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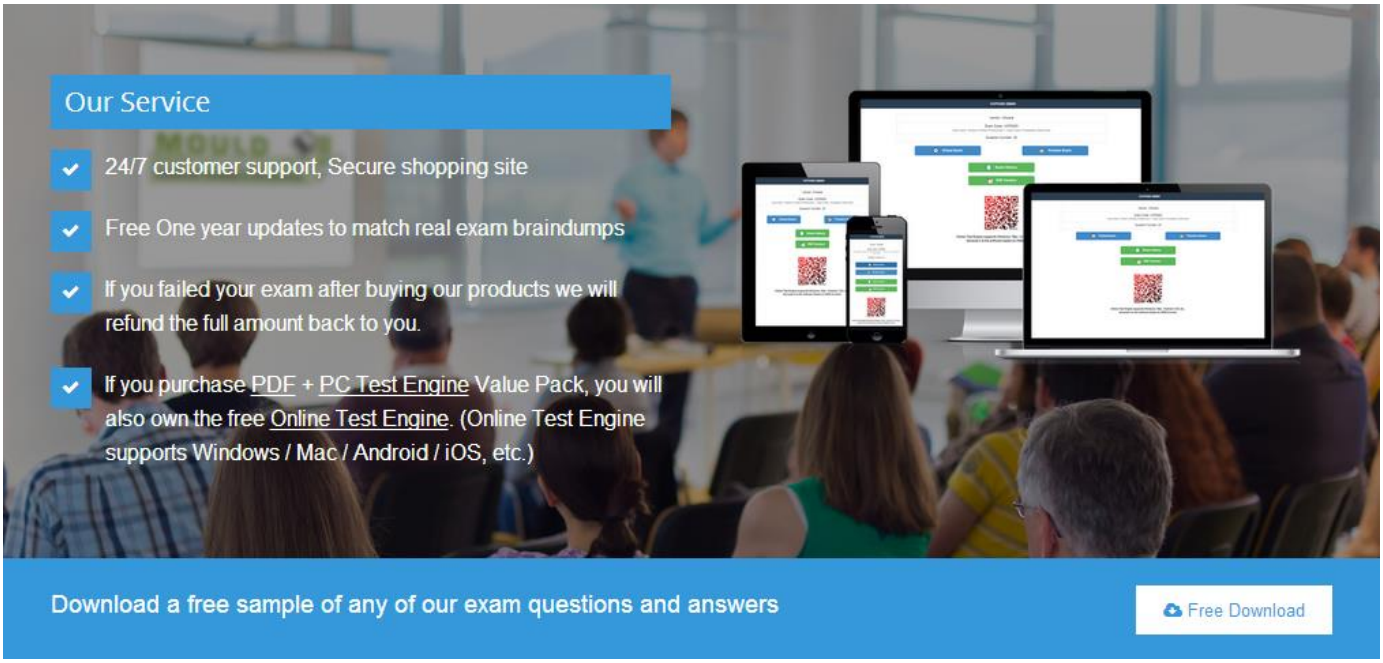

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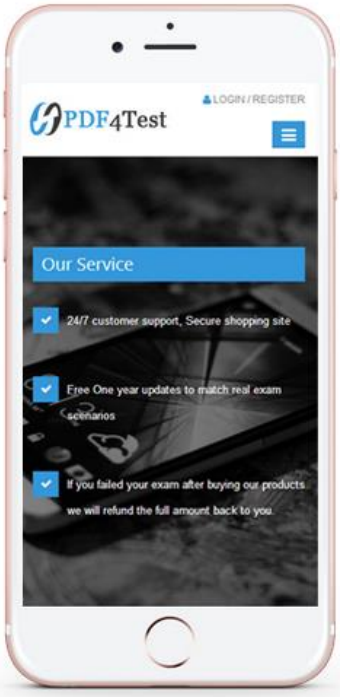

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Exam : **350-501**

Title : Implementing and Operating Cisco Service Provider Network Core Technologies

Vendor : Cisco

Version : DEMO

NO.1 Refer to the exhibit.

```
R1

ip cef distributed
mpls ldp graceful-restart
interface GigabitEthernet 0/0/1
   mpls ip
   mpls label protocol ldp
```

What is the effect of this configuration?

A. R1 supports a graceful restart operation on the peer, even if graceful restart is disabled on the peer.

B. R1 supports a peer that is configured for LDP SSO/NSF as the peer recovers from an outage.

C. R1 failovers only to a peer that is configured for LDP SSO/NSF.

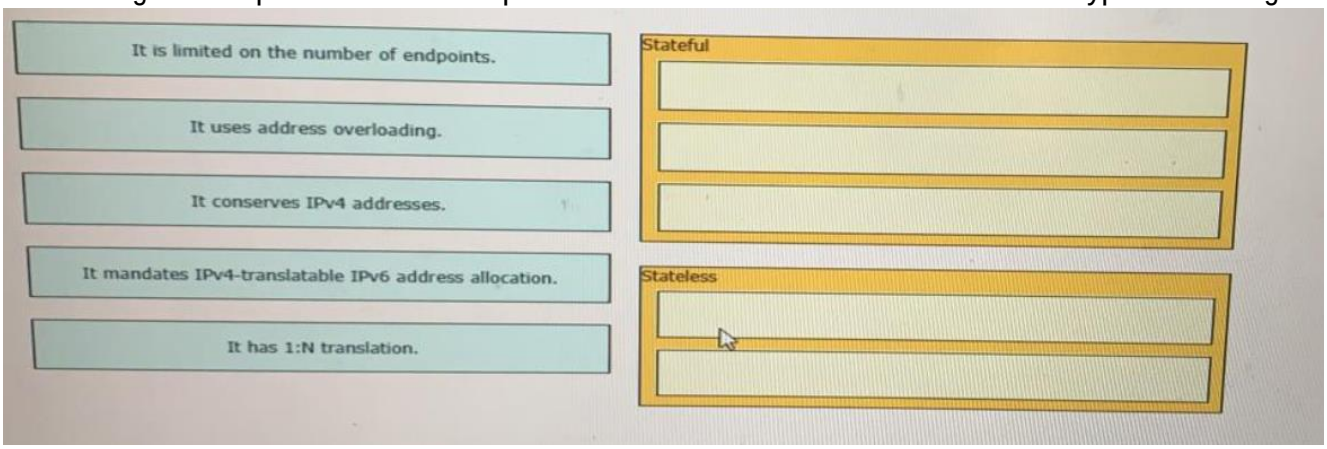
D. R1 failovers to any peer.

Answer: A

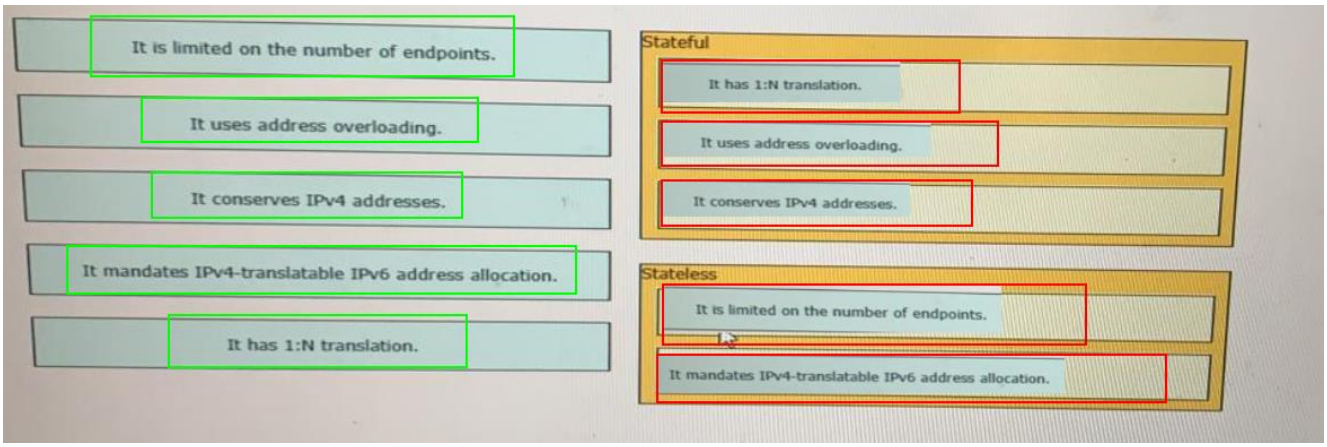
Explanation:

The configuration shown indicates that R1 has been configured to support Label Distribution Protocol (LDP) graceful restart. This means that R1 will maintain the forwarding state during an LDP restart, allowing it to continue forwarding packets along known routes while it re-establishes LDP neighbors/peers. This ensures minimal disruption to traffic flow during such events. Reference: Implementing and Operating Cisco Service Provider Network Core Technologies source documents or study guide

NO.2 Drag and drop the NAT64 descriptions from the left onto the correct NAT64 types on the right.



