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300-510

Implementing Cisco Service Provider Advanced Routing Solutions

Version 1.0

Exam A

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

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

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.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 3

```
router bgp 65520
        timers bgp 30 240
```

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 millisecondsC. 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

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_bgp/command/irg-cr-book/bgp-s1.html#wp1552800140

QUESTION 4

```
RP/0/0/CPU0:XR1#show run

route-policy AGGRO
  if destination in (10.0.0.0/8 ge 8 le 25) then
    set community (10:825)
  endif
  if destination in (10.2.0.0/24) then
    drop
  endif
  if destination in (10.1.0.0/24) then
    suppress-route
  endif
end-policy
!
!
router bgp 1
  bgp router-id 192.168.0.7
  address-family ipv4 unicast
    aggregate-address 10.0.0.0/8 route-policy AGGRO

RP/0/0/CPU0:XR1#
```

Refer to the exhibit. A network operator is working to filter routes from being advertised that are covered under an aggregate announcement. The receiving router of the aggregate announcement block is still getting some of the more specific routes plus the aggregate. Which configuration change ensures that only the aggregate is announced now and in the future if other networks are to be added?

A. Configure the summary-only keyword on the **aggregate** command
B. Set each specific route in the AGGRO policy to drop instead of suppress-route
C. Filter the routes on the receiving router
D. Set each specific route in the AGGRO policy to remove instead of suppress-route

