Exam Questions 300-510

Implementing Cisco Service Provider Advanced Routing Solutions (SPRI)

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NEW QUESTION 1

```
R1
interface g0/0
   ip address 192.168.1.1 255.255.255.0
   ip router isis
router isis
   net 49.0022.1111.1111.1111.00
   area-password ciSCo

R2
interface g0/1
   ip address 192.168.1.2 255.255.255.0
   ip router isis
router isis
   net 49.0022.1111.1111.1111.00
   area-password ciSco
```

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

A. The two routers cannot authenticate with one another.
B. The two routers have the same area ID.
C. The two routers have the same network ID.
D. The two routers have different IS-types.

Answer: C

NEW QUESTION 2
Refer to the exhibit. Which effect of this configuration is true?

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

Answer: A

NEW QUESTION 3

```
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

Answer: C

NEW QUESTION 4
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

Answer: C

NEW QUESTION 5
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

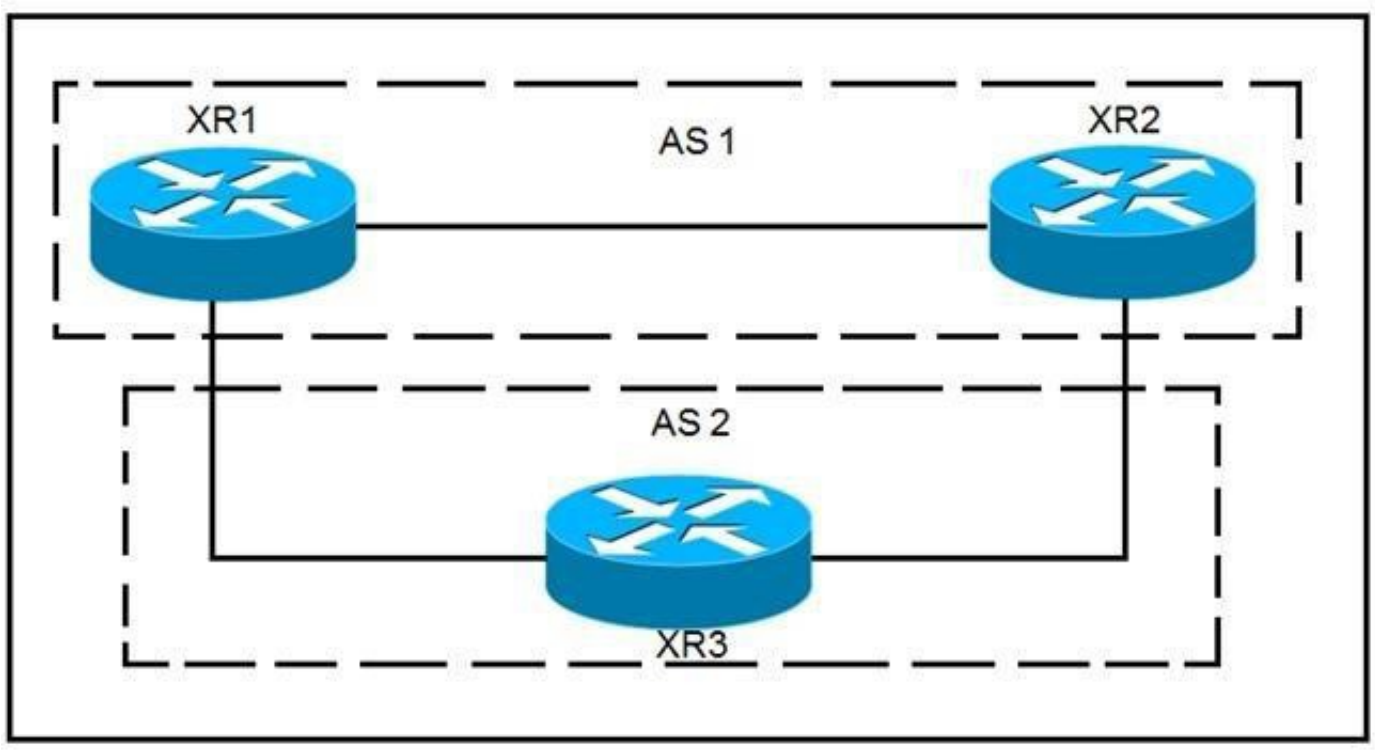
Answer: B

NEW 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

Answer: C

NEW 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
```

