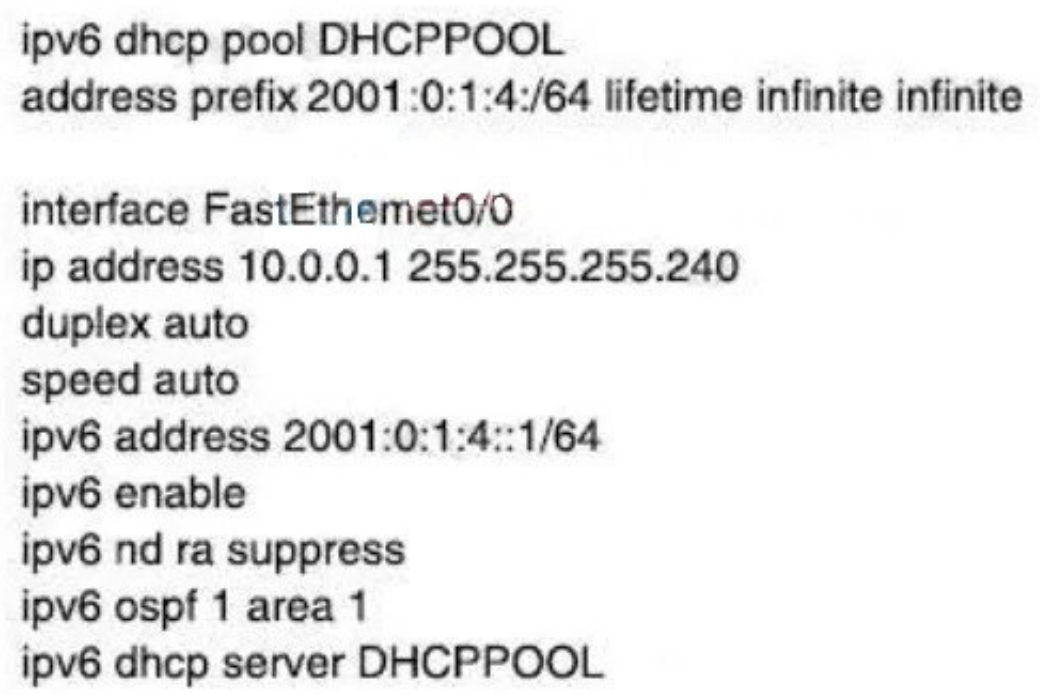
C. Opiton C

D. Opiton D

Correct Answer: C

QUESTION 8

Refer to the exhibit. Reachability between servers in a network deployed with DHCPv6 is unstable. Which command must be removed from the configuration to make DHCPv6 function?



A. ipv6 address 2001:0:1:4::1/64

B. ipv6 dhcp server DHCPPOOL

C. ipv6 nd ra suppress

D. address prefix 2001:0:1:4::/64 lifetime infinite infinite

Correct Answer: C

QUESTION 9

What action is performed for untagged outgoing labels in an MPLS router?

A. Convert the incoming MPLS packet to an untagged packet and then do a FIB lookup

B. Convert the incoming MPLS packet to an untagged packet and then do a RIB lookup.

C. Convert the untagged packet to a labeled packet and forward it to the next router

D. Convert the incoming MPLS packet to an IP packet and forward it to the next router.

Correct Answer: C

QUESTION 10

Which method of advertising networks from an autonomous system into BGP can result in the most instability?

A. Using the network command

B. Redistributing static routes into BGP

C. Redistributing dynamic routes into BGP

D. Redistributing static routes into IBGP

Correct Answer: C

Redistributing dynamic IGP routes into BGP can result in instability, and is not recommended.

Dynamic routes can disappear from the routing table, and even flap up and down constantly if there are link problems, especially with WAN links. If the networks are redistributed into BGP, their flapping can result in BGP updates about the

route changing status, resulting in instability for BGP.

Most ISPs guard against unstable routes and might threaten to cut off your BGP connectivity if you have flapping routes that cause BGP instability in their networks.

The network command and redistributed static routes, on the other hand, tend not to change state so often. As a result, they are considered much more stable from a BGP perspective.

Objective:

Layer 3 Technologies

Sub-Objective:

Configure and verify manual and autosummarization with any routing protocol

References:

Cisco > Support > Technology Support > IP > IP Routing > Design > Design Technotes > BGP Case Studies > Document ID: 26634 > Redistribution

QUESTION 11

Refer to the exhibit.

```
Router#sh ip route ospf
<output omitted>
Gateway is last resort is not set

      10.0.0.0/24 is subnetted, 1 subnets
   o  E2     10.0.0.0 [110/20] via 192.168.12.2, 00:00:10, Ethernet0/0
   o       192.168.3.0/24 [110/20] via 192.168.12.2, 00:00:50, Ethernet0/0
Router#

Router#show ip bgp
<output omitted>
      Network          Next Hop      Metric     LocPrf     Weight     Path
>*    192.168.1.1/32   0.0.0.0            0                32768      ?
>*    192.168.3.0      192.168.12.2      20                32768      ?
>*    192.168.12.0     0.0.0.0            0                32768      ?
Router#show running-config | section router bgp
router bgp 65000
 bgp log-neighbor-changes
 redistribute ospf 1
Router#
```

An engineer is trying to redistribute OSPF to BGP, but not all of the routes are redistributed. What is the reason for this issue?