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 5

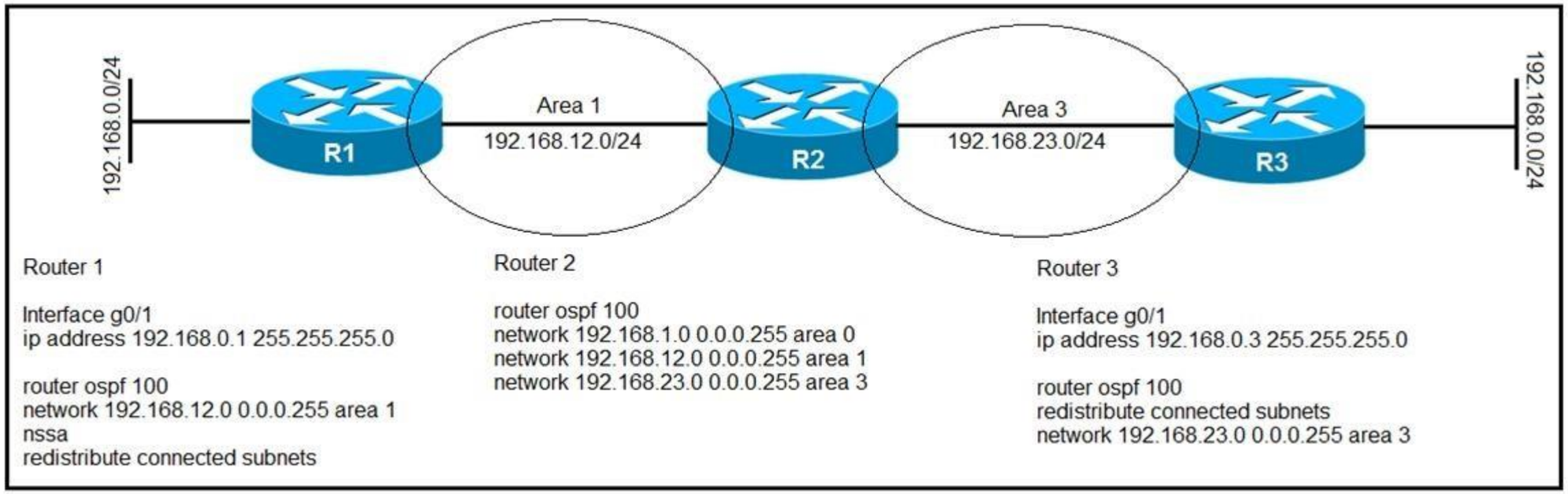
```
RP/0/0/CPU0:XR3#show bgp 10.11.11.0
Thu Jun 20 20:44:15.749 UTC
BGP routing table entry for 10.11.11.0/24
Versions:
  Process           bRIB/RIB     SendTblVer
  Speaker                 9              9
Paths: (2 available, best #2)
  Advertised to update-groups (with more than one peer):
      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

Refer to the exhibit. 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: C
Section: (none)
Explanation

Explanation/Reference:
QUESTION 6



Refer to the exhibit. After troubleshooting an OSPF adjacency issue, routers 1, 2, and 3 have formed OSPF neighbor relationships. Which statement about the configuration is true?

A. Router 2 receives a Type 5 LSAs from router 1 for its connected subnets
B. Router 2 uses router 3 as the next hop for 192.168.0.0/24
C. Router 2 uses router 1 as the next hop for 192.168.0.0/24
D. Router 2 receives a Type 7 LSAs from router 3 for its connected subnets

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 7
DRAG DROP

Compare different features between OSPFv2 and OSPFv3. Drag and drop the descriptions of OSPF from the left onto the correct OSPF versions on the right.

Select and Place:

Correct Answer:

Section: (none)
Explanation

Explanation/Reference:

QUESTION 8 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 neighborship
D. The interface mode **ip router is-is** command was not included in the script

Correct Answer: A
Section: (none)
Explanation

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

QUESTION 9 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

Correct Answer: C
Section: (none)
Explanation

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

QUESTION 10 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: (none)
Explanation

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

QUESTION 11
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

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 12 Which statement about enabling segment routing for IGPs is true?

A. Segment routing must first be enabled under then 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: (none)
Explanation

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

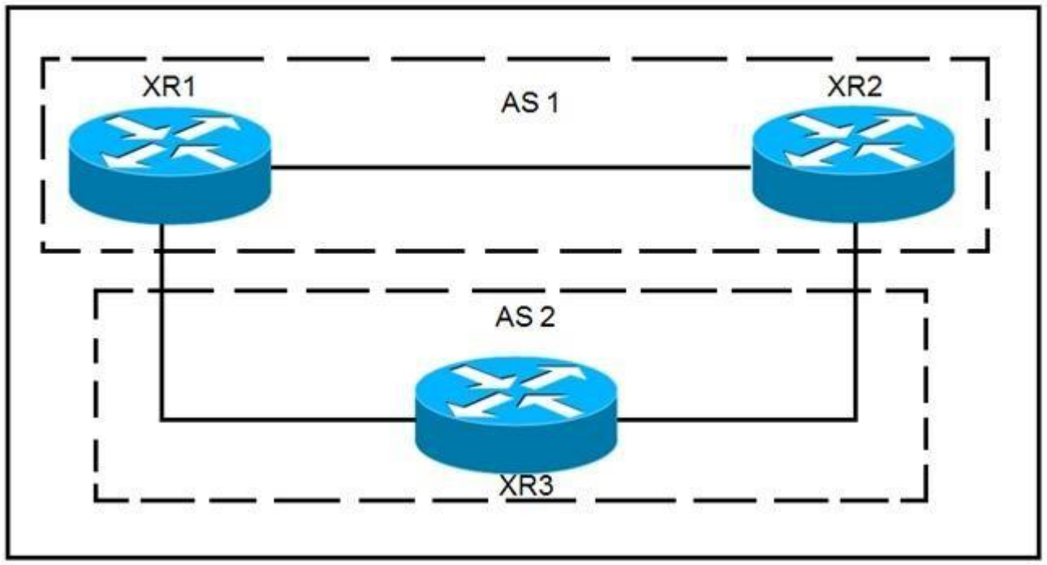
QUESTION 13 Which task is performed when troubleshooting LDP?

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: (none)
Explanation

Explanation/Reference:

QUESTION 14



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
```

```
route-policy NO_PREPEND
 if as-path passes-through '1' then
  pass
 else
  drop
 endif
end-policy
```

C.

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

D.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
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 15

```
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
```