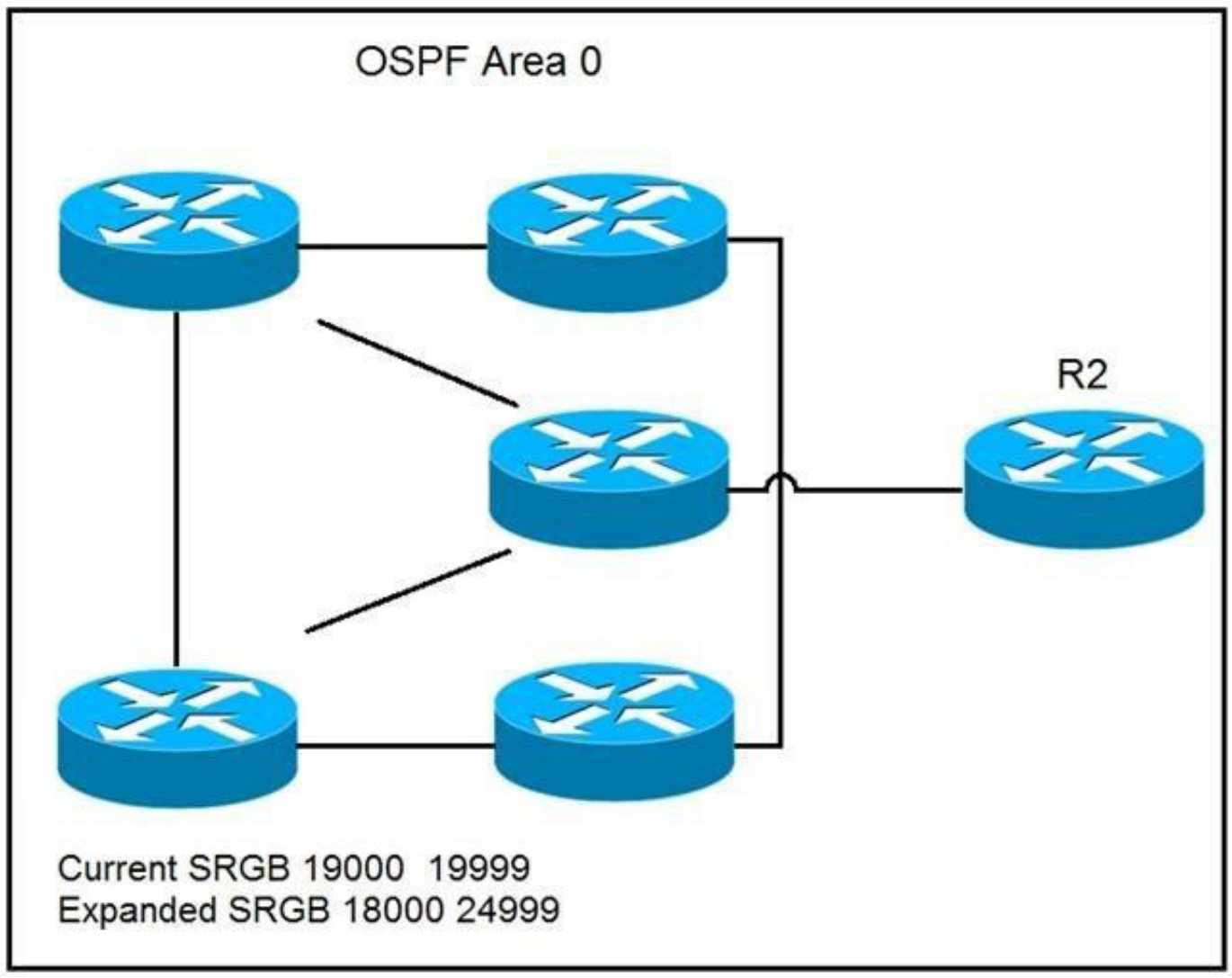
C.