Answer:



NO.3 You are writing an RPL script to accept routes only from certain autonomous systems Consider this code.

```
RP/0/RP0/CPU0:router(config-rpl)# if as-path in (ios-regex '.*77$')
RP/0/RP0/CPU0:router(config-rpl-if)# pass
RP/0/RP0/CPU0:router(config-rpl-if)# endif
```

If you apply this code to BGP filters, which effect does the code have on your router?

A. denies routes from AS 7070

B. allows routes from AS 7077

C. denies routes from AS 7007

D. allows routes from AS 770

Answer: B

Explanation:

The RPL script in the image is used to filter BGP routes based on the AS path. The script includes a condition that checks if the AS path contains '7077' using a regular expression (ios-regex '777$'). If this condition is met, the route is passed; otherwise, it would be denied by default. Therefore, this script allows routes from AS 7077 and denies others.

NO.4 Which BGP attribute is used first when determining the best path?

A. origin

B. AS path

C. local preference

D. weight

Answer: D

Explanation:

In BGP, the weight attribute is the first criterion used to determine the best path. It is a Cisco-specific attribute and is not propagated in BGP updates. Weight is a numeric value, and the path with the highest weight is preferred. If weights are the same, BGP will then consider the local preference, AS path length, origin type, and other attributes in sequence.

NO.5 Refer to the exhibit.

```
snmp-server view ViewDefault iso included
snmp-server group GrpMonitoring v3 priv read ViewDefault
```

A network engineer must implement SNMPv3 on a Cisco IOS XR router running BGP. The engineer configures SNMPv3 to use SHA for authentication and AES for privacy on the routers, which are in a different data center in the same exchange as other routers. The engineer must also verify the associated MIB view family name, storage type, and status. Which set of actions meets these requirements?

A. Add configuration snmp-server user UserJustMe GrpMonitoring v3 auth sha AuthPass1 priv 3des 128 PrivPass2 and use show snmp interface to verify the configuration.

B. Add configuration snmp-server user AuthUser group2 remote 10.1.1.1 v3 auth sha and use show snmp mib to verify the configuration.

C. Add configuration snmp-server user AuthUser group2 remote 10.1.1.1 v3 auth sha and use show snmp engineid to verify the configuration.

D. Add configuration snmp-server user UserJustMe GrpMonitoring v3 auth sha AuthPass1 priv aes 128 PrivPass2 and use show snmp view to verify the configuration.

Answer: C

NO.6 How do CSC VPN services use BGP to support connectivity between customer sites?

A. BGP uses address families for IPv6 support in networks that use IPv4 and IPv6 between customers in different geographies.

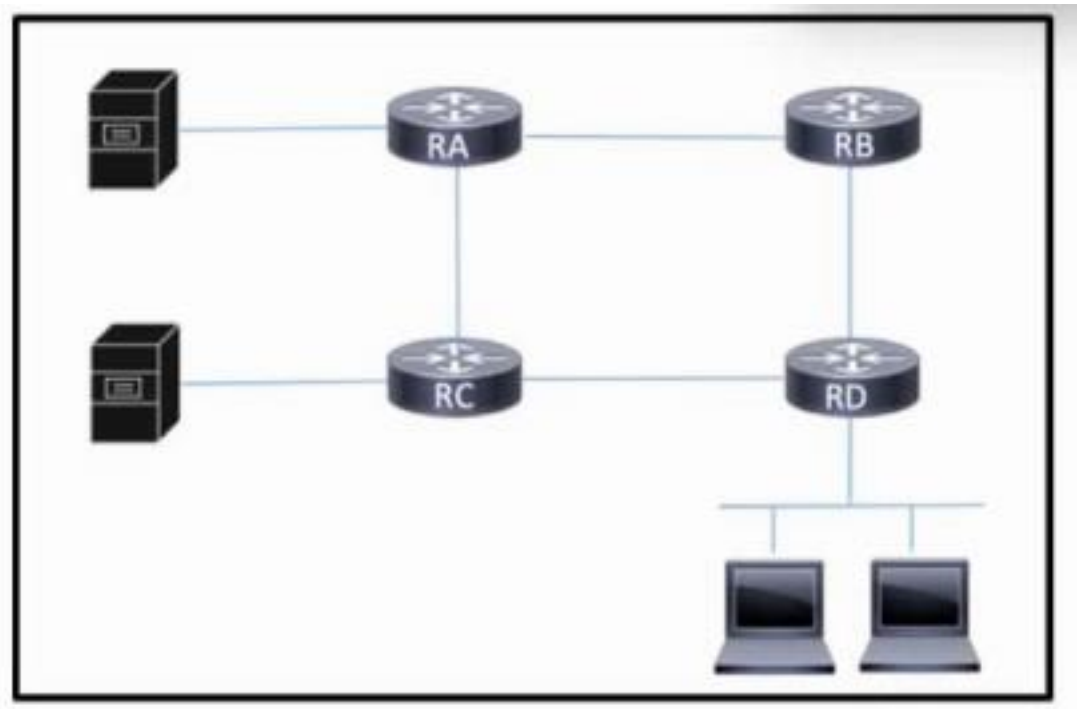
B. The BGP AS-Override feature allows the CSC network to use the same autonomous system number.

C. BGP eliminates the need for an IGP to run within the backbone carrier core and provides more efficient label distribution.

D. BGP sends labels to the CSC-PE router so that traffic can traverse the backbone carrier.

Answer: D

NO.7 Refer to the exhibit.



Refer to the exhibit. Users on a LAN that is connected to RD communicate to multiple servers on the corporate network. Initially, the servers were located on the same LAN. However, after congestion

was reported, the engineering team decided to relocate the servers to two different networks. Which task should the team perform to improve performance on the overall network while still allowing traffic to flow between the different hosts?

A. Identify the traffic to each server in a prefix list and apply a traffic policing policy.

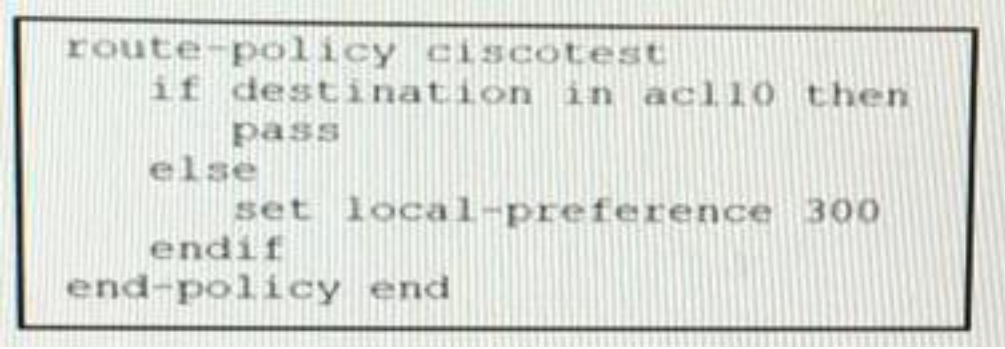
B. Identify the traffic to each server with an ACL and apply the ACL to a threshold policy that drops excessive traffic.

C. Identify the traffic to each server in a distribute list and implement FIFO to the interfaces in the egress direction.

D. Identify the traffic to each server with a class map and apply it to a traffic-shaping policy.

Answer: D

NO.8 Refer to the exhibit:



A network engineer is implementing a BGP routing policy.
Which effect of this configuration is true?

A. All traffic that matches acl10 is allowed without any change to its local-preference

B. All traffic that matches acl10 is dropped without any change to its local-preference

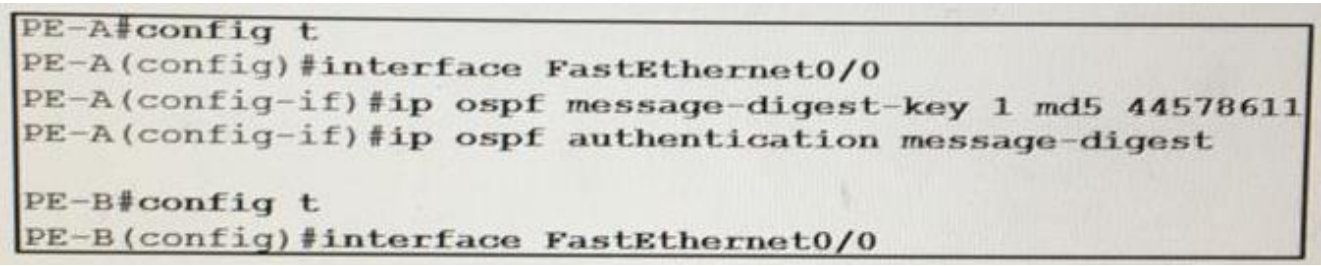
C. If traffic matches acl10, it is allowed and its local-preference is set to 300

D. All traffic is assigned a local-preference of 30O regardless of its destination

Answer: C

Explanation:
The configuration in the exhibit shows a route policy named "ciscotest". According to this policy, if the destination is in acl10, then the traffic will pass without any changes. However, if the destination is not in acl10 (else condition), then the local preference will be set to 300 before it passes through. This means option C is correct as it states that if traffic matches acl10, it's allowed without any change to its local-preference; otherwise (if not matching acl10), its local-preference is set to 300.