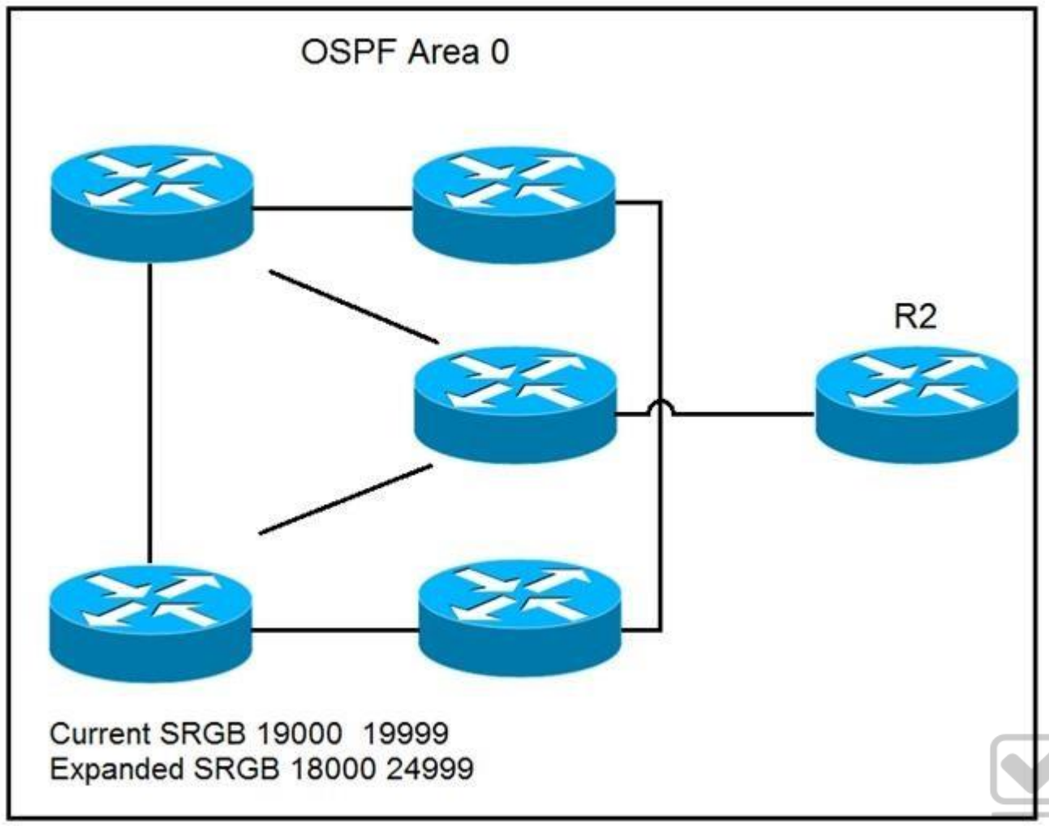
Refer to the exhibit. Router 1 is connected to router 2 on interface TenGigE0/1. Which interface provides the alternate path to 172.16.200.9/32 when the link between router 1 and router 2 goes down?

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
Section: (none)
Explanation

Explanation/Reference:

QUESTION 16



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
```

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

B.

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

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

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 17

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

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

A. It must be configured for graceful restart
B. It must be configured with a route reflector
C. It must be configured with send labels
D. It must be configured with PIC edge

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 18 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: (none)
Explanation

Explanation/Reference:

QUESTION 19

```
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.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
QUESTION 20

```
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.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 21
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: AE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 22
An engineer is troubleshooting a connectivity issue across the MPLS network and is verifying the forwarding behavior of packets. Which table does the engineer look at to verify the forwarding behavior of an IP packet as it enters the MPLS network at the ingress LSR?

A. LFIB
B. LIB
C. RIB
D. FIB

Correct Answer: A
Section: (none)
Explanation
Explanation/Reference:

QUESTION 23
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:

Correct Answer:

Section: (none)
Explanation

Explanation/Reference:

QUESTION 24
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: (none)
Explanation

Explanation/Reference:

QUESTION 25

