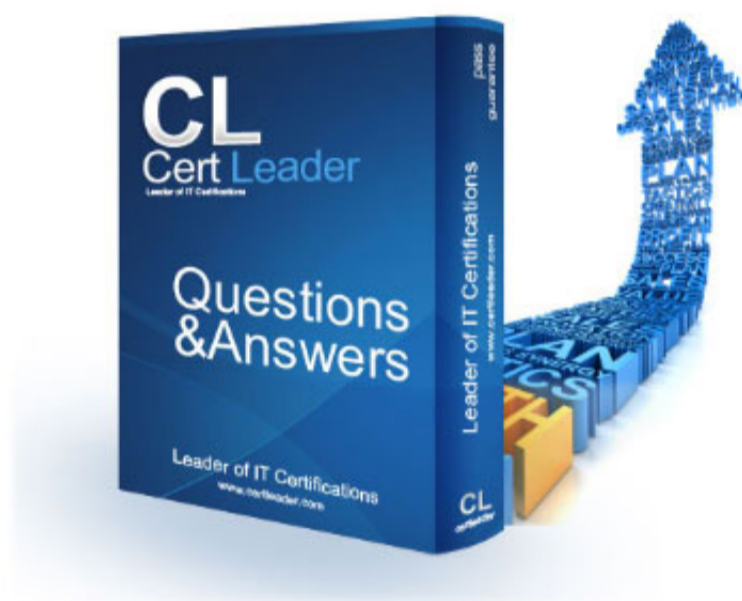


642-887 Dumps

Implementing Cisco Service Provider Next-Generation Core Network Services (SPCORE)

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NEW QUESTION 1

Refer to the exhibit.

```
class-map match-any cos_4
  match cos 4
!
policy-map set_dscp
  class cos_4
    set ip dscp af42
    bandwidth 5000
random-detect dscp-based
!
```

IT administrators report packet loss on the critical applications coming with CoS 4. Which option is the appropriate configuration to have a lower drop probability when the packets are processed using DSCP values?

- A. set ip dscp af22
- B. set ip dscp af41
- C. set ip dscp af13
- D. set ip dscp af32

Answer: B

NEW QUESTION 2

When troubleshooting LDP operations on the Cisco IOS and IOS XE routers, what is one of the first things that should be verified?

- A. if running OSPF as the IGP, ensure that OSPFv3 has been enabled
- B. check if the ip cef command has been enabled
- C. verify in the running configurations that all of the required LDP interfaces are defined under the mpls ldp command configuration mode
- D. verify if there are any access lists that are denying TCP and UDP port 464 packets

Answer: B

NEW QUESTION 3

A network engineer must make a reservable maximum bandwidth of 75 Mbps on a Cisco ASR 9000 series router. Which configuration satisfies this requirement in Cisco IOS XR?

- A. 2802_FY14Q4_CORE_Q33_o1
- B. 2813_FY14Q4_CORE_Q33_o2
- C. 2824_FY14Q4_CORE_Q33_o3
- D. 2835_FY14Q4_CORE_Q33_o4

Answer: C

NEW QUESTION 4

In which two Cisco IOS XR configuration modes can mpls ldp igp sync be configured? (Choose two.)

- A. config-ldp
- B. config-if
- C. config-ospf-ar
- D. config-ospf
- E. config-isis

Answer: CD

NEW QUESTION 5

DRAG DROP

Drag the Cisco MQC configuration task on the left to match the correct description on the right. (Not all options on the left are required.)

class-map	applies the QoS policy to an interface
tcp-map	defines the PHB QoS action(s) for each of the different traffic classes
route-map	defines the matching parameter(s) for classifying packets into service classes
policy-map	
service-policy	
route-policy	
qos-group	

Answer:

Explanation: Applies the QoS policy to interface—service policy

Defines the PHB qos action for each of the different traffic classes—policy map Defines the making parameters for classifying packets into service classes—class-map

Applies the QoS policy to interface--service policy

Defines the PHB qos action for each of the different traffic classes--policy map Defines the making parameters for classifying packets into service classes--class-map

NEW QUESTION 6

On Cisco routers, which three methods can be used to map traffic into the MPLS traffic engineering tunnel? (Choose three.)

- A. on-demand routing
- B. static routing
- C. optimized edge routing
- D. policy-based routing
- E. autoroute

Answer: BDE

NEW QUESTION 7

When configuring class-based WRED on Cisco routers, which WRED parameter is not user configurable on a Cisco IOS XR but is user configurable on a Cisco IOS and IOS XE?

- A. the ingress or egress direction where the class-based WRED policy will be applied
- B. the maximum threshold
- C. the minimum threshold
- D. the mark probability denominator

Answer: D

Explanation: Comparison of Cisco IOS QoS and Cisco IOS-XR QoS

The Cisco IOS-XR software implementation of QoS is basically the same as the QoS implementation on Cisco IOS software, with the following exceptions:

- On Cisco IOS-XR software, the bandwidth command can be configured only in egress policies.
- The following changes have been made to the class-map command on Cisco IOS-XR software:
 - Supports 4K per logical router.
 - Maximum number of match criteria configurable in one class map is eight.
- When a class is marked as high priority using the priority command on Cisco IOS-XR software, we recommend that you configure a policer to limit the priority traffic. Limiting the priority traffic will ensure that the priority traffic does not starve all of the other traffic on the line card. Use the police command to explicitly configure the policer.
- On Cisco IO-XR software, only one conform-action, exceed-action, or violate-action command can be configured at a time. To configure traffic policing, use the police command.
- On Cisco IOS-XR software, policy modifications cannot be made on existing policies. Use the policy-map command to remove the policy from all attached interfaces, delete the policy map, and redefine a new policy.
- When configuring a policy map on Cisco IOS-XR software, the maximum number of classes configurable in one policy map is 16, which includes both Level 1 and Level 2 classes. To configure a policy map, use the policy-map command.
- When WRED is configured on Cisco IOS-XR software, the mark probability in the random- detect command is not configurable—it is always set to 1.
- When the random-detect exp command is used on Cisco IOS-XR software, the exponential weighting constant is not configurable and will be programmed automatically by Cisco IOS-XR software.
- When access control lists (ACLs) are used in QoS class maps, the underlying deny or permit actions associated with access control entries (ACEs) are ignored. ACEs are used as a classification mechanism in order to provide appropriate QoS behavior as specified in class maps. Use ACLs that include ACEs with permit actions only.

NEW QUESTION 8

Which option is the appropriate way to configure a color-aware, dual-rate policer together with a color-blind, single-rate policer for the rest of the traffic?

- A. class-map match-all CLASS1 match dscp af31class-map match all CLASS2 match dscp af32class-map match-all CLASS3 match dscp efpolicy-map POLICY1 class CLASS1police rate 100000 peak-rate 200000conform-color CLASS2 exceed-color CLASS3conform-action set-dscp-transmit af11 exceed-action set-dscp-transmit af21 violate-action set-dscp-transmit af23
- B. class-map match-all CLASS 1 match dscp af31class-map match-all CLASS2 match dscp af32class-map match-all CLASS3 match dscp af33policy-map POLICY1 class CLASS1police rate 100000 burst 31250conform-color CLASS2 exceed-color CLASS3 conform-action set-dscp-transmit af11exceed-action set-dscp-transmit af21 violate-action set-dscp-transmit af23
- C. class-map match-all CLASS 1 match dscp af31 af32 af33class-map match-all CLASS2 match dscp af32class-map match-all CLASS3 match dscp af33policy-map POLICY1 class CLASS1police rate 100000 burst 31250conform-color CLASS2 exceed-color CLASS3 conform-action set-dscp-transmit af31exceed-action set-dscp-transmit af32 violate-action set-dscp-transmit af33 class class-defaultpolice rate percent 10 peak-rate percent 30
- D. class-map match-all CLASS 1 match dscp af31 af32 af33class-map match-all CLASS2 match dscp af32class-map match-all CLASS3 match dscp af33policy-map POLICY1 class CLASS1police rate 100000 peak-rate 200000conform-color CLASS2 exceed-color CLASS3 conform-action set-dscp-transmit af31exceed-action set-dscp-transmit af32 violate-action set-dscp-transmit af33 class class-defaultpolice rate percent 10 peak-rate percent 30
- E. class-map match-all CLASS 1 match dscp af31 af32 af33class-map match-all CLASS2 match dscp af32class-map match-all CLASS3 match dscp af33policy-map POLICY1 class CLASS1police rate 100000 peak-rate 200000conform-color CLASS2 exceed-color CLASS3 conform-action set-dscp-transmit af31exceed-action set-dscp-transmit af32 violate-action set-dscp-transmit af33 class class-defaultpolice rate 10000

Answer: E

NEW QUESTION 9

Referring to the Cisco IOS XR show command output exhibit,

```
RP/0/RSP1/CPU0:ASR9006#sh mpls ldp igp sync
Bundle-Ether9000:
  Sync status: Ready
  Peers:
    192.168.1.25:0 (GR)
GigabitEthernet0/1/0/10:
  Sync status: Not ready
```

what are three possible reasons that the GigabitEthernet0/1/0/10 LDP IGP sync status is not ready? (Choose three.)

- A. GigabitEthernet0/1/0/10 is not configured to run LDP.
- B. Graceful restart is not configured on the peer.
- C. The LDP neighbor on GigabitEthernet0/1/0/10 is not up.
- D. The OSPF neighbor on GigabitEthernet0/1/0/10 is not up.
- E. LDP is up on GigabitEthernet0/1/0/10, but no label bindings have been received from the peer.
- F. GigabitEthernet0/1/0/10 is a member link of Bundle-Ether9000.

