

Exam Questions 300-510

Implementing Cisco Service Provider Advanced Routing Solutions (SPRI)

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NEW QUESTION 1

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
---	---

Refer to the exhibit. Which tree does multicast traffic follow?

- A. shared tree
- B. MDT default
- C. source tree
- D. MDT voice

Answer: B

NEW QUESTION 2

R1 interface g0/0 ip address 192.168.1.1 255.255.255.0 ip router isis router isis net 49.0022.1111.1111.1111.00 area-password ciSCo	R2 interface g0/1 ip address 192.168.1.2 255.255.255.0 ip router isis router isis net 49.0022.1111.1111.1111.00 area-password ciSco
--	--

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.

Answer: C

NEW QUESTION 3

Refer to the exhibit. Which effect of this configuration is true?

- A. It sets the keepalive timer to 30 seconds and the hold timer to 240 seconds.
- B. It sets the keepalive timer to 30 milliseconds and the hold timer to 240 milliseconds
- C. It sets the hold timer to 30 milliseconds and the keepalive timer to 240 milliseconds
- D. It sets the hold timer to 30 seconds and the keepalive timer to 240 seconds

Answer: A

NEW QUESTION 4

Refer to the exhibit. Which LSA type is indicated by this router output?

OSPF Router with ID (192.168.1.1) (Process ID 1) Router Link States (Area 1234) LS age: 691 Options: (No TOS-capability, DC) LS Type: Router Links Link State ID: 192.168.1.1
--

- A. type 3 LSA
- B. type 4 LSA
- C. type 1 LSA
- D. type 2 LSA

Answer: C

NEW QUESTION 5

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

Answer: C

NEW QUESTION 6

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				

Refer to the exhibit. 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.

Answer: B

NEW QUESTION 7

Router 1:

```
interface tunnel-te12
ipv4 unnumbered loopback0
autoroute announce
destination 192.168.1.2
path-option 12 dynamic segment-routing
path-protection
```

Refer to the exhibit. Router 1 has established an SR-TE tunnel with router 2. Which statement describes this configuration?

- A. Router 1 has a list of labels used to explicitly lay out a path to router 2.
- B. Router 1 and router 2 have a bidirectional tunnel set up with dynamic path selection.
- C. Router 1 is the head-end tunnel and has dynamically chosen a path to router 2.
- D. Router 2 is the head-end tunnel and has explicitly set a path to router 1.

Answer: C

NEW QUESTION 8

DRAG DROP

An engineer is troubleshooting end-to-end customer traffic across an MPLS VPN service provider network. Which tasks should the engineer use to solve the routing issues? Drag and drop the table types from the left onto the most useful troubleshooting tasks/router types on the right. (Not all options are used.)
Select and Place:

- A. Mastered
- B. Not Mastered

Answer: A

NEW QUESTION 9

You have configured MSDP peering between two autonomous systems that pass traffic between two sites, but the peering has failed to come up. Which task do you perform to begin troubleshooting the problem?

- A. Verify that multicast has been disabled globally
- B. Verify that PIM-DM is configured on the source interface
- C. Verify that both source interfaces are reachable from both peers
- D. Verify that the two MSDP peers allow asymmetric routing

Answer: C

NEW QUESTION 10

For which reason do you deploy BGP confederations within a BGP transit backbone?

- A. to support a larger number of eBGP peer sessions
- B. to increase the number of routes that can be redistributed between the running IGP and BGP
- C. to reduce the number of eBGP routes that must be shared between autonomous systems
- D. to reduce the number of iBGP peering sessions

