300-510 Q&As

Implementing Cisco Service Provider Advanced Routing Solutions (SPRI)

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QUESTION 1

A network operator working for a telecommunication company with an employee id: 4074:92:707 is planning to implement the Nonstop Forwarding (NSR) feature on the customer\\'s core network. After getting the configuration ready for NSR. on which router should the operator implement NSR changes?

A. on the CE router

B. on the ASBR router

C. on the ABR router

D. on the PE router

Correct Answer: D

Reference: https://www.cisco.com/en/US/technologies/tk869/tk769/technologies_white_paper0900aecd801dc5e2.html

QUESTION 2

For which reason can two BGP peers fail to establish a neighbor relationship?

A. Their BGP send-community strings are misconfigured

B. Their BGP timers are mismatched

C. Their remote-as numbers are misconfigured

D. They are both activated under an IPv4 address family

Correct Answer: C

QUESTION 3

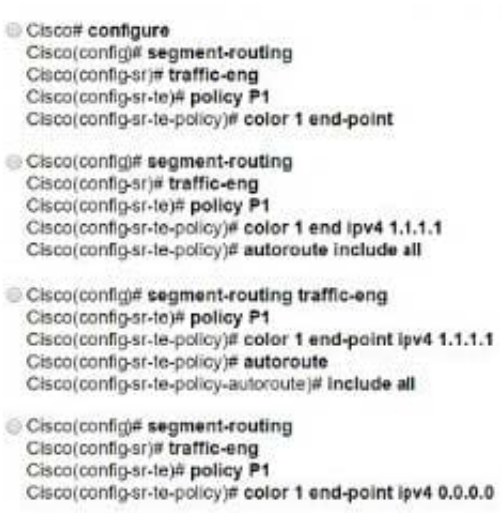
Refer to the exhibit.

```
Cisco(config)# extcommunity-set opaque overlay-color
Cisco(config-ext)# 1 co-flag 01
Cisco(config-ext)# end-set
Cisco(config)#
Cisco(config)# route-policy color
Cisco(config-rpl)# if destination in (10.10.10.1/32) then
Cisco(config-rpl-if)# set extcommunity color overlay-color
Cisco(config-rpl-if)# endif
Cisco(config-rpl)# pass
Cisco(config-rpl)# end-policy
```

An engineer is troubleshooting an issue with traffic steering using the color-only automated steering mechanism. BGP is failing to automatically steer traffic into an SR policy with the given color of a route, regardless of the next hop.

The layer 2 configuration is correct, and the physical connection between the devices is working normally.

Whch additional command sequence must the engineer add to correct the issue?