Answer: CDE

NEW QUESTION 10

Refer to the partial Cisco IOS XR configurations exhibit for Router 1 and Router 2.

```
RP/0/RP0/CPU0:Router1#show running-config mpls ldp

mpls ldp
router-id 33.33.33.33
log
 adjacency
!
interface GigabitEthernet0/2/0/6
!

RP/0/RP1/CPU0:Router2#show running-config mpls ldp

mpls ldp
router-id 10.12.0.3
log
 neighbor
!
interface GigabitEthernet0/0/2/2
!

RP/0/RP0/CPU0:Router1#show running-config router ospf

router ospf test
area 0
 interface Loopback7
  passive enable
!

RP/0/RP1/CPU0:Router2#show running-config router ospf

router ospf test
area 0
 interface Loopback0
  passive enable
!
 interface GigabitEthernet0/0/2/2
!
```

There are two routers that are connected back to back over the Gigabit Ethernet link. If the "show mpls ldp neighbor" command output on Router 1 does not show LDP peering with Router 2, what could be the possible root cause of the LDP peering problem?

- A. missing interface under OSPF IGP configuration
- B. hello timers mismatch on Router 1 and Router 2
- C. password for LDP session mismatch on Router 1 and Router 2
- D. MPLS LDP session protection is not configured

Answer: A

NEW QUESTION 10

Refer to the exhibit.

```
PE1 (config)#class-map Custom1
PE1 (config-cmap)#match all
PE1 (config)#policy-map QoSCustom1
PE1 (config-pmap)#class QoSCustom1
PE1 (config-pmap-c)#set mpls experimental 0
PE1 (config) # interface Gig1/0/0
PE1 (config-if) # xconnect 172.16.1.1 350 encapsulation mpls
PE1 (config-if) # service-policy input Custom1
```

A network engineer who is working for an ISP wants to override the QoS that comes from the customer. The engineer wants to set a QoS value of 5 for all traffic. What are two reasons why the configuration is not working? (Choose two.)

- A. The service-policy command should point to the service policy, not to the class map
- B. The set command should reference CoS instead of MPLS EXP bits
- C. The service-policy configuration should be set as output
- D. The policy-map configuration needs to reference class-map Custom1
- E. The number 350 in the xconnect command should appear after the encapsulation type

Answer: AD

NEW QUESTION 11

Which two values are class-selector DSCP values? (Choose two.)

- A. 001001
- B. 000111
- C. 111000
- D. 100000
- E. 000001

Answer: CD

NEW QUESTION 16

The network architecture team is proposing to enable Cisco MPLS TE over the entire service provider core network. Which two options are benefits of Cisco MPLS TE that affect their decision? (Choose two.)

- A. Cisco MPLS TE optimizes network resources.
- B. Cisco MPLS TE data flows independent from the underlying IGP.
- C. Cisco MPLS TE increases the data forwarding rate.
- D. Cisco MPLS TE tunneling does not require maintenance.
- E. Cisco MPLS TE offers network resource reservation, which removes any need for QoS MQC policies.

Answer: AB

NEW QUESTION 20

Which protocol is used to send MPLS OAM traffic over an MPLS network?

- A. ICMP
- B. IP protocol number 137
- C. TCP
- D. UDP

Answer: D

NEW QUESTION 23

Which option describes the IPv6 flow label field?

- A. a 3-bit field used for marking a traffic flow
- B. an 8-bit field used for labeling a traffic flow
- C. a 20-bit field used to tag a traffic flow throughout the network
- D. an 8-bit field out of which the first 6 are used to classify packets

Answer: C

NEW QUESTION 27

What is a crucial LDP default operating behavior?

- A. LDP uses the solicited mode by default
- B. An LDP label request is sent to the FIB next hop LS
- C. When the egress router receives the request, it returns message with all the label-mapping information for the LSP is generated.
- D. LDP establishes a TCP session between the PE routers, thus providing label mapping for the LSP
- E. LDP uses downstream unsolicited mode by default
- F. An LSR advertises label mappings to peers without being asked
- G. LDP uses UDP-confirmed messages to establish sessions between PE ingress and egress router
- H. The UDP messages encode the label information for each LSP and sub- LSP link

Answer: C

NEW QUESTION 32

Refer to the exhibit. Which configuration error prevents this traffic-shaping policy from working?

```
policy-map WAN
class class_A
shape average 512000 32000
!
interface serial 4/0
service-policy input WAN
```

- A. The WAN interface is starting to drop packets because no queuing mechanism is implemented.
- B. Traffic-shaping policies are applied only in the outbound direction.
- C. The class_A configuration shape peak is used to maximize the serial interface performances.
- D. The service-policy command is applied only on logical or channeled interfaces.

Answer: B

NEW QUESTION 34

Which statement defines how MPLS LDT Graceful Restart works after a service interruption?

- A. It works independent of neighboring routers to recover MPLS forwarding information
- B. It works by helping all neighboring MPLS LDP routers to recover MPLS forwarding information
- C. It works by helping neighboring routers with MPLS LDP SSO/NSF and Graceful Restart to recover MPLS forwarding information
- D. It works independent of neighboring non-LDP Graceful Restart routers to recover MPLS forwarding information

Answer: C

NEW QUESTION 38

When implementing CBWFQ, where should Weighted Random Early Detection configuration be applied?

- A. route-map
- B. policy-map
- C. class-map
- D. service-policy

Answer: B

NEW QUESTION 42

Which two factors must you consider when configuring MPLS EXP? (Choose two.)

- A. MPLS EXP marking is supported in the egress direction
- B. A packet that IP ToS classifies at ingress can be reclassified by MPLS EXP at egress
- C. MPLS EXP marking is supported in the ingress direction
- D. MPLS EXP classification for bridged MPLS packets on EVCs is supported
- E. A packet that MPLS classifies at ingress can be reclassified by IP ToS at egress

Answer: CE

NEW QUESTION 47

DRAG DROP

You create an MPLS TE tunnel in IOS XR Software and want to configure forwarding on the tunnel. Drag the steps on the left to their correct order on the right. Select and Place:

Configure messages that notify the neighbor nodes about the forwarded routes	Step 1
Enable a route using IPv4 addressing for forwarding	Step 2
Enter MPLS TE interface configuration mode	Step 3
Assign a source address to ne used for forwarding on the new tunnel	Step 4

Answer:

Explanation:

Configure messages that notify the neighbor nodes about the forwarded routes	Enter MPLS TE interface configuration mode
Enable a route using IPv4 addressing for forwarding	Assign a source address to ne used for forwarding on the new tunnel
Enter MPLS TE interface configuration mode	Configure messages that notify the neighbor nodes about the forwarded routes
Assign a source address to ne used for forwarding on the new tunnel	Enable a route using IPv4 addressing for forwarding

NEW QUESTION 52

On Cisco routers, which QoS marker is only locally significant?

- A. DSCP
- B. MPLS EXP
- C. IP precedence
- D. QoS group
- E. discard eligible (DE)

Answer: D

NEW QUESTION 54

When defining an explicit MPLS TE tunnel path, which two command options are available under the explicit-path configuration mode? (Choose two.)

- A. exclude-address
- B. include-address
- C. next-address
- D. dynamic-address

Answer: AC

NEW QUESTION 57

Refer to the exhibit.

```
interface GigabitEthernet1/0
  ip rsvp bandwidth 500000
!
interface Tunnel1
  tunnel mpls traffic-eng bandwidth 10000
  tunnel mpls traffic-eng priority 3
```

What is the available reservable bandwidth for P6 after successful establishment of Tunnel 1?

- A. 490 Kbps
- B. 500 Kbps
- C. 490 Mbps
- D. 500 Mbps

Answer: D

NEW QUESTION 60

Which QoS mechanism is used for congestion avoidance?

- A. LLQ
- B. CBWFQ
- C. WRED
- D. LFI
- E. traffic policing

Answer: C

NEW QUESTION 62

Which option shows how a class map is implemented that matches only packets originating from the network 10.0.0.0/8, which are not marked as VoIP on Cisco IOS XE?

A)

```
ip access-list standard 10 permit 10.0.0.0 0.0.0.255
class-map match-all
match access-group 10
match not ip dscp ef
```

B)

```
ip access-list standard 10 permit 10.0.0.0 255.255.255.0
class-map match-any
match access-group 10
match not ip dscp ef
```

C)

```
ip access-list standard 10 permit 10.0.0.0 0.0.0.255
class-map match-all
match access-group 10
match not qos-group 1
```

D)

```
ip access-list standard 10 permit 10.0.0.0 0.255.255.255
class-map match-all
match access-group 10
match not ip dscp ef
```

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

Answer: B

NEW QUESTION 66

An engineer is having a problem getting an operational 10 Gigabit link on a Cisco ASR 9000 series router. The service provider instructs the engineer to use an LR optic. The engineer must access the router remotely.

Which command should the engineer issue to determine that the correct optic has been installed?

- A. show controllers
- B. show module optics
- C. show ip interface
- D. show optics

Answer: A

NEW QUESTION 68

Which two statements are correct in describing ISP environments that are running IP/MPLS in the core network? (Choose two.)

- A. On the PE routers, each BGP route must use a unique label to reach the BGP next hop.
- B. The BGP next hops point to the PE routers, and only the PE routers are required to run BGP.
- C. A full mesh of IBGP sessions are required between all of the PE and P routers to ensure proper packets forwarding.
- D. The PE and P routers run LDP to learn the labels for reaching the BGP next-hop addresses.

Answer: BD

NEW QUESTION 73

Layer 2 VPN services that are offered by traditional service providers using a SONET/SDH backbone can be implemented by service providers using an IP/MPLS backbone with which MPLS feature?

- A. LSP stitching
- B. AToM
- C. virtual private WAN services
- D. cell-mode MPLS

Answer: B

NEW QUESTION 77

Given this configuration of an interface for MPLS traffic engineering on a Cisco IOS XE router:

```
interface POS1/1/0 mpls traffic-eng tunnels ip rsvp bandwidth 5000
```

Which option lists the equivalent configurations required on a Cisco IOS XR router?