Answer: D

NEW QUESTION 10

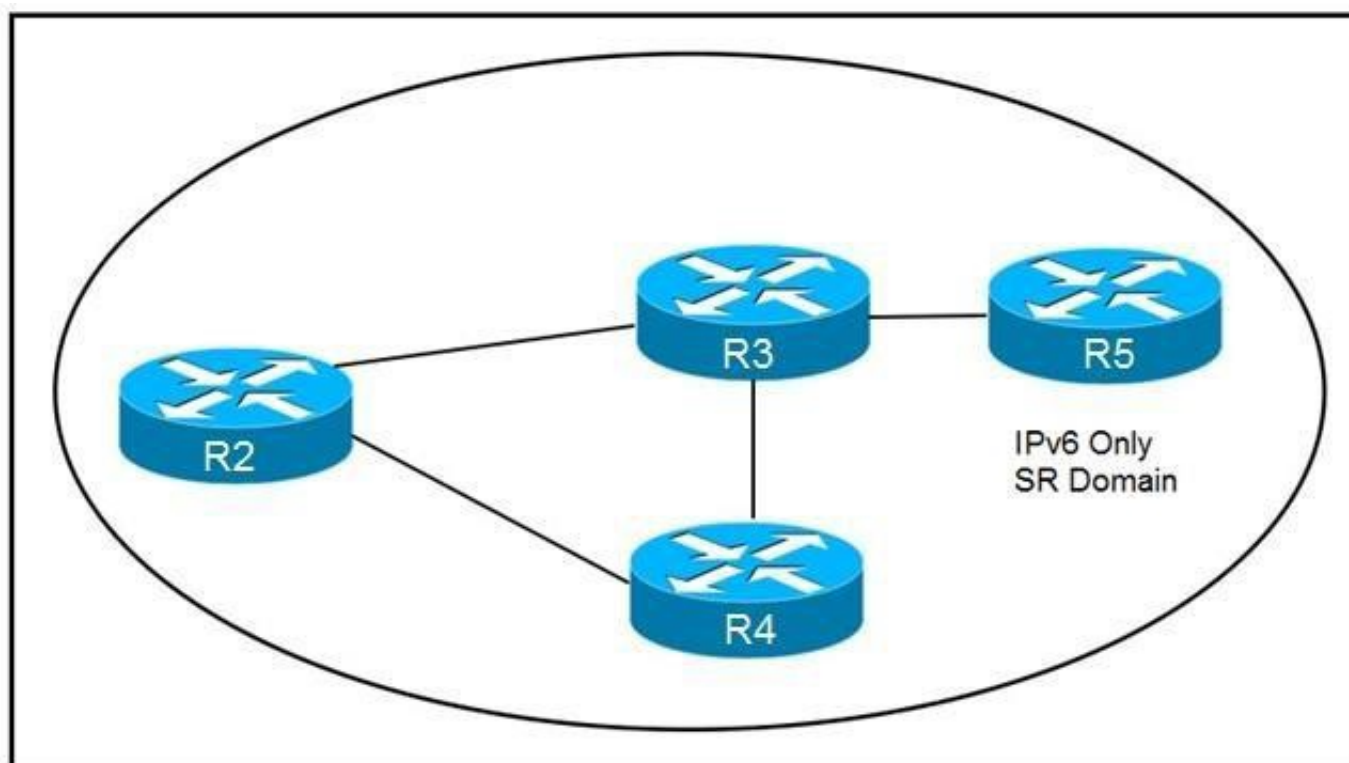
Which feature is used in multicast routing to prevent loops?

