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Exam Code: 300-510

Exam Name: Implementing Cisco Service Provider Advanced Routing Solutions (SPRI)



Exam A

QUESTION 1

A network consultant is troubleshooting IS-IS instances to identify why a routing domains is having communication problems between the two instances. Which description of the possible cause of issues in the routing domain is true?

- A. The same interface cannot be advertised in two different IS-IS instances
- B. The IS-IS “ISP” and “ISP2” instances are unrelated and unable to intercommunicate
- C. The configured IS-IS NSEL value is not allowing the routing systems to establish a neighborhood
- D. The interface mode ip router is-is command was not included in the script

Correct Answer: A

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_isis/configuration/xe-3s/irsxe-3s-book/irs-instance-vrf.html

QUESTION 2

What is used by SR-TE to steer traffic through the network?

- A. shortest path calculated by IGP
- B. dynamic rules
- C. path policy
- D. explicit maps

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Correct Answer: C

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/segmentrouting/configuration/guide/b-seg-routing-cg-asr9k/b-seg-routing-cg-asr9k_chapter_0100.html

QUESTION 3

For which reason can two devices fail to establish an OSPF neighbor relationship?

- A. The two devices have different process IDs
- B. The two devices have different network types
- C. The two devices have different router IDs
- D. The two devices have the same area ID

Correct Answer: B

Section:

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/13699-29.html>

QUESTION 4

Refer to the exhibit.

```
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
```

Which LSA type is indicated by this router output?

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

Correct Answer: C

Section:

QUESTION 5

Which statement about enabling segment routing for IGP is true?

- A. Segment routing must first be enabled under the routing process and then globally
- B. Segment routing must first be enabled globally and then under the routing process
- C. Segment routing can be enabled only under the routing process
- D. Segment routing can be enabled only globally

Correct Answer: B

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/seg_routing/configuration/xe-16-6/segrrt-xe-16-6-book/sr-ospfv2-node-sid.html

QUESTION 6

Which task is performed when troubleshooting LDP?

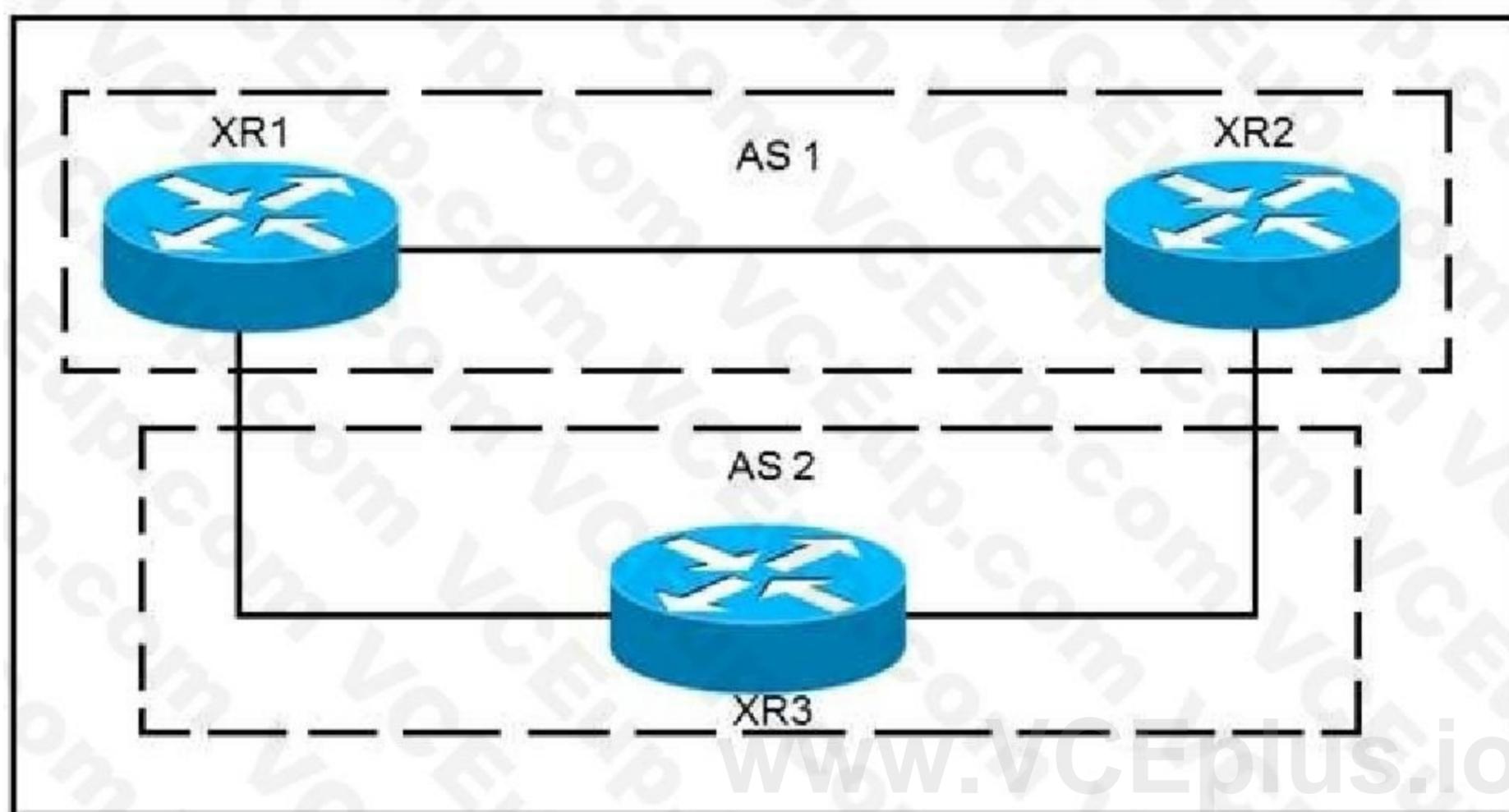
- A. Execute the ping utility to generate information about the MAC addresses used along the path
- B. Verify that MPLS is disabled globally and enabled on the necessary interfaces in a per-interface basis
- C. Execute the traceroute utility to generate information about the labels used along the path
- D. Verify that Cisco Express Forwarding has been disabled on the network

Correct Answer: C

Section:

QUESTION 7

Refer to the exhibit.



XR1 and XR2 are sending the prefix 10.11.11.0/24 to XR3. A configured policy on XR1 is incorrectly prepending AS path 11 11 12 12 onto this prefix. A network operator wants to add a policy onto XR3 that will not allow the falsely prepending prefix from being installed. Which policy configuration applied to the XR3 neighbor configuration for XR1 can accomplish this requirement without impact to other or future received routes?

- A. `route-policy NO_PREPEND`
`if as-path passes-through '11' then`
`pass`
`else`
`drop`
`endif`
`end-policy`
- B. `route-policy NO_PREPEND`
`if as-path prepends`
`drop`
`else`
`pass`
`endif`
`end-policy`

- C. route-policy NO_PREPEND
if as-path passes-through '1' then
pass
else
drop
endif
end-policy
- D. route-policy NO_PREPEND
if as-path passes-through '11' then
drop
else
pass
endif
end-policy

- A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs_r4-1/routing/command/reference/b_routing_cr41crs/b_routing_cr41crs_chapter_01000.html#wp3850885229

QUESTION 8

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

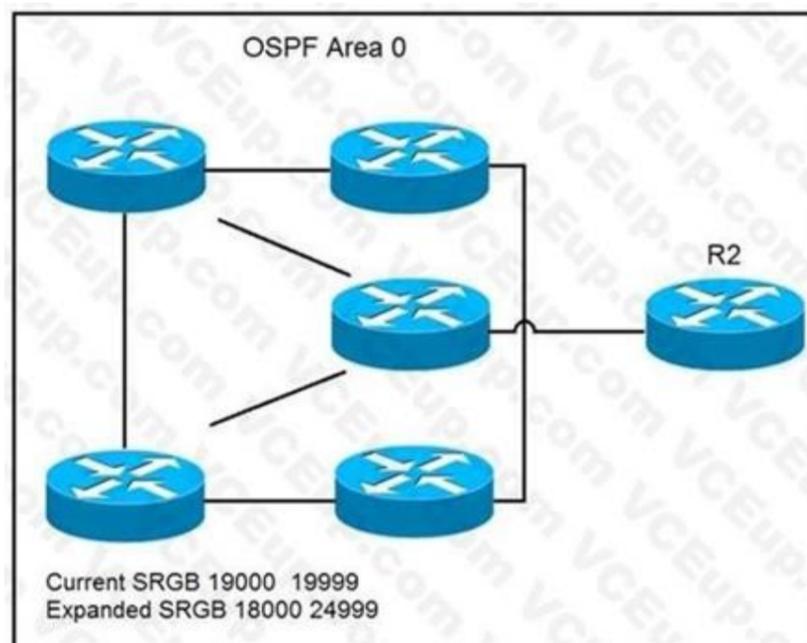
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Correct Answer: C

Section:

QUESTION 9

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

Section:

QUESTION 10

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

Section:

QUESTION 11

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

Section:

QUESTION 12

Refer to the exhibit.

```

R1#sh ip int br
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 br
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 br
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

Section:

QUESTION 13

Refer to the exhibit.

```

Router 1:
interface tunnel-te12
  ipv4 unnumbered loopback0
  autoroute announce
  destination 192.168.1.2
  path-option 12 dynamic segment-routing
  path-protection
  
```

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.

Correct Answer: C

Section:

QUESTION 14

Which two conditions must be met before separate ISPs can provide interdomain multicast routing?
(Choose two.)

- A. Each ISP must configure MSDP to connect its individual multicast administrative domain to the domains at other ISPs.
- B. Each ISP must dedicate a single router to handle multicast traffic between providers.
- C. Each ISP must replace its RP assignment with a global RP.
- D. Each ISP must configure its network to use PIM-DM.
- E. Each ISP must support intradomain multicast routing.

Correct Answer: A, E

Section:

QUESTION 15

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

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Correct Answer: A

Section:

Explanation:

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

QUESTION 16

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

Correct Answer: C

Section:

QUESTION 17

Refer to the exhibit.