- A. interface POS1/1/0 mpls traffic-eng tunnels ip rsvp bandwidth 5000
- B. mpls traffic-eng interface POS1/1/0
- C. mpls traffic-eng interface POS1/1/1 bandwidth 5mb
- D. mpls traffic-eng interface POS1/1/0 rsvpinterface POS1/1/0
- E. mpls traffic-eng interface POS1/1/0 rsvpinterface POS1/1/0 bandwidth 5000

Answer: E

NEW QUESTION 81

Which message is sent through the desired LSP path by the headend router and is used to determine available resources?

- A. PATH
- B. TENT
- C. RSVP
- D. RESV

Answer: A

NEW QUESTION 86

Refer to the exhibit. From which table was the information obtained?

```
PE2#show mpls forwarding-table 5.5.5.5
```

Local Label	Outgoing Label	Prefix or Tunnel Id	Bytes Label Switched	Outgoing interface	Next Hop
20	20	5.5.5.5/32	0	Et0/1	10.10.23.3
	21	5.5.5.5/32	0	Et0/2	10.10.24.4
	19	5.5.5.5/32	0	Et0/3	10.10.26.6

- A. FIB
- B. CEF
- C. LIB
- D. LFIB

Answer: D

NEW QUESTION 91

Which three statements are correct regarding a Cisco MPLS TE? (Choose three.)

- A. A Cisco MPLS TE tunnel maps onto an LSP path.
- B. Tunnels are bidirectional by default.
- C. Packets that are mapped into a Cisco MPLS TE tunnel will have two labels, with the top label indicating what the tail-end router should do with the packet.
- D. A tunnel that is created with a priority of 0 can pre-empt an existing tunnel with a priority of 7.
- E. CBR takes into account link resource and traffic tunnel attributes.
- F. RSVP is used between customer routers.

Answer: ADE

NEW QUESTION 92

DRAG DROP

Drag each of the QoS mechanisms on the left to match the correct description on the right. (Not all options on the left are used.)

LLQ	Can drop excess traffic beyond the committed rate and remark nonconforming traffic before transmitting it.
LFI	Use to avoid the TCP global synchronization problems that occur when tail drop is used as the congestion avoidance mechanism.
traffic shaping	Provide a strict priority queue to allow delay-sensitive data such as voice to be dequeued and sent first.
WRED	Excess traffic beyond the committed rate will be queued and scheduled for later transmission. Only applied in the output direction.
CBWFQ	
traffic policing	
WFQ	

Answer:

Explanation: Place the options in the following order: Traffic Policing
WRED LLQ
Traffic Shaping

NEW QUESTION 97

Scenario:

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

No console or enable passwords are required.

There are **four** multiple-choice questions with this task. Be sure to answer all **four** questions before selecting the Next button.

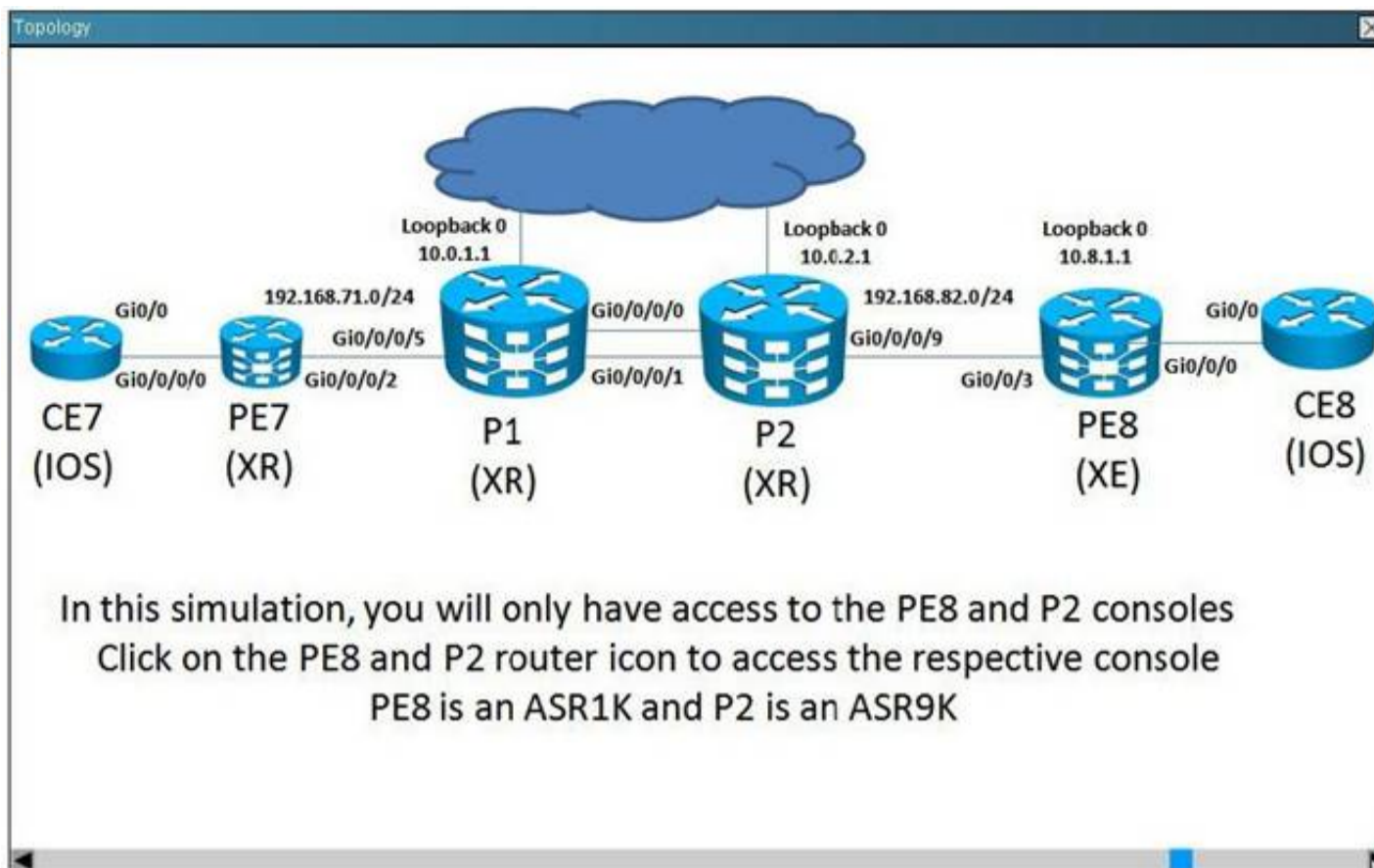
Not all the CLI commands or commands options are supported or required for this simulation.

For example, the show running-config command is **NOT** supported in this simulation.

All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the PE8 and P2 routers and interpret the supported CLI commands outputs to answer the four multiple choice questions.



In this simulation, you will only have access to the PE8 and P2 consoles
Click on the PE8 and P2 router icon to access the respective console
PE8 is an ASR1K and P2 is an ASR9K

PE8

```
PE8#
```

RP/0/RSP0/CPU0:P2

```
RP/0/RSP0/CPU0: P2#
```

From PE8 router, what is the label action used to reach the P2 loopback 0 interface 10.0.2.1/32?

- A. Swap label 35 with label 16004
- B. Push label 16004
- C. Pop label 35
- D. Pop label 16009
- E. Push Label 16009
- F. Swap label 35 with label 16009

Answer: C

Explanation: show mpls forwarding-table , find prefix 10.0.2.1 and you will see there under outgoing Label "Pop Label" (This is actually logic because the prefix is directly connected and therefore the packet will forward without label). If the router should forward any packet to that prefix, the packet should be received with Local label on PE8 (Local Label = 35), the router will remove it and forward it without Label.

NEW QUESTION 102

An engineer has been tasked to configure a guaranteed 10 Mbps priority queue for traffic matched by class-map VOICE_CLASS on Cisco IOS XR. Which policy must be applied for outgoing traffic on interface FastEthernet 0/0/1?

- A. configure policy-map VOICE_POLICY class VOICE_CLASS police rate 10000 exceed-action drop exit priority level 1 exit interface FastEthernet 0/0/1 service-policy output VOICE_POLICY commit
- B. configure policy-map VOICE_POLICY class VOICE_CLASS priority percent 10 exit interface FastEthernet 0/0/1 service-policy output VOICE_POLICY commit
- C. configure policy-map VOICE_POLICY class VOICE_CLASS police rate 1000 exceed-action drop exit priority level 1 exit interface FastEthernet 0/0/1 service-policy output VOICE_POLICY commit
- D. configure policy-map VOICE_POLICY class VOICE_CLASS police rate 10 Mbps exceed-action shape exit priority level 1 exit interface FastEthernet 0/0/1 service-policy output VOICE_POLICY commit

Answer: A

NEW QUESTION 107

How many labels does an MPLS packet have, with a bottom-of-stack label set to zero?

- A. The packet has no label.
- B. The packet has one label.
- C. The packet may have one or more labels.
- D. The packet has at least two labels.

Answer: D

NEW QUESTION 110

Which QoS technique can be used to protect customer traffic from being dropped by traffic rate limiting performed by the service provider?

- A. LLQ
- B. policing
- C. fair-queue
- D. shaping

Answer: D

NEW QUESTION 113

Referring to the Cisco IOS XR configuration exhibit,

```

mpls ldp
label
advertise
disable
for test1 to test2
!
ipv4 access-list test2
10 permit ipv4 any any
ipv4 access-list test1
10 permit ipv4 host 10.1.1.1 any
    
```

which labels will be advertised by the router with this configuration?