- A. STP
- B. inverse ARP
- C. RPF
- D. split horizon

Answer: C

NEW QUESTION 15

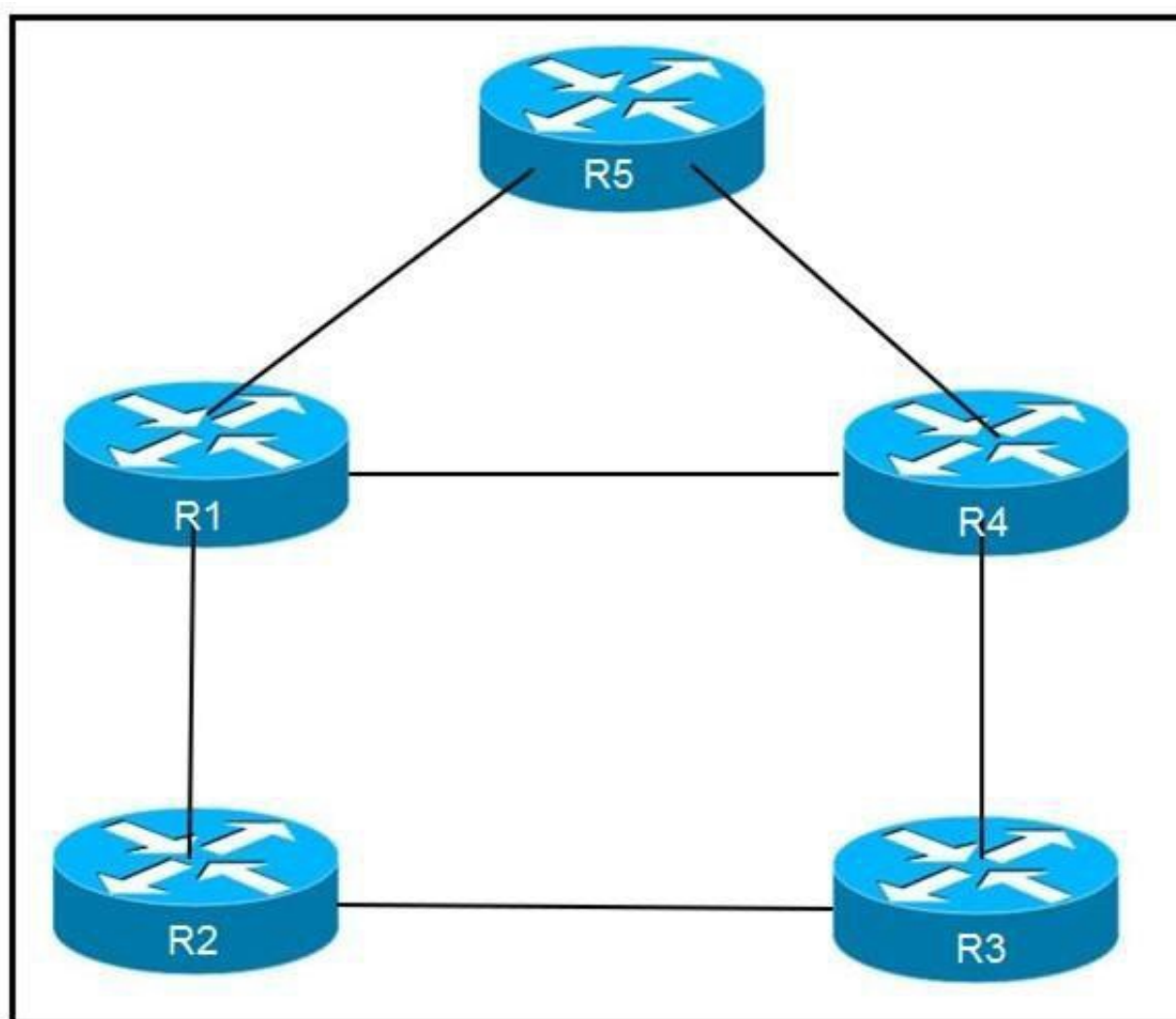
Refer to the exhibit. How are packets directed through the data plane when SRv6 is implemented?



- A. An ordered list of segments is encoded in a routing extension header
- B. The MPLS data plane is used to push labels onto IGP routes
- C. A stack of labels represents an ordered list of segments
- D. The packet is encapsulated with a header and trailer encoding the ordered list of segments

Answer: A

NEW QUESTION 16



Refer to the exhibit. An engineer is addressing an IS-IS design issue which is running within the topology. All links are running on FastEthernet, except the link between R5 and R4, which is Gigabit Ethernet. Which statement about the design is true?

- A. R4 prefer to reach R5 using R1 as the next hop
- B. All links have equal cost if the default metric is used
- C. R5 prefers to use R4 as the next hop for all routes
- D. R1 prefer to use R5 as the next hop to reach R4

Answer: B

NEW QUESTION 20

```
"PE#show ip msdp peer
MSDP Peer 10.10.10.10 (?), AS ?
Connection status:
  State: Listen, Resets: 0, Connection source: none configured
  Uptime (Downtime): 00:00:07, Messages sent/received: 0/0
  Output messages discarded: 0
  Connection and counters cleared 00:00:7 ago
SA Filtering:
  Input (S, G) filter: none, route-map: none
  Input RP filter: none, route-map: none
  Output (S, G) filter: none, route-map: none
  Output RP filter: none, route-map: none
SA-Requests:
  Input filter: none
Peer ttl threshold: 0
SAs learned from this peer: 0
Input queue size: 0, Output queue size: 0"
```

Refer to the exhibit. A service provider technician is working on a multicast issue for a customer. While checking the multicast table, the technician notices that no flags are present for the (1.1.1.1, 239.1.1.1) entry, yet flags are present for the (1.1.1.1, 232.1.1.1) entry. Which factor might explain this issue?