A. By default, only internal routes and external type 1 routes are redistributed into BGP

B. Only classful networks are redistributed from OSPF to BGP

C. BGP convergence is slow, so the route will eventually be present in the BGP table

D. By default, only internal OSPF routes are redistributed into BGP

Correct Answer: D

If you configure the redistribution of OSPF into BGP without keywords, only OSPF intra-area and inter-area routes are redistributed into BGP, by default.

You can redistribute both internal and external (type-1 and type-2) OSPF routes via this command:

Router(config-router)#redistribute ospf 1 match internal external 1 external 2

QUESTION 12

Which routing protocol is used by the PE router to advertise routes to a CE router without redistribution or static after removing the RD tag from the P router?

A. IS-IS

B. OSPF

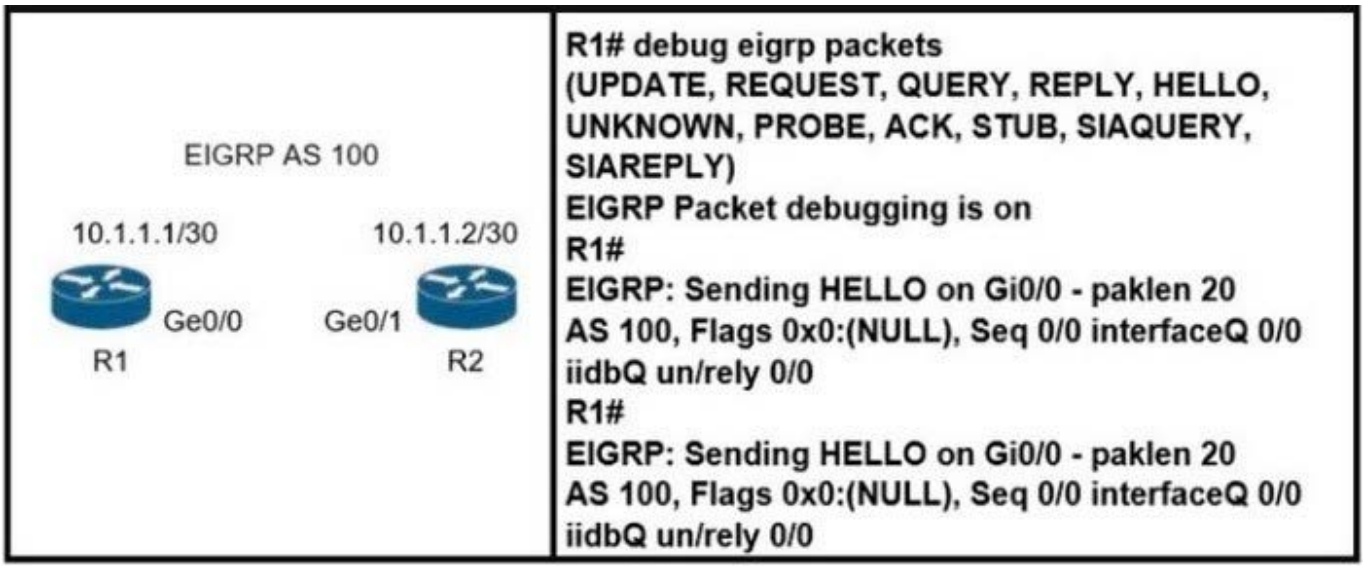
C. BGPIPv4

D. MP-BGP

Correct Answer: C

QUESTION 13

Refer to the exhibit.



Which action resolves the adjacency issue?

A. Configure the same EIGRP process IDs.

B. Match the authentication keys.

C. Match the hello interval timers.

D. Configure the same autonomous system numbers

Correct Answer: D

QUESTION 14

Refer to the exhibit.

```
router bgp 100
!
 neighbor 10.222.1.1 route-map SET-WEIGHT in
 neighbor 10.222.1.1 remote-as 1
!
ip as-path access-list 200 permit ^690$
ip as-path access-list 200 permit ^1800
!
route-map SET-WEIGHT permit 10
 match as-path 200
 set local-preference 250
 set weight 200
```

A router is receiving BGP routing updates from multiple neighbors for routes in AS 690.

What is the reason that the router still sends traffic that is destined to AS 690 to a neighbor other than 10.222.1.1?

A. The local preference value in another neighbor statement is higher than 250.

B. The local preference value should be set to the same value as the weight in the route map.

C. The route map is applied in the wrong direction.

D. The weight value in another neighbor statement is higher than 200.

Correct Answer: C

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_bgp/configuration/xe-3se/3850/irg-xe-3se-3850-book/irg-prefix-filter.html

QUESTION 15

What are two characteristics of VRF instance? (Choose two.)

A. All VRFs share customers routing and CEF tables .

B. An interface must be associated to one VRF.

C. Each VRF has a different set of routing and CEF tables

D. It is defined by the VPN membership of a customer site attached to a P device.

E. A customer site can be associated to different VRFs

Correct Answer: BC

Two characteristics of a VRF (Virtual Routing and Forwarding) instance are:

Each VRF has a different set of routing and CEF tables: VRFs maintain separate routing and CEF (Cisco Express Forwarding) tables, allowing different VRFs to have isolated routing information and forwarding decisions.

An interface must be associated with one VRF: Interfaces on a router or switch are typically associated with a specific VRF. This association ensures that traffic on that interface is segregated and follows the routing information within the

designated VRF.