300-510 Q&As

Implementing Cisco Service Provider Advanced Routing Solutions (SPRI)

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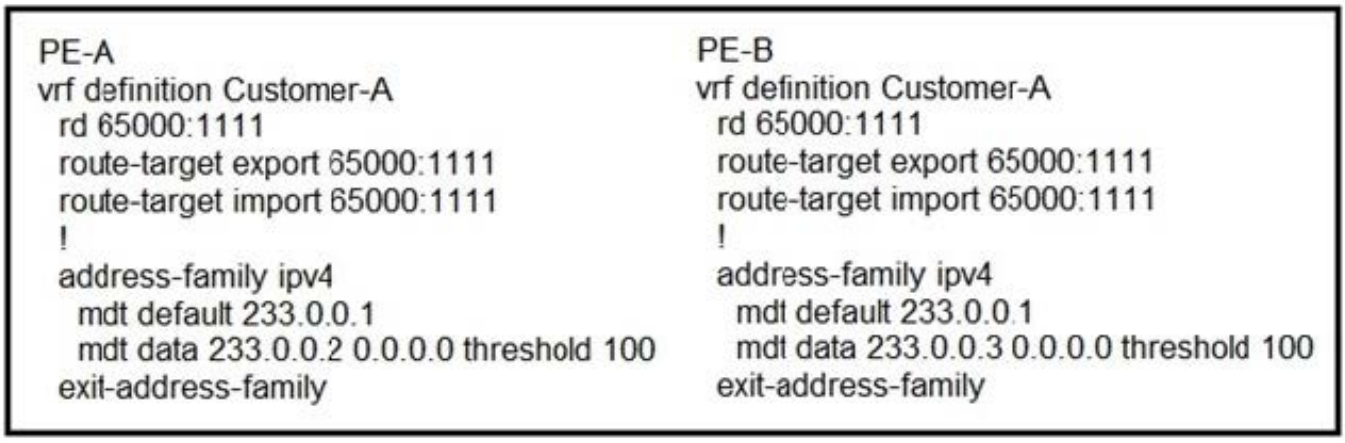
QUESTION 1

Refer to the exhibit.



```
PE-A
vrf definition Customer-A
 rd 65000:1111
 route-target export 65000:1111
 route-target import 65000:1111
 !
 address-family ipv4
  mdt default 233.0.0.1
  mdt data 233.0.0.2 0.0.0.0 threshold 100
 exit-address-family
```

```
PE-B
vrf definition Customer-A
 rd 65000:1111
 route-target export 65000:1111
 route-target import 65000:1111
 !
 address-family ipv4
  mdt default 233.0.0.1
  mdt data 233.0.0.3 0.0.0.0 threshold 100
 exit-address-family
```

Which tree does multicast traffic follow?

A. shared tree

B. MDT default

C. source tree

D. MDT voice

Correct Answer: B

QUESTION 2

After changing the IP address on an IOS XR router, an engineer cannot ping the new address Which step did the engineer forget to complete?

A. commit the configuration

B. roll back the configuration

C. save the running configuration

D. merge the configuration

Correct Answer: A

QUESTION 3

What is the difference between basic IS-IS and OSPF packet types?

A. IS-IS and OSPF use area packets, but only IS-IS uses sequence number packets.

B. IS-IS and OSPF use link-state update packets, but only OSPF uses link-state ACK packets.

C. IS-IS and OSPF use Hello packets, but only OSPF uses DBD packets.

D. IS-IS and OSPF use link-state update packets, but only IS-IS uses DBD packets.

Correct Answer: C

Reference: https://www.ciscopress.com/articles/article.asp?p=26850andseqNum=4

QUESTION 4

Refer to the exhibit.

```
ip as-path access-list 24 permit ^65547_[0-9]*$.
router bgp 65512
   neighbor 192.168.10.2 remote-as 65547
   neighbor 192.168.10.2 route-map ciscotest in
route-map ciscotest permit 10
   match as-path 24
```

Router R1 is expected to receive routes that originate from AS 65547 only. However, R1 is receiving routes from AS 65547 and several other ASs that are directly attached to it. Which change to the AS path permit filter corrects the problem?