```
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
```

Refer to the exhibit. 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: (none)
Explanation
Explanation/Reference:
Reference: https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/13683-11.html

QUESTION 26 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: (none)
Explanation

Explanation/Reference:

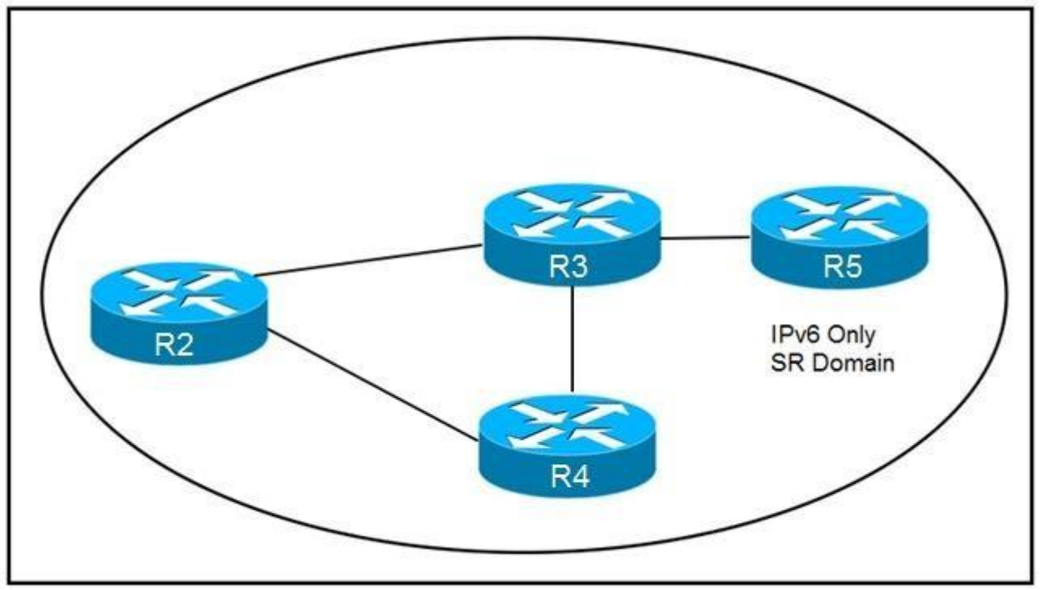
QUESTION 27 Which feature is used in multicast routing to prevent loops?

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

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 28
Refer to the exhibit. How are packets directed through the data plane when SRv6 is implemented?



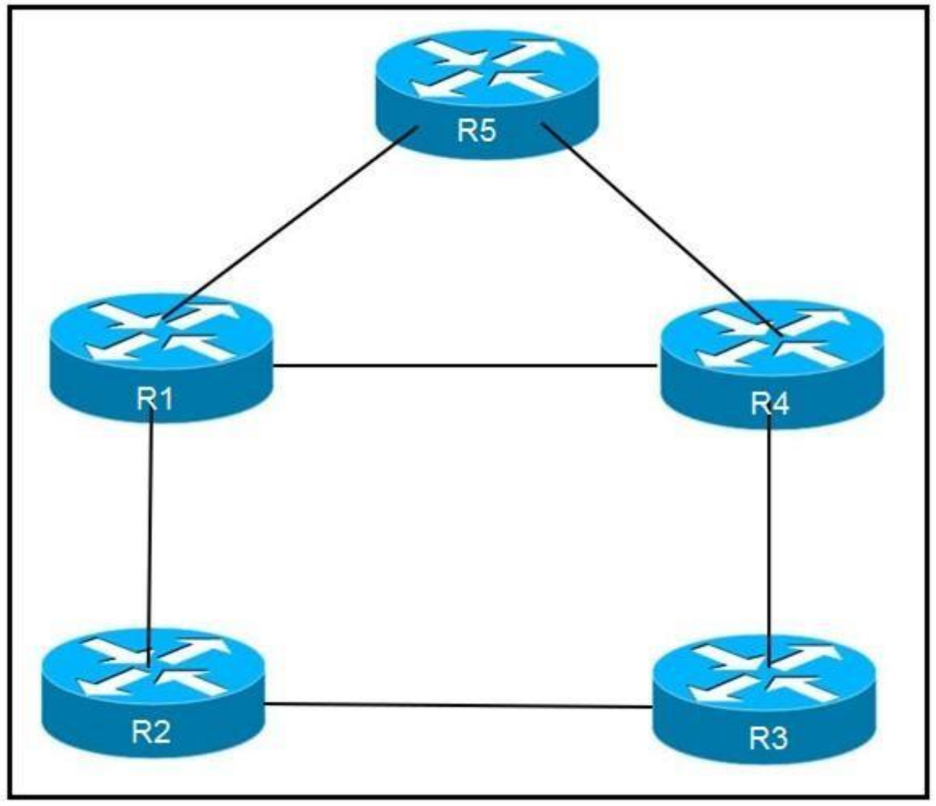
A. An ordered list of segments is encoded in a routing extension header
B. The MPLS data plane is used to push labels onto IGP routes
C. A stack of labels represents an ordered list of segments

D. The packet is encapsulated with a header and trailer encoding the ordered list of segments

Correct Answer: A
Section: (none)
Explanation

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

QUESTION 29



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

Correct Answer: B
Section: (none)
Explanation
Explanation/Reference:

QUESTION 30