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

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

Answer: D

NEW QUESTION 8



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.

A. 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
```

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

C.

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

Answer: C

NEW QUESTION 9
Refer to the exhibit. Router 1 is a core ABR in a Cisco Unified MPLS environment. All of the router 1 BGP peers are established, but traffic between customers is failing. Which BGP configuration must be added to the configuration?

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

Answer: C

NEW QUESTION 10
What can be used to determine a path from the head-end to a tail-end router when implementing SR-TE with a head-end, with little information on the network topology?

A. traffic controller
B. path computation engine
C. tail-end router
D. SNMP server

Answer: B

NEW QUESTION 10

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

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

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

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

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

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

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

A. The BGP session does not come up between R1 and R2 and between R1 and R3.

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

Answer: B

NEW QUESTION 15
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.

Answer: AE

NEW QUESTION 20
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

Answer: A

NEW QUESTION 22
DRAG DROP
An engineer is troubleshooting end-to-end customer traffic across an MPLS VPN service provider network. Which tasks should the engineer use to solve the routing issues? Drag and drop the table types from the left onto the most useful troubleshooting tasks/router types on the right. (Not all options are used.)
Select and Place:

A. Mastered
B. Not Mastered

Answer: A

NEW QUESTION 25
You have configured MSDP peering between two autonomous systems that pass traffic between two sites, but the peering has failed to come up. Which task do you perform to begin troubleshooting the problem?

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

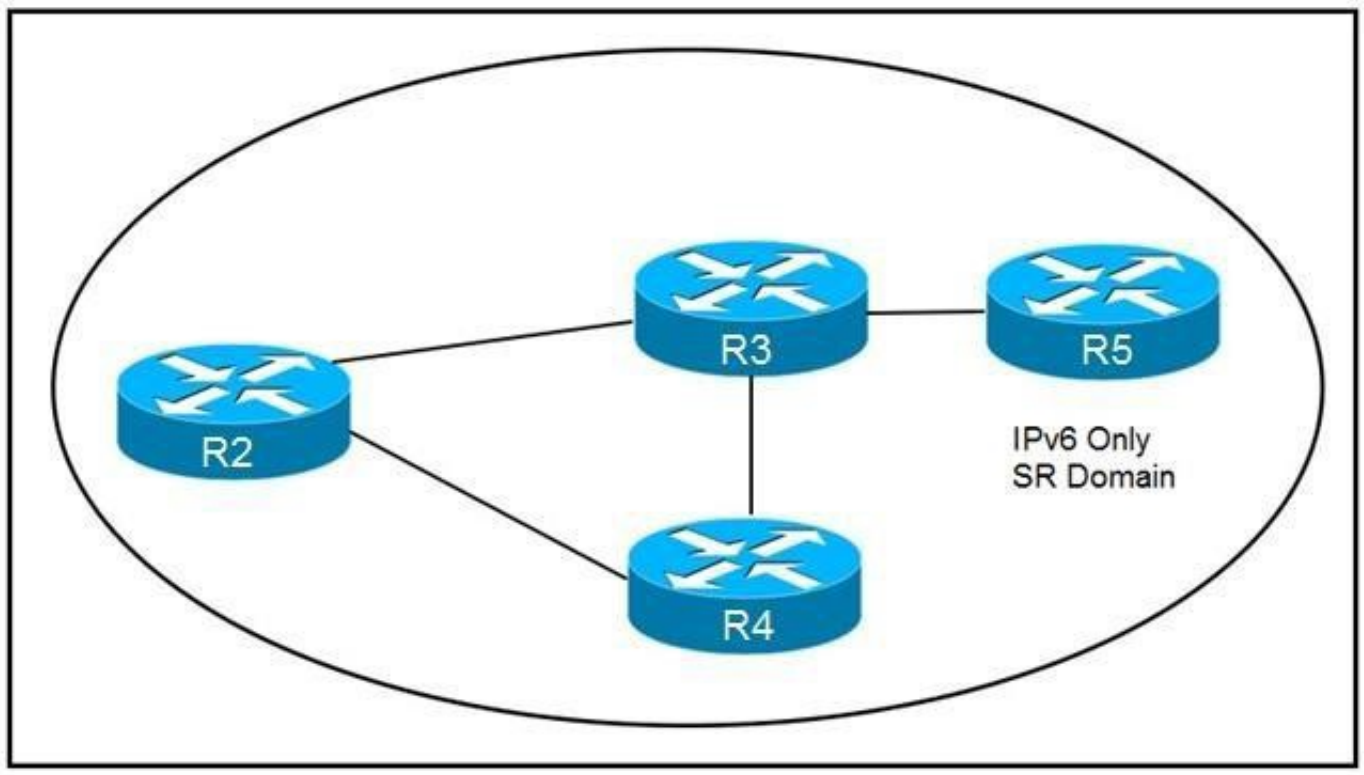
Answer: C