A. Change the regular expression to ^$.

B. Change the regular expression to ^65547$.

C. Change the regular expression to .*.

D. Change the regular expression to _65547_.

Correct Answer: B

QUESTION 5

What are two differences between OSPF and IS-IS? (Choose two.)

A. OSPF is a link-state routing protocol, and IS-IS is a distance-vector routing protocol.

B. OSPF uses a router ID to identify a router, and IS-IS uses a system ID.

C. OSPF elects a DR and a BDR, and IS-IS elects a DIS.

D. Unlike OSPF. IS-IS supports virtual links.

E. Unlike IS-IS routers, an OSPF router belongs to only one area in addition to the backbone area.

Correct Answer: BC

QUESTION 6

Which command is used to enable BIDIR-PIM under global configuration mode for Cisco IOS XE Sofware?

A. ip pim bidir-enable

B. ipv4 pim bidir-enable

C. ip multicast-routing

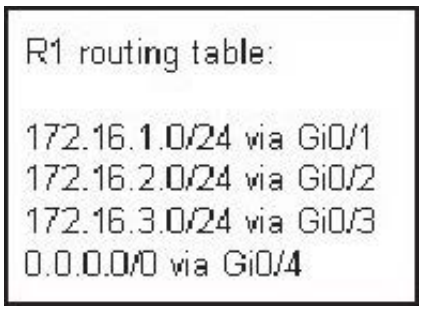
D. ip pim bidir

Correct Answer: A

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipmulti_pim/configuration/xe-3s/imc-pim-xe-3s-book/imc_basic_cfg.html

QUESTION 7

Assume that the R1 router is enabled for PIM-SM and receives a multicast packet sourced from 172.16.1.100, and the R1 router has multicast receivers on the Gi0/1, Gi0/2, Gi0/3 and Gi0/4 interfaces.



The multicast packet from the 172.16.1.100 source must arrive on which interface on the R1 router for it to be forwarded out the other interfaces?