- A. Only the label for 10.1.1.1/32 will be advertised to all the LDP peers.
- B. Labels for all prefixes will be advertised to the 10.1.1.1 LDP peer.
- C. Labels for all prefixes will be advertised to all the LDP peers.
- D. No labels will be advertised to any LDP peers.

Answer: A

NEW QUESTION 118

Which configuration set enables outbound label filtering so that only peer 192.168.10.1 receives label advertisements in an MPLS environment?

A)

```
mpls ldp
  label
    accept
    for pfx_acl from 192.168.10.1

ipv4 access-list pfx_acl
 10 permit ip host 10.0.0.0 any
ipv4 access-list peer_acl
 10 permit ip host 192.168.10.1 any
```

B)

```
mpls ldp
  label
    accept
    for peer_acl from 192.168.10.1

ipv4 access-list pfx_acl
 10 permit ip any host 10.0.0.0
ipv4 access-list peer_acl
 10 permit ip host 192.168.10.1 any
```

C)

```
mpls ldp
  label
    advertise
    for pfx_acl to peer_acl
    interface TenGigabitEthernet3/1

ipv4 access-list pfx_acl
 10 permit ip host 10.0.0.0 any
ipv4 access-list peer_acl
 10 permit ip host 192.168.10.1 any
```

D)

```
mpls ldp
  label
    advertise
    disable
    for pfx_acl to peer_acl
    interface TenGigabitEthernet3/1

ipv4 access-list pfx_acl
 10 permit ip host 10.0.0.0 any
ipv4 access-list peer_acl
 10 permit ip host 192.168.10.1 any
```

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

Answer: C**NEW QUESTION 122**

Which three options are class maps able to match? (Choose three.)

- A. match access-group
- B. match protocol http url "*"cisco"
- C. match destination-port
- D. match DSCP
- E. match all
- F. match mac-address

Answer: ABD**NEW QUESTION 123**

Scenario:

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

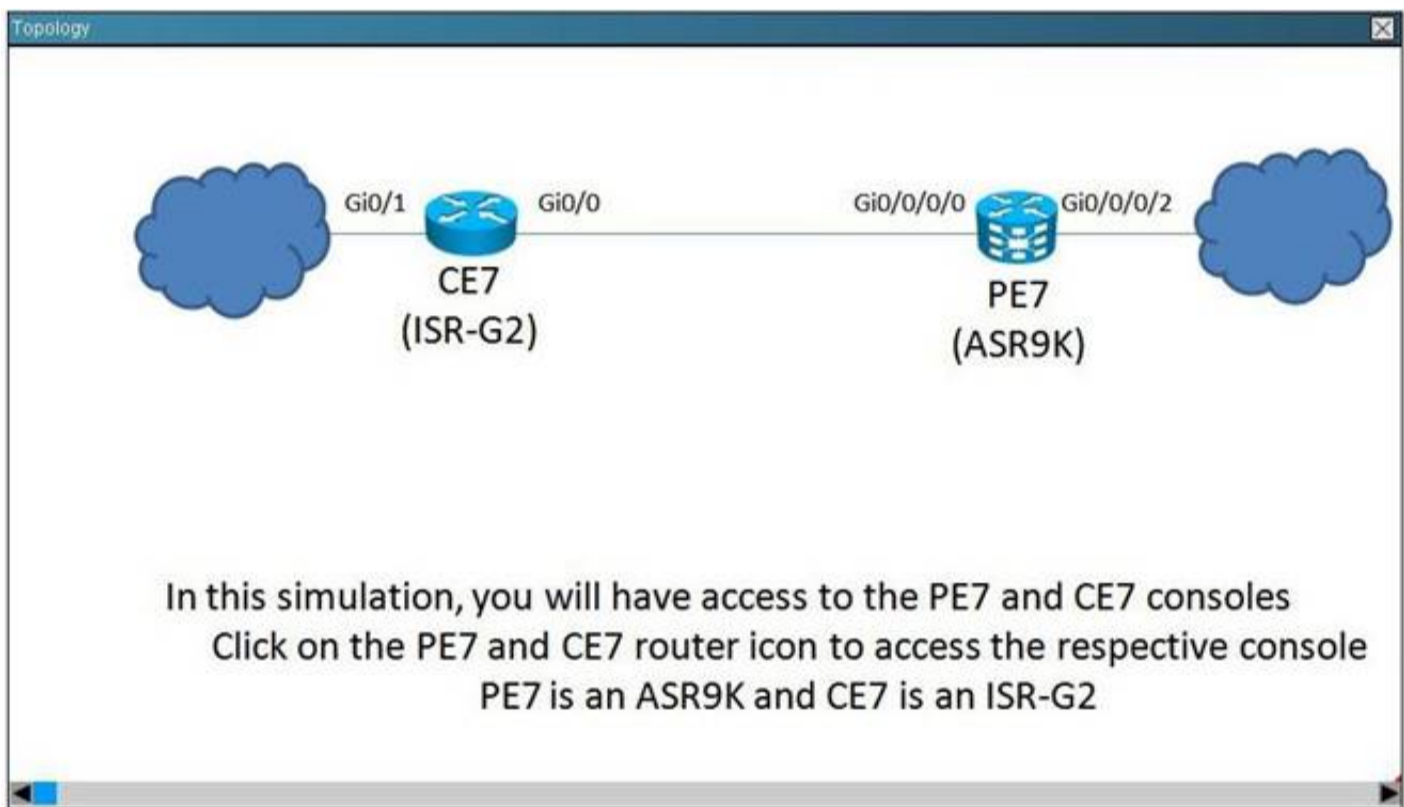
No console or enable passwords are required.

There are four multiple-choice questions with this task. Be sure to answer all four questions before selecting the Next button.

Not all the CLI commands or commands options are supported or required for this simulation. All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the CE7 and PE7 routers and interpret the supported CLI commands outputs to answer the four multiple choice questions.



CE7

CE7#



On CE 7 router, which statement is correct regarding the "QOS-POLICY policy map configurations?

- A. Traffic matched by the "QOS-HTTP-1" class-map is shaped to an average rate of 2560000 128000bps
- B. Traffic matched by the "QOS1-HTTP-2" class-map will be queued in the low-latency-queue which has a maximum bandwidth guarantee of 64000
- C. Traffic matched by the "QOS-FTP-1" class-map can't use more than 256 Kbps under any condition
- D. The "QOS-POLICY" is applied to the gi0/0 interface in the input direction

Answer: C

Explanation: # show policy-map
show policy-map interface x/y
show running-config policy-map

NEW QUESTION 126

DRAG DROP

Referring to Cisco MPLS TE path setup operations using RSVP, drag the RSVP characteristic on the left to match the correct RSVP message type on the right.

sent from the tunnel headend to the tunnel tailend	RSVP PATH Message
sent from the tunnel tailend to the tunnel headend	Target
carries the MPLS label requests	Target
carries the MPLS labels	RSVP RESV Message
	Target
	Target

Answer:

Explanation: RSVP PATH Message --- sent from the tunnel headend to the tunnel tailend
---- carried the MPLS label requests
RSVP RESV Message—Sent from the tunnel tailend to the tunnel headend
--- carries the MPLS labels
RSVP PATH Message --- sent from the tunnel head end to the tunnel tail end ---- carried the MPLS label requests
RSVP RESV Message--Sent from the tunnel tail end to the tunnel head end --- carries the MPLS labels

NEW QUESTION 130

Refer to the exhibit. What happens to the traffic that exceeds the CIR?

- A. It is set an EXP value of 5 and transmitted
- B. It is set an EXP value of 5 and dropped
- C. It is set an EXP value of 0 and transmitted
- D. It is set an EXP value of 3 and dropped

Answer: C

NEW QUESTION 132

Only based on the Cisco IOS XR policy-map configuration exhibit,

```
policy-map policy_A
class test
bandwidth 1000000
random-detect dscp AF11 10000 20000
random-detect dscp AF41 12000 24000
```

which statement is correct?

- A. All DSCP AF41 marked packets will be dropped when the average queue length reaches 12,000 packets.
- B. DSCP AF11 marked packets will be randomly dropped when the average queue length reaches 10,000 packets.
- C. DSCP AF11 and AF41 marked packets are guaranteed a minimum bandwidth of 1 Mb/s.
- D. DSCP AF11 and AF41 marked packets are guaranteed a maximum bandwidth of 1 Mb/s.

Answer: B

NEW QUESTION 137

Which driver uses an IntServ QoS model in an MPLS TE enabled service provider network?

- A. DSCP, which requires signaling across the provider network
- B. RSVP, which enables bandwidth guarantees across a provider network
- C. RSVP, which enables per-hop behavior across a provider network
- D. DSCP, which enables bandwidth guarantees across a provider network

Answer: B

NEW QUESTION 140

What is the function of MPLS FRR?

- A. automatically repairs LDP adjacency issues for MPLS TE tunnel endpoints
- B. automatically updates BGP prefixes during link failures
- C. automatically redirects MPLS TE traffic away from degraded links
- D. routes traffic onto a backup MPLS TE tunnel during link failures

Answer: D

NEW QUESTION 142

An engineer must configure a policy on a Cisco IOS XE router that achieves the following: Traffic 2 Mbps or less is transmitted Traffic between 2 Mbps and 3 Mbps is marked with IP Precedence 4 Traffic that exceeds 3 Mbps is dropped Which configuration achieves this policy?