```
"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

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 31 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: (none)
Explanation

Explanation/Reference:
QUESTION 32 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: CD
Section: (none)
Explanation

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

QUESTION 33 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 packetsE. All destination MAC addresses begin with an octet of binary 1s

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 34
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: CD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 35

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

Refer to the exhibit. 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: (none)
Explanation

Explanation/Reference:
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 36

```
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

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 37 Which cost is the default when redistributing routes from BGP to OSPF?

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

Correct Answer: B
Section: (none)
Explanation

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

QUESTION 38

```
Router 1:

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

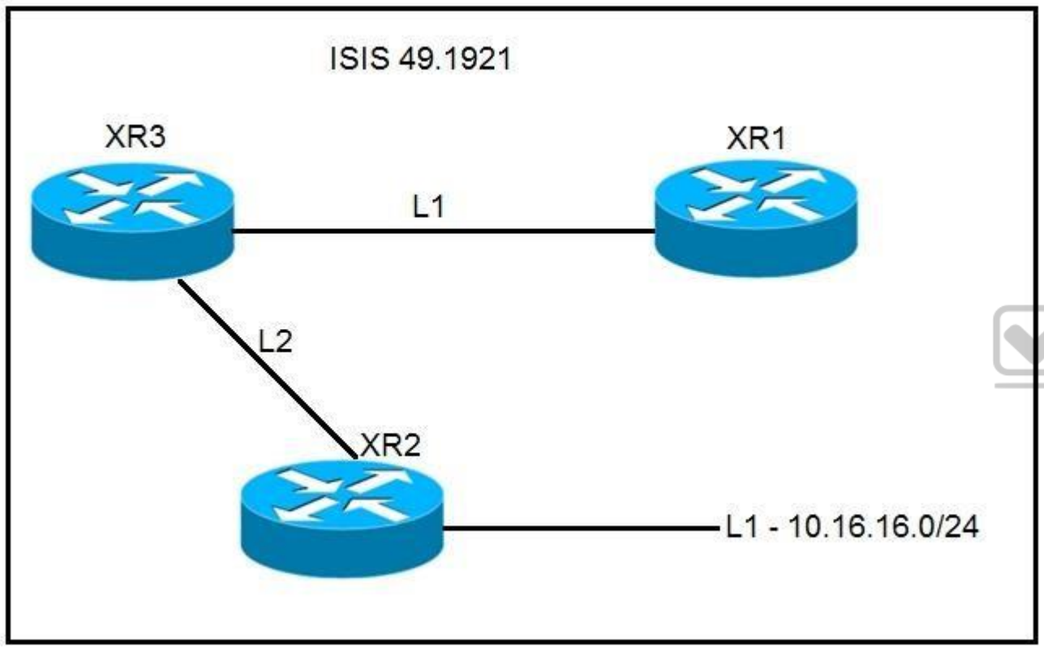
Refer to the exhibit. An engineer is troubleshooting an OSPF issue. Router 1 has a neighbor relationship with router 2. Only router 1 classful EIGRP routes can be seen on router 2. In order for all EIGRP routes to be redistributed correctly, which action should be taken?

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

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 39



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

#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

#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. C.

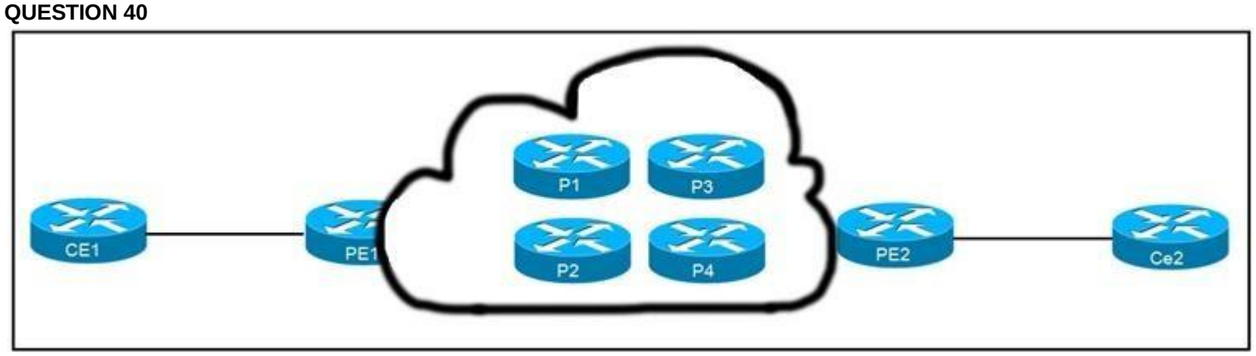
```
#XR3
route-policy ISIS_PROPO
 if destination in(10.0.0.0/8 ge 8 le 32) then
  pass
 endif
end-policy
!
router isis 1
 net 49.1921.6800.0003.00
 address-family ipv4 unicast
 !
 propagate level 2 into level 1 route-policy ISIS_PROPO
```