A. Option A

B. Option B

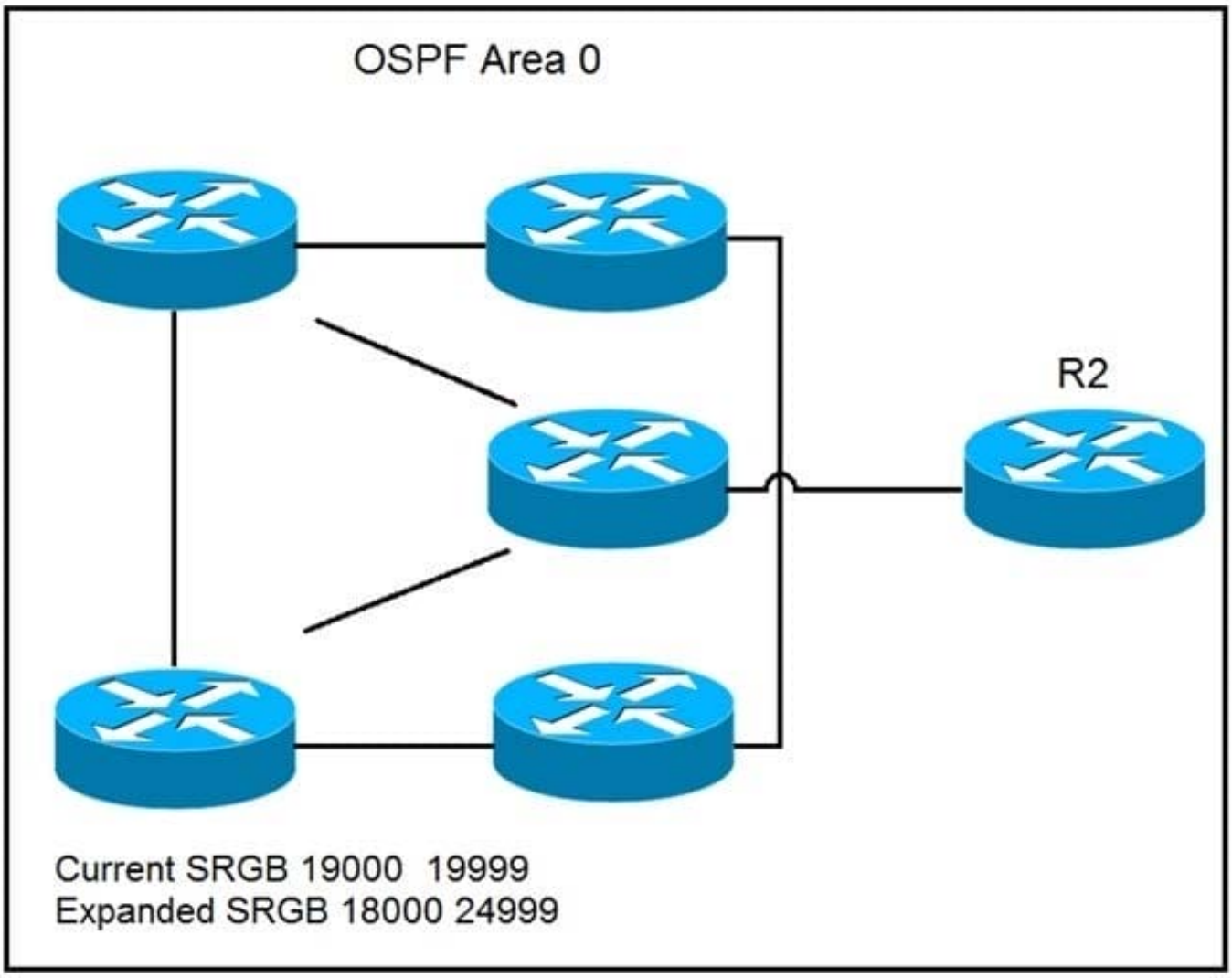
C. Option C

D. Option D

Correct Answer: D

QUESTION 4

Refer to the exhibit.



A network operator wants to expand the segment routing global block in upcoming maintenance. The operator must ensure that the changes to the segment routing global block have no adverse impacts on the prefix-sid associated with the loopback0 interface used within the OSPF domain.

Which command can the operator use to enforce R2 to have a strict prefix-sid assignment to loopback0?

A.
```
router ospf 1
 area 0
  interface Loopback0
   prefix-sid index 19002 explicit-null
```

B.
```
router ospf 1
 area 0
  interface Loopback0
   prefix-sid absolute 13002
```

C.
```
router ospf 1
 area 0
  interface Loopback0
   prefix-sid absolute 19002
```

D.
```
router ospf 1
 area 0
  interface Loopback0
   prefix-sid index 19002
```

A. Option A

B. Option B

C. Option C

D. Option D

Correct Answer: C

QUESTION 5

Refer to the exhibit.

```
Router 1:

interface TenGigE0/1
   point-to-point
   address-family ipv4 unicast
        fast-reroute per-prefix
        Fast-reroute per-prefix ti-lfa

R1#show isis fast-reroute 172.16.200.9/32

L2 172.16.200.9/32 [30/115]
              via 192.168.20.1, TenGigE0/1, R2, SRGB Base: 16000, Weight: 0
               FRR backup via 192.168.30.1, TenGigE0/2, R3, SRGB Base: 16000,
Weight: 0, Metric 40
```

Router 1 is connected to router 2 on interface TenGigE0/1.