```
R2#sh ip ospf neighbor
Neighbor ID Pri State Dead Time Address Interface
10.1.3.3 1 FULL/BDR 00:00:37 10.1.234.3 Ethernet0/0.234
10.1.4.4 1 FULL/DR 00:00:35 10.1.234.4 Ethernet0/0.234
10.1.5.5 1 2WAY/DROTHER 00:00:35 10.1.234.5 Ethernet0/0.234
```

Why is neighbor 10.1.5.5 stuck in “2WAY” state?

- A. Router ID 10.1.5.5 is not reachable from R2
- B. OSPF authentication has failed between R2 and 10.1.5.5
- C. It is an expected behavior when OSPF network type is broadcast
- D. OSPF parameters (Area ID or hello interval) are mismatched between R2 and 10.1.5.5

Correct Answer: C

Section:

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/13683-11.html>

QUESTION 18

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

Correct Answer: D

Section:

QUESTION 19

Which feature is used in multicast routing to prevent loops?

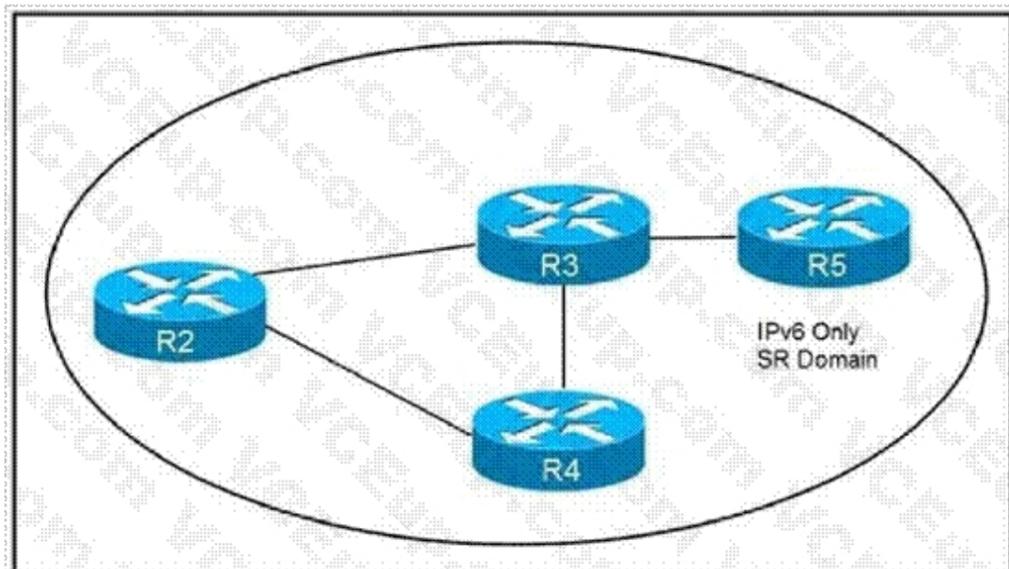
- A. STP
- B. inverse ARP
- C. RPF
- D. split horizon

Correct Answer: C

Section:

QUESTION 20

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

Correct Answer: A

Section:

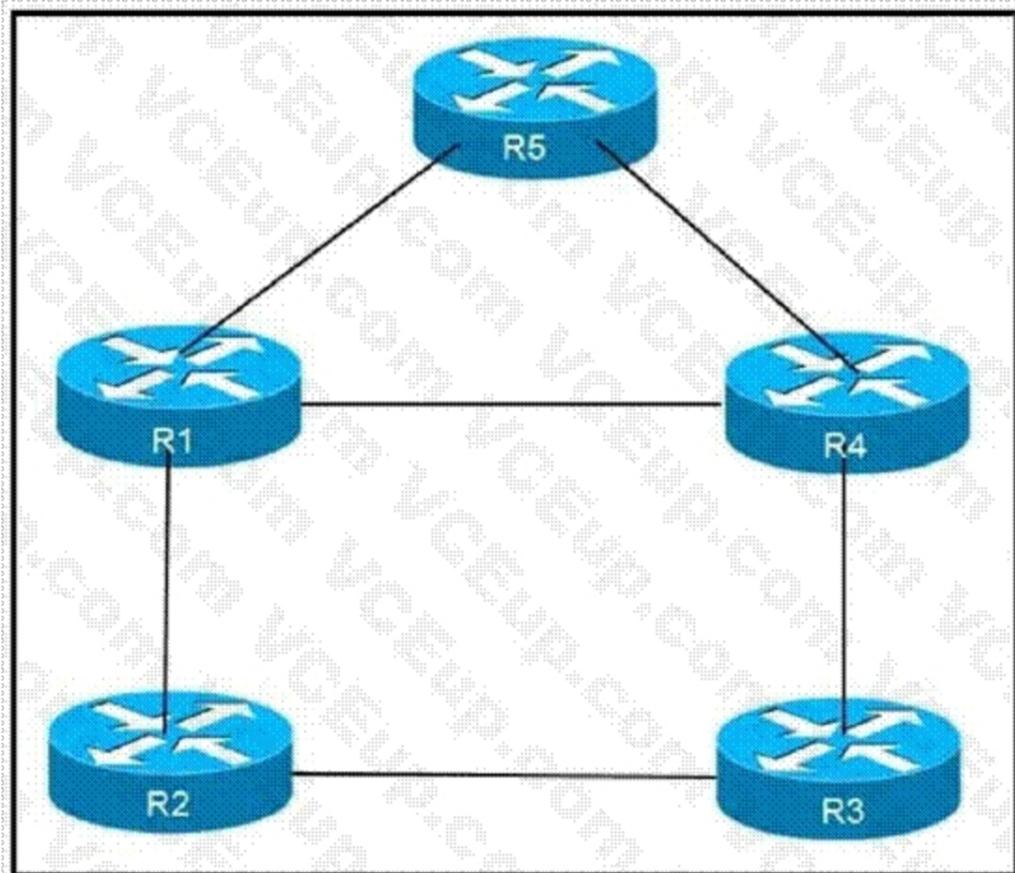
Explanation:

Reference: <https://www.ciscolive.com/c/dam/r/ciscolive/emea/docs/2019/pdf/BRKIPM-2249.pdf>

QUESTION 21

Refer to the exhibit.

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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

Correct Answer: B

Section:

QUESTION 22

Refer to the exhibit.

```
"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"
```

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

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Correct Answer: C

Section:

QUESTION 23

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

Correct Answer: A

Section:

QUESTION 24

Which two statements about route reflectors are true? (Choose two.)

- A. Routes received from nonclient peers are reflected to route reflector clients as well as nonclient peers.
- B. Routes received from nonclient peers are reflected to route reflector cluster as well as OSPF peers.
- C. If a router received an iBGP route with the originator-ID attribute set to its own router ID, the route is discarded.

- D. Routes received from a route reflector client is reflected to other clients and nonclient peers.
- E. If a route reflector receives a route with a cluster-list attribute containing a different cluster ID, the route is discarded.

Correct Answer: C, D

Section:

Explanation:

Reference: <http://www.networkers-online.com/blog/2009/02/bgp-route-reflector-basics/>

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

Correct Answer: A, D

Section:

QUESTION 26

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.

Correct Answer: C, D

Section:

QUESTION 27

Refer to the exhibit.

```
ip pim ssm
interface g1/0/0
ip pim sparse-mode
```

Which task must you perform on interface g1/0/0 to complete the SSM implementation?

- A. configure OSPFv3
- B. enable CDP
- C. disable IGMP
- D. configure IGMPv3

Correct Answer: D

Section:

Explanation:

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

QUESTION 28

Refer to the exhibit.

```
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
```

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

Correct Answer: A

Section:

QUESTION 29

Which cost is the default when redistributing routes from BGP to OSPF?

- A. 20
- B. 1
- C. infinite
- D. automatic

Correct Answer: B

Section:

Explanation:

Reference: <http://www.ciscopress.com/articles/article.asp?p=27573>

QUESTION 30

Refer to the exhibit.

```
Router 1:
router ospf 20
 redistribute eigrp 1
 network 192.168.0.0 0.0.0.255 area 0
```

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.

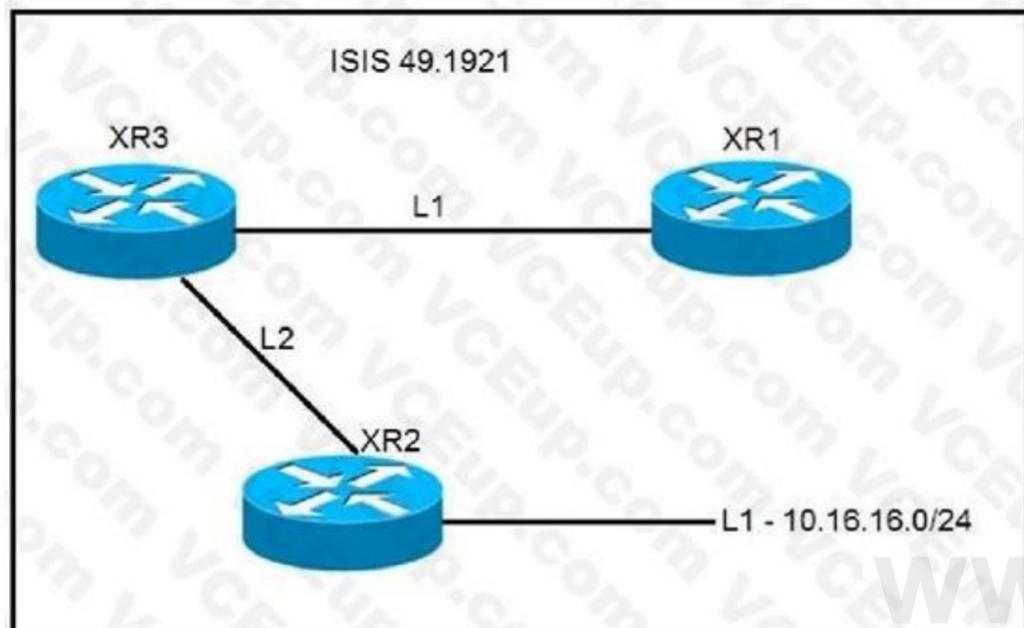
- B. Router 1 must remove the AS number 1 from the redistribution command for all EIGRP routes to be redistributed.
- C. Router 1 must have the keyword ospf-metric included in the redistribution command for all EIGRP routes to be redistributed.
- D. Router 1 must have the keyword metric-type 1 included in the redistribution command for all EIGRP routes to be redistributed.

Correct Answer: A

Section:

QUESTION 31

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. #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
```

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```

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
   !

D. #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
   !
  
```

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- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D

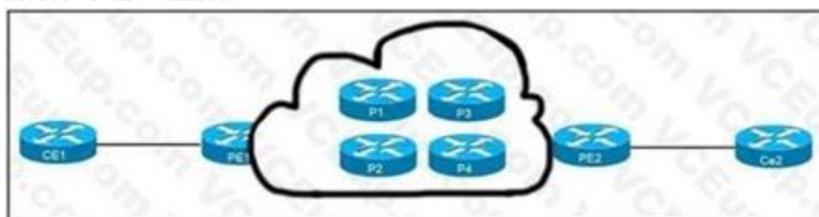
Section:

Explanation:

L1 route injected by XR2 won't be advertised to XR1, since L2 routes are NOT leaked to L1 by default. An [L2-L1] route leak policy should be configured on L1/L2 router (XR3).

QUESTION 32

Refer to the exhibit.



CE1 and CE2 cannot communicate through the service provider BGP peering is established between PE1 and PE2. IS-IS is the only routing protocol running in the service provider core. What step can be done to troubleshoot the issue?

- A. Switch the IGPs running in the core from IS-IS to OSPF to support a Cisco MPLS TE tunnel from PE1 to PE2.
- B. Configure BGP between CE and PE routers.
- C. Confirm that IS-IS is running with metric-style narrow.
- D. Verify the MPLS LSPs.

Correct Answer: D

Section:

QUESTION 33

Refer to the exhibit.

```

Router 1:
mpls traffic-eng tunnels
router ospf 2
mpls traffic-eng router-id loopback 0
mpls traffic-eng area 0

interface gigabitethernet0/1
ip rsvp bandwidth

interface tunnel 1
ip unnumbered loopback 0
tunnel destination 192.168.4.1
tunnel mode mpls traffic-eng
tunnel mpls traffic-eng bandwidth 150
tunnel mpls traffic-eng autoroute announce

Router 2:
mpls traffic-eng tunnels
router ospf 2
mpls traffic-eng router-id loopback 0
mpls traffic-eng area 0

interface gigabitethernet0/1
mpls traffic-eng tunnels
ip rsvp bandwidth
    
```

Router 1 has attempted to establish a Cisco MPLS TE tunnel to router 2, but the tunnel has failed. Which statement about this configuration is true?

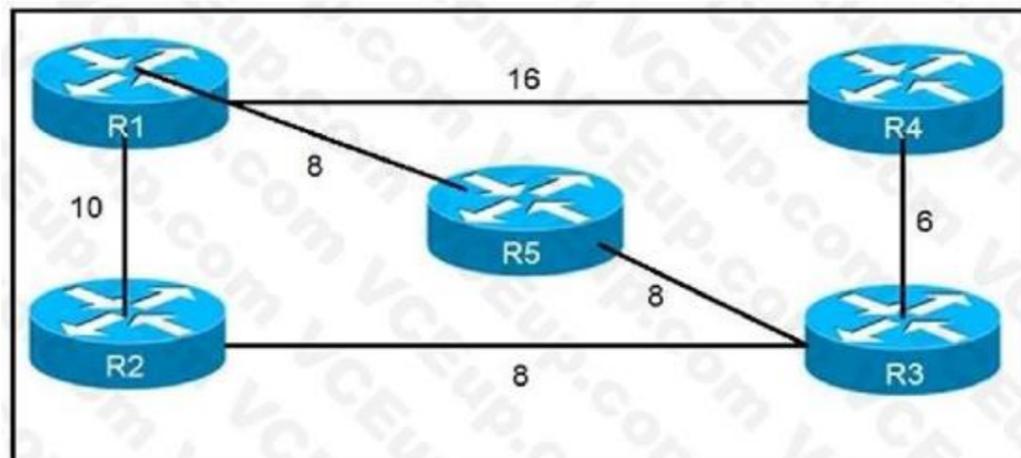
- A. Router 1 must define an explicit path to router 2
- B. Router 1 and router 2 must define the RSVP bandwidth reserved on the physical interfaces
- C. Router 2 must have a tunnel interface created with router 1 as the destination
- D. Router 1 must have Cisco MPLS TE enabled on interface gigabitethernet0/1

Correct Answer: D

Section:

QUESTION 34

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

Correct Answer: D

Section:

QUESTION 35

Refer to the exhibit.