NO.9 Refer to the exhibit:



An engineer wants to authenticate the OSPF neighbor between PEA and PE-B using MD5.
Which command on PE-B successfully completes the configuration?

A.

```
PE-B(config-if)#ip ospf message-digest-key 1 md5 44578611
PE-B(config-if)#ip ospf authentication message-digest
```

B.

```
PE-B(config-if)#ip ospf message-digest-key 1 md5 44568611
PE-B(config-if)#ip ospf authentication null
```

C.

```
PE-B(config-if)#ip ospf message-digest-key 1 md5 44578611
PE-B(config-if)#ip ospf authentication null
```

D.

```
PE-B(config-if)#ip ospf message-digest-key 1 md5 44578611
PE-B(config-if)#ip ospf authentication key-chain 44578611
```

Answer: A

Explanation:

The correct command to authenticate the OSPF neighbor between PE-A and PE-B using MD5 is found in Option A. In this option, the command ip ospf message-digest-key 1 md5 44578611 is used to configure OSPF MD5 authentication on an interface with the key ID as 1 and key string as 44578611. The second command ip ospf authentication key-chain 44578611 is used to enable OSPF authentication on an interface and associate it with a specific key chain. Reference := Cisco - Implementing and Operating Cisco Service Provider Network Core Technologies

NO.10 An engineer working for a private telecommunication company with an employe id:3948:613 needs to limit the malicious traffic on their network. Which configuration must the engineer use to implement URPF loose mode on the GigabitEthernet0/1 interface?

A.

```
router(config)# interface gigabitethernet0/1
router(config-if)# ip address 192.168.200.1 255.255.255.0
router(config-if)# ip verify unicast source reachable-via any
router(config-if)# ipv6 address 2001:DB8:1::1/96
router(config-if)# ipv6 verify unicast source reachable-via any
```

B.

```
router(config)# interface gigabitethernet0/1
router(config-if)# ip address 192.168.200.1 255.255.255.0
router(config-if)# ip verify unicast source reachable-via any
router(config-if)# ipv6 address 2001:DB8:1::1/96
router(config-if)# ipv6 verify unicast source reachable-via rx
```

C.

```
router(config)# interface gigabitethernet0/1
router(config-if)# ip address 192.168.200.1 255.255.255.0
router(config-if)# ip verify unicast source reachable-via rx
router(config-if)# ipv6 address 2001:DB8:1::1/96
router(config-if)# ipv6 verify unicast source reachable-via any
```

D.

```
router(config)# interface gigabitethernet0/1
router(config-if)# ip address 192.168.200.1 255.255.255.0
router(config-if)# ip verify unicast source reachable-via rx
router(config-if)# ipv6 address 2001:DB8:1::1/96
router(config-if)# ipv6 verify unicast source reachable-via rx
```

Answer: A

Explanation:

The configuration in Option A is used to implement URPF in loose mode on the GigabitEthernet0/1 interface.

Loose mode allows the router to check for any route back to the source, not necessarily the best route.

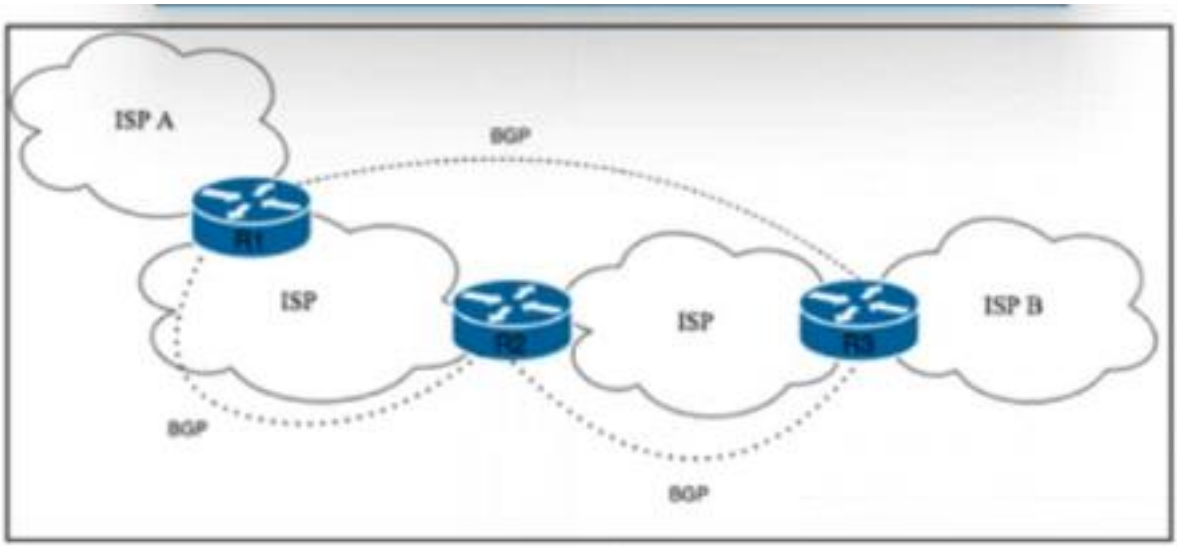
By enabling URPF, the router ensures that incoming packets have a valid return path in the routing table.

This helps prevent IP spoofing and limits malicious traffic on the network.

Reference:

Implementing and Operating Cisco Service Provider Network Core Technologies On-Demand E-Learning

NO.11 Refer to the exihibit.



Refer to the exhibit. Tier 1 ISP A is connected to small Tier 3 ISP B. The EBGP routing protocol is used for route exchange. The networking team at ISP A noticed the flapping of BGP sessions with ISP B. The team decides to Improve stability on the network by suppressing the subnet for 30 minutes when a session begins to flap. Which action must the team perform to meet this goal?

A. Implement a BGP route-penalty timer on ISP A router R1 with the bgp penalty-timer 30 250 750 15

command.

B. Implement BGP route dampening on ISP A router R1 with the bgp dampening 15 700 1500 30 command.

C. Implement BGP route suppression on ISP A router R2 with the bgp suppression 30 600 1200 30 command.

D. Implement a BGP route withdraw-delay timer on ISP B router R3 with the bgp withdraw-delay 30 15 90 30 command.

Answer: B

Explanation:

To address the issue of BGP session flapping between ISP A and ISP B, the networking team at ISP A should implement BGP route dampening. This feature helps stabilize the network by suppressing the advertisement of flapping routes. The command bgp dampening 15 700 1500 30 will set the parameters for route dampening, where routes that flap will be suppressed for 30 minutes. This action will prevent the constant advertisement and withdrawal of unstable routes, thus improving the stability of the network. Reference := For further details on BGP route dampening and its configuration, the Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR) course materials and Cisco's official documentation provide comprehensive guidance.

NO.12 What is one of the main functions of 6RD?

A. It provides stateful session translation with the 2002::/16 prefix.

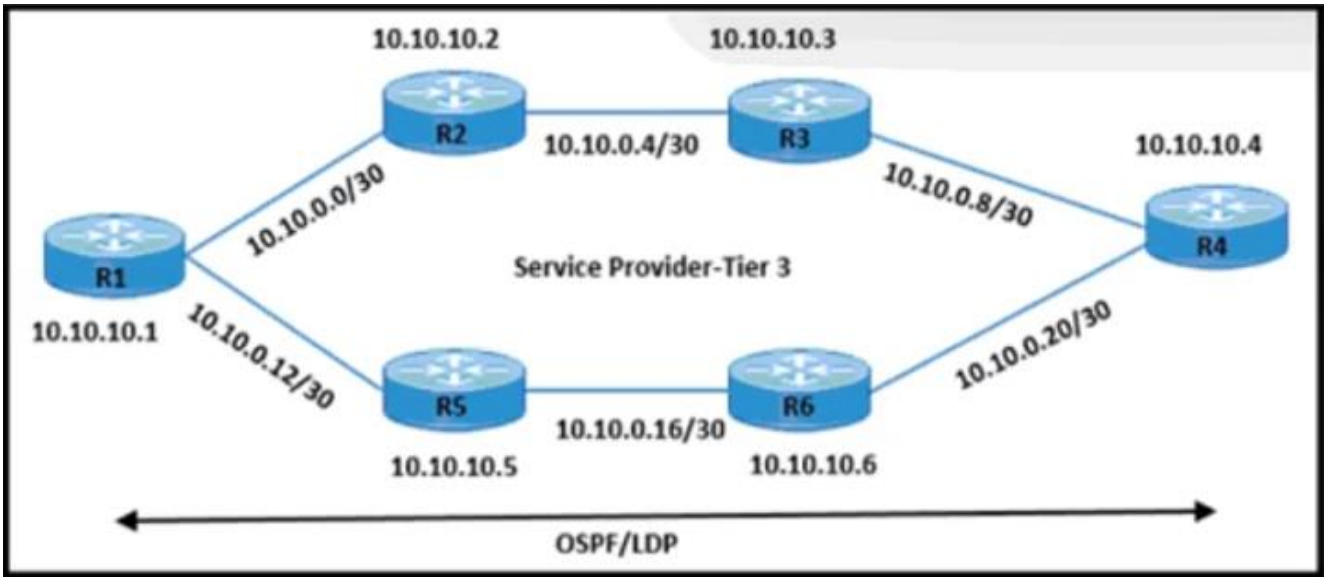
B. It translates RFC 1918 IP addresses into public IP addresses.

