

300-510^{Q&As}

Implementing Cisco Service Provider Advanced Routing Solutions
(SPRI)

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QUESTION 1

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    SendTbVer
  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?

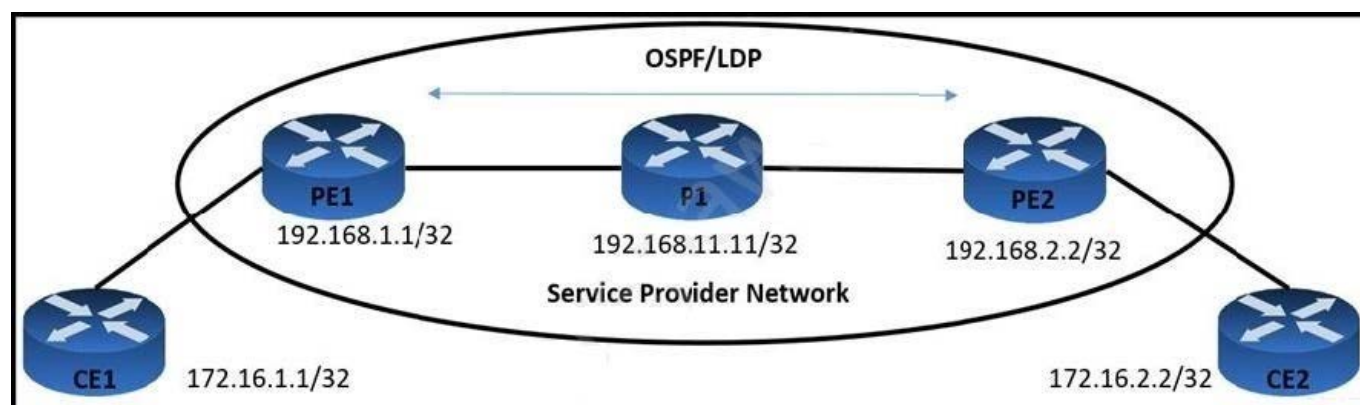
- A. weight of 0 on the prefix coming from 192.168.0.2
- B. lower local preference on the prefix coming from 192.168.0.2
- C. higher local preference on the prefix coming from 192.168.0.1
- D. weight of 100 on the prefix coming from 192.168.0.1

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

QUESTION 2

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 GigabitEthernet0/1
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/x3-3s/mp-basic-xe-3s-book/mp-

mpls-cisco-rtrs.html

QUESTION 3

Refer to the exhibit.

```
router1# show ip ospf interface serial 2
Serial1/0 is up, line protocol is up
Internet Address 192.168.2.1/24, Area 0
Process ID 1, Router ID 192.168.2.1, Network Type BROADCAST, Cost: 64
Transmit Delay is 1 sec, State DR, Priority 1
Designated Router (ID) 192.168.2.1, Interface address 192.168.2.1
Backup Designated router (ID) 192.168.2.2, Interface address 192.168.2.2
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
Hello due in 00:00:07
Neighbor Count is 1, Adjacent neighbor count is 1
Adjacent with neighbor 192.168.2.2 (Backup Designated Router)
Suppress hello for 0 neighbor(s)

router2# show ip ospf interface serial 1/0
Serial1/0 is up, line protocol is up
Internet Address 192.168.2.2/24, Area 0
Process ID 1, Router ID 192.168.2.2, Network Type POINT_TO_POINT, Cost: 64
Transmit Delay is 1 sec, State POINT_TO_POINT,
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
Hello due in 00:00:03
Neighbor Count is 1, Adjacent neighbor count is 1
Adjacent with neighbor 192.168.2.1
Suppress hello for 0 neighbor(s)
```

Router1 and Router2 have shared routes in the OSPF database, but the routes are missing from their routing tables. Checking the prefix-list configuration on both routers, the engineer confirmed all networks are allowed. What action should the engineer take to fix the problem?

- A. Configure interface Serial1/0 on Router1 as a point-to-point interface
- B. Configure the two routers with different process IDs
- C. Switch the DR and BDR roles between the two routers
- D. Configure the two routers with different hello and dead timer values

Correct Answer: A

QUESTION 4

Which two differences should be considered when deciding whether to implement routing policies or route maps? (Choose two.)