```
R1
interface gigabitethernet0/0
 ip address 192.168.2.1 255.255.255.0
 ip router isis
 router isis
 net 49.0022.1111.1111.1111.00
 is-type level-1

R2
interface gigabitethernet0/1
 ip address 192.168.1.2 255.255.255.0
 ip router isis
 router isis
 net 49.0021.1111.1111.1112.00
 is-type level-1
```

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Routers R1 and R2 cannot form a neighbor relationship, but the network is otherwise configured correctly and operating normally. Which two statements describe the problem? (Choose two.)

- A. The two routers are in the same area
- B. The two routers are in different subnets
- C. The two routers have password mismatch issues
- D. The two routers have the same network ID
- E. The two routers are in different areas

Correct Answer: B, E

Section:

QUESTION 36

Refer to the exhibit.

```
RP/0/0/CPU/0:P1#
!
key chain BGP
key 1
accept-lifetime 13:14:06 february 14 1993 infinitive
send-lifetime 13:14:06 february 14 1993 infinitive
key-string password cisco123
cryptographic-algorithm MD5
!
!
router bgp 1
address-family ipv4 unicast
!
neighbor 192.168.13.3
remote-as 1
keychain BGP
address-family ipv4 unicast

RP/0/0/CPU/0:PE3#
!
key chain BGP
key 1
accept-lifetime 13:14:06 february 14 1993 infinitive
send-lifetime 13:14:06 february 14 1993 infinitive
key-string password cisco123
cryptographic-algorithm MD5
!
!
router bgp 1
address-family ipv4 unicast
!
neighbor 192.168.13.1
remote-as 1
keychain BGP
address-family ipv4 unicast
```

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P1 and PE3 Cisco IOS XR routers are directly connected and have this configuration applied. The BGP session is not coming up. Assume that there is no IP reachability problem and both routers can open tcp port 179 to each other. Which two actions fix the issue? (Choose two.)

- A. Change MD5 to HMAC-SHA1-12
- B. Change MD5 to HMAC-ESP
- C. Change MD5 to SHA-1
- D. Change MD5 to HMAC-MD5

E. Remove the send and accept lifetime under key 1

Correct Answer: A, D

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs_r4-0/security/configuration/guide/sc40crsbook_chapter5.html

QUESTION 37

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

- A. ip pim bidir-enable
- B. ipv4 pim bidir-enable
- C. ip multicast-routing
- D. ip pim bidir

Correct Answer: A

Section:

Explanation:

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

QUESTION 38

Which output from the show isis interface command helps an engineer troubleshoot an IS-IS adjacency problem on a Cisco IOS-XR platform?

- A. metric
- B. priority
- C. circuit type
- D. hello interval

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Correct Answer: C

Section:

Explanation:

RP/0/0/CPU0:XR1#show isis interface | i Cir

Tue Jun 29 17:56:42.369 UTC

Circuit Type: level-1-2

Circuit Number: 0

Circuit Type: level-1

Circuit Number: 1

RP/0/0/CPU0:XR1#show isis interface | i Hel

Tue Jun 29 17:56:46.609 UTC

QUESTION 39

A network engineer is troubleshooting OSPF multiare

- A. Which Cisco IOS XR feature should the engineer use in order to streamline OSPF issue?
- B. hierarchical CLI
- C. DR support for topology management
- D. routing process enabled by default on all interfaces
- E. show ip ospf topology command

Correct Answer: A

Section:

Explanation:

OSPF Hierarchical CLI and CLI Inheritance

Hierarchical CLI is the grouping of related network component information at defined hierarchical levels such as at the router, area, and interface levels. Hierarchical CLI allows for easier configuration, maintenance, and troubleshooting of

OSPF configurations. When configuration commands are displayed together in their hierarchical context, visual inspections are simplified. Hierarchical CLI is intrinsic for CLI inheritance to be supported.

With CLI inheritance support, you need not explicitly configure a parameter for an area or interface.

In the software, the parameters of interfaces in the same area can be exclusively configured with a single command, or parameter values can be inherited from a higher hierarchical level—such as from the area configuration level or the router ospf configuration levels.

More information: https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/routing/71x/b-routingcg-ncs5500-71x/b-routing-cg-ncs5500-71x_chapter_011.html#con_1059437

Reference: https://www.cisco.com/c/en/us/td/docs/routers/xr12000/software/xr12k_r4-0/routing/configuration/guide/rc40xr12k_chapter4.html#con_1059437

QUESTION 40

Refer to the exhibit.

```
router bgp 65515
 neighbor 192.168.1.1 route-map ciscotest in
 neighbor 192.168.1.1 remote-as 65516

ip as-path access-list 1 permit _65517_

route-map ciscotest permit 10
 match as-path 1
 set local-preference 150
```

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After troubleshooting BGP traffic steering issue, which action did the network operator take to achieve the correct effect of this configuration?

- A. Routes that have passed through AS 65517 have the local preference set to 150.
- B. Routes that have originated through AS 65517 have the local preference set to 150.
- C. Routes directly attached to AS 65517 have the local preference set to 150.
- D. Routes that have passed through AS 65517 have the local preference set to 150 and the traffic is denied.

Correct Answer: A

Section:

QUESTION 41

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

Section:

QUESTION 42

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.

Correct Answer: A

Section:

Explanation:

A shared tree is built first between receiver and the RP. The receiver is then able to switch to a Source tree as needed.

QUESTION 43

Which statement about BFD on Cisco IOS XR Software is true?

- A. Cisco IOS XR router must use LDP to route back to the Cisco IOS router to establish the peer relationship.
- B. Cisco IOS XR Software does not support BFD multihop for IPv4.
- C. Cisco IOS XR router must use dynamic routing or a static route back to the Cisco IOS router to establish the peer relationship.
- D. BFD is not compatible between Cisco IOS XR and Cisco IOS Software.

Correct Answer: C

Section:

Explanation:

A router running BFD in Cisco IOS software can designate a router running BFD in Cisco IOS XR software as its peer using the `bfd neighbor` command; the Cisco IOS XR router must use dynamic routing or a static route back to the Cisco IOS router to establish the peer relationship.

https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs_r6-1/routing/configuration/guide/b-routing-cg-crs-61x/b-routing-cg-crs-61x_chapter_0100.html

Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k-r6-3/routing/configuration/guide/b-routing-cg-asr9000-63x/b-routing-cg-asr9000-63x_chapter_0100.html

QUESTION 44

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

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

Correct Answer: A, B

Section:

QUESTION 45

What are two features of dual-stack? (Choose two.)

- A. t is implemented without excessive processing power.
- B. t supports IPv4 and IPv6 traffic on the same infrastructure.
- C. t allows an engineer to stack multiple Layer 2 switches to serve as a single switching unit.
- D. t requires tunneling IPv6 traffic over an IPv4 infrastructure.

E. t securely routes and tunnels traffic between separate sites over the Internet.

Correct Answer: A, B

Section:

QUESTION 46

Refer to the exhibit.

```
Router1# show bgp 1.1.1.1
BGP routing table entry for 1.1.1.1/32, version 10
Community: 64502 64503

Router2# show bgp 1.1.1.1
BGP routing table entry for 1.1.1.1/32, version 10
Community: 100:100 100:64102
```

An engineer working on a client's network is trying to solve the BGP community issue on R1 and R2 routers. After displaying the BGP entries, the engineer notices that both routers still have different outputs. Which action must the engineer perform to any of the routers to correct the problem and get the same output?

- A. Execute the Ip bgp-community new-format command in Router1 .
- B. Remove the Ip bgp-community new-format command in Router1 .
- C. Advertise the route to Router2 as standard community.
- D. Advertise the route to Router2 as extended community.

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Correct Answer: A

Section:

Explanation:

Reference: <https://www.noction.com/blog/understanding-bgp-communities>

QUESTION 47

When deploying a nationwide network of routers, what is the benefit of using BGP confederations?

- A. availability
- B. scalability
- C. security
- D. automatability

Correct Answer: B

Section:

Explanation:

Reference: <https://www.routerfreak.com/bgp-network-design-bgp-confederation/>

QUESTION 48

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

Section:

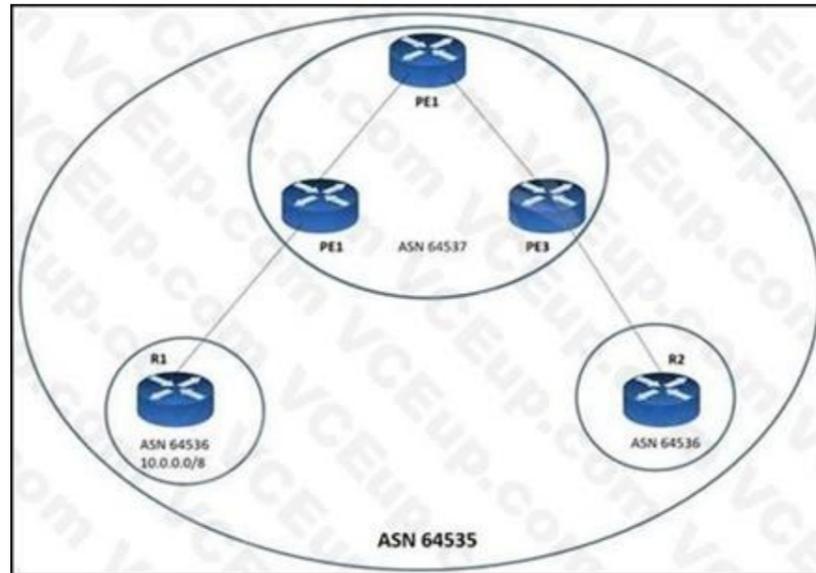
Explanation:

Reference:

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

QUESTION 49

Refer to the exhibit.



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A network engineer has divided AS into confederations. Due to repeated ASN, when the 10.0 0.0/8 prefix from R1 arrives to R2, BGP automatically rejects it. What should the engineer do to fix the problem so that BGP allows that prefix on R2?

- A. Configure the command as-override on R1.
- B. Configure the command allowas-in on R2.
- C. Configure the command allowas-in on all the PE routers.
- D. Configure the command as-override on R2.

Correct Answer: B

Section:

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/border-gateway-protocol-bgp/112236-allowas-in-bgp-config-example.html>

QUESTION 50

Refer to the exhibit.