C. It provides native reachability between IPv4-only hosts and 6RD-enabled IPv6 hosts.

D. It allows customers IPv6 traffic to be tunneled over IPv4 network infrastructure.

Answer: D

NO.13 Refer to the exhibit.



The network engineer is performing end-to-end MPLS path testing with these conditions:

* Users must perform MPLS OAM for all available same-cost paths from R1 to R4.
* Traceroute operations must return all of the next-hop IP details.

Which configuration meets these requirements?

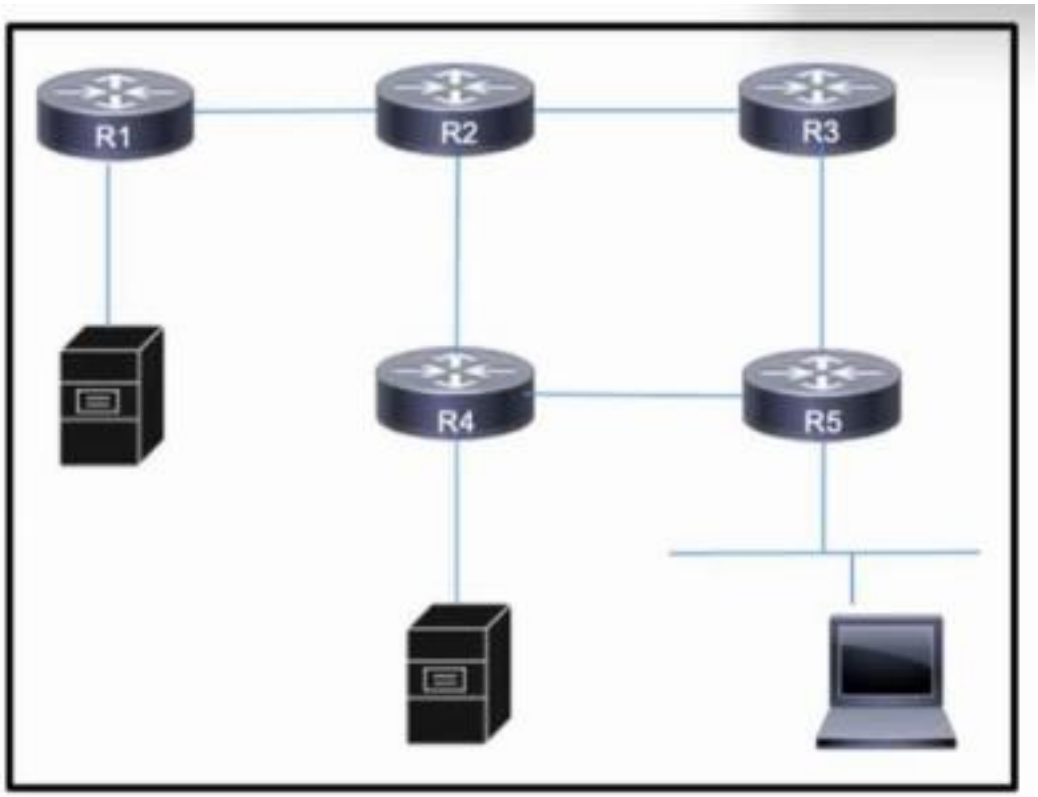
A. traceroute mpls ipv4 10.10.10.4 255.255.255.255 verbose

B. traceroute mpls multipath ipv4 10.10.10.4 255.255.255.255
C. traceroute mpls multipath ipv4 10.10.10.4 255.255.255.255 verbose
D. traceroute mpls ipv4 10.10.10.4 255.255.255.255 source 10.10.10.1
Answer: C
Explanation:
Using verbose knob in above command will list all the hops as below: R1#traceroute mpls multipath ipv4 10.1.5.5 255.255.255.255 verbose https://www.cisco.com/c/en/us/support/docs/multiprotocol-label-switching-mpls/multiprotocol-label-switching-mpls/200097-MPLS-LSP-Multipath-Trace.html

NO.14 A company uses PIM-SM multicast with IGMPv2 to stream training videos from a server in one network to hosts in a different network. As the company has grown, the networking team decided to implement SSM to improve efficiency for multicast within Layer 2. Which action must the team take to begin the process?
A. Configure an IGMP querier and implement Cisco Express Forwarding across the network.
B. Implement PIM-DM to enable the routers on the LAN to identify SSM-capable multicast hosts.
C. Implement IGMPv3 and deprecate IGMPv2.
D. Implement IGMPv3 simultaneously with IGMPv2 on the individual links that must support SSM and PIM-DM.
Answer: C

NO.15 A network engineer is configuring a newly installed PE router at the regional gateway location. The new PE router must use MPLS core routing protocols with the existing P router, and LDP sessions between the two routers must be protected to provide faster MPLS convergence. Which configuration must the engineer perform on the network so that LDP sessions are established?
A. Enable communication over TCP port 646 for T-LDP hello messages.
B. Enable RSVP-TE FRR on the LDP interface to protect the LDP session between routers.
C. Enable LDP session protection on either one of the routers, which allows them to autonegotiate.
D. Set the LDP session protection timer on each router to the same value.
Answer: A
Explanation:
To establish LDP sessions between the PE and P routers, you need to enable communication over TCP port 646 for T-LDP hello messages.
T-LDP (Targeted LDP) uses TCP port 646 for session establishment.
Example configuration:
interface GigabitEthernet0/0
mpls ldp discovery targeted-hello accept
Reference:
Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR) v1.0 course material.

NO.16 Refer to the exhibit.



Refer to the exhibit. Users on a LAN connected to router R5 frequently open high-traffic connections with servers connected to R1 and R4. Users on R2 also require access to the servers, but performance is not a major concern and their traffic can be treated as secondary. As traffic on all links grows, the network architect wants to mitigate the potential for congestion on the link between R2 and R4. Which action must the engineering team take to improve performance on the R2-R4 link for users on R5 while still allowing other traffic to flow?

A. Implement traffic policing on R2 to drop unnecessary traffic from secondary users when that traffic exceeds a given threshold.

B. Implement traffic shaping on R2 to control transmission between R1 and R4 for traffic identified in a class map.

C. Implement LLQ for the whole network with a strict policy to ensure that all traffic from the servers is sent to priority users without interruption.

D. Implement FIFO on R1, R2, and R4 to queue traffic so that all traffic can pass with maximum efficiency.

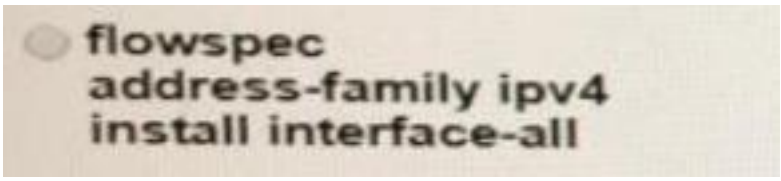
Answer: C

NO.17 Which configuration enables BGP FlowSpec client function and installation of policies on all local interfaces?

A.

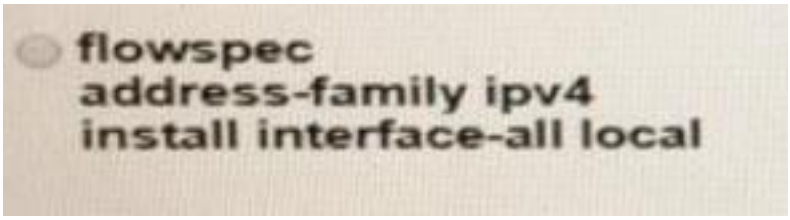
```
flowspec
address-family ipv4
 local-install all-interface
```

B.



C.

D.