A. Gi0/1

B. Gi0/2

C. Gi0/3

D. Gi0/4

E. Gi0/1 or Gi0/2 or Gi0/3 or Gi0/4

F. Gi0/2 or Gi0/3

G. Gi0/1 or Gi0/4

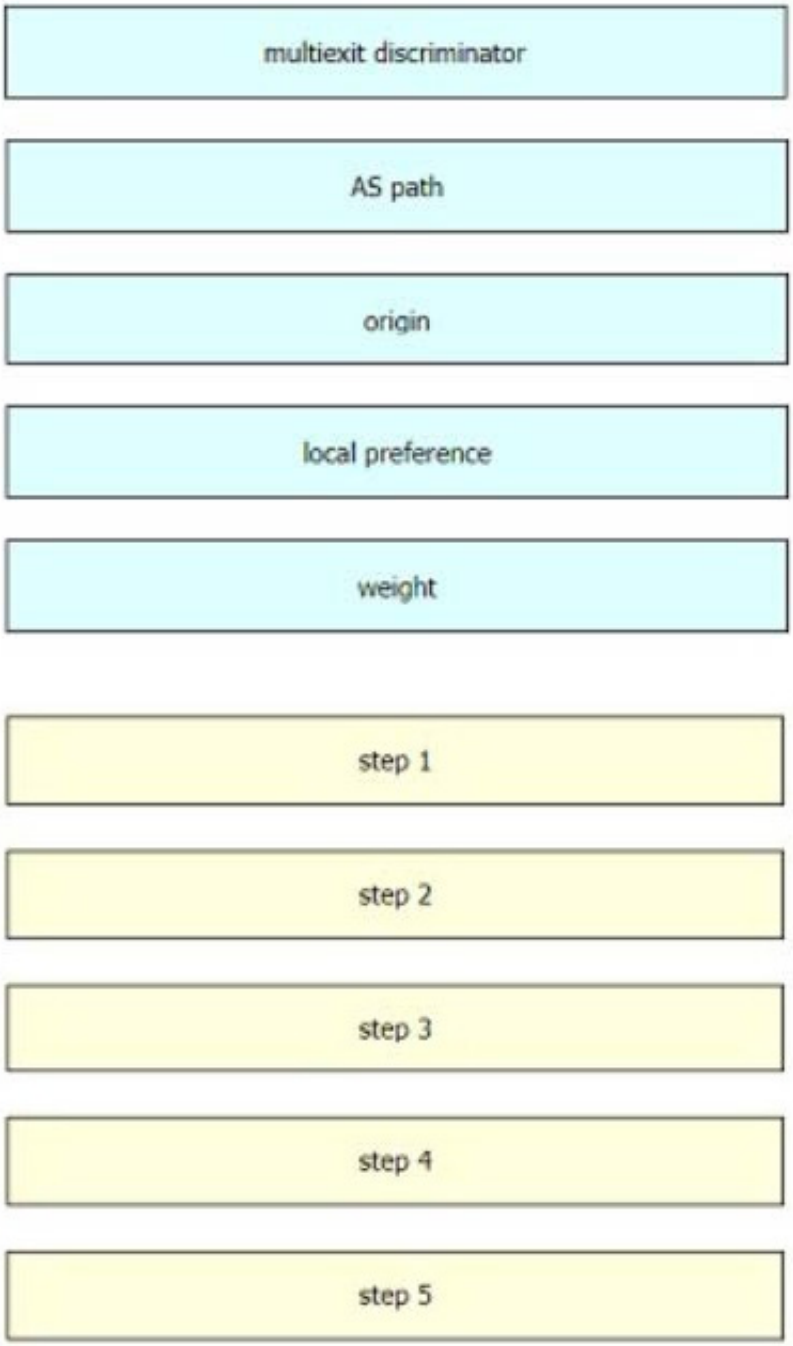
Correct Answer: A

QUESTION 8