```

R1#
interface LoopBack0
no ip address
ipv6 address 2000:1::1/96
interface Loopback2
no ip address
ipv6 address 2000:1::186
ipv6 router isis area1

R2#show isis ipv6 unicast rib
IS-IS IPv6 process area1, local RIB
* 2000:1::/96
  via FE80::C801:4CFF:FE54:8/FastEthernet0/0, type L1 metric 10 tag 0 LSP [5/6]
  via FE80::C801:4CFF:FE54:8/FastEthernet0/0, type L2 metric 10 tag 0 LSP [4/6]
2001:688:1001:1000::2/128
  via FE80::C801:4CFF:FE54:8/FastEthernet0/0, type L2 metric 20 tag 0 LSP [4/6]

```

After configuring IS-IS on routers R1 and R2, an engineer notices that only the loopback interface at 2000:1::1 /96 is known to router R2. Which change must be made so that only Loopback2 is advertised from R1 to R2?

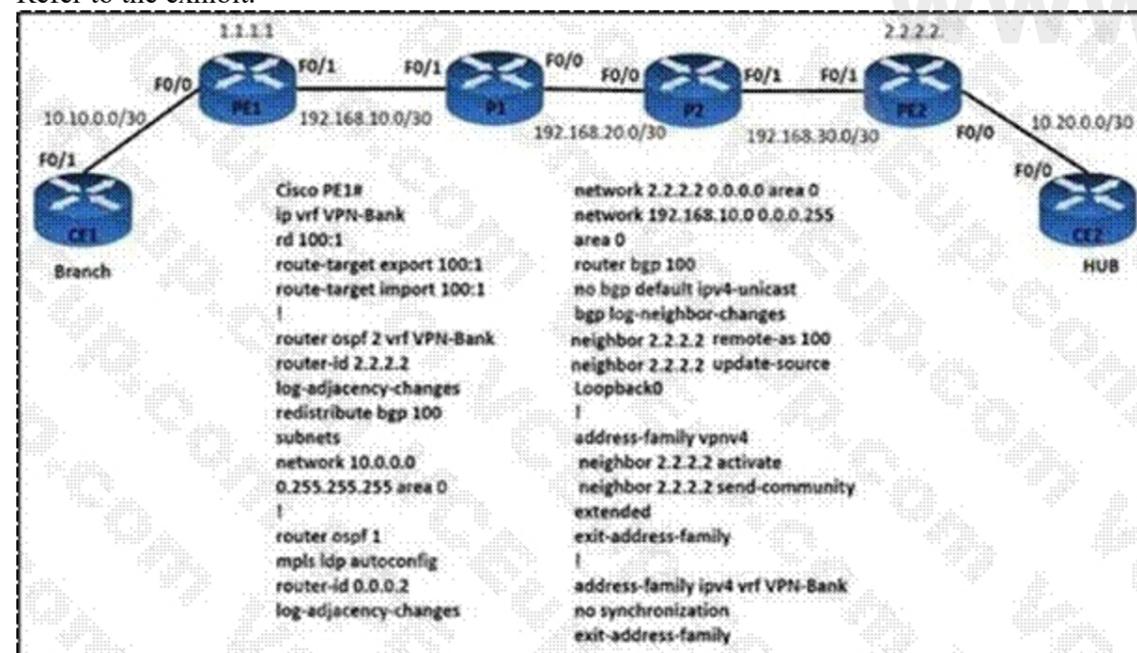
- A. Configure the router isis areal command under the LoopbackO interface on R1.
- B. Remove the advertise passive-only command under the IS-IS address family ipv6 configuration
- C. Remove the ipv6 router isis areal command under the Loopback2 interface on R1.
- D. Remove the passive-interface Loopback0 command under the router isis areal configuration.

Correct Answer: B

Section:

QUESTION 51

Refer to the exhibit.



Customer traffic from the branch site to the hub is experiencing packet drops. The engineer verified that: Customer traffic from the hub is able to reach the branch site. The connection between PE1 and PE2 is working normally. Routers P1 and P2 are able to ping devices on the hub site. Which action resolves the issue?

- A. Redistribute the CE1 OSPF routes in the PE1 VRF.
- B. Redistribute the CE2 OSPF routes in the PE2 VRF.
- C. Advertise the VPNv4 routes of the branch site in CE2.
- D. Advertise the VPNv4 routes of the hub in CE1.

Correct Answer: A

Section:

QUESTION 52

Which difference must an engineer consider when choosing whether to implement OSPF or IS-IS as the routing protocol on the network?

- A. The OSPF DR election process is deterministic, and the IS-IS DS election process is not deterministic.
- B. To support fast convergence. OSPF uses the LSA arrival timer and IS-IS uses the PRC-interval timer.
- C. IS-IS supports ordinary, stub, totally-stub, and NSSA areas, but OSPF supports only stub areas.
- D. IS-IS links are associated with either a Level 1 area or a Level 2 area at one time, but OSPF links are associated with multiple areas at one time.

Correct Answer: B

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_isis/configuration/15-s/irs-15-s-book/irs-fscent.html

QUESTION 53

While configuring Cisco NSF awareness, a network engineer enters the `bgp graceful-restart` command after the BGP session is established in a router that runs IOS XE Software. Graceful restart capabilities are not exchanged. Which two actions should be taken? (Choose two.)

- A. Reload the router
- B. Verify that BGP route dampening is configured
- C. Reduce BGP convergence time
- D. Issue the `clear ip bgp *` command
- E. Issue the `show ip bgp neighbors` command.

Correct Answer: A, D

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_bgp/configuration/xe-16/irg-xe-16-book/bgp-nonstop-forwarding-awareness.html

QUESTION 54

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

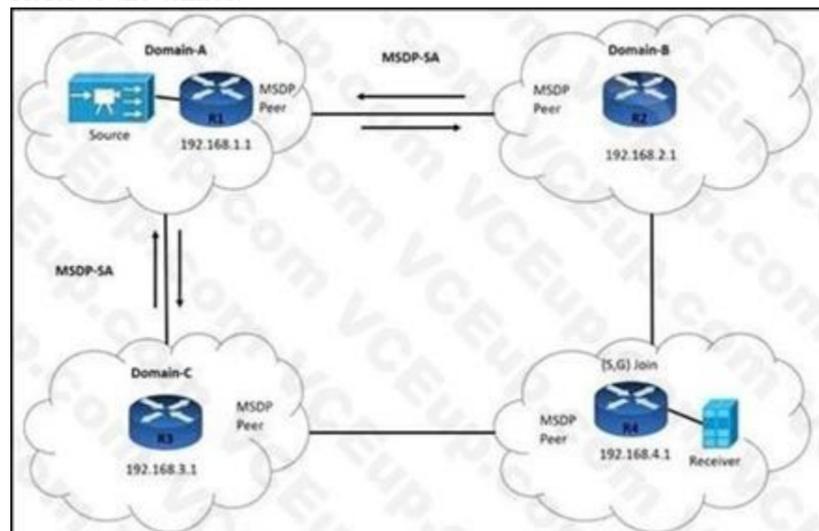
Section:

Explanation:

Reference: <https://www.ciscopress.com/articles/article.asp?p=26850&seqNum=4>

QUESTION 55

Refer to the exhibit



Router R1 is configured to advertise outgoing SA messages to routers R2 and R3, but to receive incoming SA messages only from R2. Which additional configuration must an engineer apply to router R1 so it filters all MSDP SA messages from Domain-C?

- A. R1# ip msdp sa-filter in 192.168.3.1
- B. R3# ip msdp sa-filter out 192.168.3.1
- C. R3# ip msdp password peer 192.168.1.1
- D. R1# ip msdp password peer 192.168.3.1

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Correct Answer: A

Section:

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/ip-multicast/13717-49.html>

QUESTION 56

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

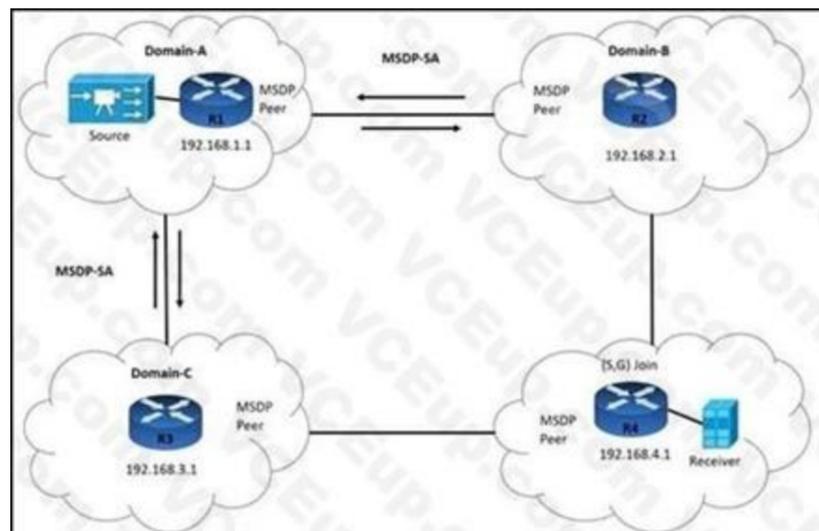
Section:

Explanation:

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-overview.html

QUESTION 57

Refer to the exhibit.



R3 is:

failing to accept multicast RP information from Domain-A advertising MSDP SA messages to R1 and R4 receiving SA messages only from R4 Which command must the engineer implement to resolve the issue?

A R3# ip msdp sa-filter in 192.168.3.1

A. R3# no ip msdp sa-filter in 192.168.1.1

C R3# no ip msdp peer 192.168.1.1

B. R3# ip msdp sa-filter out 192.168.1.1

C.

D.

E.

F.

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Correct Answer:

Section:

Explanation:

Reference: <https://allthingsnetworking.wordpress.com/2014/06/27/pim-msdp-sa-filter/>

QUESTION 58

Refer to the exhibit.

```

R1
ip as-path access-list 10 permit ^65516$

router bgp 65515
  neighbor 192.168.1.2 remote-as 65516
  neighbor 192.168.1.2 route-map ciscotest in

route-map ciscotest permit 10
  match as-path 10
  
```

R1 is expected to receive routes originating from AS 65516 and from any ASs that are directly attached to it. However, R1 is receiving routes only from AS 65516. Which action corrects the configuration?

- A. Change the regular expression in the AS-path permit filter to .*.
- B. Change the regular expression in the AS-path permit filter to ^65516_[0-9]*\$.
- C. Add the regular expression ^\$. in the AS-path filter to permit the traffic from R2.
- D. Change the regular expression in the AS-path permit filter to _65516_.

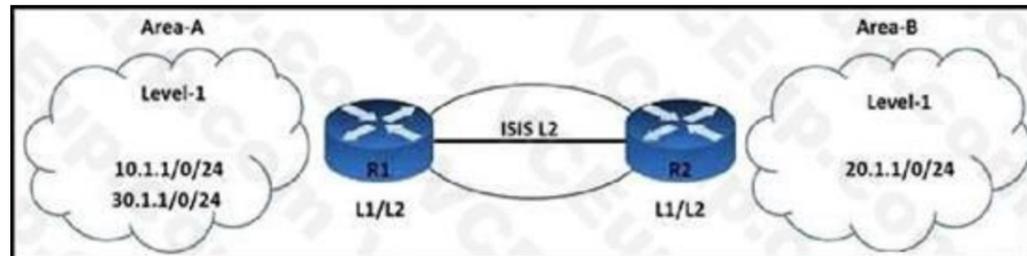
Correct Answer: B

Section:

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QUESTION 59

Refer to the exhibit.



An engineer is troubleshooting IS-IS configuration between two areas. IS-IS Area-A network 30.1.1.0/24 is leaked into IS-IS Area-?. R2 is failing to filter the route updates from network 10.1.1.0/24.

Which configuration must the engineer apply to resolve the issue?