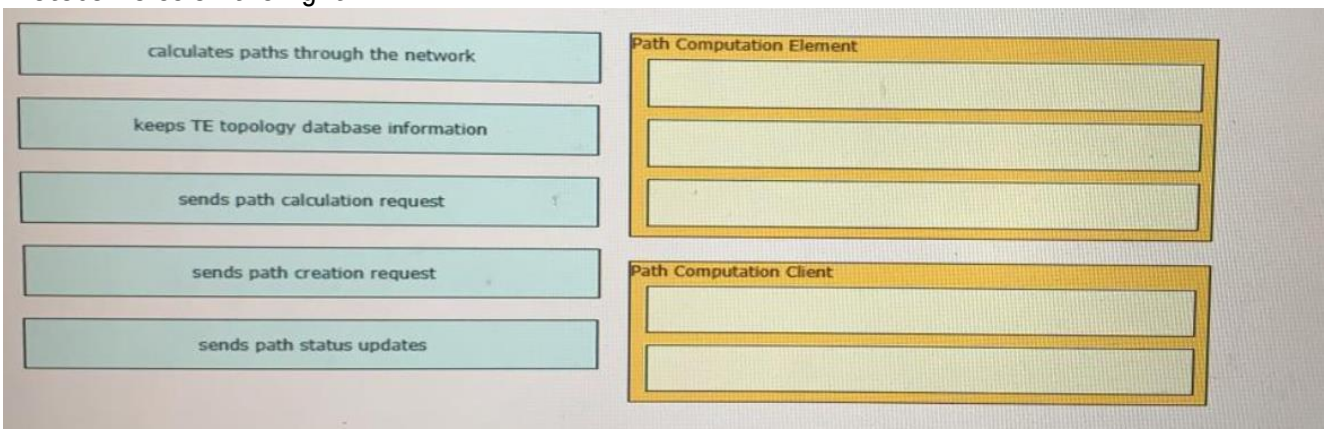


Answer: C

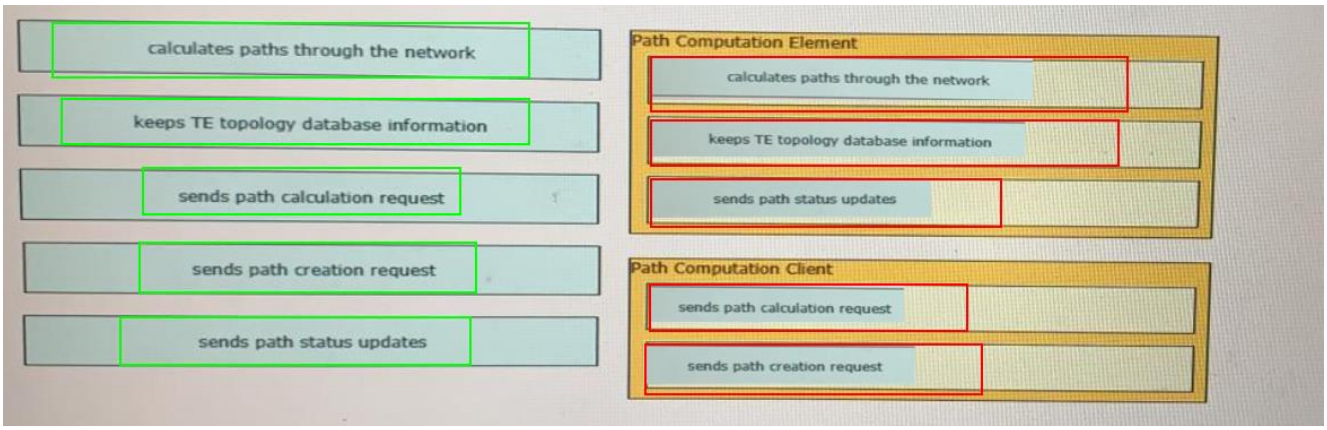
Explanation:

The correct configuration for enabling BGP FlowSpec client function and installation of policies on all local interfaces is flowspec address-family ipv4 install interface-all local. This command configures the router to accept FlowSpec policies from a BGP peer and apply them to all local interfaces. The flowspec keyword enables the BGP FlowSpec client function, address-family ipv4 specifies the address family, and install interface-all local ensures that the policies are installed on all local interfaces. Reference := Implementing and Operating Cisco Service Provider Network Core Technologies course.

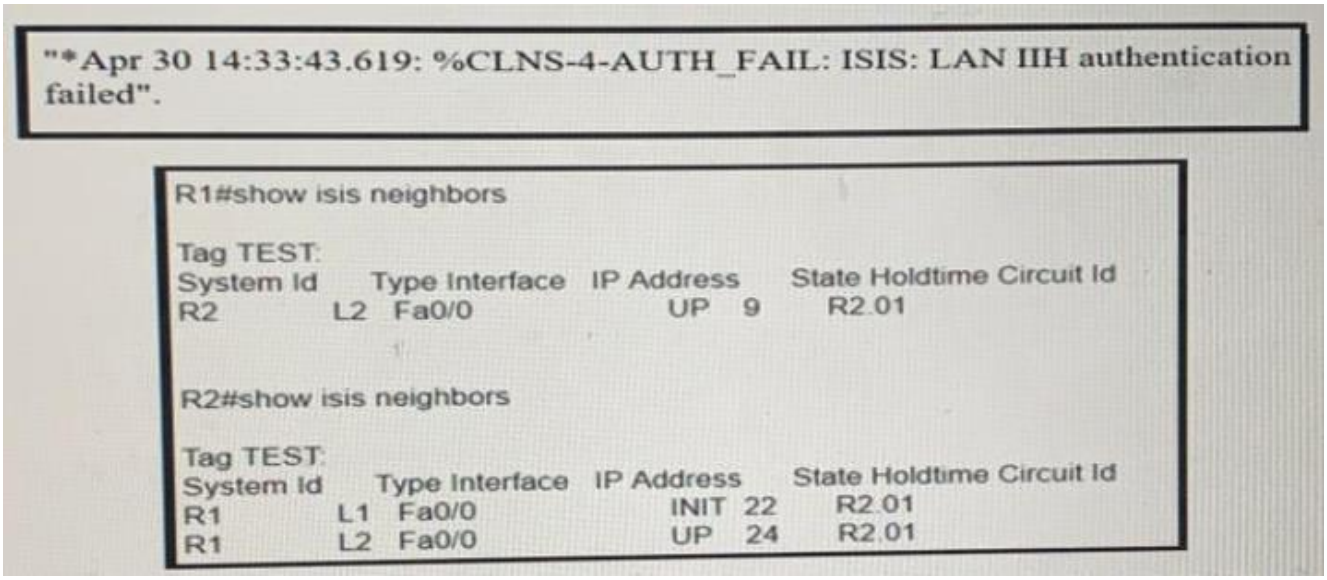
NO.18 Drag and drop the functions from the left onto the correct Path Computation Element Protocol roles on the right



Answer:



NO.19 Refer to the exhibits:



R1 and R2 are directly connected and IS-IS routing has been enabled between R1 and R2 R1 message periodically Based on this output, which statement is true?

A. IS-IS neighbor authentication is failing for Level 2 first and then for Level 1 PDUs

B. 1S-1S neighbor authentication is failing for Level 1 and Level 2 PDUs .

C. IS-IS neighbor authentication is failing for Level 1 PDUs only

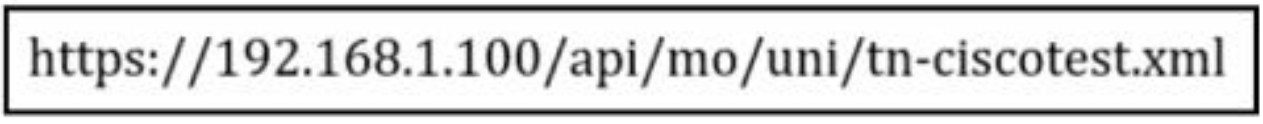
D. IS-IS neighbor authentication is failing for Level 2 PDUs only.

Answer: B

Explanation:

The error message "%CLNS-4-AUTH_FAIL: ISIS: LAN LIIH authentication failed" indicates that there is an authentication failure in the IS-IS routing protocol between routers R1 and R2. In the exhibit, it can be observed that R2 has a state of "UP" for its IS-IS neighbor relationship, while R1 is in "INIT" state. This discrepancy in states indicates an issue with the establishment of the neighbor relationship, which can be attributed to an authentication failure at both Level 1 and Level 2 PDUs as indicated by option B.

NO.20 Refer to the exhibit:



What is the URL used for with REST API?

A. It is used to contact a URL filter to determine the efficacy of a web address

B. It is used to send a TACACS+ authentication request to a server

C. It is used to send a message to the APIC to perform an operation on a managed object or class operator

D. It is used to initiate an FTP session to save a running configuration of a device.

Answer: C

Explanation:

The URL in the exhibit is used with REST API to send a message to the APIC (Application Policy Infrastructure Controller) to perform an operation on a managed object or class operator. In Cisco's ACI (Application Centric Infrastructure), REST API requests are used for managing, configuring, and retrieving data from the APIC. The URL structure typically includes the IP address of the APIC and specific paths that refer to objects or classes within the ACI fabric. Reference: Implementing and Operating Cisco Service Provider Network Core Technologies source documents or study guide

NO.21 After implement MPLS protocol for multiple VRFs on a single Cisco device, the engineer notices all VRFs on the router still do to not LDP session protection feature enabled. Which configuration must the engineer apply to enable the LDP session protection feature FOR LDP neighbors within each VRF?