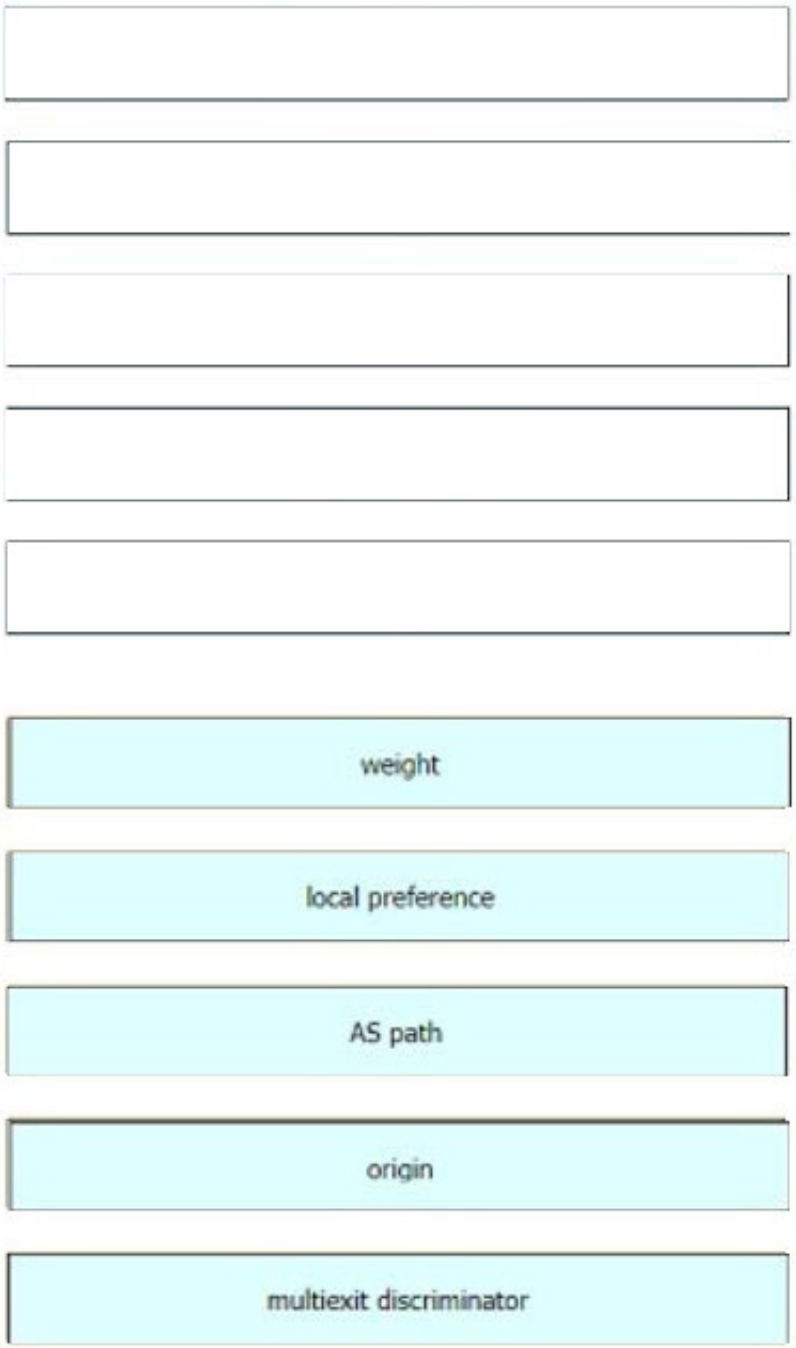
DRAG DROP

Drag and drop the BGP attributes from the left into the order of route selection preference on the right.

Select and Place:

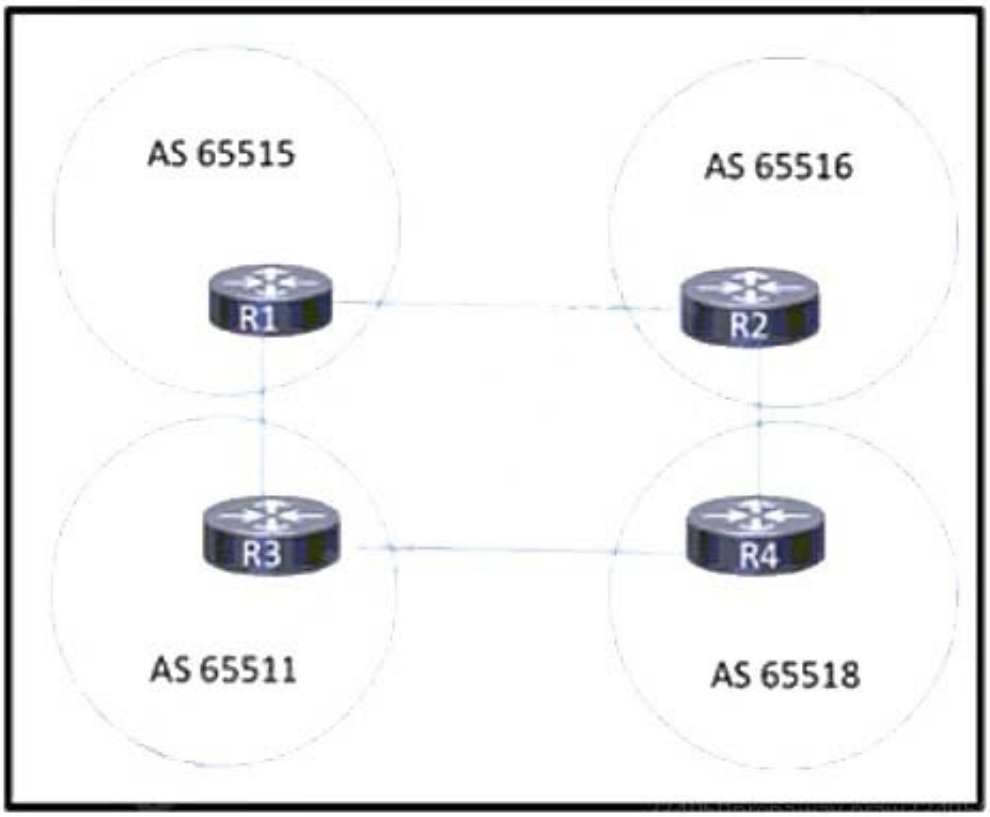


Correct Answer:



QUESTION 9

Refer to the exhibit.



Routers R1, R2, R3, and R4 are peer routers that reside in different administrative domains. PIM-SM is running in each autonomous system, and EBGP is configured between the peers. A network administrator has just implemented MSDP between the connected peers. When the administrator enabled the MSDP configuration, R1 and R2 failed to establish a peering relationship. All other connected routers successfully established peering sessions. Which action must the engineer take to resolve the issue between R1 and R2?

A. Implement BGP authentication between the peers.

B. Configure the peers to be in the same autonomous system.

C. Change the MSDP authentication method to clear text.

D. Set the same MSDP password on both peers.

Correct Answer: D

QUESTION 10

Refer to the exhibit.

```
router isis
      net 49.0012.0000.0000.0002.00
      log-adjacency-changes
      summary-address 1.0.0.0 255.0.0.0
```

A network engineer applied configuration on R1 to summarize all ISIS routes, but R2 is still receiving specific routes from R1. The engineer has confirmed that both routers are configured with the correct summarization configuration, but R1 is not sending the correct summary routes. Which configuration must be applied to router R1 to summarize routes within Level 1?

A. R1(config-router)#no summary-address 1.0.0.0 255.0.0.0 level-1

B. R1(config-router)#summary-address 1.0.0.0 255.0.0.0 level-2

C. R1(config-router)#summary-address 1.0.0.0 255.0.0.0 level-1-2

D. R1(config-router)#summary-address 1.0.0.0 255.0.0.0 level-1

Correct Answer: D

QUESTION 11

An engineer is troubleshooting a connectivity issue across the MPLS network and is verifying the forwarding behavior of packets.

Which table does the engineer look at to verify the forwarding behavior of an IP packet as it enters the MPLS network at the ingress LSR?

A. LFIB

B. LIB

C. RIB

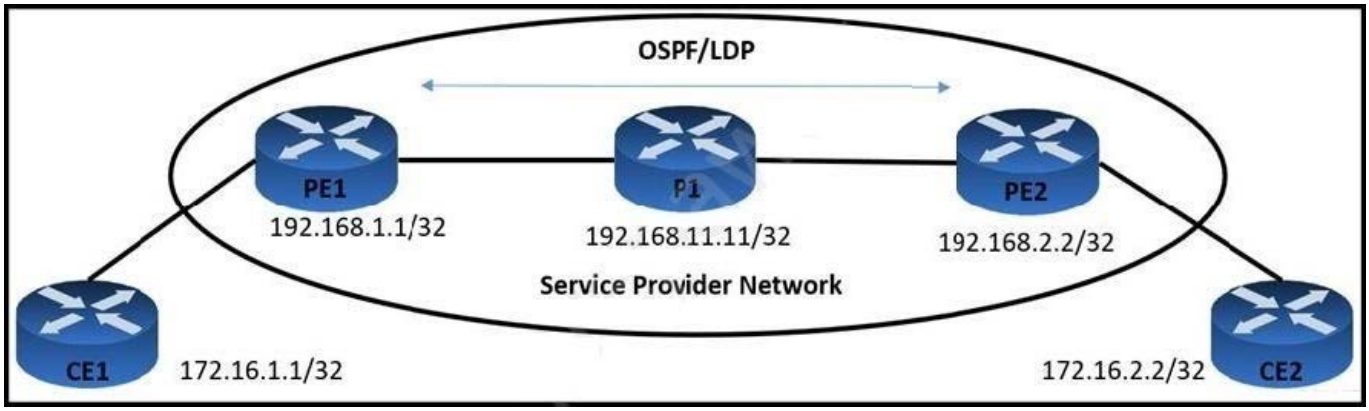
D. FIB

Correct Answer: A

https://community.cisco.com/t5/image/serverpage/image-id/44142iC3B9032F415B1395?v=v2

QUESTION 12

Refer to the exhibit.




```
PE1# show mpls forwarding-table
Local  Outgoing  Prefix           Bytes Label  Outgoing    Next  Hop
Label  Label       or Tunnel Id  Switched      interface
16     No Label    172.16.1.1/32     0         drop
17     No Label    192.168.12.12/32  0         drop
20     No Label    192.168.2.2/32    0         drop
21     No Label    10.1.212.0/24     0         drop
22     No Label    10.1.211.0/24     0         drop
23     No Label    192.168.11.11/32  0         drop
24     No Label    172.16.11.0/24    0         drop
25     No Label    172.16.14.0/24    0         drop

PE2#show ip route 192.168.1.1
Routing entry for 192.168.1.0/24
Known via "bgp 100", distance 200, metric 0
Tag 1, type internal
Last update from 192.168.1.12 20:10:38 ago
Routing Descriptor Blocks:
* 192.168.1.12, from 192.168.12.12, 20:10:38
ago
Route metric is 0, traffic share count is 1
AS Hops 5

PE1#show ip route 192.168.11.11
Routing entry for 192.168.11.11/32
Known via "ospf 100", distance 110, metric 2, type
intra area
Last update from 10.1.111.11 on Gi0/1 00:04:34 ago
Routing Descriptor Blocks:
* 10.1.111.11, from 192.168.11.11, 00:04:34 ago
via GugabitEthernet0/1
Route metric is 2, traffic share count is 1
```

VPN users that are connected to PE routers are facing network issues. Traffic that originates from CE1 drops before reaching CE2. An engineer finds no outgoing traffic statistics on PE1 and PE2 routers toward CE devices and finds that

the PE1 router is running the older software image. Which action must be implemented to resolve the issues?