D.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 40



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: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 41

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 bandwith

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 bandwith
```

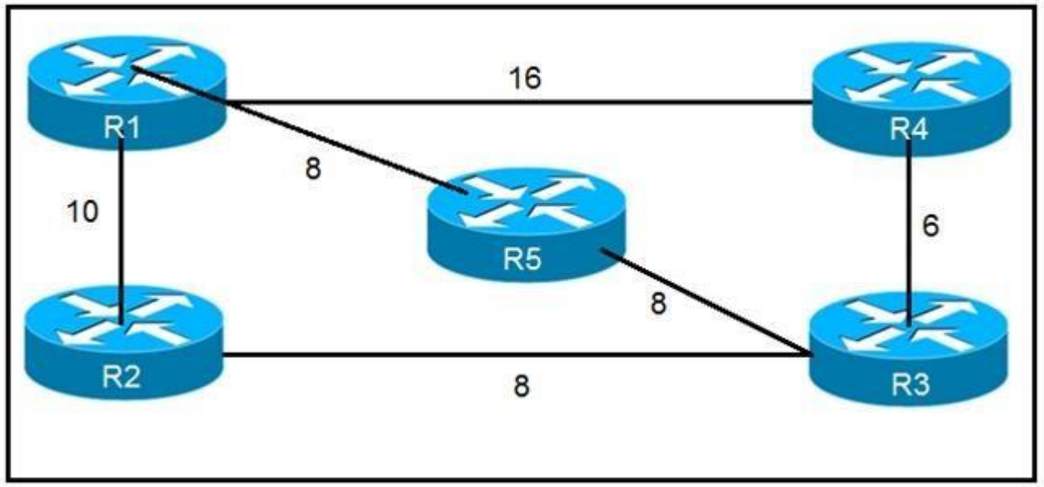

Refer to the exhibit. Router 1 has attempted to establish a Cisco MPLS TE tunnel to router 2, but the tunnel has failed. Which statement about this configuration is true?

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: (none)
Explanation

Explanation/Reference:

QUESTION 42



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: (none)
Explanation

Explanation/Reference:

QUESTION 43

```
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
```

Refer to the exhibit. 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: BE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 44

```
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
```


Refer to the exhibit. 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: AD
Section: (none)
Explanation

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

QUESTION 45 Which command is used to enable BIDIR-PIM under global configuration mode for Cisco IOS XE Sofware?

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

Correct Answer: A
Section: (none)
Explanation

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

QUESTION 46 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

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 47 A network engineer is troubleshooting OSPF multiarea. Which Cisco IOS XR feature should the engineer use in order to streamline OSPF issue?

A. hierarchical CLI
B. DR support for topology management
C. routing process enabled by default on all interfaces
D. **show ip ospf topology** command

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
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 48**

```
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
```

Refer to the exhibit. 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: (none)
Explanation

Explanation/Reference:

QUESTION 49 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: (none)
Explanation

Explanation/Reference:

QUESTION 50 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: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 51 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: (none)
Explanation

Explanation/Reference:
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 52 Which two routing protocols have extensions capable of running SRv6? (Choose two.)

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

Correct Answer: AB
Section: (none)
Explanation

Explanation/Reference:

QUESTION 53
DRAG DROP

Drag and drop the attributes for the BGP route selection on the left into the correct order on the right. Not all options are used.

Select and Place:

Correct Answer:

Section: (none)
Explanation

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

QUESTION 54

```
RP/0/0/CPUO:iosxr# show run segment-routing

segment-routing
   global-block 18000 24999
!