- A.


```
configure terminal
policy-map POLICE
class class-default
police 2000000
conform-action transmit
exceed-action 3000000 set-prec-transmit 4
violate-action drop
exit
exit
exit
interface FastEthernet 0/0/0
service-policy input POLICE
```
- B.


```
configure terminal
policy-map POLICE
class class-default
police rate 2000000 pir 3000000
conform-action transmit
exceed-action set-prec-transmit 4
violate-action drop
exit
exit
exit
interface FastEthernet 0/0/0
service-policy input POLICE
```

C. configure terminal
policy-map POLICE
class class-default
police cir 2000000 pir 3000000
conform-action transmit
exceed-action set-prec-transmit 4
violate-action drop
exit
exit
exit
interface FastEthernet 0/0/0
service-policy input POLICE

D. configure terminal
policy-map POLICE
class class-default
police cir 2000000 pir 3000000
conform-action transmit
exceed-action set-dscp AF4
violate-action drop
exit
exit
exit
interface FastEthernet 0/0/0
service-policy input POLICE

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

Answer: C

NEW QUESTION 146

Which of the following three statements are correct regarding IPv6 QoS? (Choose three.)

- A. The traffic class field in the IPv6 header can be used to set specific precedence or DSCP values.
- B. A 20-bit flow label field enables per-flow processing.
- C. DS-TE is not supported by IPv6.
- D. Per-hop behavior in IPv6 networks is based on EXP bits.
- E. IPv6 QoS features are configured using the modular QoS CLI on Cisco routers.

Answer: ABE

Explanation: http://www.cisco.com/en/US/technologies/tk648/tk872/technologies_white_paper0900aecd_8026004d.pdf



IPv6 QoS AT-A-GLANCE

RFC 2460/3697

Currently IPv6 provides support for QoS marking via a field in the IPv6 header.

Similar to the type of service (ToS) field in the IPv4 header, the traffic class field (8 bits) is available for use by originating nodes and/or forwarding routers to identify and distinguish between different classes or priorities of IPv6 packets.

Figure 1

The traffic class field may be used to set specific precedence or differentiated services code point (DSCP) values. These values are used in the exact same way as in IPv4.

The key advantage with the flow label is that the transit routers do not have to open the inner packet to identify the flow, which aids with identification of the flow when using encryption and other scenarios.



Current Cisco IOS® Software support for IPv6 QoS includes:

- Packet classification
- Queuing (includes LLQ; excludes legacy PQ/CQ)
- Traffic shaping
- WRED

IPv6 also has a 20-bit field known as the flow label field (RFC 3697). The flow label enables per-flow processing for differentiation at the IP layer.

It can be used for special sender requests and is set by the source node.

The flow label must not be modified by an intermediate node.

Planned Cisco IOS Software support for IPv6 QoS includes:

- Compressed Real-Time Protocol (cRTP)
- Network-based application recognition (NBAR)
- Committed access rate (CAR)

NEW QUESTION 148

Which option describes what happens when a labelled packet with a TTL of 1 is received by an LSR?

- The packet is forwarded on to the next router where its TTL expires and from where an ICMP "time exceeded" message is generated and routed back to the source.
- The packet is dropped and an ICMP "time exceeded" message is IP routed back to the sender.
- The packet is dropped and an ICMP "time exceeded" message is label-switched from the expiring router back on a new path toward the source.
- The packet is dropped and an ICMP "time exceeded" message is label-switched from the expiring router on the same label switched path toward the destination and then back to the originating source.
- The packet is forwarded on to the next router where its TTL expires and from where an ICMP "time exceeded" message is generated and label switched back to the source.

Answer: D

NEW QUESTION 150

Refer to the exhibit.

```

MPLS_Router_A

Interface Gi 0/0/0
"link to MPLS_PE_C"
mpls ip

Interface Gi 0/0/1
"Link facing customer_A CE"
IP access-group X in

!
mpls ldp advertise-labels for 80 to 81

!
access-list 80 permit 10.100.0.0 0.0.0.255
access-list 81 permit any

ip access-list X deny top any any eq 646
ip access-list X permit ip any any
    
```

You are about to implement security features, including this configuration, within the MPLS network of a large MPLS service provider. How does the router distribute the labels to its neighbors?

- A. All network 10.100.0.0/24 labels are sent to all TDP neighbors
- B. All network 10.100.0.0/16 labels are sent to all LDP neighbors
- C. All network 10.100.0.0/24 labels are sent to all LDP neighbors
- D. All network 10.100.0.0/24 labels are sent to all LDP and TDP neighbors

Answer: C

NEW QUESTION 151

Which option shows how a network engineer implements QPPB marking of incoming traffic on a router that is connected to a VoIP SP (AS62000, BGP community 60000:1) and to a data services service provider (AS61000, BGP community 61000:1) on Cisco IOS XE?

A)

```

ip bgp-community new-format
ip community-list 1 permit 60000:1
ip as-path access-list 1 permit ^(61000_)+$
route-map mark-voip-data 10
match community 1
set ip precedence 5
route-map mark-voip-data 20
match as-path 1
set ip precedence 0
router bgp 300
table-map mark-voip-data
interface GigabitEthernet 0/1
description Link-to-VOIP-SP
bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
description Link-to-Data-SP
bgp-policy source ip-prec-map
    
```

B)

```
ip cef
ip bgp-community new-format
ip community-list 1 permit 60000:1
ip as-path access-list 1 permit ^(61000_)+$
route-map mark-voip-data 10
  match community 1
  set ip precedence 5
route-map mark-voip-data 20
  match as-path 1
  set ip precedence 0
router bgp 300
  table-map mark-voip-data
interface GigabitEthernet 0/1
  description Link-to-VOIP-SP
  bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
  description Link-to-Data-SP
  bgp-policy source ip-prec-map
```

C)

```
ip cef
ip bgp-community new-format
ip community-list 1 permit 60000:1
ip as-path access-list 1 permit ^(61000_)+$
route-map mark-voip-data 10
  match community 1
  set ip precedence 5
route-map mark-voip-data 20
  match as-path 1
  set ip precedence 0
router bgp 300
  table-map mark-voip-data
interface GigabitEthernet 0/1
  description Link-to-VOIP-SP
  bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
  description Link-to-Data-SP
  bgp-policy destination ip-prec-map
```

D)

```
ip cef
ip community-list 1 permit 61000:1
ip as-path access-list 1 permit ^(60000_)+$
route-map mark-voip-data 10
  match community 1
  set ip precedence 5
route-map mark-voip-data 20
  match as-path 1
  set ip precedence 0
router bgp 300
  table-map mark-voip-data
interface GigabitEthernet 0/1
  description Link-to-VOIP-SP
  bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
  description Link-to-Data-SP
  bgp-policy source ip-prec-map
```

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

Answer: C

NEW QUESTION 154

A service provider experiences routing issues in a customer MPLS network. The customer has two sites that are connected over its core. Which feature can be used for troubleshooting?

- A. disabling of Cisco Express Forwarding, to enable the use of LSP Ping and LSP Traceroute to verify the IP routing path
- B. redistribution between the BGP IPv4 and VPNv4 address families, to use labels to forward the customer packets
- C. LSP Ping, to confirm that the label-switched path is used for transport
- D. traceroute, to verify the label-switched path that is used for point-to-multipoint

Answer: C

NEW QUESTION 159

Which four options describe the functions of the control world in an AToM environment? (Choose four.)

- A. It carries generic and Layer 2 payload-specific information.
- B. It prevents fragmentation and reassembly.
- C. It preserves the sequence of the transported frames.
- D. It is responsible for padding all packets.
- E. It is responsible for padding the small packets.
- F. It enables proper load balancing without packet desequencing independent of L2VPN packet content.
- G. It enables an optimal path for the L2VPN packet content to follow through the MPLS backbone.
- H. It carries Layer 2 payload-specific information.

Answer: ACEF

NEW QUESTION 160

Which two interface types can support qos pre-classify (Choose two.)

- A. virtual templates
- B. tunnel interfaces
- C. FastEthernet
- D. FDDI

Answer: BC

NEW QUESTION 162

Cisco MPLS TE tunnels recently have been deployed to minimize the utilization of a congested link in the core network. The tunnels are up and the administrative weight is correctly configured, but no improvement has occurred since they went into production. Which IOS command can be used to modify Cisco MPLS TE path selection on an interface?

- A. mpls traffic-eng administrative-weight 100
- B. ls-ls metric 100
- C. ip rsvp bandwidth percent 90

D. tunnel mpls traffic-eng path-selection metric te

Answer: A

NEW QUESTION 164

A customer MPLS domain recently required an excessive time to reconverge. In response, a high availability solution will be deployed. Which command set should be issued to improve LDP high availability on IOS XE instances?

A)

```
mpls ldp
interface type slot/subslot/port
commit
!
```

B)

```
ip cef distributed
!
mpls label protocol tdp
mpls ldp logging neighbor-changes
mpls ldp graceful-restart
!
interface type slot/subslot/port
mpls ip
!
```

C)

```
redundancy
mode sso
!
ip cef distributed
mpls label protocol ldp
mpls ldp logging neighbor-changes
mpls ldp graceful-restart
!
```

D)

```
ip cef
!mpls ldp
logging neighbor-changes
graceful-restart
!
```

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

Answer: C

NEW QUESTION 169

Scenario:

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

No console or enable passwords are required.

There are **four** multiple-choice questions with this task. Be sure to answer all **four** questions before selecting the Next button.