- A. Only the administratively scoped range is permitted
- B. Only ASM is permitted
- C. Only the default SSM range is permitted
- D. Only GLOP is permitted

Answer: C

NEW QUESTION 21

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

- A. commit the configuration
- B. roll back the configuration
- C. merge the configuration
- D. save the running configuration

Answer: A

NEW QUESTION 25

Which two statements about mapping multicast IP addresses to MAC addresses are true? (Choose two.)

- A. All mapped multicast MAC addresses begin with 0x0100.5E
- B. The router performs the mapping before it hands the packet off to a switch
- C. All multicast MAC addresses end with 0x0100.5E
- D. The mapping process may generate overlapping addresses, which can cause receivers to receive unwanted packets
- E. All destination MAC addresses begin with an octet of binary 1s

Answer: AD

NEW QUESTION 30

You have configured routing policies on a Cisco IOS XR device with routing policy language. Which two statements about the routing policies are true? (Choose two.)

- A. The routing policies affect BGP-related routes only.
- B. If you make edits to an existing routing policy without pasting the full policy into the CLI, the previous policy is overwritten.
- C. You can change an existing routing policy by editing individual statements.
- D. The routing policies are implemented in a sequential manner.
- E. The routing policies are implemented using route maps.

Answer: CD

NEW QUESTION 34

```
Router 1:

router bgp 65530
 address-family ipv4 unicast
   bgp additional-paths select all
 neighbor 192.168.1.1 additional-paths send
 neighbor 192.168.1.1 advertise additional-paths all
```

Refer to the exhibit. Which statement about this configuration is true?

- A. Router 1 sends and receives multiple best paths from neighbor 192.168.1.1
- B. Router 1 sends up to two paths to neighbor 192.168.1.1 for all routes
- C. Router 1 receives up to two paths from neighbor 192.168.1.1 for all routes in the same AS
- D. Router 1 receives only the best path from neighbor 192.168.1.1

Answer: A

NEW QUESTION 38

Refer to the exhibit. A network operator must inject a Level 1 route from XR2 (10.16.16.0/24) into the ISIS topology. Which configuration allows the injection in a way that XR3 and XR1 have a valid and working route for 10.16.16.0/24?

A. A. #XR3

```
route-policy ISIS_PROPO
  if destination in(10.0.0.0/8 ge 8 le 22) then
    pass
  endif
end-policy
!
router isis 1
  net 49.1921.6800.0003.00
  address-family ipv4 unicast
!
propagate level 1 into level 2 route-policy ISIS_PROPO
```

B. #XR2

```
route-policy ISIS_PROPO
  if destination in(10.0.0.0/8 ge 8 le 32) then
    pass
  endif
end-policy
!
router isis 1
  net 49.1921.6800.0003.00
  address-family ipv4 unicast
!
propagate level 2 into level 1 route-policy ISIS_PROPO
```

C. #XR2

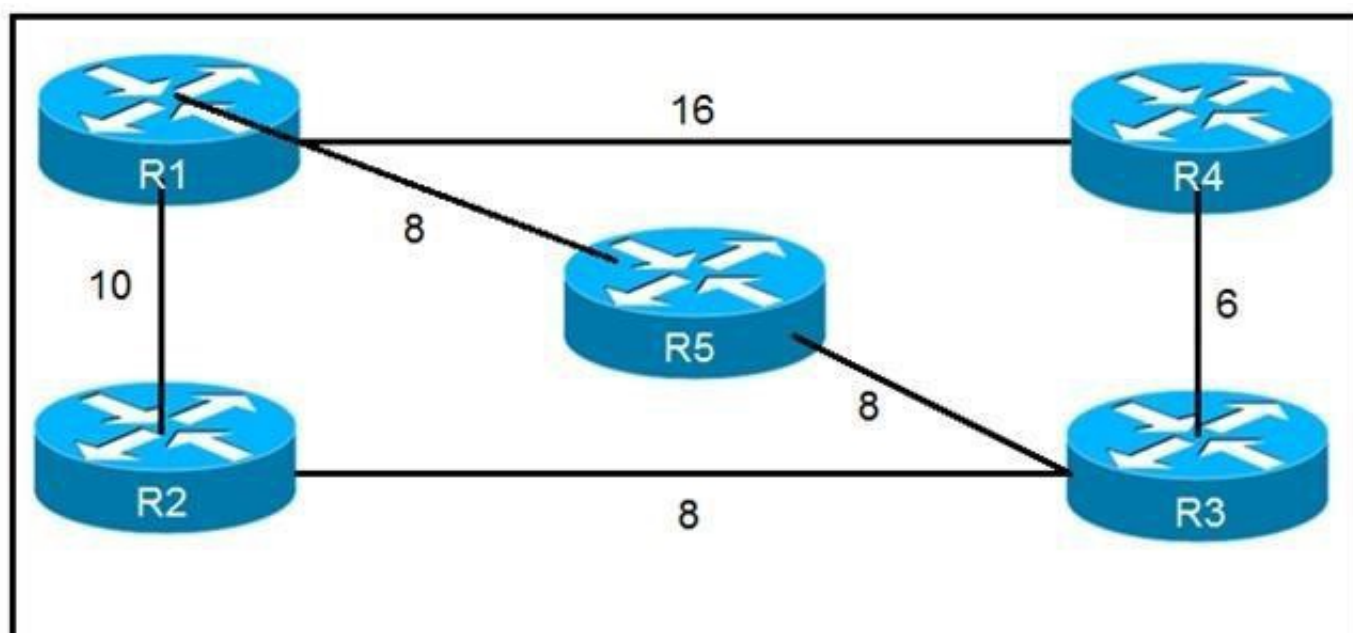
```
route-policy ISIS_PROPO
  if destination in(10.0.0.0/8 ge 8 le 32) then
    pass
  endif
end-policy
!
router isis 1
  net 49.1921.6800.0003.00
  address-family ipv4 unicast
!
propagate level 1 into level 2 route-policy ISIS_PROPO
```

B. #XR3

```
route-policy ISIS_PROPO
  if destination in(10.0.0.0/8 ge 8 le 32) then
    pass
  endif
end-policy
!
router isis 1
  net 49.1921.6800.0003.00
  address-family ipv4 unicast
!
propagate level 2 into level 1 route-policy ISIS_PROPO
```

Answer: C

NEW QUESTION 40



Refer to the exhibit. Which router does R1 install as an alternate next hop when trying to reach R3 if LFA is enabled?

- A. R5
- B. R3
- C. R4
- D. R2

Answer: D

NEW QUESTION 43

In a PIM-SM environment, which mechanism determines the traffic that a receiver receives?

- A. The receiver explicitly requests its desired traffic from the RP on the shared tree.
- B. The receiver explicitly requests traffic from a single source, which responds by forwarding all traffic.
- C. The RP on the shared tree floods traffic out of all PIM configured interfaces.
- D. The receiver explicitly requests traffic from each desired source, which responds by sending all traffic.

Answer: D

NEW QUESTION 44

Which two routing protocols have extensions capable of running SRv6? (Choose two.)

- A. OSPF
- B. BGP
- C. RIP
- D. IGRP
- E. EIGRP

Answer: AB

NEW QUESTION 47

```

RP/0/0/CPU0:iosxr# show run segment-routing

segment-routing
  global-block 18000 24999
!

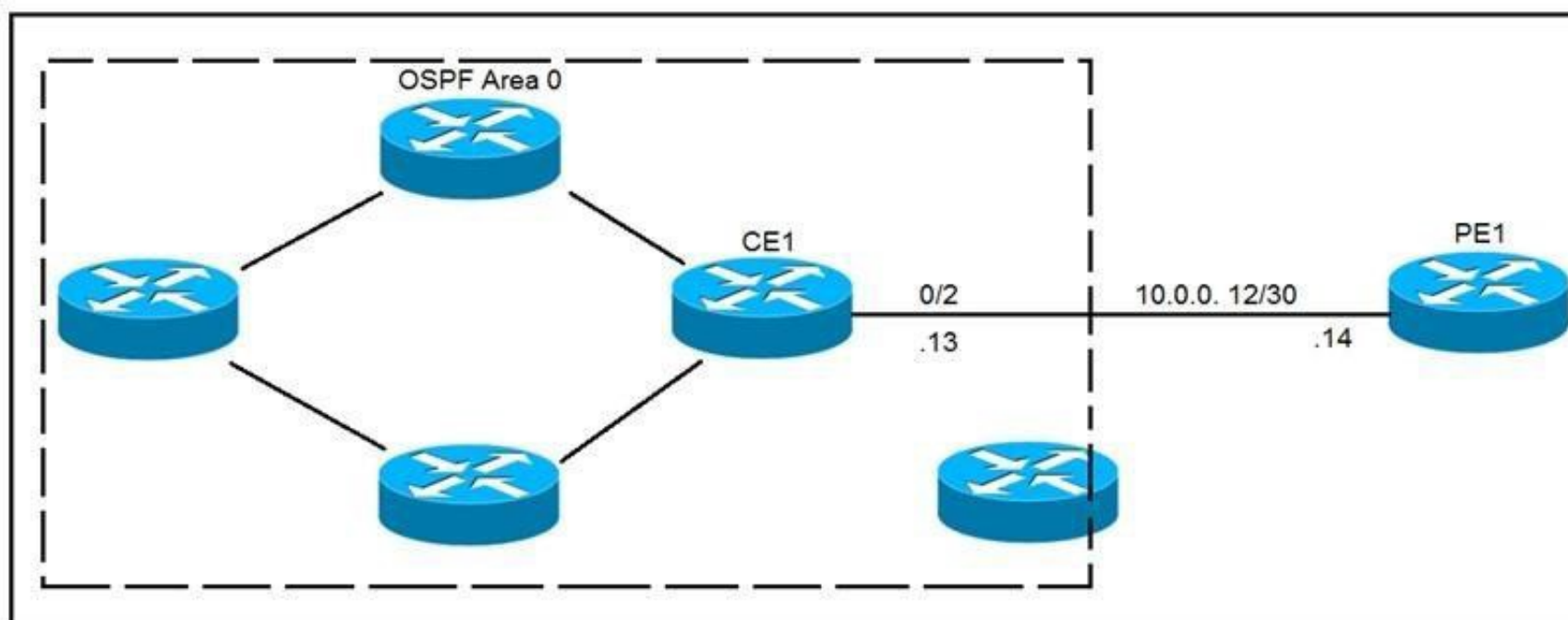
RP/0/0/CPU0:iosxr#
  
```

Refer to the exhibit. A network engineer implemented this segment routing configuration. Which statement about the output is true?

- A. This range conflicts with the segment routing local block range.
- B. The device must be reloaded for these ranges to be allocated and used.
- C. The default segment routing global block range is being used on this device.
- D. A nondefault segment routing global block range is being used on this device.

Answer: D

NEW QUESTION 50



Refer to the exhibit. CE1 is the gateway router into the provider network via PE1. A network operator must inject a default route into OSPF area 0. All devices inside area 0 must be able to reach PE1. Which configuration achieves this goal?

- A. #CE1
router ospf 1
default-information originate always
- B. #CE1
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/2 10.0.0.14
!
router ospf 1
default-information originate