RP/0/0/CPUO:iosxr#
```

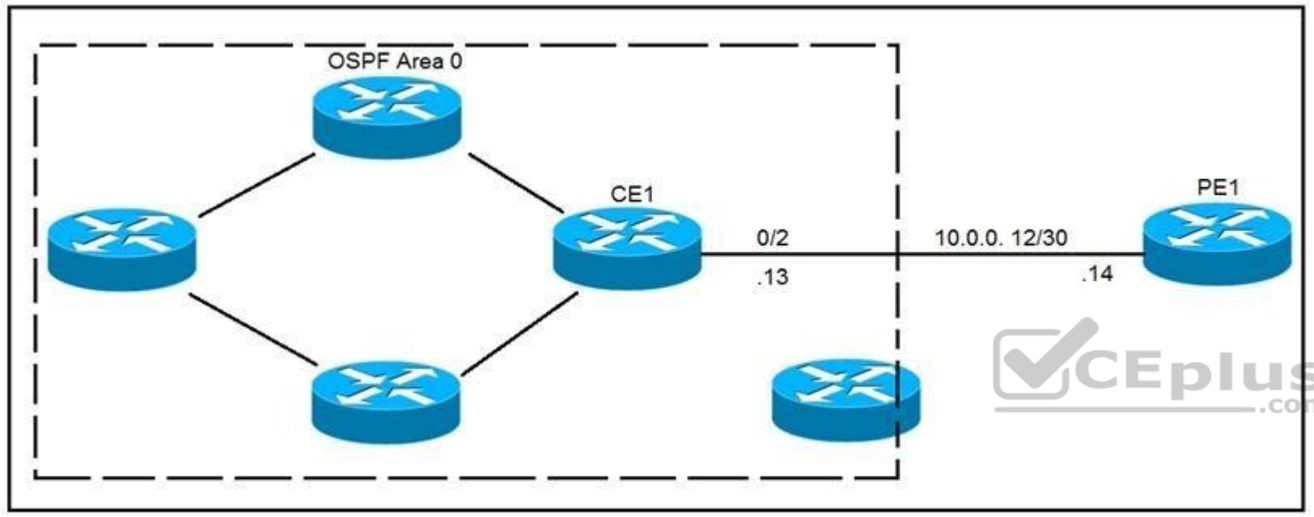
Refer to the exhibit. A network engineer implemented this segment routing configuration. Which statement about the output is true?

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.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr920/configuration/guide/segment-routing/segment-routing-book/seg-routing-global-block.html

QUESTION 55



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
```

```
#CE1
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/2 10.0.0.14
!
router ospf 1
 redistribute static
```

```
#CE1
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/2 10.0.0.14
!
router ospf 1
 default-information originate
```

```
#CE1
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/2 10.0.0.14
!
router ospf 1
 redistribute static subnets
```

B. C.

D.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/47868-ospfdb9.html

QUESTION 56 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

Correct Answer: CE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 57

RP/0/0/CPU/0:P1#	RP/0/0/CPU/0:PE3#
!	!
key chain BGP	key chain BGP
key 1	key 1
key-string password cisco123	key-string password cisco123
cryptographic-algorithm HMAC-MD5	cryptographic-algorithm HMAC-MD5
!	!
router bgp 1	router bgp 1
address-family ipv4 unicast	address-family ipv4 unicast
!	!
neighbor 192.168.13.3	neighbor 192.168.13.1
remote-as 1	remote-as 1
keychain BGP	keychain BGP
address-family ipv4 unicast	address-family ipv4 unicast

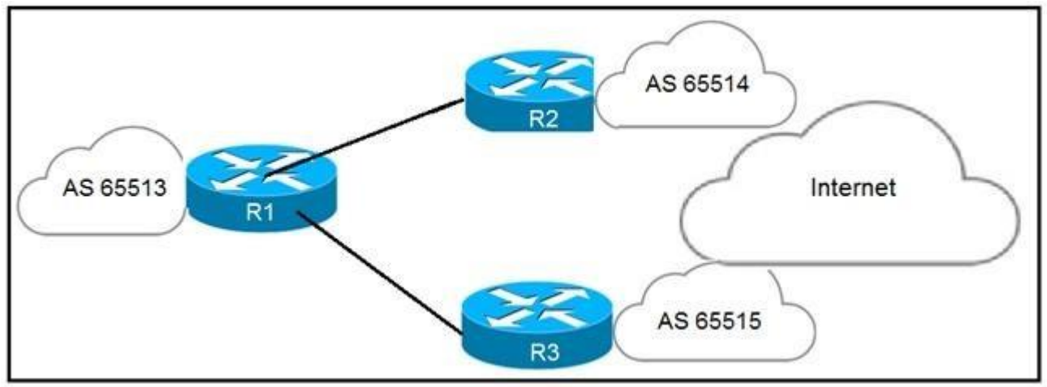
Refer to the exhibit. P1 and PE3 Cisco IOS XR routers are directly connected and have this configuration applied. The BGP session is not coming up. Assume that there is no IP reachability problem and both routers can open tcp port 179 to each other. Which action fixes the issue?