Which interface provides the alternate path to 172.16.200.9/32 when the link between router 1 and router 2 goes down?

A. TenGigE0/1 interface provides the alternate path

B. A backup path must be statically installed

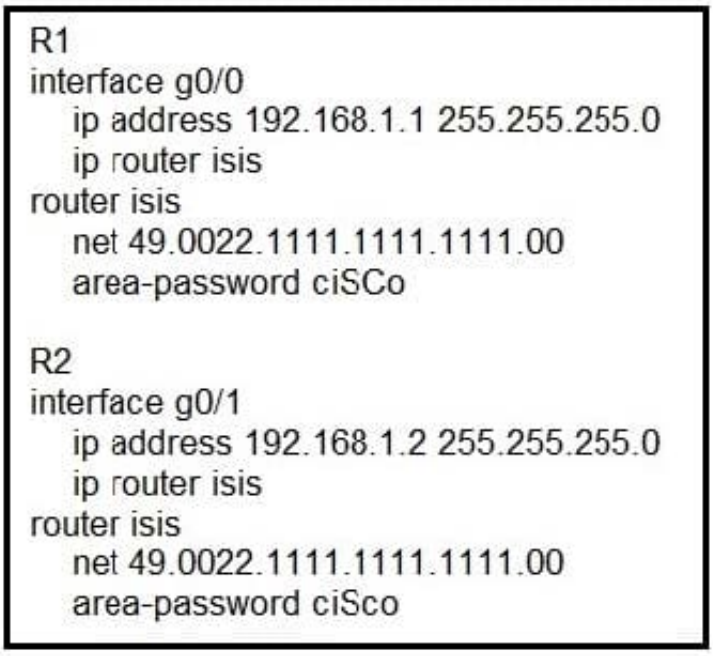
C. TenGigE0/2 interface provides the alternate path

D. A primary path must be manually installed

Correct Answer: C

QUESTION 6

Refer to the exhibit.



After you applied these configurations to routers R1 and R2, the two devices could not form a neighbor relationship. Which reason for the problem is the most likely?

A. The two routers cannot authenticate with one another.

B. The two routers have the same area ID.

C. The two routers have the same network ID.

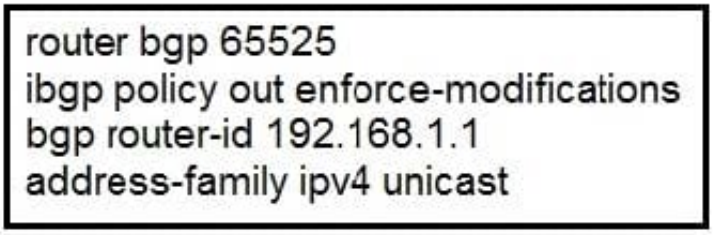
D. The two routers have different IS-types.

Correct Answer: C

For those asking about the password, area authentication doesn\\'t prevent neighboring to come up because it is carried only in LSP, CSNP and PSNP messages and not in IIH messages. https://www.cisco.com/c/en/us/support/docs/ip/integrated- intermediate-system-to-intermediate-system-is-is/13792-isis-authent.html

QUESTION 7

Refer to the exhibit.



Router 1 is a core ABR in a Cisco Unified MPLS environment. All of the router 1 BGP peers are established, but traffic between customers is failing. Which BGP configuration must be added to the configuration?

A. It must be configured for graceful restart

B. It must be configured with a route reflector

C. It must be configured with send labels

D. It must be configured with PIC edge

Correct Answer: C

QUESTION 8

Refer to the exhibit.

An engineer is troubleshooting an OSPF issue. Router 1 has a neighbor relationship with router 2. Only router 1 classful EIGRP routes can be seen on router 2. In order for all EIGRP routes to be redistributed correctly, which action should be taken?

A. Router 1 must have the keyword subnets included in the redistribution command for all EIGRP routes to be redistributed.

B. Router 1 must remove the AS number 1 from the redistribution command for all EIGRP routes to be redistributed.

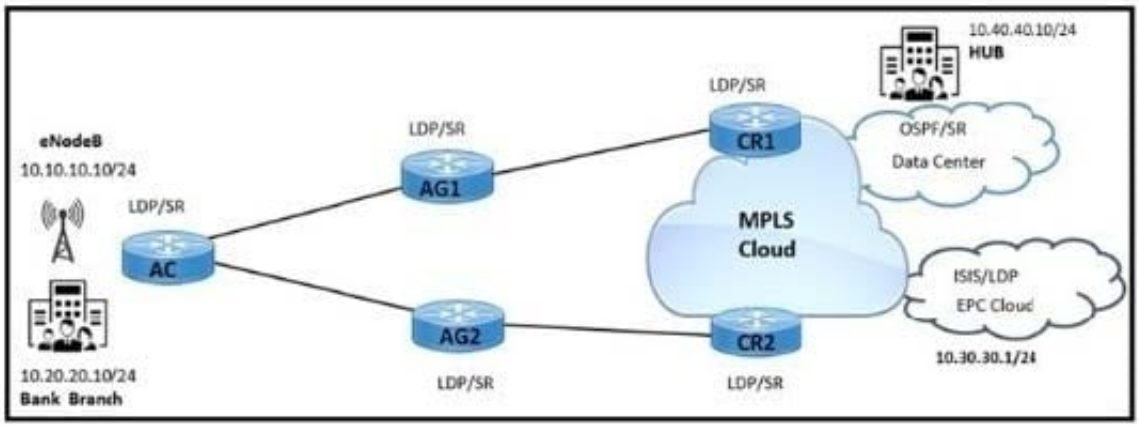
C. Router 1 must have the keyword ospf-metric included in the redistribution command for all EIGRP routes to be redistributed.

D. Router 1 must have the keyword metric-type 1 included in the redistribution command for all EIGRP routes to be redistributed.

Correct Answer: A

QUESTION 9

Refer to the exhibit.



A service provider has LDP and segment routing running in the network. Mobility traffic is carried through LDP and enterprise traffic is carried through segment routing. Which configuration must be implemented to connect the bank branch with the HUB site on routers?

A. Configure segment-routing Sr-prefer prefix-list on AG1 and AG2 router for 10.10.10.10/24.

B. Enable segment-routing Mpls Sr-prefer on CR1 and CR2 routers for 10.0.0.0/8.

C. Enable segment-routing Mpls Sr-prefer on AG1 and AG2 routers for 10.0.0.0/8.

D. Configure segment-routing sr-prefer prefix-list on CR1 and CR2 routers for 10.20.20.10/24.

Correct Answer: D

QUESTION 10

What can be used to determine a path from the head-end to a tail-end router when implementing SR-TE with a head-end, with little information on the network topology?

A. traffic controller

B. path computation engine

C. tail-end router

D. SNMP server

Correct Answer: B

QUESTION 11

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.

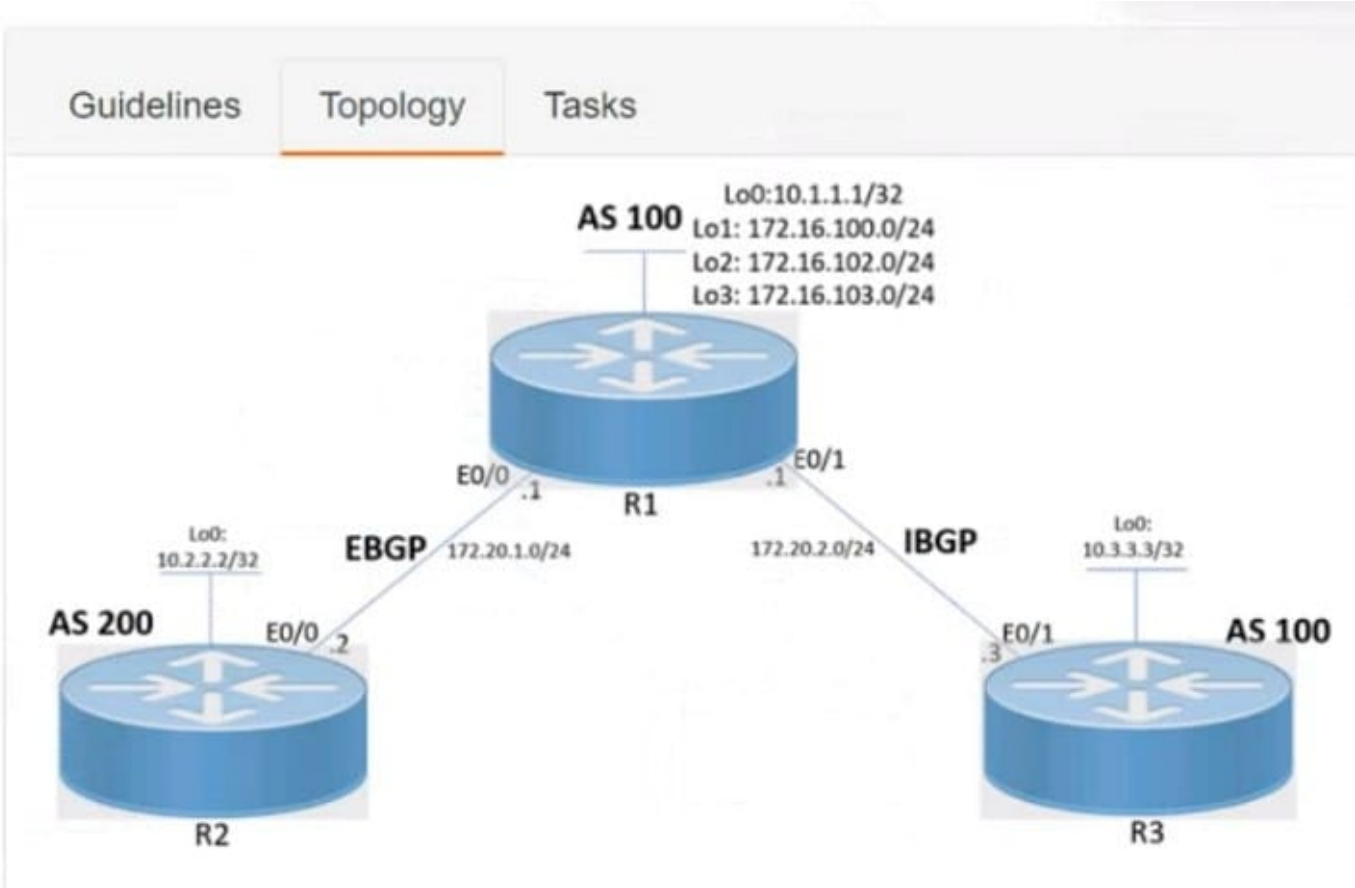
D. IS-IS and OSPF use link-state update packets, but only IS-IS uses DBD packets.