```

A. R2(config)# ip prefix-list List2 seq 5 deny 10.1.1.0/24
R2(config)# interface fastethernet 0/0
R2(config-if)# ip router isis 100
R2(config-if)# router isis 100
R2(config-router)# distribute-list gateway List2 in
  
```

```

A. R2(config)# ip prefix-list List1 seq 3 deny 10.1.1.0/24
R2(config)# ip prefix-list List1 seq 5 permit 30.1.1.0/24 ge 25 le
R2(config)# ip prefix-list List1 seq 10 permit 0.0.0.0/le 32
R2(config)# interface fastethernet 0/0
R2(config-if)# ip router isis 122
R2(config-if)# router isis 122
R2(config-router)# distribute-list prefix List1 in
  
```

- B. R1(config)# ip prefix-list List2 seq 5 deny 10.1.1.0/24
 R1(config)# interface fastethernet 0/0
 R1(config-if)# ip router isis 100
 R1(config-if)# router isis 100
 R1(config-router)# distribute-list gateway List2 in
 R (config-if)# router isis 150
 R1(config-router)# distribute-list route-map Map1 in
- C. R2(config)# access-list 101 deny ip any 10.1.1.0 0.0.0.127
 R2(config)# access-list 101 permit ip any 30.1.1.0 0.0.0.63
 R2(config)# access-list 101 deny ip any 0.0.0.0 0.0.0.0
 R2(config)# interface fastethernet 0/0
 R2(config-if)# ip router isis 121
 R2(config-if)# router isis 121
 R2(config-router)# distribute-list 101 in

Correct Answer: C

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_isis/configuration/15-mt/irs-15-mt-book/isis-inbound-filtering.html

QUESTION 60

Which keyword is used with the match route-type command to redistribute the external BGP and IGP routes using route map?

- A. match route-type type-1
 B. match route-type nssa-external
 C. match route-type type-2
 D. match route-type external

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Correct Answer: D

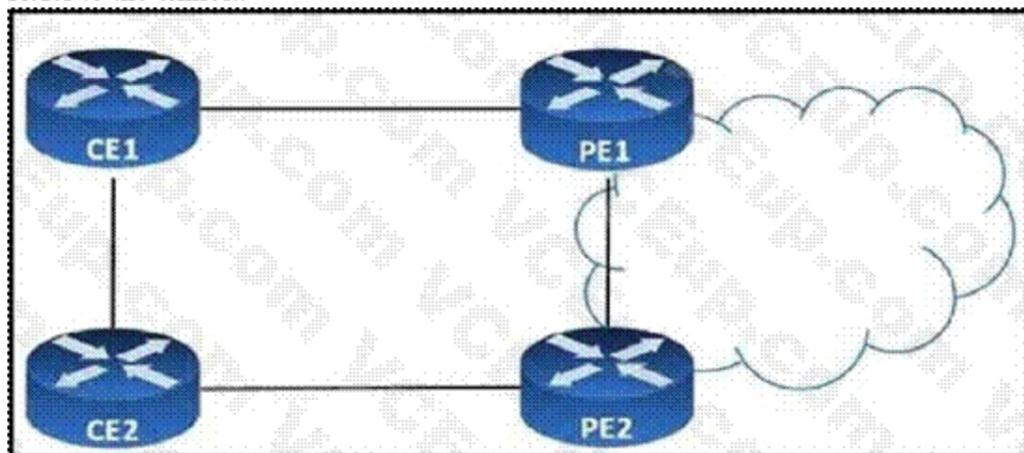
Section:

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/border-gateway-protocol-bgp/49111-route-map-bestp.html>

QUESTION 61

Refer to the exhibit.



CE1 and CE2 are iBGP neighbors in AS 65516. All traffic that exits AS 65516 must use the link from CE1 to PE1. CE1 is advertising a higher local preference to CE2, but traffic from CE2 still prefers the PE2 link. Which action corrects the problem?

- A. Add the lower local-preference value on PE2 towards CE2.
- B. Configure CE1 to send routes to CE2 with a higher MED.
- C. Configure CE1 to send routes to CE2 with a higher weight.
- D. Add the next-hop self command to the CE1 neighbor statement for CE2.

Correct Answer: D

Section:

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/border-gateway-protocol-bgp/13753-25.html>

QUESTION 62

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 permit 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

Section:

Explanation:

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

QUESTION 63

What is the role of a segment routing mapping server?

- A. It advertises a local SID mapping policy to all of the mapping clients
- B. It works with IGP instances to calculate the prefix-SIDs in the absence of a mapping policy
- C. It selects multiple mapping entries to create overlapping active mapping policies
- D. It reads and translates remotely received SIDs from other mapping servers to create SID mapping entries

Correct Answer: A

Section:

QUESTION 64

Refer to the exhibit.

```

R1#ip explicit path name FRR_EXP_PATH enable
next-address 10.10.23.3
next-address 10.10.34.4
next-address 10.10.45.5
next-address 10.10.57.7
next-address 7.7.7.7

interface Tunnel127
ip unnumbered Loopback0
tunnel destination 7.7.7.7
tunnel mode mpls traffic-eng
tunnel mpls traffic-eng autoroute announce
tunnel mpls traffic-eng path-option 10 explicit name
FRR_EXP_PATH
tunnel mpls traffic-eng path-option 20 dynamic

R8#tracetrace 8.8.8.8 source 10.0
Type escape sequence to abort.
Tracing the route to 8.8.8.8
 0 10.10.12.2 36 msec 24 msec 28 msec
 1 10.10.23.3 [MPLS: Labels 3011/7012 Exp 0] 80 msec 48 msec 40 msec
 2 10.10.34.4 [MPLS: Labels 4009/7012 Exp 0] 40 msec 32 msec 40 msec
 3 10.10.45.5 [MPLS: Labels 5010/7012 Exp 0] 48 msec 60 msec 28 msec
 4 10.10.70.7 [MPLS: Label 7012 (exp 0)] 64 msec 60 msec 40 msec
 5 10.10.78.8 64 msec * 56 msec
  
```

An MPLS core network has connectivity issues R4 has failed. It impacts traffic loss between R1 and R8. Customers report no access to their file servers, which delays their transformation work. Which quick action resolves the issue until R4 recovers?

- A. Implement Link and Node protection on routers R2 and R7.
- B. Disable traffic engineering so that traffic prefers the IGP path
- C. Enable MPLS TE fast reroute on router R1 and Link and Node protection on router R2.
- D. Configure IBGP full mesh for faster convergence.

Correct Answer: C

Section:

QUESTION 65

Refer to the exhibit.

```

PE1#show mpls ldp discovery
Local LDP Identifier:
 192.168.12.1:0
Discovery Sources:
Interfaces:
    Gil/0 (ldp): xmit/recv
LDP Id: 192.168.1.1:0; no route
  
```

An administrator is troubleshooting network issues on a customer's network PE1 cannot form an LDP relationship with PE2 using LDP ID 192 168.1.1. Due to this connectivity issue, the customer's routes behind both PE routers cannot be exchanged. Which action must the administrator take to correct the problem?

- A. Configure PE2 to automatically select its own LDP router ID with 192.168.1.1.
- B. Create a targeted LDP session on PE2 to override the missing routing table entry on PEL
- C. Configure PE1 with a static route to 192 168.1.1.
- D. Enable LDP session protection on the link that P1 uses as the next hop to PE2.

Correct Answer: C

Section:

QUESTION 66

Refer to the exhibit.

```

R1#sh ip route
Codes: C - connected, S - static, R- RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external 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
Gateway of last resort is not set
1.0.0.0/32 is subnetted, 1 subnets
C 1.1.1.1 is directly connected, Loopback0
2.0.0.0/32 is subnetted, 1 subnets
O 2.2.2.2 [110/11] via 10.0.0.2, 01:38:48, FastEthernet 0/0
3.0.0.0/32 is subnetted, 1 subnets
O 3.3.3.3 [110/21] via 10.0.0.2, 01:02:29, FastEthernet 0/0
10.0.0.0/24 is subnetted, 2 subnets
C 10.0.0.0 is directly connected, FastEthernet 0/0
O 10.0.1.0 [110/20] via 10.0.0.2, 01:02:39, FastEthernet 0/0
R1#sh ip bgp vpv4 vrf RED
BGP table version is 9, local router ID is 1.1.1.1
Status codes: s suppressed, d damped, h history, * valid,
> best, r RIB-failure, S Stale Origin codes: i - IGP, e - EGP, ? - incomplete
Network Next Hop Metric LocPrf Weight Path Route Distinguisher: 4:4 (default for vrf RED)
*>i5.5.5.5/32 3.3.3.3 11 100 0 ?
*>i192.168.2.0 3.3.3.3 0 100 0 ?
R4#sh ip route
4.0.0.0/32 is subnetted, 1 subnets
C 4.4.4.4 is directly connected, Loopback0
C 192.168.1.0/24 is directly connected, FastEthernet 0/
  
```

An engineer is troubleshooting connectivity issues on the MPLS core network. A customer connected through R4 cannot reach the OSPF domain on R5. While checking the routing table of R1, the engineer cannot see all the routes from R3 and R5. Which task must the engineer perform so that R4 is able to reach R5?

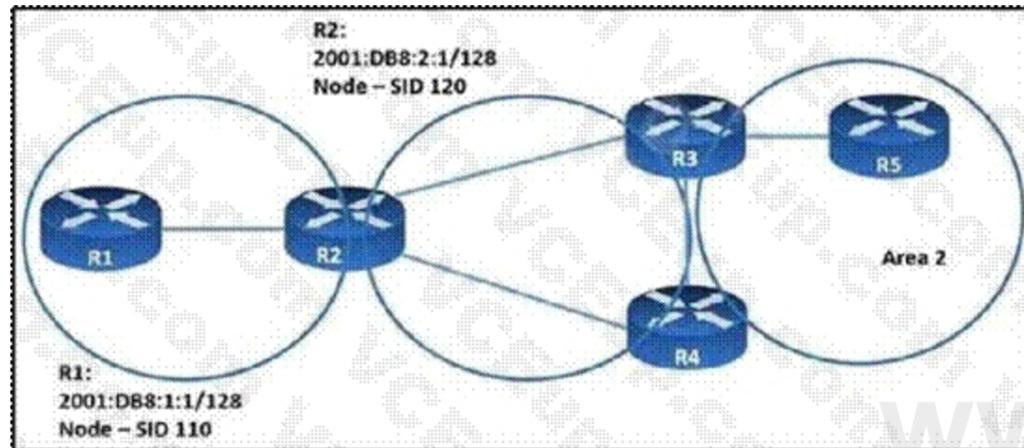
- A. Enable OSPF peering and configure route redistribution between routers R4 and R1.
- B. Enable route filtering between routers R1 and R3.
- C. Enable MP-BGP peering on routers R1, R3, R4, and R5.
- D. Enable OSPF on the Area-0 routers and configure MP-BGP between routers R1 and R3.

Correct Answer: A

Section:

QUESTION 67

Refer to the exhibit.



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

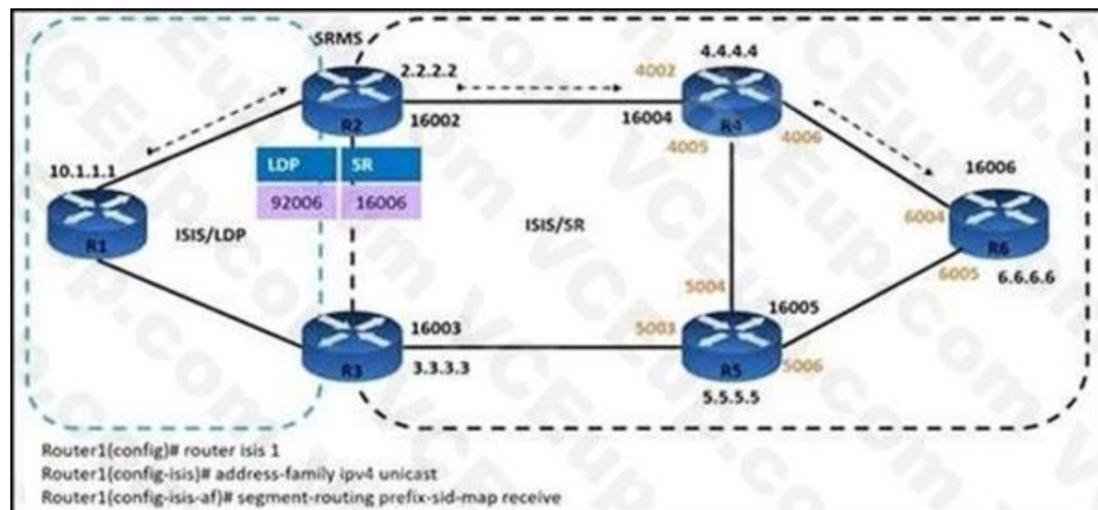
- A. 120
- B. 230
- C. 110
- D. 10

Correct Answer: C

Section:

QUESTION 68

Refer to the exhibit



An engineer is configuring service traffic from router R1 to R6 as shown. Which additional configuration must the engineer implement so that the LDP and SR domains will participate and interwork with each other?

A. Router2(config)# segment-routing
 Router2(config-sr)# ldp mapping-server
 Router2(config-sr-ms)# prefix-sid-map
 Router2(config-sr-ms-map)#
 Router2(config-sr-ms-map-af)# 2.2.2.2/32 500 range 4

A. Router2(config)# segment-routing
 Router2(config-sr)# sr mapping-server
 Router2(config-sr-ms)# ldp-sid-map
 Router2(config-sr-ms-map)# address-family ipv4
 Router2(config-sr-ms-map-af)# 10.1.1.1/32 500 range 50

B. Router2(config)# segment-routing
 Router2(config-sr)# mapping-server
 Router2(config-sr-ms)# prefix-sid-map
 Router2(config-sr-ms-map)# address-family ipv4
 Router2(config-sr-ms-map-af)# 10.1.1.1/32 500 range 50

C. Router2(config)# segment-routing
 Router2(config-sr)# ldp mapping-server
 Router2(config-sr-ms)# prefix-sid-map
 Router2(config-sr-ms-map)# address-family ipv4
 Router2(config-sr-ms-map-af)# 2.2.2.2/32 500 range 40

Correct Answer: C

Section:

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/segmentrouting/configuration/guide/b-seg-routing-cg-asr9k/b-seg-routing-cg-asr9k_chapter_01001.html

QUESTION 69

DRAG DROP

Drag and drop the features about multicast from the left onto the multicast protocols on the right.
 Not all options are used.

Select and Place:

Its mroute entry is (*,G) in most environments.

Its mroute entry is (S,G).

The receiver becomes aware of the sender only when it receives a message.

The receiver specifies the multicast addresses from which it wants to receive traffic.

It uses IGMPv3.

It uses IGMPv2.

SSM

[Empty box]

[Empty box]

[Empty box]

ASM

[Empty box]

[Empty box]

Correct Answer:

[Empty box]

[Empty box]

The receiver becomes aware of the sender only when it receives a message.

[Empty box]

[Empty box]

SSM

Its mroute entry is (S,G).

It uses IGMPv3.

The receiver specifies the multicast addresses from which it wants to receive traffic.

ASM

Its mroute entry is (*,G) in most environments.

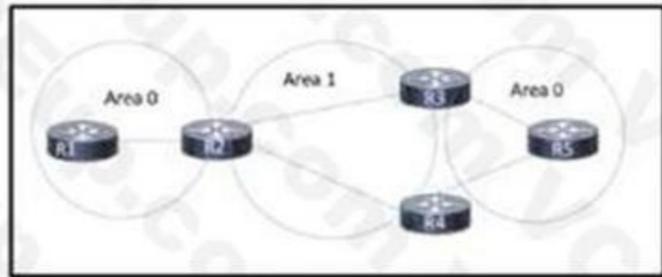
It uses IGMPv2.

Section:

Explanation:

QUESTION 70

Refer to the exhibit.



Refer to the exhibit. A network engineer just replaced five routers on this OSPF network. When the routing protocol is brought up, R5 cannot reach routes that originate on R1. The engineer verified that all connected links have established neighbor relationships. R5 reaches routes originating on R3 and R4. Which action resolves the issue?

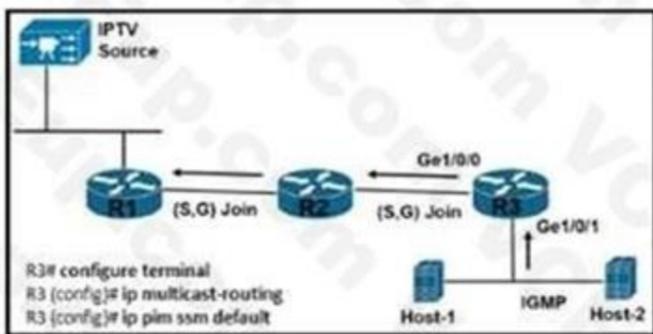
- A. Configure an OSPF virtual link to bridge Area 0 on routers R3 and R4.
- B. Configure automatic neighbor discovery on R1 and R5.
- C. Configure OSPF to have a contiguous Area 0.
- D. Configure each link to be point-to-point.

Correct Answer: A

Section:

QUESTION 71

Refer to the exhibit.



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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?