A. Change HMAC-MD5 to HMAC-SHA1-20
B. Configure the send and accept lifetime under key 1
C. Change HMAC-MD5 to MD5
D. Change HMAC-MD5 to HMAC-SHA1-12

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 58



Refer to the exhibit. An engineer has successfully fixed BGP peering issue. R1 has an established eBGP peering with R2 and R3. Which mechanism should the engineer apply in order to steer the traffic correctly?

A. The MED attribute can be applied on R2 to influence R1 to use it as the primary path.
B. The local preference attribute can be applied on R3 to influence AS 65513 to use AS 65515 as the secondary path.

C. The weight attribute can be applied on R2 to influence AS 65513 to use AS 65515 as the primary path.
D. The IGP metric can be manipulated on R1 to allow traffic to be load balanced between R2 and R3.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 59

```
Router1# show ip bgp

BGP table version is 4, local router ID is 192.168.1.1
Status codes:  s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
     Network          Next Hop            Metric LocPrf  Weight   Path
*>   192.168.10.0/24  192.168.1.2              0             0    65525  i
*>   192.168.3.0/24   192.168.2.2              0             0    65535  i
*    192.168.3.0/24   192.168.4.2              0             0    65545  i
*>   192.168.20.0/24  0.0.0.0                  0         32768    i
```

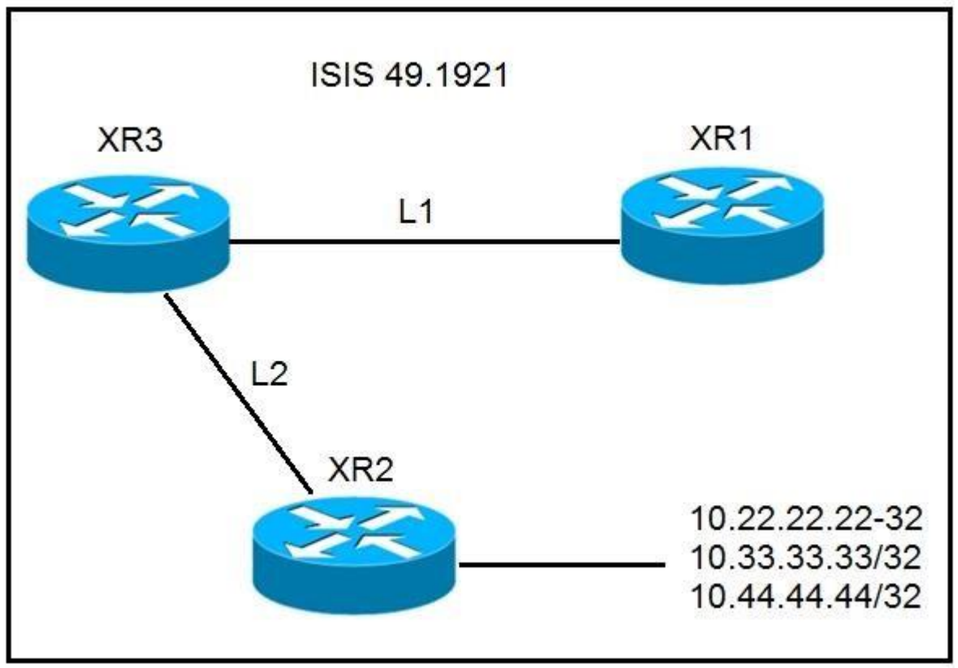
Refer to the exhibit. Which attribute can router 1 alter so that only other iBGP peers prefer to use 192.168.4.2 as the next hop for route 192.168.3.0/24?

A. MED
B. local preference
C. origin
D. weight

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 60



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
```

```
#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
```

```
#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
```

B. C.

```
#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
```

D.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference: