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## Question 1

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**Question Type:** MultipleChoice

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Which Layer 3 VPN attribute installs customer routes in the VRF?

### Options:

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- A- extended-community
- B- MPLS label
- C- RD
- D- RT

### Answer:

---

C

## Question 2

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**Question Type:** MultipleChoice

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Refer to the exhibit.

```
Router# show ip interface brief
Interface      IP-Address    OK? Method Status  Protocol
Ethernet0/0    90.0.1.1     YES NVRAM  up      up
Ethernet1/0    118.8.10.1   YES NVRAM  up      up
Loopback6     10.1.7.6     YES NVRAM  up      up
Loopback7     10.1.7.7     YES NVRAM  up      up

Router# show ip bgp
BGP table version is 10, local router ID is 10.1.7.7
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, x best-external
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network        Next Hop        Metric LocPrf Weight Path
*> 10.0.0.0       0.0.0.0         0 32768 ?
*> 10.1.7.7/32    0.0.0.0         0 32768 i
*> 90.0.0.0       0.0.0.0         0   32768 ?
r> 90.0.1.0/24    100.0.1.254     0     0 6 ?
*> 118.0.0.0     0.0.0.0         0   32768 ?
r>i118.8.10.0/24  118.8.10.254    0  100  0 ?
```

Which action adds the 10 1 7.6-32 route to the BGP table?

**Options:**

---

- A- Add a static route for the 10 1 7 & 32 network
- B- Add the network 10.1.7.6 mask 255.255.255.255 backdoor command
- C- Add summary-address 10.1.7.6.255.255.255 0

D- Add the network 10.1.7.6 mask 255.255.255.255 command

Answer:

---

D

## Question 3

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Question Type: MultipleChoice

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Refer to the exhibit.

```
R1#debug ip ospf adj
23:42:08.259: OSPF: Send DBD to 2.2.2.2 on Ethernet0/0 seq u opt 0x52 flag 0x7 len 32
23:42:08.339: OSPF: Rcv DBD from 2.2.2.2 on Ethernet0/0 seq 0x836 opt 0x52 flag 0x7 len
32 mtu 1532 state EXSTART

R2#debug ip ospf adj
23:42:08.423: OSPF: Send DBD to 1.1.1.1 on Ethernet0/0 seq 0x836 opt 0x52 flag 0x7 len 32
23:42:08.423: OSPF: First DBD and we are not SLAVE
23:42:08.511: OSPF: Rcv DBD from 1.1.1.1 on Ethernet0/0 seq 0x836 opt 0x52 flag 0x2 len
52 mtu 1500 state EXSTART
```



Refer to the exhibit R1 cannot establish a neighbor relationship with R2 Which action resolves the issue"?

### Options:

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- A- Configure the mtu ignore command on the Interfaces of R1 and R2
- B- Configure the ip ospf network point-to-point command on the interfaces of R1 and R2
- C- Configure the ip ospf network broadcast command on the interfaces of R1 and R2
- D- Configure the neighbor 2.2.2.2 command on R1 under the OSPF process

### Answer:

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A

### Explanation:

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In OSPF (Open Shortest Path First), the MTU (Maximum Transmission Unit) size must match on both sides of a link for OSPF neighbors to form an adjacency<sup>12</sup>. If the MTU sizes do not match, the OSPF adjacency will not form, and the routers will not become neighbors<sup>12</sup>.

In this case, R1 cannot establish a neighbor relationship with R2. One possible reason for this could be a mismatch in the MTU size on the interfaces of R1 and R2<sup>12</sup>.

To resolve this issue, you can configure the `mtu ignore` command on the interfaces of R1 and R2 (Option A). This command allows OSPF to ignore the MTU size when determining if it can form an adjacency with a neighbor<sup>12</sup>. This means that even if the MTU sizes do not

match, OSPF will still form an adjacency, and R1 and R2 will become neighbors12.

[OSPF MTU Mismatch - NetworkLessons.com](#)

[Understanding OSPF MTU Mismatch Conditions and Solutions - Cisco](#)

## Question 4

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**Question Type:** MultipleChoice

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Network engineer must configure an EIGRP stub router at a site that advertises only connected and summary routes. Which configuration performs this task?

A)

```
router eigrp 100
 eigrp stub
```

B)

```
router eigrp 100
 eigrp stub summary
```

C)

```
router eigrp 100
 eigrp stub connected
```

D)

```
router eigrp 100
 eigrp stub redistribute
```

### Options:

---

A- Option A

B- Option B

C- Option C

D- Option D

### Answer:

---

B

### Explanation:

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In EIGRP (Enhanced Interior Gateway Routing Protocol), a stub router is one that is connected to one or more neighbors and should not be a transit router<sup>1</sup>. The EIGRP stub routing feature improves network stability, reduces resource utilization, and simplifies the stub router's configuration<sup>1</sup>.

The network engineer wants to configure an EIGRP stub router that advertises only connected and summary routes. This can be achieved with the configuration provided in Option B:

```
router eigrp 100
```

```
eigrp stub summary
```

This configuration ensures that the EIGRP stub router advertises only connected and summary routes<sup>12</sup>. The summary keyword after the eigrp stub command indicates that the router should advertise only auto-summarized or statically configured summary routes<sup>12</sup>.

[EIGRP STUB and Configuration - Cisco Community](#)

[EIGRP Stub And Summary Routes Explained - Networkel](#)

## Question 5

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**Question Type:** MultipleChoice

---

Which Layer 3 VPN attribute allows different customers to connect to the same MPLS network wrth overlapping IP ranges?



### Options:

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- A- VRF
- B- RT
- C- MP-BGP
- D- RD

### Answer:

---

D

### Explanation:

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In a Layer 3 VPN (Virtual Private Network) over an MPLS (Multiprotocol Label Switching) network, the attribute that allows different customers to connect with overlapping IP ranges is the Route Distinguisher (RD)<sup>123</sup>.

RD is a unique identifier that is prepended to each IP address in a customer's VPN to create a unique VPNv4 address. This allows customers to use overlapping IP addresses without conflict<sup>123</sup>. The RD makes it possible for the same IP prefix to exist in different VPNs, which is crucial when customers have overlapping IP ranges<sup>123</sup>.

[MPLS Layer 3 VPN Explained - NetworkLessons.com](#)

[MPLS: Layer 3 VPNs Configuration Guide - Cisco](#)

## Question 6

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**Question Type:** MultipleChoice

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The network administrator configured CoPP so that all SNMP traffic from Cisco Prime located at 192.168.1.11 toward the router CPU is limited to 1000 kbps. Any traffic that exceeds this limit must be dropped.

```
access-list 100 permit udp any any eq 161
```

```
!
```

```
class-map CM-SNMP
```

```
match access-group 100
```

```
!
```

```
policy-map PM-COPP
```

```
class CM-SNMP
```

```
police 1000 conform-action transmit
```

```
!
```

control-plane

service-policy input PM-COPP

The network administrator is not getting the desired result for the SNMP traffic and SNMP traffic is getting dropped frequently. Which set of configurations resolves the issue?

### Options:

---

**A-** no access-list 100

access-list 100 permit tcp host 192.168.1.11 any eq 161

**B-** no access-list 100

access-list 100 permit udp host 192.168.1.11 any eq 161

!

policy-map PM-COPP

class CM-SNMP

no police 1000 conform-action transmit

police 1000000 conform-action transmit

!

control-plane

no service-policy input PM-COPP

!

interface E 0/0

service-policy input PM-COPP

```
!  
interface E 0/1  
service-policy input PM-COPP  
C- no access-list 100  
access-list 100 permit udp host 192.168.1.11 any eq 161  
!  
policy-map PM-COPP  
class CM-SNMP  
no police 1000 conform-action transmit  
police 1000000 conform-action transmit  
D- policy-map PM-COPP  
class CM-SNMP  
no police 1000 conform-action transmit  
police 1000000 conform-action transmit
```

### **Answer:**

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C

### **Explanation:**

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In the context of Control Plane Policing (CoPP) in Cisco devices, the rate limit is specified in bits per second (bps), not kilobits per second (kbps). Therefore, a limit of 1000 kbps should indeed be entered as 1,000,000 bps in the CoPP configuration.

Also, the access list should be configured to match the specific SNMP traffic from the Cisco Prime IP address (192.168.1.11), as you correctly pointed out.

Here's the corrected configuration:

```
no access-list 100  
  
access-list 100 permit udp host 192.168.1.11 any eq 161  
  
!  
  
policy-map PM-COPP  
  
class CM-SNMP  
  
no police 1000 conform-action transmit  
  
police 1000000 conform-action transmit
```

This configuration ensures that only the SNMP traffic from Cisco Prime is policed and any excess traffic is dropped, preventing the router's CPU from being overwhelmed.

## Question 7

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**Question Type:** MultipleChoice

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Refer to the exhibit.

```
ip sla 10
icmp-echo 10.1.1.10
timeout 2000
threshold 2000
frequency 40
ip sla schedule 10 life forever start-time now
!
track 1 ip sla 10 reachability
```

An engineer configured IP SLA to monitor a next hop on a router for reachability. When the next hop is unreachable, the router is executing tracking and failing over another route, but packet loss is experienced because the reachability is flapping. Which action resolves the issue?

### Options:

---

- A- Append delay up 0 down 0 to the track command
- B- Increase the timeout of the sla probe to 6000
- C- Append delay up 50 down 60 to the track command
- D- Increase the frequency of the sla probe to 60.

### Answer:

---

C

## **Explanation:**

---

IP SLA (Internet Protocol Service Level Agreement) is a feature that allows you to measure network performance such as latency, jitter, packet loss, and so on. In this case, it's being used to monitor the reachability of a next hop on a router<sup>123</sup>.

When the next hop is unreachable, the router is executing tracking and failing over to another route. However, packet loss is experienced because the reachability is flapping. This could be due to the router switching back and forth between the primary and backup routes too quickly.

To resolve this issue, you can introduce a delay in the tracking process. This can be done by appending a delay to the track command. Option C suggests appending a delay of 50 seconds for the up state and 60 seconds for the down state<sup>45</sup>. This means that the router will wait for 50 seconds before declaring the tracked object as up (reachable) and 60 seconds before declaring it as down (unreachable). This delay can help prevent the router from switching routes too quickly, thus reducing the chances of reachability flapping and packet loss<sup>45</sup>.

[Configure ISP Failover with Default Routes Using IP SLA Tracking - Cisco](#)

[Using IPSLA to change routing - Cisco Community](#)

[How to Use IP SLA Technology to Assess WAN Performance](#)

[Reliable Static Routing with IP SLA - NetworkLessons.com](#)

[Configuring Static Route Tracking using IP SLA \(Basic\)](#)

## Question 8

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**Question Type:** MultipleChoice

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What is the role of LDP in MPLS networks?

### Options:

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- A- It enables label binding that exchanges route descriptors
- B- It creates MPLS packet forwarding along with the IGP routes.
- C- It disables label binding information to exchange with peer LSRs.
- D- It enables label binding information to exchange with peer LSRs

### Answer:

---

D

### Explanation:

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The Label Distribution Protocol (LDP) plays a crucial role in MPLS (Multiprotocol Label Switching) networks. It enables label switch routers (LSRs) to exchange label binding information, which is essential for supporting hop-by-hop forwarding in an MPLS network<sup>1</sup>.



LDP establishes LSPs (Label Switched Paths) that follow the existing IP routing table<sup>2</sup>. This process is particularly well-suited for establishing a full mesh of LSPs between all of the routers on the network<sup>2</sup>.

When a packet arrives at a router in an MPLS network, the router looks at the incoming label, looks up the label in a table, and then forwards the packet to the next hop<sup>1</sup>. This method of label distribution is also called hop-by-hop forwarding<sup>1</sup>.

[MPLS LDP \(Label Distribution Protocol\) - NetworkLessons.com](#)

[MPLS Label Distribution Protocol \(LDP\) - Cisco](#)

[What is Label Distribution Protocol \(LDP\)? - Metaswitch](#)

[Label Distribution Protocol - Wikipedia](#)

[What is MPLS LDP in networking? -- CCNA-Classes](#)

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