```
R3# configure terminal
R3(config)# ip multicast-routing
R3(config)# interface gigabitethernet 1/0/0
R3(config-if)# ip pim sparse-mode
R3(config-if)# ip igmp version 3
R3(config)# interface gigabitethernet 1/0/1
R3(config-if)# ip pim sparse-mode
R3(config-if)# ip igmp version 3
R3(config-if)# ip pim ssm default

R3# configure terminal
R3(config)# no ip pim ssm default
R3(config)# interface gigabitethernet 1/0/0
R3(config-if)# ip pim sparse-mode
R3(config-if)# ip igmp version 3
R3(config-if)# ip pim ssm default
R3(config)# interface gigabitethernet 1/0/1
R3(config-if)# ip pim sparse-mode
R3(config-if)# ip igmp version 3
R3(config-if)# ip pim ssm default
```

```
R3(config)# interface gigabitethernet 1/0/0
R3(config-if)# ip pim sparse-mode
R3(config-if)# ip igmp version 3
R3(config)# interface gigabitethernet 1/0/1
R3(config-if)# ip pim sparse-mode
R3(config-if)# ip igmp version 3

R3(config)# interface gigabitethernet 1/0/0
R3(config-if)# ip pim sparse-mode
R3(config)# interface gigabitethernet 1/0/1
R3(config-if)# ip pim sparse-mode
R3(config-if)# ip igmp version 3
```

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- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: D

Section:

QUESTION 72

What is the purpose of ACL type prefix set entries in RPL prefix sets?

- A. They hold IPv4 or IPv6 prefixes that do not match specifications.
- B. They hold IPv4 or IPv6 prefix match specifications.
- C. They hold IPv6 prefix match specifications.
- D. They hold IPv4 prefixes that do not match specifications.

Correct Answer: B

Section:

QUESTION 73

An ISP has an MPLS VPN-based network with 12 PE routers. How many peerings are required between the 12 routers if the engineer has not configured route reflectors?

- A. 60
- B. 66
- C. 78
- D. 84

Correct Answer: B

Section:

QUESTION 74

Refer to the exhibit.

```

R1>show ip bgp
BGP table version is 1986541, local router ID is 172.16.212.76
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal
Origin codes: i - IGP, e - EGP, ? - incomplete

   Network        Next Hop        Metric LocPrf Weight Path
*> 11.21.10.0/24   172.16.211.4      0           0 3421 12131 152 i
*> 11.22.14.0/24   172.11.12.54      0           0 3421 15243 3242 35673 35473 i
*> 11.23.15.0/24   192.16.22.19      0           0 3421 15243 3242 35673 152 i
*> 11.24.16.0/24   17.1.212.79       0           0 3421 1345 4164 15298 35673 32451 i
*> 11.25.17.0/24   15.65.21.9        120          0 3421 1345 152 15298 35673 32451 i
*> 11.26.20.0/23   11.16.212.7       215          0 3421 2211 2214 2854 i
  
```

Refer to the exhibit. Company A established BGP sessions with several ISPs. A network engineer at the company must filter out all traffic except for routes that transit AS 152. The engineer configured the filtering policy “permit _152S_([0.9])” on R1, but after applying the configuration, the engineer notices that other routes are still visible. Which action resolves the issue?

- Change the filtering policy to ip as-path access-list 1 permit _152_.
- Add a second filtering policy in the format ip access-list 1 permit ^152_([0.9]+).
- Change the filtering policy to ip explicit-path 1 permit \$152^.
- Add a second filtering policy in the format ip prefix-list 1 permit ^152^.

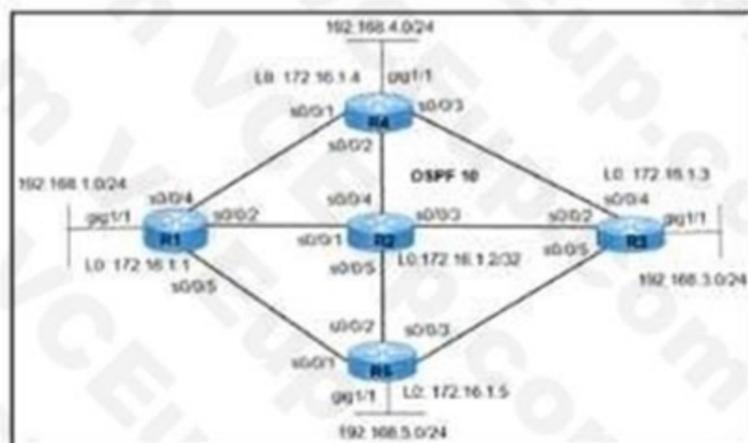
- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: A

Section:

QUESTION 75

Refer to the exhibit.



```

R4 (config)# mpls label protocol ldp
R4 (config)# mpls ldp router-id loopback 0
R4 (config)# interface serial 0/0/1
R4 (config-if) # mpls-ip
R4 (config)# interface serial 0/0/2
R4 (config-if) # mpls-ip
R4 (config)# interface serial 0/0/3
R4 (config-if) # mpls-ip

R2 (config)# mpls label protocol ldp
R2 (config)# mpls ldp router-id loopback 0
R2 (config)# interface serial 0/0/1
R2 (config-if) # mpls-ip
R2 (config)# interface serial 0/0/3
R2 (config-if) # mpls-ip
    
```

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```

R4 (config)# mpls ldp router-id loopback 0
R4 (config)# interface serial 0/0/1
R4 (config-if) # mpls-ip
R4 (config)# interface serial 0/0/2
R4 (config-if) # mpls-ip
R4 (config)# interface serial 0/0/3
R4 (config-if) # mpls-ip

R2 (config)# mpls label protocol ldp
R2 (config)# mpls ldp router-id loopback 0
R2 (config)# interface serial 0/0/1
R2 (config-if) # mpls-ip
R2 (config)# interface serial 0/0/3
R2 (config-if) # mpls-ip
R2 (config)# interface serial 0/0/5
R2 (config-if) # mpls-ip

```

Refer to the exhibit. MPLS traffic from 192.168.4.0/24 to 192.168.5.0/24 is failing to pass over the link from R4 to R2. The engineer verified that: Cisco Express Forwarding Is enabled on all routers.

All routers reach all networks via OSPF.

MPLS traffic from 192.168.1.0/24 to 192.168.3.0/24 is passing normally over the link from R1 to R2.

Which action resolves the issue?

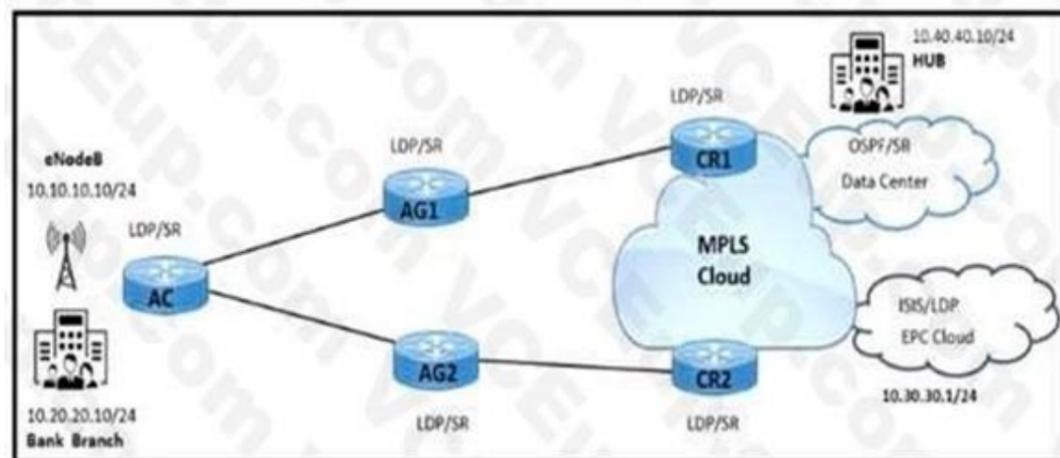
- A. On router R4, remove the mpls ip command on the s/O/O/2 interface.
- B. On router R2, configure the mpls ip command on the SIO/O/4 interface.
- C. On router R4, configure the mpls label protocol ldp command on all serial interfaces.
- D. On router R2, configure the mpls label protocol ldp command on the interface.