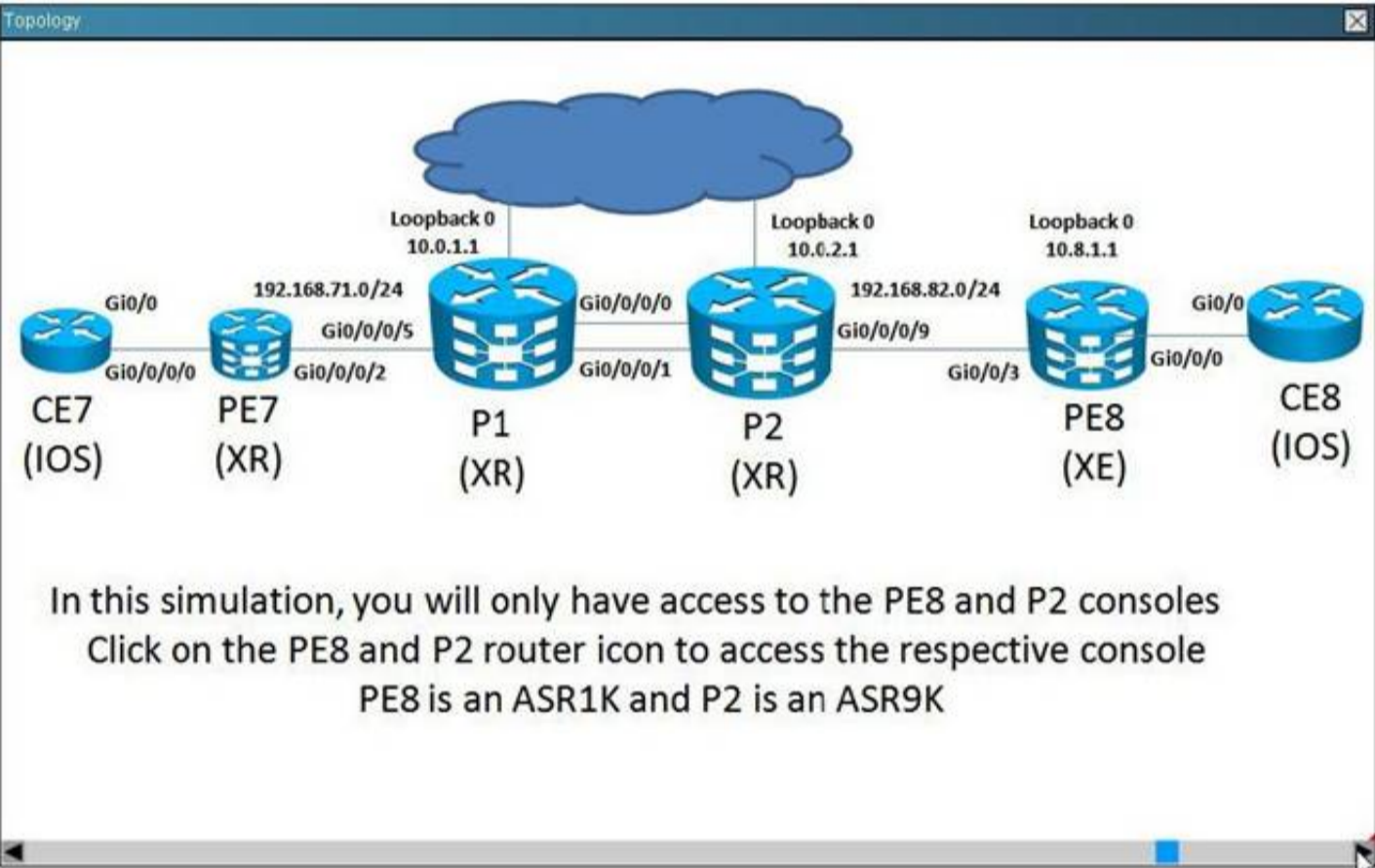
Not all the CLI commands or commands options are supported or required for this simulation.

For example, the show running-config command is **NOT** supported in this simulation.

All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the PE8 and P2 routers and interpret the supported CLI commands outputs to answer the four multiple choice questions.



PE8

PE8#



From the PE8 router, how many total prefixes for have an incoming local label assigned (including the imp-null)?

- A. 45
- B. 21
- C. 66
- D. 22

Answer: B

Explanation: On PE8 issue: show mpls ip binding summary and look at "assigned in labels". That value is the correct answer NOT "learned out label".

Router# show mpls forwarding-table

Local Label	Outgoing Label or VC	Prefix or Tunnel Id	Bytes switched	label	Outgoing interface	Next Hop
26	No Label	10.253.0.0/16	0		Et4/0/0	10.27.32.4
28	1/33	10.15.0.0/16	0		AT0/0.1	point2point
29	Pop Label	10.91.0.0/16	0		Hs5/0	point2point
	1/36	10.91.0.0/16	0		AT0/0.1	point2point
30	32	10.250.0.97/32	0		Et4/0/2	10.92.0.7
	32	10.250.0.97/32	0		Hs5/0	point2point
34	26	10.77.0.0/24	0		Et4/0/2	10.92.0.7
	26	10.77.0.0/24	0		Hs5/0	point2point
35	No Label[T]	10.100.100.101/32	0		Tu301	point2point
36	Pop Label	10.1.0.0/16	0		Hs5/0	point2point
	1/37	10.1.0.0/16	0		AT0/0.1	point2point

Router# show mpls ldp bindings

```

10.0.0.0/8, rev 9
  local binding: label: imp-null
  remote binding: lsr: 10.10.0.55:0, label: 17
  remote binding: lsr: 10.66.0.66:0, label: 18
  remote binding: lsr: 10.0.0.44:0, label: imp-null
172.16.0.0/8, rev 17
  local binding: label: 19
  remote binding: lsr: 10.0.0.55:0, label: imp-null
  remote binding: lsr: 10.66.0.66:0, label: 16
  remote binding: lsr: 10.0.0.44:0, label: imp-null
192.168.0.66/32, rev 19
  local binding: label: 20
  remote binding: lsr: 10.0.0.55:0, label: 19
  remote binding: lsr: 10.66.0.66:0, label: imp-null
  remote binding: lsr: 10.0.0.44:0, label: 18

```

Router# show mpls ip binding summary

```

Total number of prefixes: 53
Generic label bindings
      prefixes      assigned      learned
           53         in labels   out labels
           53             53           51
ATM label bindings summary
  interface  total  active  local  remote  Bwait  Rwait  IFwait
  ATM1/0.8   47    47     40     7       0      0      0

```

NEW QUESTION 174

DS-TE implementations on Cisco routers support which bandwidth pool(s) and class type(s)? (Choose two.)

- A. global pool only
- B. subpool only
- C. global pool and subpool
- D. class-type 0 only
- E. class-type 1 only
- F. class-type 0 and class-type 1

Answer: CF

Explanation: Differential Service Tunnels

Differential Service Traffic Engineering (TE) is an extension of the regular MPLS Traffic Engineering (MPLSTE) feature. Regular TE does not provide bandwidth guarantees to different traffic classes. A single bandwidth pool (global pool) is used in regular TE that is shared by all traffic. In order to support various class of service (CoS), the ability to provide multiple bandwidth pools is required. These bandwidth pools then can be treated differently based on the requirement for the traffic class using that pool.

In RSVP global and subpools reservable bandwidths are configured on a per interface basis to accommodate TE tunnels on the node. Available bandwidth from all configured bandwidth pools is advertised using Interior Gateway Protocol (IGP). RSVP is used to signal the TE tunnel with appropriate bandwidth pool requirements.

NEW QUESTION 175

An engineer has been tasked to configure a guaranteed 2 Mbps of bandwidth for outgoing FTP traffic on interface FastEthernet 1/1/1 on Cisco IOS XR. Which method accomplishes this configuration?

- A. configure terminal class-map FTP_CLASS match protocol ftpexitpolicy-map POLICY_1 class FTP_CLASS bandwidth 2000exit exitinterface FastEthernet 1/1/1 service-policy output POLICY_1 endcommit
- B. configure terminal class-map FTP_CLASS match protocol ftpexitpolicy-map POLICY_1 class FTP_CLASS bandwidth 2000000 exitexitinterface FastEthernet 1/1/1 service-policy input POLICY_1 endcommit
- C. configure terminalaccess-list 100 permit ip any any eq 21 policy-map POLICY_1match ip access-list 100 bandwidth 2000exit exitinterface FastEthernet 1/1/1

```
service-policy output POLICY_1 endcommit  
D. configure terminal policy-map POLICY_1 class FTP_CLASS match protocol ftp bandwidth 2000000 exitexitinterface FastEthernet 1/1/1 service-policy input  
POLICY_1 endcommit
```

Answer: A

NEW QUESTION 177

Which two options are able to perform the MPLS label distribution function? (Choose two.)

- A. manual tagging
- B. static
- C. LDP
- D. RSVP-TE
- E. CEF

Answer: CD

NEW QUESTION 182

A network architect recently deployed AToM solutions for large enterprises over a service provider core network. The architect now asks to deploy QoS over the same VPN to reinforce the SLA for these customers. Which MPLS label field can be used for this purpose?

- A. discard/eligibility field
- B. type of service
- C. last 8 bits
- D. experimental bits

Answer: D

NEW QUESTION 187

Scenario:

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

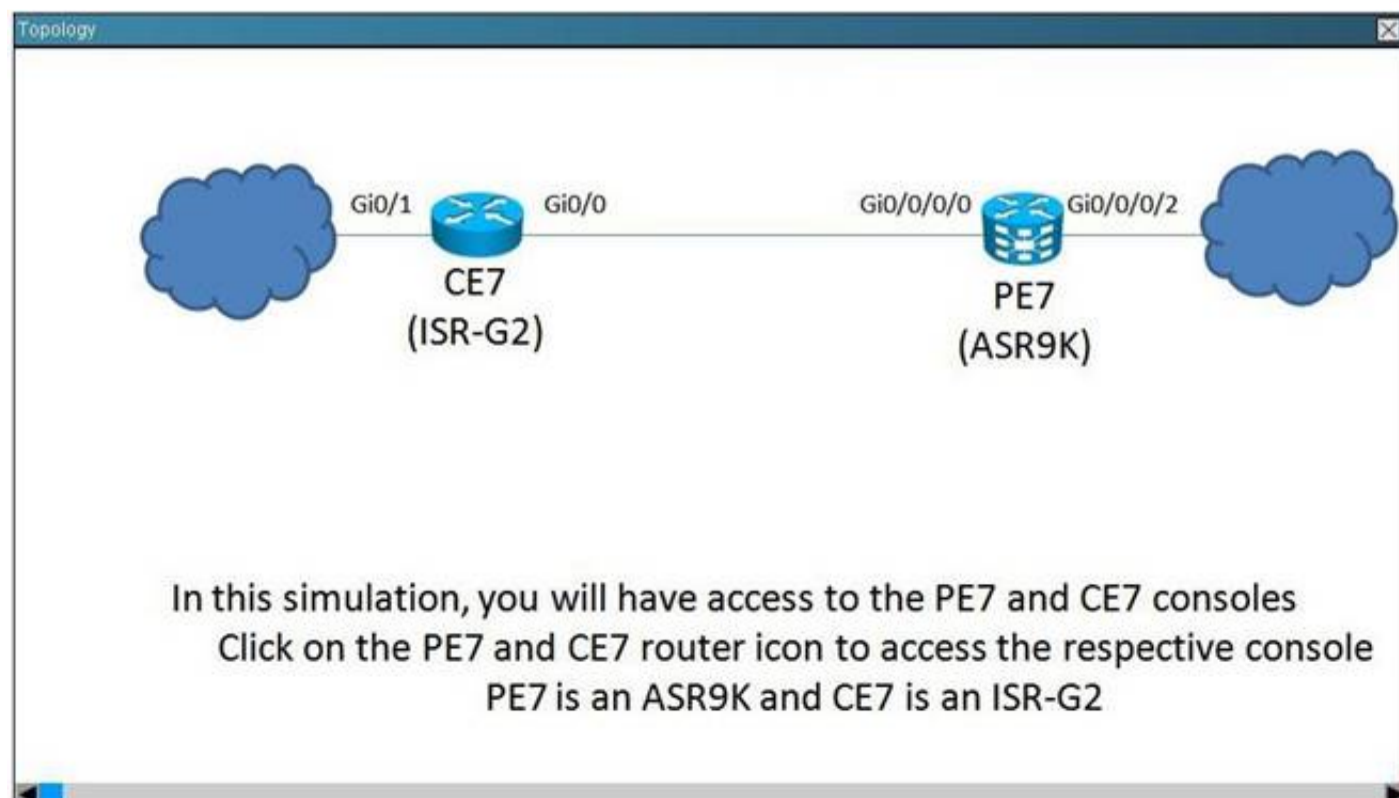
No console or enable passwords are required.

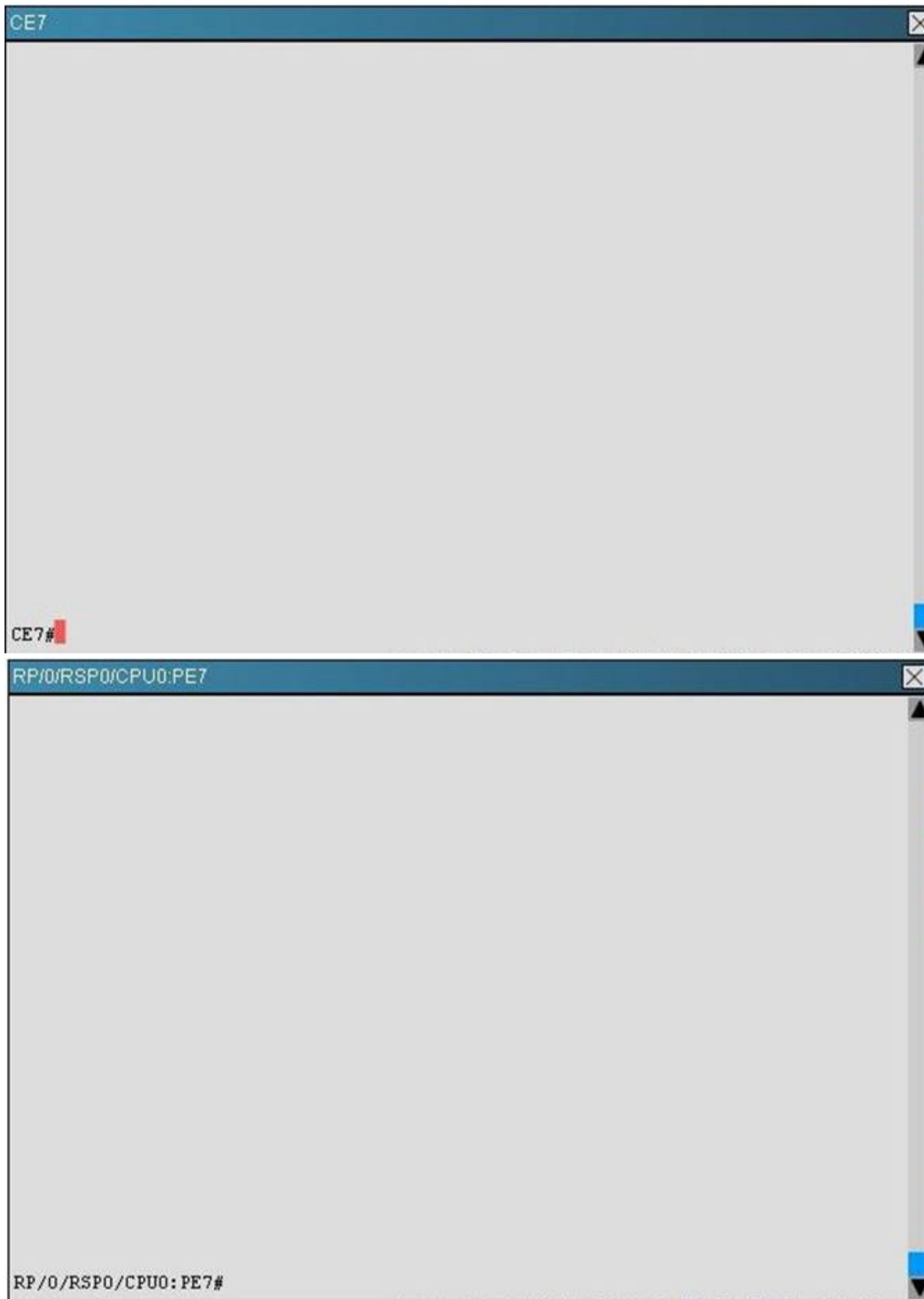
There are four multiple-choice questions with this task. Be sure to answer all four questions before selecting the Next button.

Not all the CLI commands or commands options are supported or required for this simulation. All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the CE7 and PE7 routers and interpret the supported CLI commands outputs to answer the four multiple choice questions.





After reviewing present router configuration CE7 .which two statements are correct regarding behavior of the "llq" policy-map? (Choose 2)

- A. Traffic matched by the "cisco1" class-map will be assigned to the priority queue.
- B. The "llq" QoS policy is applied to the gi0/0 interface in the output direction
- C. Traffic matched bythe"cisco2" class-map has a maximum bandwidth of 30%
- D. Traffic matched bythe"cisco3" class-map has no priority and has a minimum bandwidth guarantee of 20%
- E. There are no packets being matched by the "class-default" traffic class in the "llq" policy

Answer: AD

Explanation: You will notice that "cisco1" class map is assigned to the priority queue (the command is configured under policy-map llq class cisco1 priority xxx)
 "cisco2" class map: is indeed configured using bandwidth 30%, however that defines the minimum bandwidth but not the maximum.
 "cisco3" class map: is indeed configured using "bandwidth 20%", No priority configured and that will define the minimum guaranteed bandwidth.
 The last choice is wrong! check under "show policy-map interface" There are 4 or more packets being matched by the "class-default" traffic class in the "llq" policy.
 Class-map: class-default (match-any) 4 packets, 968 bytes

NEW QUESTION 192

Which three fields must be the same in an IPv6 header to consider different packets on the same flow? (Choose three.)

- A. source port
- B. destination address
- C. destination port
- D. source address

- E. flow label
- F. transport protocol type

Answer: BDE

NEW QUESTION 195

A service provider runs MPLS in its core. What is the relationship between FIB, LIB, and LFIB in this environment?

- A. Data from the FIB and LIB tables is used to generate the LFIB
- B. The FIB, LIB, and LFIB are populated independently
- C. The LIB and FIB are populated with labels and next-hop attributes in the control plane and are used to populate the LFIB
- D. The LFIB is populated with information from the IP routing table and is shared with the FIB and LIB to assign labels to the path

Answer: A

NEW QUESTION 199

On the Cisco ASR9K router, when using the bandwidth command to specify the minimum guaranteed bandwidth to be allocated for a specific class of traffic, what will be used as the queuing algorithm?

- A. custom queuing
- B. CBWFQ
- C. WFQ
- D. FIFO
- E. priority queuing

Answer: B

Explanation: Class based weighted fair queuing (CB-WFQ) was initially released without the support of a priority queuing system, thus it could not guarantee the delay and jitter (delay variation) requirements of real-time, interactive voice and video conversations. Since for CBWFQ, the weight for a packet belonging to a specific class is derived from the bandwidth assigned to the class, which in turn determines the order in which packets are sent. All packets are serviced fairly based on weight and no class of packets may be granted strict priority. This scheme poses problems for voice traffic that is largely intolerant of delay, especially variation in delay

NEW QUESTION 200

Which are typical class-based marking policies that are implemented on service provider IP NGN PE routers?

- A. On the PE ingress, classify the customer traffic and then mark with qos-group
- B. On the PE egress, classify based on the qos-group and then mark with mpls exp.
- C. On the PE ingress, classify the customer traffic and then mark with mpls ex
- D. On the PE egress, classify based on the mpls exp and then mark with qos-group.
- E. On the PE ingress, trust the customer QoS marking
- F. On the PE egress, classify based on the customer QoS markings and then mark with qos-group.
- G. On the PE ingress, trust the customer QoS marking
- H. On the PE egress, classify based on the customer QoS markings and then mark with mpls exp.