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

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

Answer: C

NEW 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

Answer: A

NEW QUESTION 29

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

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

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

Answer: C

NEW QUESTION 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

Answer: A

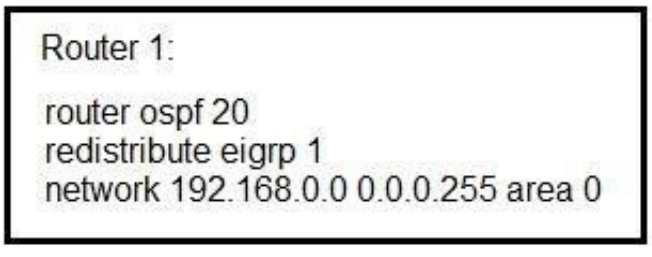
NEW QUESTION 32
Which cost is the default when redistributing routes from BGP to OSPF?

A. 20

B. 1
C. infinite
D. automatic

Answer: B

NEW QUESTION 37



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.

Answer: A

NEW QUESTION 42
Refer to the exhibit. A network operator must inject a Level 1 route from XR2 (10.16.16.0/24) into the ISIS topology. Which configuration allows the injection in a way that XR3 and XR1 have a valid and working route for 10.16.16.0/24?

A. A.
```
#XR3
route-policy ISIS_PROPO
 if destination in(10.0.0.0/8 ge 8 le 22) then
  pass
 endif
end-policy
!
router isis 1
 net 49.1921.6800.0003.00
 address-family ipv4 unicast
!
propagate level 1 into level 2 route-policy ISIS_PROPO
```

B.
```
#XR2
route-policy ISIS_PROPO
 if destination in(10.0.0.0/8 ge 8 le 32) then
  pass
 endif
end-policy
!
router isis 1
 net 49.1921.6800.0003.00
 address-family ipv4 unicast
!
propagate level 2 into level 1 route-policy ISIS_PROPO
```

C.
```
#XR2
route-policy ISIS_PROPO
 if destination in(10.0.0.0/8 ge 8 le 32) then
  pass
 endif
end-policy
!
router isis 1
 net 49.1921.6800.0003.00
 address-family ipv4 unicast
!
propagate level 1 into level 2 route-policy ISIS_PROPO
```

B.

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

Answer: C

NEW QUESTION 43
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.

Answer: C

NEW QUESTION 47

```
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

Answer: AD

NEW QUESTION 50

```
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.

Answer: A

NEW QUESTION 53
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.

Answer: C

NEW 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

Answer: CE

NEW QUESTION 61

```
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

Answer: B

NEW QUESTION 62
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.

Answer: D

NEW QUESTION 67
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