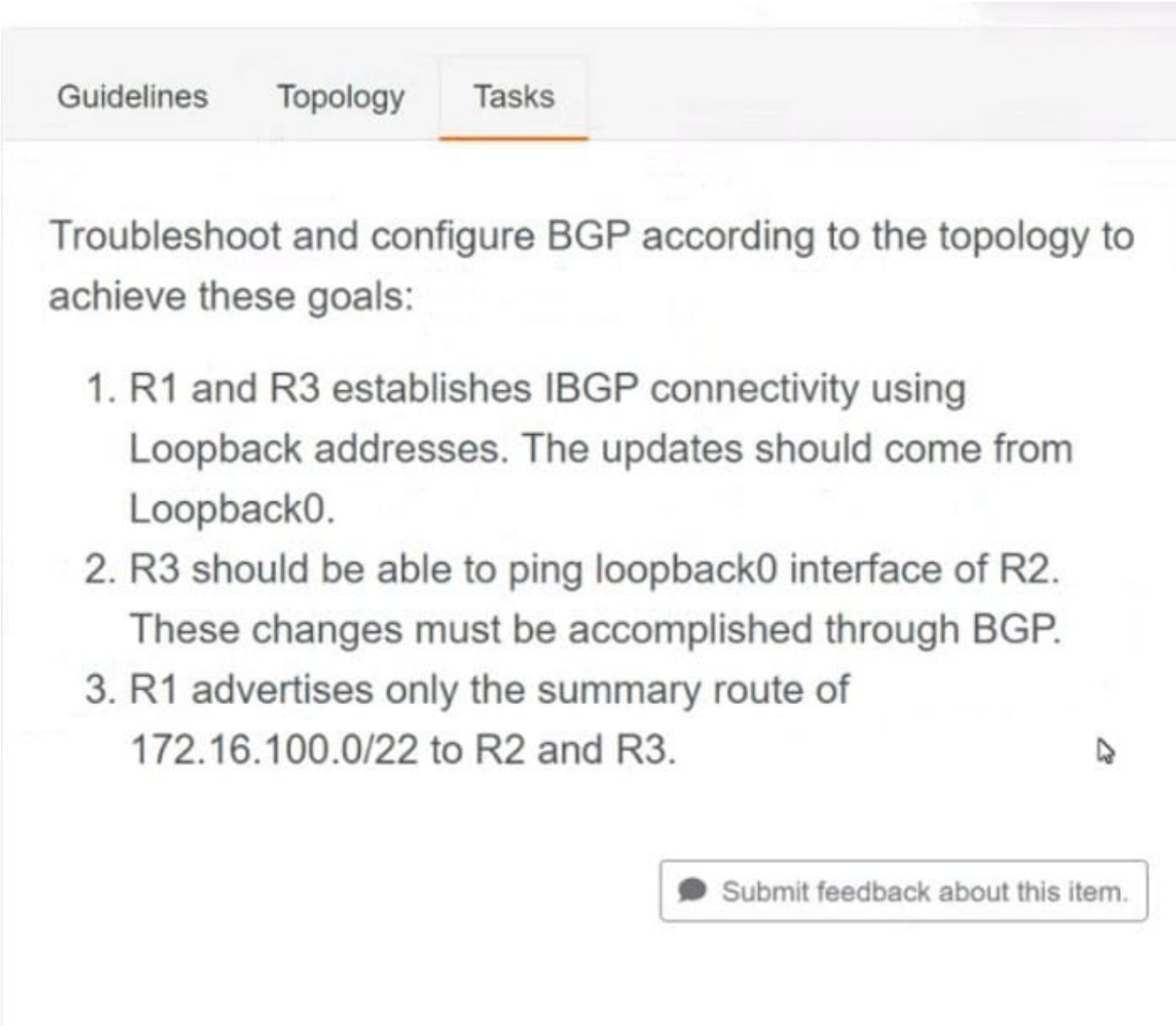
Correct Answer: C

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

QUESTION 12

CORRECT TEXT





A. Check the answer in the explanation

B. Placeholder

C. Placeholder

D. Placeholder

Correct Answer: A

Solution : R1 Router bgp 100 Neigh 10.3.3.3 remote-as 100 Neigh 10.3.3.3 update-source loopback0

Address-family ipv4 Neigh 10.3.3.3 next-hop-self Aggregate-address 172.16.100.0 255.255.252.0 summary-only

Copy run start

R3 Router bgp 100 Neigh 10.1.1.1 remote-as 100 Neigh 10.1.1.1 update-source loopback 0

Copy run start

Verification:

```
R3#ping 10.2.2.2
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.2.2.2, timeout is 2 seco
nds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1
/1/1 ms
R3#
```

```
R3#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mob
ile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF in
ter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA externa
l 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 - NHR
P, l - LISP
       a - application route
       + - replicated route, % - next hop override, p - overr
ides from PfR

Gateway of last resort is not set

      10.0.0.0/32 is subnetted, 3 subnets
S        10.1.1.1 [1/0] via 172.20.2.1
B        10.2.2.2 [200/0] via 10.1.1.1, 00:00:19
C        10.3.3.3 is directly connected, Loopback0
      172.16.0.0/22 is subnetted, 1 subnets
B        172.16.100.0 [200/0] via 10.1.1.1, 00:00:02
      172.20.0.0/16 is variably subnetted, 3 subnets, 2 masks
B        172.20.1.0/24 [200/0] via 10.1.1.1, 00:00:19
C        172.20.2.0/24 is directly connected, Ethernet0/1
L        172.20.2.3/32 is directly connected, Ethernet0/1
R3#
```

QUESTION 13

What is the difference between a source tree and a shared tree in a multicast environment?

A. To route traffic from source to receiver a source tree uses a link-state routing protocol and a shared tree uses a distance-vector routing protocol.

B. A source tree has its root at the source, and a shared tree has its root at a designated rendezvous point.

C. To stream multicast from source to receiver, a source tree uses PIM-SM and a shared tree uses PIM-DM.

D. Source trees are the default type for bidirectional PIM, and PIM-DM uses shared trees by default.

Correct Answer: B

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipmulti_pim/configuration/xe-16-5/imc-pim-xe-16-5-book/imc-tech-oview.html

QUESTION 14

Refer to the exhibit.

```
Router(config-router)#no bgp client-to-client reflection intra-cluster cluster-id 192.168.1.1
```

Routers within the cluster are not receiving the desired prefixes. What must be done to fix the issue?