A. Enable LDP protocol on PE1 and PE2 routers.

B. Advertise P1 router loopback on PE1 in OSPF.

C. Enable CEF-based forwarding on PE1 router.

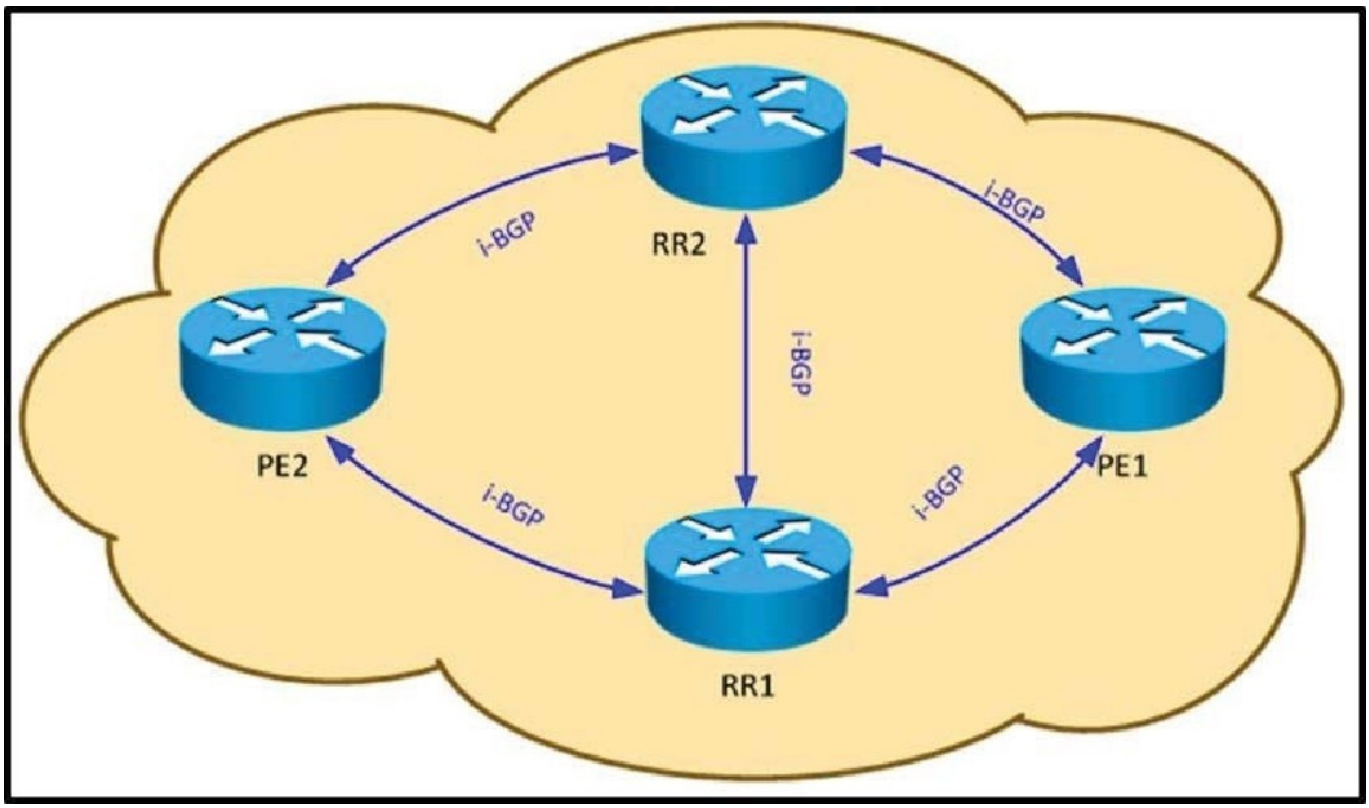
D. Advertise PE2 router loopback on PE1 in OSPF.

Correct Answer: C

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/mp_basic/configuration/xe-3s/mp-basic-xe-3s-book/mp-mpls-cisco-rtrs.html

QUESTION 13

Refer to the exhibit.



Which configuration ensures that RR2 does not send the same updates to PE2 that RR1 learns via PE1?