A. Configure LDP session protection globally on the device only.

B. Configure LDP session protection globally on the device and on each neighbor that requires session protection.

C. Configure LDP session authentication on the device to enable LDP session protection on each VRF automatically.

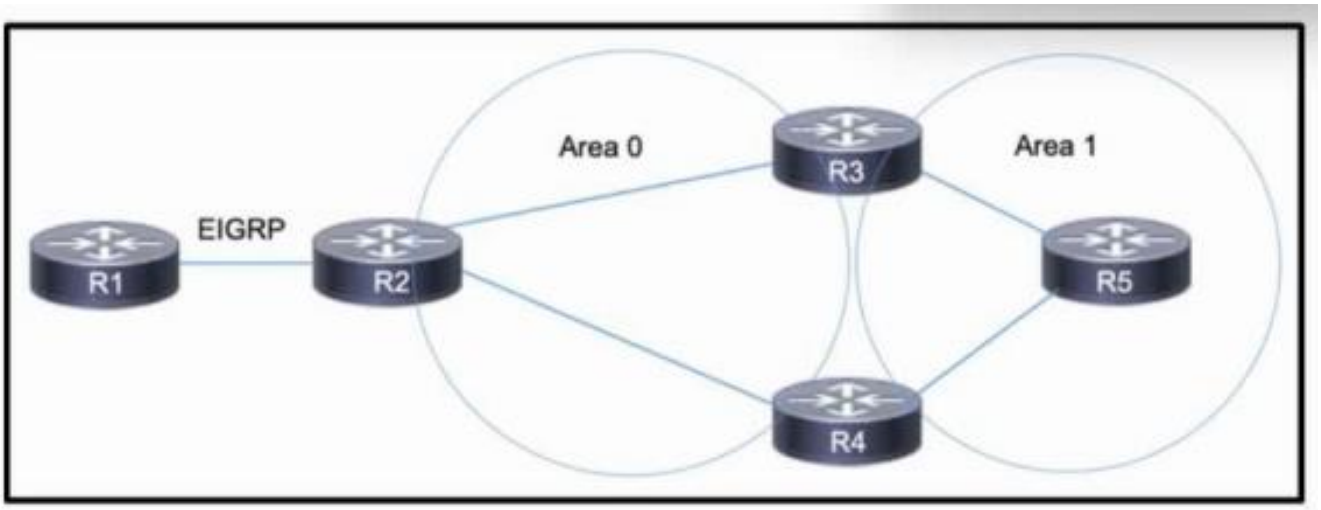
D. Configure LDP session protection within the individual VRFs.

Answer: D

Explanation:

To enable LDP session protection for LDP neighbors within each VRF, the engineer should configure LDP session protection within the individual VRFs. This ensures that LDP sessions are protected at the VRF level, providing security and stability for MPLS-based services. By enabling LDP session protection within each VRF, the router will take appropriate actions to protect LDP sessions against misbehaving neighbors or potential attacks. Reference: Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR) v1.0

NO.22 Refer to the exhibit.



Refer to the exhibit. Company A is running OSPF within its network, comprised of routers R2, R3, R4, and R5 and consisting of two areas. Company A just acquired Company B, which uses EIGRP on its own R1. R1 has several routes in its routing table. The network engineering team at Company A needs access to the Company B network to manage network devices there, but each company will otherwise operate independently. R2 will serve as the ASBR between the two networks. Which action must the team take to reduce the number of EIGRP routes received on R2 and include only the necessary routes in the routing table?

A. Apply an outbound distribute list on R3 and R4 to filter unnecessary intra-area routes from reaching the rest of the OSPF domain.

B. Apply an inbound distribute list on R2 with a route map that permits only the necessary networks.

C. Implement an offset list on R1 for the necessary networks.

D. Attach an access list to the R2 interface connected to R1 that denies all traffic except for the necessary engineering team traffic.

Answer: B

NO.23 Refer to the exihibit.

```
route-map ciscotest permit 10
   match ip address 1
      set local-preference 200
```

Refer to the exhibit. An engineer is implementing the BGP attribute on the customer's network to select the preferred path. Only BGP's well-known discretionary attribute must be used FTP prefixes should not be selected as part of this implementation. Which configuration must the engineer implement to complete the task?

A.

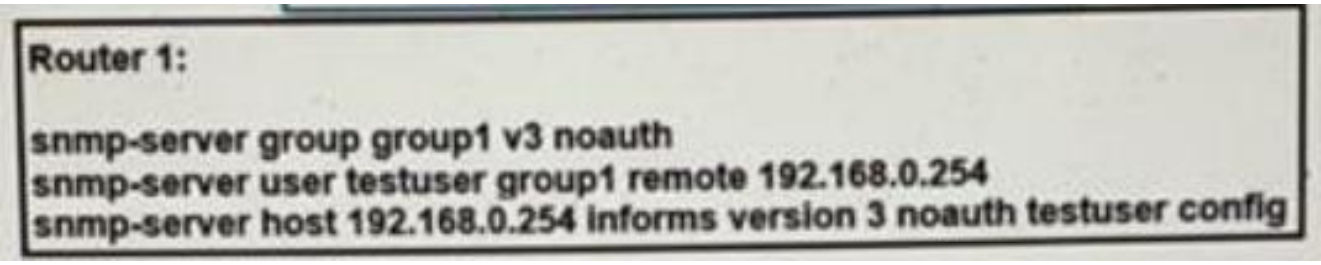
router bgp 100
neighbor 10.0.0.1 remote-as 500
neighbor 10.0.0.1 route-map ciscotest in

B. router bgp 100
neighbor 10.0.0.1 remote-as 500

neighbor 10.0.0.1 route-map ciscotest
C. router bgp 100
neighbor 10.0.0.1 remote-as 500
neighbor 10.0.0.1 route-map ciscotest both
D. router bgp 100
neighbor 10.0.0.1 remote-as 500
neighbor 10.0.0.1 route-map ciscotest out
Answer: B
Explanation:
The task requires the use of BGP's well-known discretionary attribute to select the preferred path, excluding FTP prefixes from this selection process. Option B is correct because it applies a route map to incoming routes from a specific neighbor, which can be used to set attributes like local preference or AS path, or filter routes based on prefix lists or access lists.
The configuration snippet shows a route map named "ciscotest" that sets the local preference to 200 for routes matching IP address 1 (presumably defined elsewhere in an access list or prefix list). Local preference is a well-known discretionary attribute in BGP that influences path selection within an autonomous system; higher values are preferred.

NO.24 An engineer working for a telecommunication company with an employee ID: 4460:35:466 must configure an OSPF router in a multivendor network so that it performs NSF in the event of a route processor switchover. Which configuration must the engineer apply?
A. router ospf 1 nsf Cisco
B. router ospf 1 nsf ietf
C. router ospf 1 nsf ietf helper
D. router ospf 1 nsf Cisco helper
Answer: B
Explanation:
In a multivendor network environment, it is essential to configure OSPF NSF with the IETF standard to ensure compatibility across different vendor devices. The command router ospf 1 nsf ietf enables OSPF NSF capability using the IETF standard, which facilitates uninterrupted forwarding during a route processor switchover.

NO.25 Refer to the exhibit.



A network engineer is deploying SNMP configuration on client's routers. Encrypted authentication must be included on router 1 to provide security and protect message confidentially. Which action should the engineer perform on the routers to accomplish this task?
A. snmp-server host 192.168.0.254 informs version 3 auth testuser config.
B. snmp-server user testuser group 1 remote 192.168.0.254 v3 auth md5 testpassword
C. snmp-server group group 1 v3 auth.

D. snmp-server community public

Answer: B

Explanation:

For encrypted authentication on Router 1, the correct action is to configure an SNMP user with an authentication password and associate it with a group. Option B includes the use of MD5 authentication, which provides the required security for message confidentiality.

NO.26 How does Inter-AS Option-A function when two PE routers in different autonomous systems are directly connected?

A. The two routers share all Inter-AS VPNv4 routes and redistribute routes within an IBGP session to provide end-to-end reach.

B. The two routers establish an MP-EBGP session to share their customers' respective VPNv4 routes.

C. The two routers treat one another as CE routers and advertise unlabeled IPv4 routes through an EBGP session.

D. The two routers share VPNv4 routes over a multihop EBGP session and set up an Inter-AS tunnel using one another's label.