Answer: B

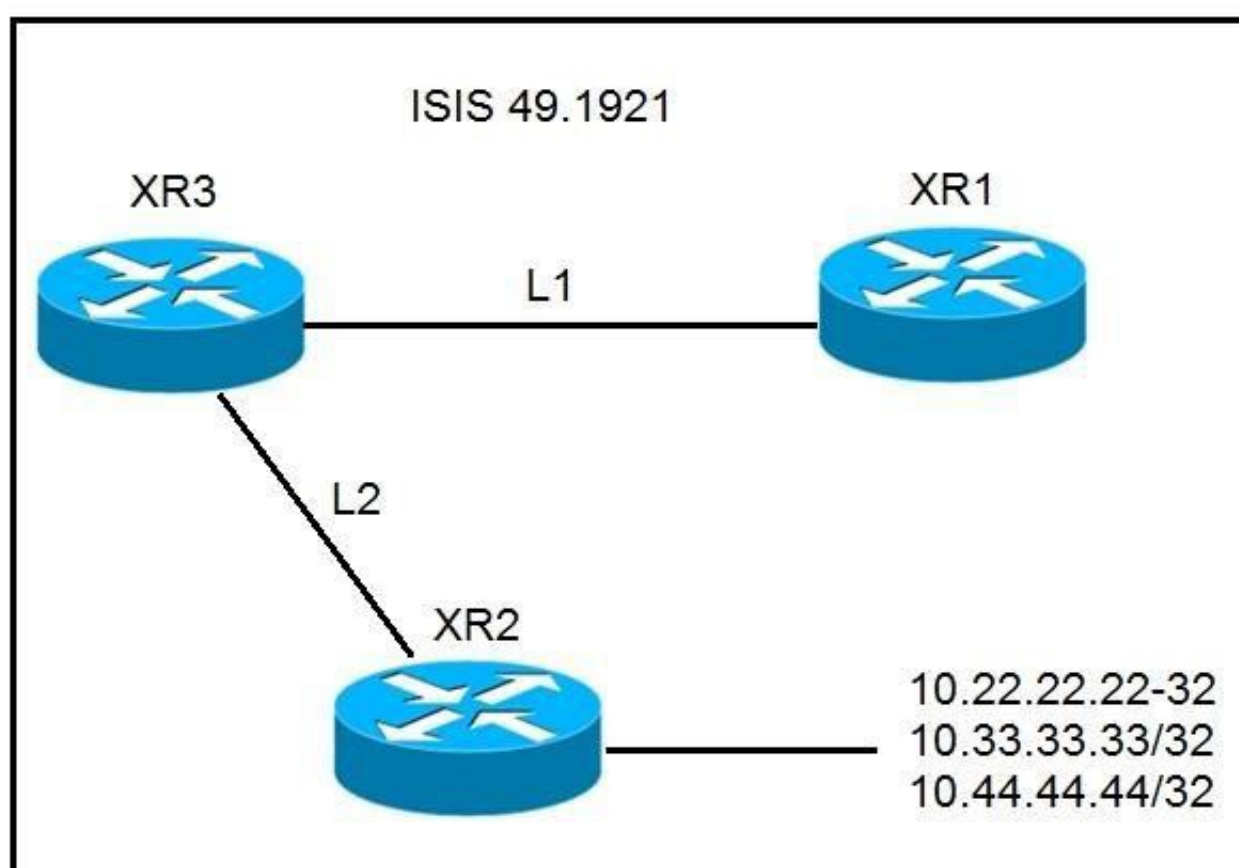
NEW QUESTION 53

Which two characteristics unique to SSM when compared to ASM are true? (Choose two.)

- A. It uses SPT switchover
B. It uses (*,G) exclusively
C. It uses IGMPv3
D. It uses RP
E. It uses (S,G) exclusively

Answer: CE

NEW QUESTION 54



Refer to the exhibit. A network operator must stop 10.33.33.33/32 from being redistributed into Level 1 router XR1. Which configuration meets this need?

A.

```
#XR2
prefix-set NO_33
 10.33.33.33/32
end-set
!
route-policy ISIS_NO_33
 if destination in NO_33 then
  drop
 else
  pass
 endif
end-policy
!
router isis 1
 address-family ipv4 unicast
 propagate level 2 into level 1 route-policy ISIS_NO_33
```

B. #XR3

```
prefix-set NO_33
 10.33.33.33/32
end-set
!
route-policy ISIS_NO_33
 if destination in NO_33 then
  drop
 endif
end-policy
!
router isis 1
 address-family ipv4 unicast
 propagate level 2 into level 1 route-policy ISIS_NO_33
```

C. #XR3

```
prefix-set NO_33
 10.33.33.33/32
end-set
!
route-policy ISIS_NO_33
 if destination in NO_33 then
  drop
 else
  pass
 endif
end-policy
!
router isis 1
 address-family ipv4 unicast
 propagate level 2 into level 1 route-policy ISIS_NO_33
```

D. #XR3

```
prefix-set NO_33
 10.33.33.33/23
end-set
!
route-policy ISIS_NO_33
 if destination in NO_33 then
  drop
 else
  pass
 endif
end-policy
!
router isis 1
 address-family ipv4 unicast
 propagate level 2 into level 1 route-policy ISIS_NO_33
```

Answer: C

NEW QUESTION 58

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