- A. Sequences are added after implementing a route map, but routing policies must be reconfigured when change is needed
- B. Route maps are supported in Cisco IOS Software and routing policies are supported in Cisco IOS XR Software
- C. Route maps are implemented using hierarchical policies, but routing policies must be implemented sequentially
- D. Route maps require an explicit deny at the end of the sequence, but routing policies have an implicit deny at the end of the program
- E. Route policies require sequence numbers, but route maps are implemented without sequencing

Correct Answer: AB

QUESTION 5

Refer to the exhibit.

```
R1
router bgp 65530
  neighbor 192.168.1.2 remote-as 65531
  address-family ipv4
  neighbor 192.168.1.2 activate
  neighbor 192.168.1.2 route-map ciscotest in
  network 192.168.2.0 mask 255.255.255.0
  exit-address-family

route-map ciscotest permot 10
  set as-path prepend 65531 65531
```

Routers R1 and R2 reside in AS 65530, which is multihomed to the Internet. A network engineer expects devices in the AS to use R2 to access the Internet, but they are using R1 as the exit point from the AS. Which action corrects the problem?

- A. Add a sequence number to the route map to remove the implicit deny.

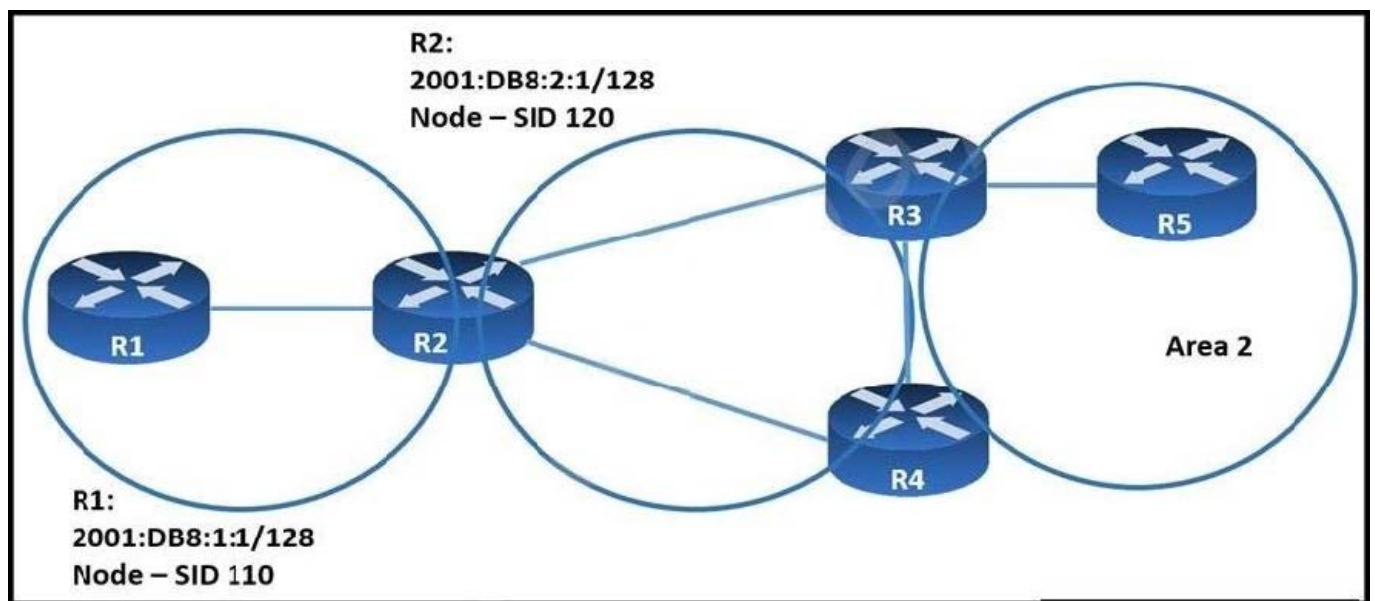
- B. Change the route map direction in the neighbor statement to out.
- C. Configure the route map with a local preference of 200 or higher.
- D. Remove the neighbor statements from the address family configuration and activate the neighbor globally on R1.

Correct Answer: B

Reference: <https://community.cisco.com/t5/networking-blogs/bgp-as-path-prependig-configuration/ba-p/3819334>

QUESTION 6

Refer to the exhibit.



When implementing SRv6, which SID does R2 propagate into area 0 for the prefix 2001:DB8:1:1/128?

- A. 120
- B. 230
- C. 110
- D. 10

Correct Answer: A

QUESTION 7

What is the function of BGP confederations?

- A. They assign an external BGP router to serve as the route reflector.
- B. They require routers to use private AS numbers.

- C. They eliminate the need for a fully-meshed internal BGP design.
- D. They enable a single device to distribute a common configuration to its peers.