Answer: C

NO.27 A customer site is being connected to a Frame Relay network via a T1 link. The customer has a contract for 512 kbps service with a Tc value of 125 ms. Under peak line conditions, customer traffic can reach four times the contracted speed. Which QoS configuration must the service provider implement to limit the customer to the contracted values?

```
policy-map policy_map
 class class_map
  police cir 512000 bc 64000 pir 20480000 be 192000
   conform-action transmit
   exceed-action drop
```

```
policy-map policy_map
 class class_map
  police cir 512kbps bc 256kbps pir 2Mbps be 9600 kbps
   conform-action transmit
   exceed-action set-de-bit transmit
   violate-action drop
```

```
policy-map policy_map
 class class_map
  police cir 512000 bc 128000 pir 256000 be 32000
   conform-action transmit
   exceed-action set-be-bit transmit
   exceed-action drop
```

```
policy-map policy_map
 class class_map
  police cir 512000 bc 32000 pir 64000 be 6400
   conform-action transmit
   violate-action set-dscp-transmit default
   exceed-action drop
```

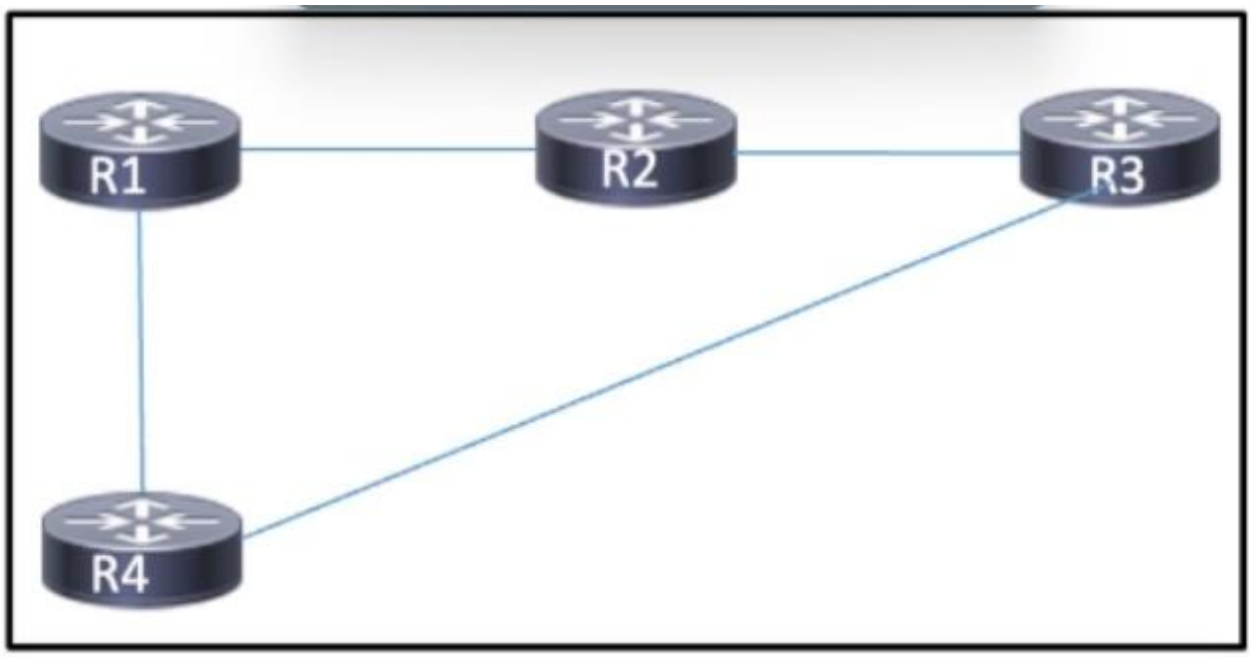
A. Option A
B. Option B
C. Option C
D. Option D
Answer: B
Explanation:
The service provider must implement a QoS configuration that includes traffic policing to enforce the contracted bandwidth limits. Option B is the correct choice because it specifies a committed information rate (CIR) of 512 kbps, which matches the customer's contracted rate. The configuration also includes a burst size that accommodates the Tc value of 125 ms, allowing for brief periods of higher traffic without dropping packets. This setup ensures that under peak conditions, any traffic exceeding the contracted rate is either marked or dropped, thus preventing the customer from exceeding the agreed-upon bandwidth. Reference := For more detailed information on QoS configurations for Frame Relay networks, refer to the Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR) course materials, which cover the principles of traffic policing and shaping in service provider environments

NO.28 A mid-size service provider uses L2VPN as its standard for connectivity between offices. A small company wants the service provider to connect the company's two sites across the service provider core. To meet service requirements, the service provider must extend the Layer 2 domain between the company's two locations.
Which configuration must the engineer apply to implement an attachment circuit between the two sites using a VLAN tag of 12?
A. interface TenGigE0/0/0/1.0 12transport
encapsulation dot1q 12
B. interface TenGigE0/0/0/1.0 12transport
encapsulation dot1q 12
rewrite ingress tag push dot1q 21 symmetric
C. interface TenGigE0/0/0/1.0 12transport
encapsulation dot1q 12
rewrite ingress tag pop 13
D. interface TenGigE0/0/0/1.0 12transport
encapsulation dot1q 12
rewrite ingress tag translate 1-to-1 dot1q 2
Answer: A

NO.29 How does model-driven telemetry use YANG?
A. to reset network devices that malfunction
B. to set informs and traps on clients to report back to a centralized server
C. to subscribe to data that is streamed from a device
D. to poll network devices on a 30-minute interval
Answer: C
Explanation:
Model-driven telemetry (MDT) utilizes YANG models to enable the subscription to specific data items that are streamed from network devices. This allows applications to receive near real-time updates without the need for traditional polling methods. MDT with YANG provides a more efficient and scalable way to monitor network devices by pushing updates to subscribers, which can specify the exact data they require2.

NO.30 A service provider is in the process of implementing Unified MPLS on an enterprise network with many nodes. After the migration, several new customers will be added to the environment. RFC 3107 is used to build BGP LSPs across the domains. Which action must the networking team take to reduce the full-mesh requirement for IBGP?
A. Implement route reflectors on all ABRs.
B. Implement a confederation with the network segmented according to business units.
C. Implement route reflectors on all P routers.
D. Implement a confederation with each ABR serving as a gateway between secondary AS numbers.
Answer: C

NO.31 Refer to the exhibit.



Refer to the exhibit. MPLS is configured within the network. The routers use OSPF to exchange routing information. Hosts that are connected to routers R1 and R3 use routers R2 and R4 to access servers that run a variety of intranet applications. A network engineer must ensure that R1 and R3 maintain an LDP session between them to support the flow of traffic between hosts and servers in case of failure on the path between R1 and R3. Which task should the engineer perform to provide LDP bindings in case of failure on the path between R1 and R3?

A. Implement session protection to send targeted hellos between R1 and R3.

B. Implement multicast in the network to share data between hosts and servers without targeted routing.

C. Implement LDP sync on the four devices to give MPLS and OSPF the ability to maintain continuous uptime.

D. Implement BFD to monitor and detect link failures between R1 and R3.

Answer: A

NO.32 Refer to the exhibit:

```
telemetry model-driven
sensor-group cisco
sensor-path Cisco-IOS-XR-infra-statsd-oper:infra-statistics/interfaces/interface/latest/generic-counters
commit
```

This configuration is being applied on an IOS XR router.
Which statement about this configuration is true?

A. It is used to create a subscription to specify the streaming interval

B. It is used to identify traps for SNMP polling

C. It is used to identify MIB entries and has a list of YANG models

D. It is used to create a sensor-group and has a list of YANG models for streaming

Answer: D

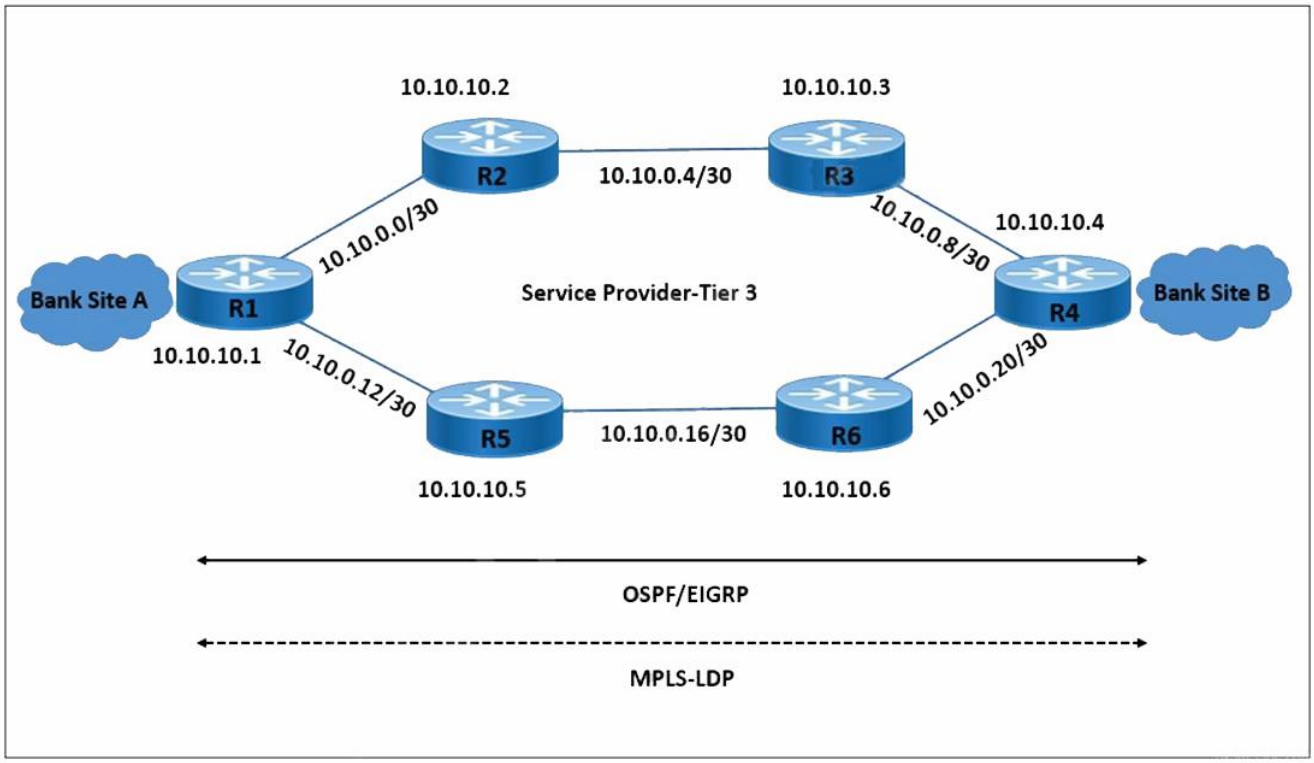
Explanation:
The configuration snippet is for model-driven telemetry on Cisco IOS XR, which involves creating a