A. RR1 and RR2 should have different router IDs.

B. RR1 and RR2 should have different originator IDs.

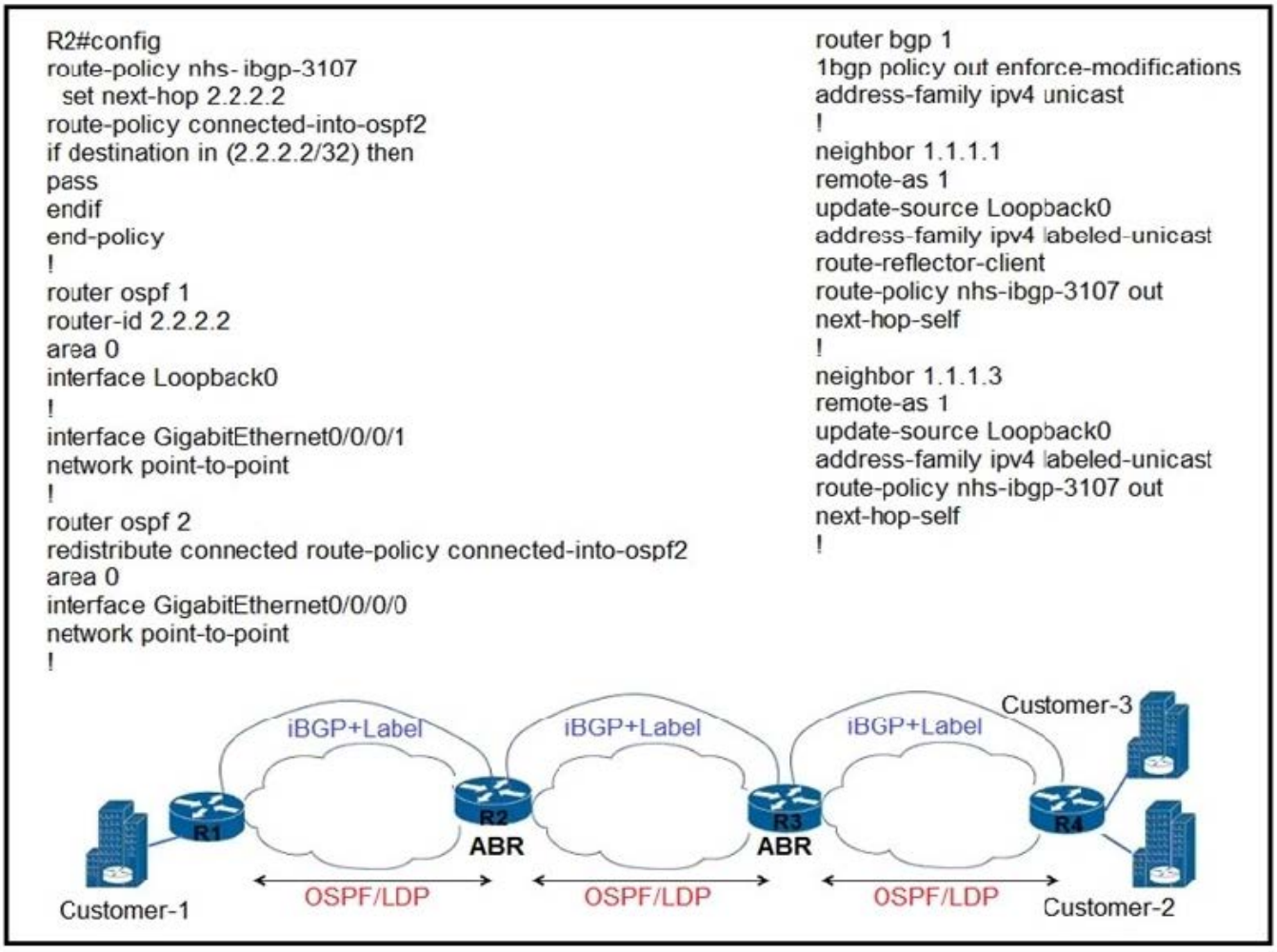
C. RR1 and RR2 should have the same router IDs.

D. RR1 and RR2 should have the same cluster IDs.

Correct Answer: D

QUESTION 14

Refer to the exhibit.



There is a connectivity issue between Customer-1 and Customer-2. File servers between the customers cannot send critical data. R3 routes are missing from the routing table on the Customer-1 router. All interfaces on Customer-1 are up. Which configuration must be applied to router R2 to correct the problem?

A.
```
router bgp 1
address-family ipv4 unicast
allocate-label all
```

B.
```
router bgp 1
address-family vpnv4 unicast
allocate-label all
```

C.
```
router bgp 1
neighbor
remote-as 1
update-source Loopback0
address-family ipv4 labeled-unicast
allocate-label all
```

D.
```
router bgp 1
vrf one
rd 1:1
address-family ipv4 unicast
allocate-label all
```

A. Option A

B. Option B

C. Option C

D. Option D

Correct Answer: A

QUESTION 15

An engineer warns to map a multicast IP address to a multicast MAC How many bits are used to make the conversion?

A. high-order 24 bits

B. higher-order 23 bits

C. low order 23 bits

D. lower-order 24 bits

Correct Answer: C