Correct Answer: C

QUESTION 8

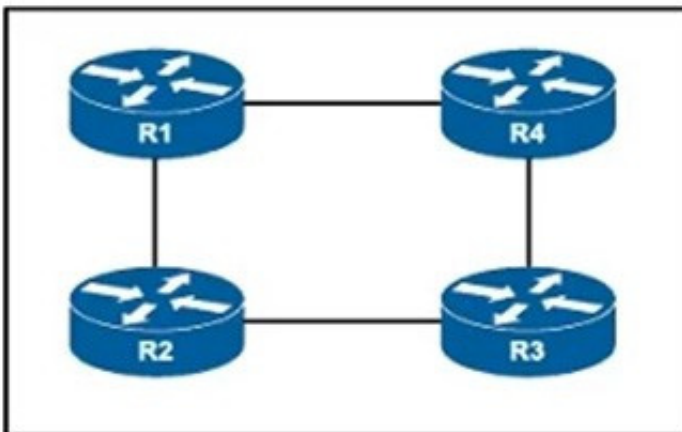
Which type of BGP attribute does a route reflector attach to routes learned from iBGP peers that allows them to be accepted by other iBGP peers, thereby eliminating the need for a full-mesh BGP topology?

- A. well-known mandatory
- B. optional transitive
- C. well-known discretionary
- D. optional non transitive

Correct Answer: D

QUESTION 9

Refer to the exhibit.



All routers on this network have been configured with PIM-SM, and R1 is the rendezvous point. However, when asymmetric routing is implemented to modify link usage, the network begins to drop certain multicast traffic. Which action corrects the problem?

- A. Place the routes affected by asymmetric routing in a VRF
- B. Remove the asymmetric routing and use spanning tree to manage link usage
- C. Add a static mroute for routes that are failing

D. Configure the routers to use PIM-DM instead of PIM-SM

Correct Answer: C

QUESTION 10

Refer to the exhibit.

```

neighbor 4.4.4.4 update-source Loopback0
no auto-summary

PE2#sh run | sec router bgp
router bgp 65000
no synchronization
bgp log-neighbor-changes
network 10.2.0.0 mask 255.255.255.0
neighbor 1.1.1.1 remote-as 65000
neighbor 1.1.1.1 update-source Loopback0
no auto-summary

PE1#sh ip cef exact-route 10.1.0.1 10.2.0.1
10.1.0.1 -> 10.2.0.1 : FastEthernet0/0 (next hop 172.16.0.2)
    
```

Network connectivity between bank A and bank B has been lost. Users at bank A and bank B are able to successfully reach their directly connected PE routers.

All routers in OSPF area 0 are correctly advertising and learning routing updates.

Which action resolves the issue?

- A. Enable next-hop-self under the iBGP peering configuration on routers PE1 and PE2
- B. Configure the P routers to redistribute BGP routes within OSPF area 0.
- C. Configure router P1 to advertise the IP prefix of PE1.
- D. Configure MPLS with an end-to-end label-switched path on each router.

Correct Answer: D

QUESTION 11

Refer to the exhibit

```
R1#show route-map
route-map filtering, permit, sequence 10
  Match clauses:
    ip address (access-lists): 1
  Set clauses:
  Policy routing matches: 0 packets, 0 bytes
route-map filtering, deny, sequence 20
  Match clauses:
    ip address (access-lists): 2
  Set clauses:
  Policy routing matches: 0 packets, 0 bytes
route-map filtering, permit, sequence 30
  Match clauses:
  Set clauses:
  Policy routing matches: 0 packets, 0 bytes

R1#show access-lists
Standard IP access list 1
  10 permit 10.0.0.0, wildcard bits 0.0.0.255 (8 matches)
Standard IP access list 2
  10 deny 10.0.1.0, wildcard bits 0.0.0.255 (1 match)
```

A network engineer configured the redistribute connected subnets route-map filtering command on R1 to redistribute connected interfaces to the OSPF process

The engineer also wants to filter out IP address 10.0.1.0/24, but the prefix still appears in the routing tables of the other routers on the network.

Which action corrects the problem?

- A. Remove route-map sequence 30.
- B. Add a set statement to route-map sequence 20.
- C. Change the deny statement in access list 2 to permit
- D. Remove the subnets keyword from the redistribute connected subnets route-map filtering command.

Correct Answer: C

QUESTION 12

Refer to the exhibit.

```
router bgp 65525
  ibgp policy out enforce-modifications
  bgp router-id 192.168.1.1
  address-family ipv4 unicast
```

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 13

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 14

Refer to the exhibit.

```
R1#sh ip int bri
Interface          IP-Address      OK? Method Status  Protocol
FastEthernet0/0   10.1.12.1      YES manual up      up
FastEthernet0/1   10.1.13.1      YES manual up      up
```

```
R1#sh run | s router bgp
!
router bgp 123
  bgp log-neighbor-changes
  neighbor TEST peer-group
  neighbor TEST remote-as 2 alternate-as 3
  neighbor 10.1.12.2 peer-group TEST
  neighbor 10.1.13.3 peer-group TEST
```

```
R2#sh ip int bri
Interface          IP-Address      OK? Method Status  Protocol
FastEthernet0/0   10.1.12.2      YES manual up      up
```

```
R2#sh run | s router bgp
!
router bgp 2
  bgp log-neighbor-changes
  neighbor 10.1.12.1 remote-as 123
```

```
R3#sh ip int bri
Interface          IP-Address      OK? Method Status  Protocol
FastEthernet0/1   10.1.13.3      YES manual up      up
```

```
R3#sh run | s router bgp
router bgp 3
  bgp log-neighbor-changes
  neighbor 10.1.13.1 remote-as 123
```