sensor-group named "cisco" and specifying a YANG model path for telemetry data collection. This configuration is used to stream telemetry data from the router, aligning with option D. Reference: = Implementing and Operating Cisco Service Provider Network Core Technologies course materials

NO.33 Refer to the exihibit.

```
R2# show mpls ldp neighbor detail
Peer LDP Ident: 10.10.10.1:0; Local LDP Ident 10.10.10.2:0
TCP connection: 10.10.10.1.646 - 10.10.10.2.56531
Password: not required, none, in use
State: Oper; Msgs sent/rcvd: 18/18; Downstream; Last TIB rev sent 28
Up time: 00:01:08; UID: 3; Peer Id 2;
LDP discovery sources:
  GigabitEthernet2/0; Src IP addr: 10.0.0.1
     holdtime: 15000 ms, hello interval: 5000 ms
Addresses bound to peer LDP Ident:
  10.0.0.13  10.10.10.1  10.0.0.1
Peer holdtime: 180000 ms; KA interval: 60000 ms; Peer state: estab
Clients: Dir Adj Client
LDP Session Protection enabled, state: Incomplete
  duration: 86400 seconds

R1# show mpls ldp neighbor detail
Peer LDP Ident: 10.10.10.2:0; Local LDP Ident 10.10.10.1:0
TCP connection: 10.10.10.2.56531 - 10.10.10.1.646
Password: not required, none, in use
State: Oper; Msgs sent/rcvd: 19/19; Downstream; Last TIB rev sent 30
Up time: 00:02:27; UID: 2; Peer Id 1;
LDP discovery sources:
  GigabitEthernet2/0; Src IP addr: 10.0.0.2
     holdtime: 15000 ms, hello interval: 5000 ms
Addresses bound to peer LDP Ident:
  10.10.10.2  10.0.0.5  10.0.0.2  10.0.0.25
Peer holdtime: 180000 ms; KA interval: 60000 ms; Peer state: estab
```



Refer to the exhibit. LDP peering between routers R1 and R2 is dropped when the link between R1 and R2 is taken offline. However, LDP peering between R2 and R3 stays up when the link between R2 and R3 is taken offline. Which action allows MPLS traffic forwarding to continue normally if the link between R1 and R2 goes down?

A. Enable IGP and LDP Synchronization on R1.

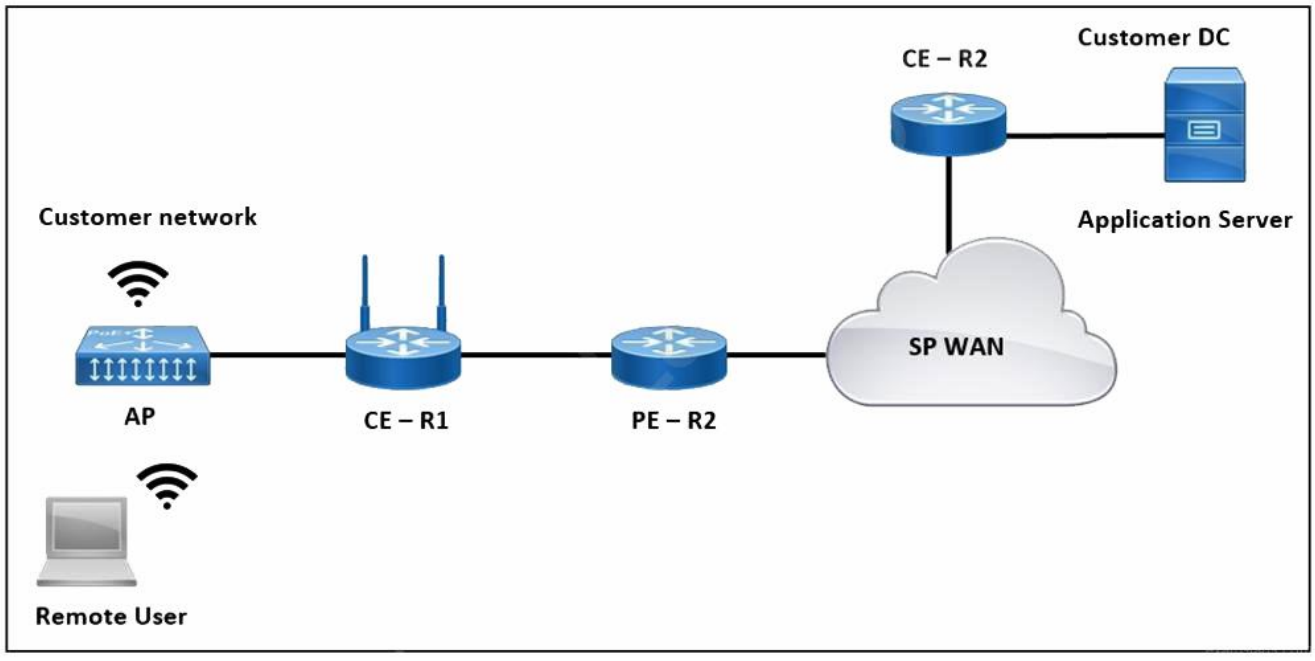
B. Implement LDP Session Protection on R1.

C. Enable IGP and LDP Synchronization on R2.

D. Implement LDP Session Protection on R2.

Answer: B

NO.34 Refer to the exihibit.



Refer to the exhibit. The application server in the data center hosts voice, video, and data applications over the internet. The data applications run more slowly than the voice and video applications. To ensure that all applications run smoothly, the service provider decided to implement a QoS policy on router PER 2 to apply traffic shaping. Which two actions must an engineer take to implement the task? (Choose two.)

A. Configure the scheduling function to handle delayed packets.

B. Enable packet remarking for priority traffic.

C. Configure a queue to buffer excess traffic.

D. Set the token value for secondary traffic.

E. Set a threshold to discard excess traffic.

Answer: A,C

NO.35 Refer to the exhibit.

```
R2# configure terminal
R2(config)# interface Ethernet1/0
R2(config-if)# ip address 10.1.1.1 255.255.255.255
```

An engineer is configuring two routers to support MPLS LDP sessions between them. The R1 configuration is complete, and work has started on R2 as shown. Which additional configuration must the engineer apply to R2 to complete the task?

```
R2(config)# mpls label protocol ldp
R2(config)# interface Ethernet1/0
R2(config-if)# mpls bgp forwarding
```

```
R2(config)# mpls label protocol ldp
R2(config)# interface Ethernet1/1
R2(config-if)# ip vrf forwarding CISCO
R2(config-if)#ip ospf network point-to-point
```

```
R2(config)# mpls ip
R2(config)# mpls label protocol ldp
R2(config)# interface Ethernet1/0
R2(config-if)# mpls ip
```

```
R2(config)# mpls label protocol ldp
R2(config)# interface Ethernet1/0
R2(config-if)# ip vrf forwarding CISCO
R2(config-if)# ip ospf 1 area 0
```

A. Option A

B. Option B

C. Option C
D. Option D
Answer: C
Explanation:
To establish MPLS LDP sessions between two routers, both routers must be configured to support MPLS on the interfaces that connect them. The configuration shown for R2 includes enabling MPLS label protocol LDP and configuring interfaces Ethernet1/0 and Ethernet1/1. However, to complete the MPLS LDP session setup, R2 also needs to have MPLS enabled on the interface toward R1. This is done by entering the interface configuration mode for the relevant interface and using the mpls ip command. This command enables MPLS forwarding for IP packets on the interface, which is necessary for LDP to advertise and map labels to the IP routes.