A. Clients in that cluster must have full mesh connectivity between eBGP peers.

B. No client-to-client must be disabled.

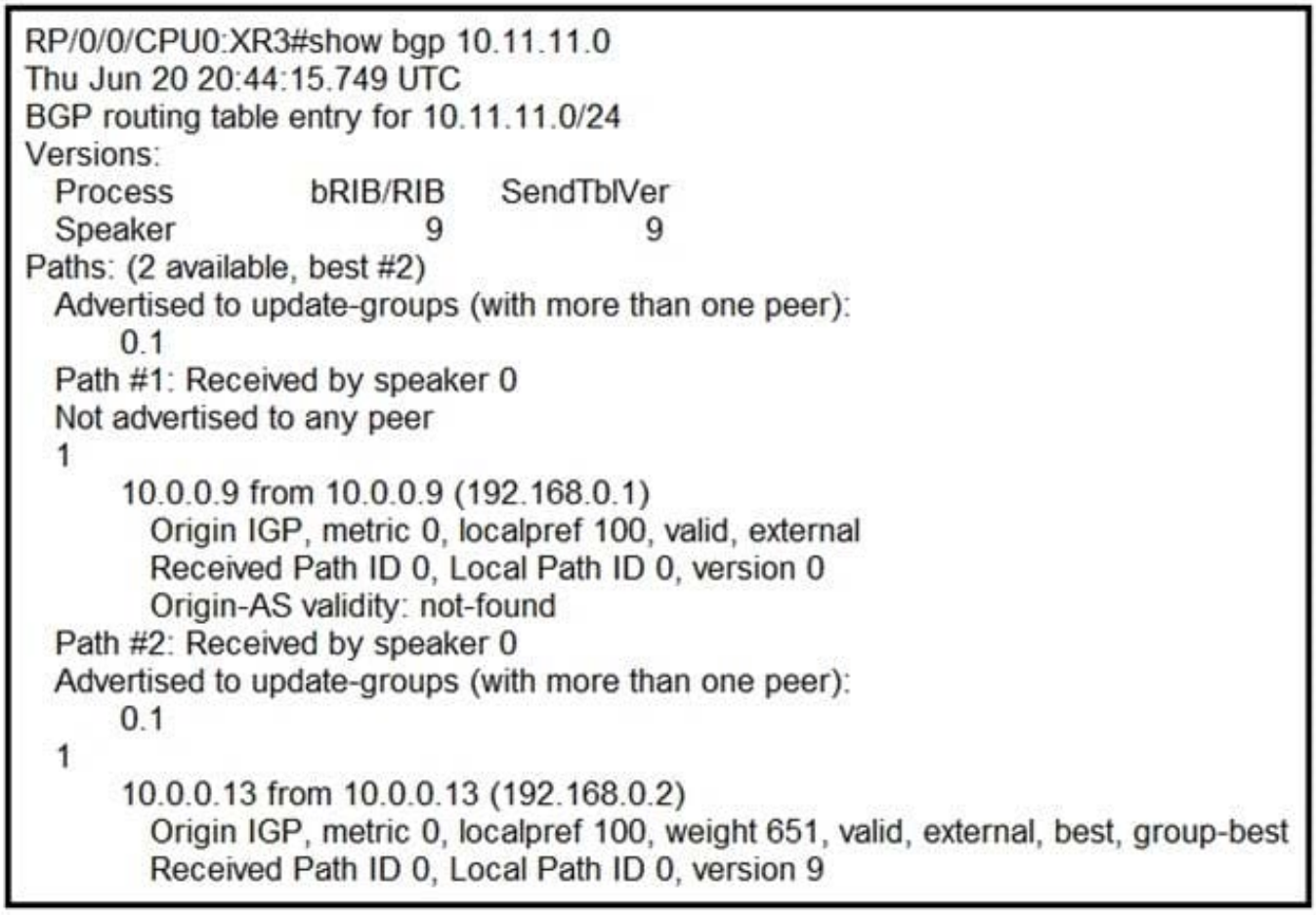
C. Clients in that cluster must have full mesh connectivity between iBGP peers.

D. No client-to-client reflection must be enabled.

Correct Answer: C

QUESTION 15

Refer to the exhibit.



```
RP/0/0/CPU0:XR3#show bgp 10.11.11.0
Thu Jun 20 20:44:15.749 UTC
BGP routing table entry for 10.11.11.0/24
Versions:
  Process           bRIB/RIB     SendTblVer
  Speaker                  9              9
Paths: (2 available, best #2)
  Advertised to update-groups (with more than one peer):
        0.1
  Path #1: Received by speaker 0
  Not advertised to any peer
  1
        10.0.0.9 from 10.0.0.9 (192.168.0.1)
          Origin IGP, metric 0, localpref 100, valid, external
          Received Path ID 0, Local Path ID 0, version 0
          Origin-AS validity: not-found
  Path #2: Received by speaker 0
  Advertised to update-groups (with more than one peer):
        0.1
  1
        10.0.0.13 from 10.0.0.13 (192.168.0.2)
          Origin IGP, metric 0, localpref 100, weight 651, valid, external, best, group-best
          Received Path ID 0, Local Path ID 0, version 9
```

A network operator is getting the route for 10.11.11 0/24 from two upstream providers on #XR3. The network operator must configure #XR3 to force the 10.11.11.0/24 prefix to route via next hop of 10.0.0.9 as primary when available. Which of these can the operator use the routing policy language for, to enforce this traffic forwarding path?

A. weight of 0 on the prefix coming from 192.168.0.2

B. lower local preference on the prefix coming from 192.168.0.2

C. higher local preference on the prefix coming from 192.168.0.1

D. weight of 100 on the prefix coming from 192.168.0.1

Correct Answer: A

Because Weight is the first attribute in path selection algorithm and is 0 for eBGP routes by default. If we set it to 0, router will continue from weight to the bottom, and when comparing neighbor router IDs it will find 192.168.0.1 less than

192.168.0.2 and st path will be selected as the best