Correct Answer: B

Section:

QUESTION 76

Refer to the exhibit.



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?

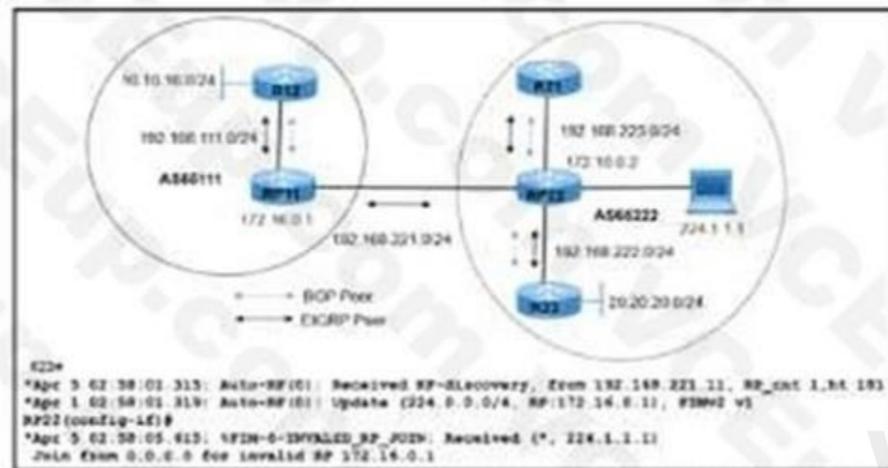
- A. Configure segment-routing Sr-prefer prefix-list on AG1 and AG2 router for 10.10.10.10/24.
- B. Enable segment-routing Mpls Sr-prefer on CR1 and CR2 routers for 10.0.0.0/8.
- C. Enable segment-routing Mpls Sr-prefer on AG1 and AG2 routers for 10.0.0.0/8.
- D. Configure segment-routing sr-prefer prefix-list on CR1 and CR2 routers for 10.20.20.10/24.

Correct Answer: D

Section:

QUESTION 77

Refer to the exhibit.



Refer to the exhibit. R21 is a multicast source sending multicast traffic 224.1.1.1 to R23, with RP22 serving as the rendezvous point inside AS65222. A network engineer noticed that when R21 goes down, R12 in AS65111 starts to send the same multicast group 224.1.1.1 through RP11. Which action resolves the issue ?

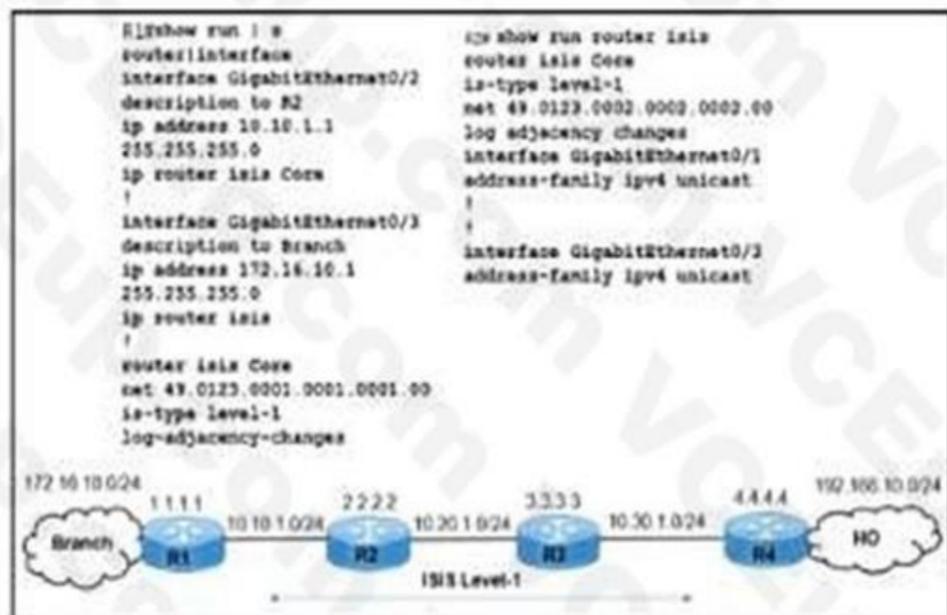
- A. Block service groups 224.0.1.39 and 224.0.1.40 between the two autonomous systems
- B. Disable PIM parse mode between RP11 and RP22 in the two autonomous systems.
- C. Advertise RP2 with a high local preference in AS65222.
- D. Enable passive intertiae under EIGRP between the two autonomous systems.

Correct Answer: A

Section:

QUESTION 78

Refer to the exhibit.



Refer to the exhibit. Users at the branch office on R1 reported issue with an application at the home office on R4. While troubleshooting the issue, a network engineer determined that The branch-office users can connect to the home office.

The IS-IS adjacencies between R1 and R2 and R1 and the branch office are up.

Traffic from R1 to the R2 10.20.1.0/24 network is moving normally.

The application at the home office is experiencing packet drops on the connection to the Branch, and R3 cannot reach the R1 172.16.10.0/24 network.

Which action resolves the issues?

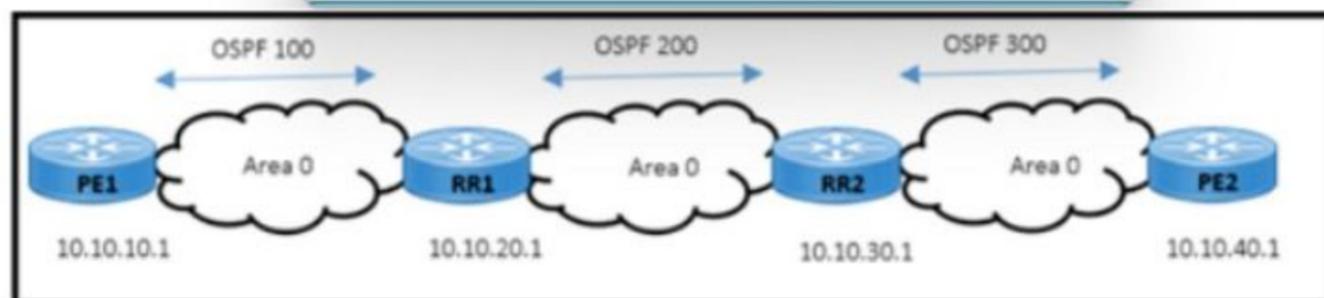
- A. Redistribute static connected routes in IS-IS on router R1.
- B. Configure the IS-IS core instance on the R1 GigabitEthernet0/3 interface.
- C. Redistribute static connected routes in IS-IS on router R4.
- D. Configure the IS-IS core instance on the R2 GigabitEthernet0/1 interface.

Correct Answer: B

Section:

QUESTION 79

Refer to the exhibit.



```

PE1
router bgp 100
  bgp log-neighbor-changes
  network 10.10.10.1 mask 255.255.255.255
  neighbor 10.10.20.1 remote-as 100
  neighbor 10.10.20.1 update-source Loopback0
  neighbor 10.10.20.1 send-label

RR1
router bgp 100
  bgp log-neighbor-changes
  neighbor 10.10.30.1 remote-as 100
  neighbor 10.10.30.1 update-source Loopback0
  neighbor 10.10.30.1 next-hop-self all
  neighbor 10.10.10.1 remote-as 100
  neighbor 10.10.10.1 update-source Loopback0
  neighbor 10.10.10.1 route-reflector-client
  neighbor 10.10.10.1 next-hop-self all
  neighbor 10.10.10.1 send-label

RR2
router bgp 100
  bgp log-neighbor-changes
  neighbor 10.10.20.1 remote-as 100
  neighbor 10.10.20.1 update-source Loopback0
  neighbor 10.10.20.1 next-hop-self all
  neighbor 10.10.20.1 send-label
  neighbor 10.10.40.1 remote-as 100
  neighbor 10.10.40.1 update-source Loopback0
  neighbor 10.10.40.1 route-reflector-client
  neighbor 10.10.40.1 next-hop-self all
  neighbor 10.10.40.1 send-label

PE2
router bgp 100
  bgp log-neighbor-changes
  network 10.10.40.1 mask 255.255.255.255
  neighbor 10.10.30.1 remote-as 100
  neighbor 10.10.30.1 update-source Loopback0
  neighbor 10.10.30.1 send-label
  
```

Refer to the exhibit. A network engineer is investigating a report of packet drops in an application running on a server connected to PE2. The engineer determined that:

- The OSPF adjacency in area 0 is up, and it is learning the loopback addresses of all routers in area 0.
- Traffic from users connected to PE1 to the application is also passing normally.
- Packets from PE2 back to PE1 are being dropped.

Which action resolves the issue?

- RR2(config)# router bgp 100
RR2(config-router)# no neighbor 10.10.20.1 send-label
- RR1(config)# router bgp 100
RR1(config-router)# redistribute ospf 100
- RR1(config)# router bgp 100
RR1(config-router)# neighbor 10.10.30.1 send-label
- RR2(config)# router bgp 100
RR2(config-router)# redistribute ospf 100

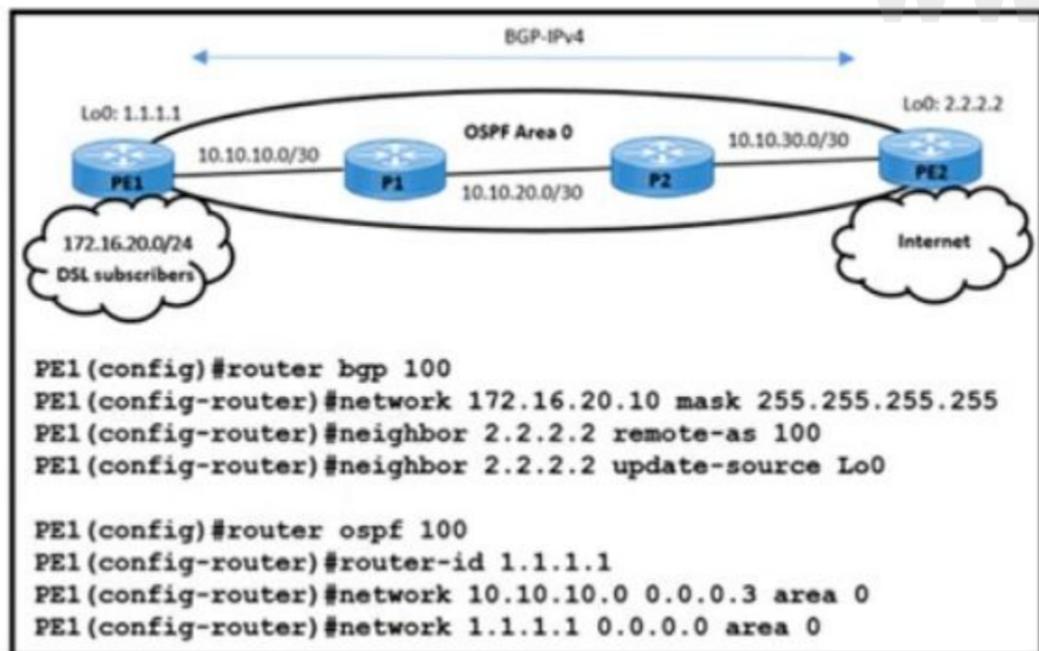
- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: C

Section:

QUESTION 80

Refer to the exhibit.



Refer to the exhibit The engineering team noticed route disruptions when DSL subscriber 172.16.20.10 goes offline. In this service provider environment: The OSPF backbone area is configured to advertise loopback prefixes The PE routers are running BGP-IPv4 address family in a BGP-free core topology. The DSL subscriber IP subnet 172.16.20.10/32 is redistributed in BGP on PE1 Which configuration on PE1 resolves the issue?