R1 is directly connected to R2 and R3. R1 is in BGP AS 123, R2 is in BGP AS 2, and R3 is in BGP AS 3. Assume that there is no connectivity issue between R1, R2 and R1, R3. Which result between BGP peers R1, R2 and R1, R3 is true?

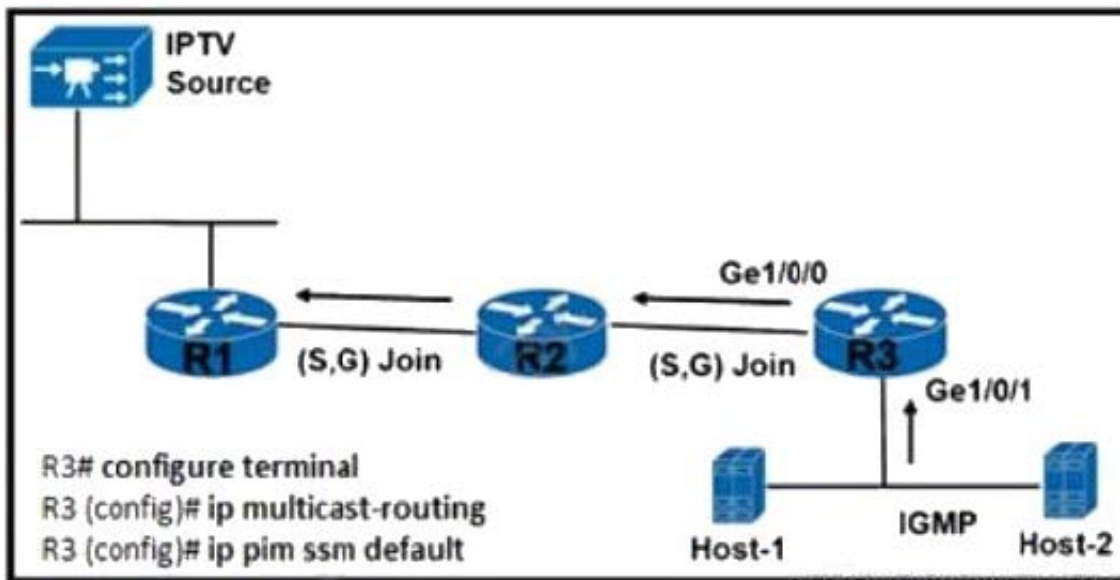
- A. The BGP session does not come up between R1 and R2 and between R1 and R3.
- B. The BGP session comes up between R1 and R2 and between R1 and R3.
- C. The BGP session comes up between R1 and R3, but not between R1 and R2.

D. The BGP session comes up between R1 and R2, but not between R1 and R3.

Correct Answer: B

QUESTION 15

Refer to the exhibit.



A network engineer is configuring router R3 to handle multicast streams, but Host-2 cannot send subscriptions messages to the IPTV source.

Which configuration must the engineer apply to router R3 so it passes the IPTV stream to Host-2?

- A. R3# configure terminalR3(config)# no ip pim ssm defaultR3(config)# interface gigabitethernet 1/0/0R3(config-if)# ip pim sparse-modeR3(config-if)# ip igmp version 3R3(config)# interface gigabitethernet 1/0/1R3(config-if)# ip pim sparse-modeR3(config-if)# ip igmp version 3R3(config-if)# ip pim ssm default
- B. R3# configure terminalR3(config)# ip multicast-routingR3(config)# interface gigabitethernet 1/0/0R3(config-if)# ip pim sparse-modeR3(config-if)# ip igmp version 3R3(config)# interface gigabitethernet 1/0/1R3(config-if)# ip pim sparse-modeR3(config-if)# ip igmp version 3R3(config-if)# ip pim ssm default
- C. R3(config)# interface gigabitethernet 1/0/0R3(config-if)# ip pim sparse-modeR3(config-if)# ip igmp version 3R3(config)# interface gigabitethernet 1/0/1R3(config-if)# ip pim sparse-modeR3(config-if)# ip igmp version 3
- D. R3(config)# interface gigabitethernet 1/0/0R3(config-if)# ip pim sparse-modeR3(config)# interface gigabitethernet 1/0/1R3(config-if)# ip pim sparse-modeR3(config-if)# ip igmp version 3

Correct Answer: D