- PE1(config)# router bgp 100
PE1(config-router)# network 172.16.20.0 255.255.255.255
PE1(Config)# Router ospf 100
PE1(Config-router)# redistribute bgp 100
- PE1(Config)# ip route 172.16.20.0 255.255.255.0 Null0
PE1(Config)# Router BGP 100
PE1(Config-router)# redistribute static
- PE1(Config)# ip route 172.16.20.0 255.255.255.255 Null0
PE1(Config)# Router ospf 100
PE1(Config-router)# redistribute static
- PE1(config)# router ospf 100
PE1(config-router)# network 172.16.20.0 0.0.0.255 area 0
PE1(Config)# Router BGP 100
PE1(Config-router)# redistribute ospf 100

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Correct Answer: B

Section:

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QUESTION 81

Which technique should be permitted on ASA Firewall to allow MSDP Peering?

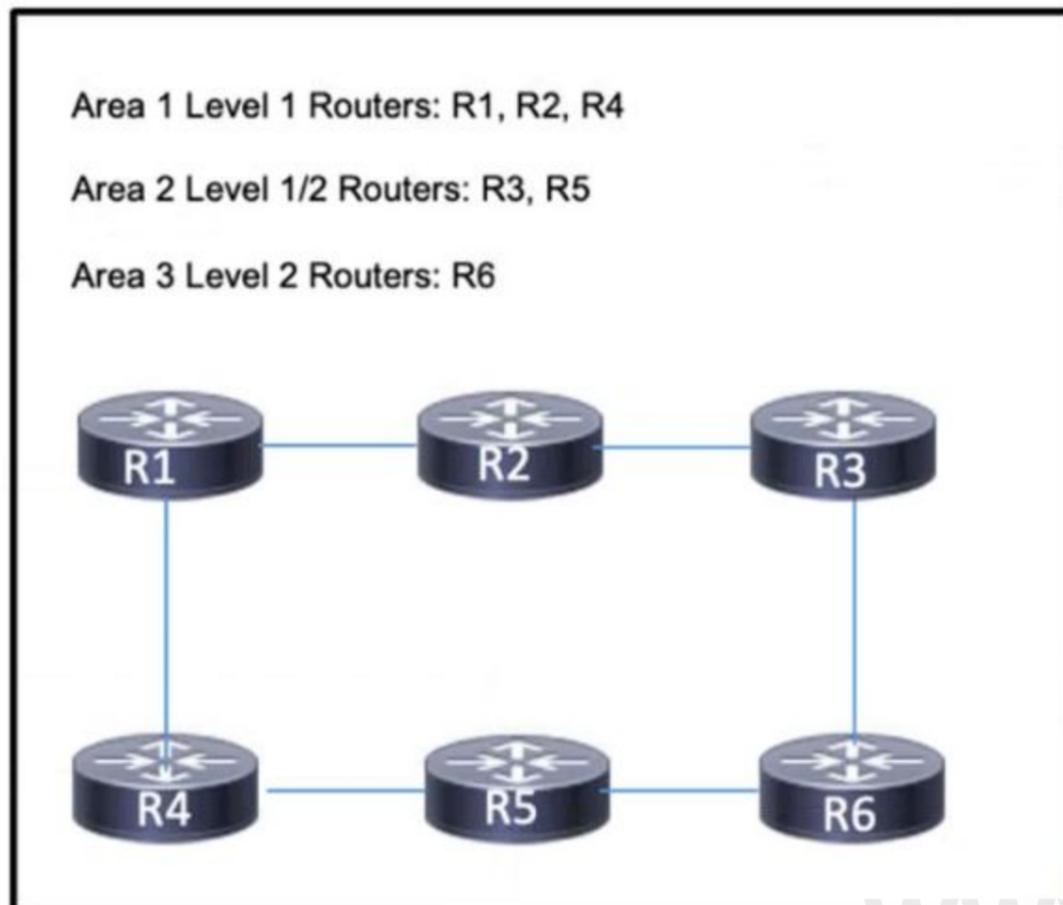
- A. PIMv2 messages carrying MSDP messages
- B. TCP socket(s) carrying MSDP messages
- C. Multicast BGP carrying MSDP messages
- D. UDP socket(s) carrying MSDP messages

Correct Answer: B

Section:

QUESTION 82

Refer to the exhibit.



Refer to the exhibit. An engineering team implemented IS-IS on the network, with several different areas. Recently, router R6 in area 3 has been experiencing excessive CPU usage. To reduce the load, a network engineer implemented route summarization on R2. However, R6 is still receiving the full routes from all routers. Which action must the engineer take to resolve the excessive CPU usage?

- A. Configure routers R3 and R5 to send summary routes to R6.
- B. Configure the Level 2 router R6 to manage summarization for the network
- C. Configure router R1 to send only the default route to R2 and R4.
- D. Configure all routers as Level 1/2 routers so that route summarization functions throughout the network

Correct Answer: A

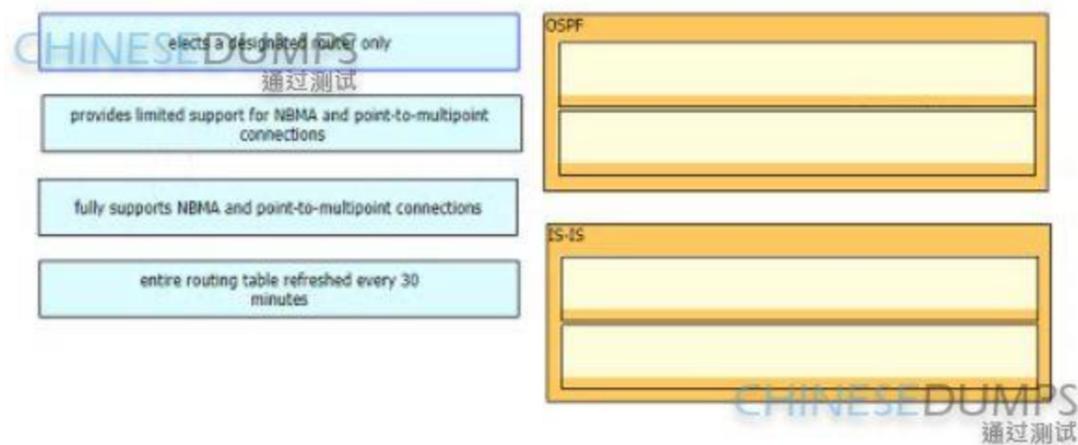
Section:

QUESTION 83

DRAG DROP

Drag and drop the features from the left onto the corresponding routing protocols on the right

Select and Place:



Correct Answer:



Section:

Explanation:

QUESTION 84

What is a feature of SR-PCE?

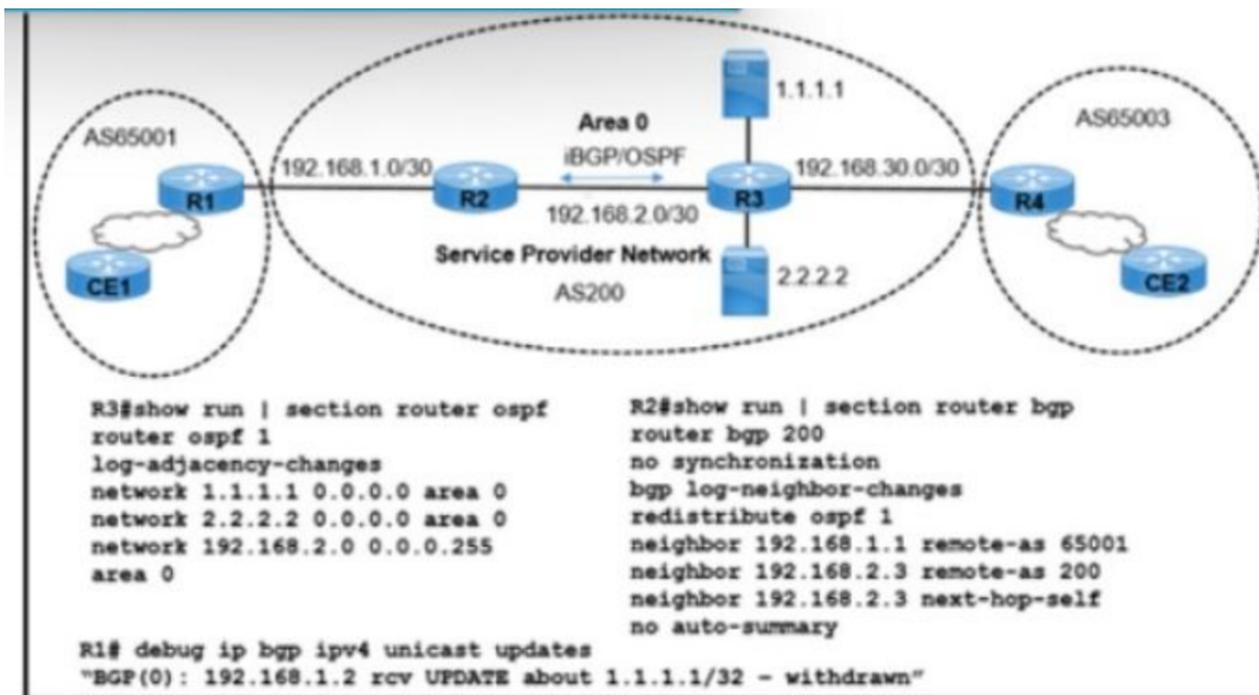
- A. It learns the topology information via OSPF or IS-IS only
- B. It learns the topology information via OSPF or IS-IS or through BGP-LS.
- C. It uses the IGP metric in its path calculations to optimize reachability.
- D. It uses the TE metric in its calculations to optimize the cumulative TE metric

Correct Answer: B

Section:

QUESTION 85

Refer to the exhibit.



Refer to the exhibit. Users connected to an application on 1.1.1.1 via routers CE1 and CE2 are complaining of frequent disconnections. While troubleshooting the issue, a network engineer with an employee ID: 4333:96:916 determined that the application itself is working normally, but the link connected to the 1.1.1.1 application is flapping. The users on CE1 and CE2 are accessing applications on 2.2.2.2 without difficulty. Which action resolves the issue?

- A. Disable split horizon on router R2.
- B. Redistribute CE1 routes on router R2.
- C. Enable passive interface on the router R3 Loopback1 interface.
- D. Enable route dampening on routers R1 and R2

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Correct Answer: D

Section:

QUESTION 86

The operator must leverage automated steering and coloring with the design. Which two elements from an SR Policy tuple are used for automated steering inside of the network? (Choose two.)

- A. endpoint
- B. candidate labels
- C. color
- D. CM paths
- E. headend

Correct Answer: A, E

Section:

QUESTION 87

Level 3 switch SW1 is part of an EIGRP enabled network located at the edge of an area. Cisco Express Forwarding and SSO are enabled on the router. A network engineer must minimize the downtime of data-transmit services in the network. HSRP group 2 has already been configured with standby preempt delay minimum 2 and standby timers 140. Which additional action must the engineer take on SW1 to suppress routing flaps for 2 minutes?

- A. Configure timers standby 2 wait 2 under the HSRP group 2 configuration.

- B. Configure timers nsf route-hold 120 under the global EIGRP configuration.
- C. Configure timers nsf signal 2 under the global EIGRP IPv4 address family.
- D. Configure timers standby 2 coverage 120 under the HSRP group 2 configuration.

Correct Answer: B

Section:

QUESTION 88

Which two BGP route reflector attributes should be implemented to prevent routing loops? (Choose two)

- A. CLUSTER_ID
- B. ORIGINATOR_ID
- C. CLUSTER_LIST
- D. COMMUNITY
- E. AS_PATH

Correct Answer: B, C

Section:

QUESTION 89

What is a feature of SRGB label values?

- A. They are used for adjacency segment identifiers.
- B. They allow IS-IS and OSPF to use overlapping ranges on a domain.
- C. They are locally significant.
- D. They are assigned to segment routing nodes and have global significance throughout the domain.

Correct Answer: D

Section:

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