Answer: A

NEW QUESTION 205

The Cisco IOS and IOS XE qos pre-classify command allows which kind of packet classification on IP packets that are encapsulated with GRE and IPsec?

- A. allows for packets to be classified based on the ToS byte values before packet encryption
- B. allows for packets to be classified based on the ToS byte values after packet encryption
- C. allows for packets to be classified based on the packet payload before packet encryption
- D. allows for packets to be classified based on the packet payload after packet encryption
- E. allows for packets to be classified based on the packet header parameters other than the ToS byte values after packet encryption

Answer: A

Explanation: http://www.cisco.com/en/US/tech/tk543/tk545/technologies_tech_note09186a008017405e.shtml

The qos pre-classify command

When packets are encapsulated by tunnel or encryption headers, QoS features are unable to examine the original packet headers and correctly classify the packets. Packets traveling across the same tunnel have the same tunnel headers, so the packets are treated identically if the physical interface is congested. With the introduction of the Quality of Service for Virtual Private Networks (VPNs) feature, packets can now be classified before tunneling and encryption occur.

In this example, tunnel0 is the tunnel name. The qos pre-classify command enables the QoS for VPNs feature on tunnel0:

```
Router(config)# interface tunnel0
Router(config-if)# qos pre-classify
```

NEW QUESTION 206

Which Cisco IOS XR command should be used in order to enable LDP on all interfaces for which the IGP protocol is enabled?

- A. RP/0/0/CPU0:R1(config-ospf)#mpls ldp auto-config
- B. RP/0/0/CPU0:R1(config-ospf)#mpls ldp interface all enable
- C. RP/0/0/CPU0:R1(config-ospf)#enable all
- D. RP/0/0/CPU0:R1(config-ldp)#enable all

Answer: A

NEW QUESTION 210

The regional operation center deploys a Cisco MPLS TE tunnel over the company's core network. The Cisco MPLS TE tunnel is up and no error is detected, but no traffic is traversing the tunnel. Which two issues are possible causes? (Choose two.)

- A. The provider edge router is not performing the correct redistribution.
- B. The interior gateway protocol has no knowledge of the Cisco MPLS TE tunnel.
- C. No static route has been defined to route data traffic over the Cisco MPLS TE tunnel.
- D. The customer edge router is injecting rogue IPv4 prefixes in the provider edge routing table.
- E. The end-to-end label switched path has not been established.

Answer: BC

NEW QUESTION 214

A company is experiencing congestion on Internet T1 links that transport site-to-site IPsec tunnels between head offices. QoS configuration is being modified on these T1 links. Which option describes the result from this QoS configuration?

- A. VPN traffic is unaffected because the inner ToS field is encrypted and hidden from the policy
- B. The physical interface is affected by the new QoS configuration
- C. The internal VPN logical interface reflects the new QoS service policy
- D. IPsec protocol applications work independently of the QoS configuration

Answer: A

NEW QUESTION 218

You are configuring MPLS LDP in a new network segment and notice that LDP sessions are discovered but no sessions are established. Which issue is preventing the establishment of the LDP neighbors?

- A. The loopback addresses of the label switch routers are unavailable
- B. MPLS labels are not allocated for local routers
- C. IP Cisco Express Forwarding is disabled on the label switch routers
- D. An access link is blocking TCP port 711 on the MPLS routers

Answer: A

NEW QUESTION 221

Referring to the traceroute output exhibit that is shown,

```

pe1#traceroute 14.14.14.14
Type escape sequence to abort.
Tracing the route to 14.14.14.14
 0 37.37.37.1 [MPLS: Label 66 Exp 0] 40 msec 24 msec 28 msec
 1 78.78.78.2 [MPLS: Label 99 Exp 0] 28 msec 32 msec 28 msec
 2 181.181.181.1 [MPLS: Label 99 Exp 0] 36 msec 24 msec 24 msec
 3 110.110.110.1 28 msec 28 msec 28 msec
 4 103.103.103.2 [MPLS: Label 66 Exp 0] 28 msec 28 msec 24 msec
 5 135.135.135.2 28 msec 28 msec *

```

which statement is correct?

- A. There is no problem with the end-to-end LSP as indicated by the successful trace.
- B. Normal PHP operation is performed by the hop 4 router.
- C. The end-to-end LSP is broken at hop 4.
- D. At each hop, each LSR is able to perform label swapping.

Answer: C

NEW QUESTION 226

On the Cisco IOS XR, when using the match protocol command within a class-map to classify traffic, you noticed that the match protocol option on the Cisco IOS XR shows much fewer protocol options than on the Cisco IOS or IOS XE, like there is no option such as the match protocol yahoo-messenger command on the Cisco IOS XR. Why is this?

- A. because the Cisco IOS XR router does not have the correct software packages installed
- B. because when defining the class-map, the class-map type should be set to type inspect: class-map type inspect class-map-name command
- C. because NBAR is not supported on the Cisco IOS XR
- D. because flexible packet matching has not been enabled on the Cisco IOS XR router

Answer: C

NEW QUESTION 229

You are tasked to enable LDP on many of the interfaces on the Cisco CRS-3 router, and because there are many interfaces that need to have LDP enabled, you mistakenly did not enable LDP on all the required interfaces. To prevent this issue from happening again in the future, what could you do the next time you need to enable LDP on many interfaces?

- A. use the mpls ldp auto-config command under the IGP routing process
- B. use the mpls ldp sync command under the IGP routing process

- C. use the interface all command under the MPLS LDP process
- D. use the discovery command under the MPLS LDP process

Answer: A

NEW QUESTION 234

Which three network services can be implemented using MPLS within the service provider IP NGN core? (Choose three.)

- A. Layer 2 VPNs
- B. Layer 3 VPNs
- C. traffic engineering
- D. IntServ traffic engineering tunnels
- E. encrypted LSPs

Answer: ABC

NEW QUESTION 239

Which statement describes the QoS behavior between P and PE routers of an MPLS provider network for an L3VPN service?

- A. The PE function honors DSCP markings set by the CE.
- B. The customer and provider must agree on DSCP classification and traffic priorities.
- C. Classification of customer traffic is handled by the P router.
- D. The PE function cannot map DSCP markings to MPLS EXP bits.

Answer: B

NEW QUESTION 243

A DSCP value of 41 in decimal corresponds to which IP precedence value?

- A. 3 – Flash
- B. 4 – Flash Override
- C. 5 – Critical
- D. 6 – Internet Control
- E. 7 – Network Control

Answer: C

Explanation: = INT(41/8)

The AF behavior group defines four separate AF classes with Class 4 having the highest priority. Within each class, packets are given a drop precedence (high, medium or low). The combination of classes and drop precedence yields twelve separate DSCP encodings from AF11 through AF43 (see table)

Assured Forwarding (AF) Behavior Group

	Class 1 (lowest)	Class 2	Class 3	Class 4 (highest)
Low Drop	AF11 (DSCP 10)	AF21 (DSCP 18)	AF31 (DSCP 26)	AF41 (DSCP 34)
Med Drop	AF12 (DSCP 12)	AF22 (DSCP 20)	AF32 (DSCP 28)	AF42 (DSCP 36)
High Drop	AF13 (DSCP 14)	AF23 (DSCP 22)	AF33 (DSCP 30)	AF43 (DSCP 38)

NEW QUESTION 244

Which four options are methods by which labels can be assigned in the label stack to an IP prefix? (Choose four.)

- A. LDP
- B. CEF
- C. BGP
- D. RSVP
- E. static
- F. IGP
- G. route recursion
- H. manual tagging

Answer: ACDG

NEW QUESTION 249

What are the four fields inside the MPLS shim header? (Choose four.)

- A. EXP
- B. TTL
- C. Version
- D. S
- E. Length

- F. Label
- G. Type
- H. FCS

Answer: ABDF

NEW QUESTION 252

On Cisco routers, how is hierarchical QoS implemented?

- A. Within the parent policy, reference another child policy using the policy-map command.
- B. Within the child policy, reference another parent policy using the policy-map command.
- C. Use the policy-map command within a service-policy to implement nested policy-maps.
- D. Within the parent policy-map, reference another child policy-map using the service-policy command.

Answer: D

NEW QUESTION 257

An engineer is working in a service provider environment to troubleshoot a MPLS VPN. The engineer determines that LDP neighborship is flapping between two routers and causing disruption to the traffic. Which LDP feature can help to solve the issue?

- A. LDP Discovery
- B. LDP auto-configuration
- C. LDP graceful-restart
- D. LDP NSF

Answer: C

NEW QUESTION 259

Which two of the following statements are correct regarding LSPs? (Choose two.)

- A. An LSP is created for every routing protocol entry.
- B. Each LSP is bidirectional, that is, packets traveling in the opposite direction use the same LSP.
- C. An IGP is used to populate routing tables in all routers in an MPLS domain.
- D. LDP is used to propagate labels and build LSPs.
- E. The FIB is used to forward MPLS-labeled packets down an LSP.

Answer: CD

NEW QUESTION 260

Which two network devices are trusted endpoints in a network? (Choose two.)

- A. video endpoint
- B. PC
- C. wireless clients
- D. IP phone

Answer: AD

NEW QUESTION 264

A network engineer wants to implement QoS in an environment in which GRE tunnels are used. The engineer creates a policy map to classify the traffic and applies the map to the physical interface. Despite a successful ping to the end of the tunnel, the counter of the class-map ICMP does not register a hit. How can the engineer fix this problem?

- A. enable QoS preclassify in the tunnel interface
- B. send the ping with source tunnel 0
- C. send the ping with source F0/0
- D. enable QoS preclassify in the physical interface

Answer: A

NEW QUESTION 267

An engineer is tasked to deploy Fast Reroute for Cisco MPLS TE. Which LSR is in charge to request the Fast Reroute capability along the LSP?

- A. point of local repair
- B. tail end router
- C. ingress and egress PE routers
- D. head-end router
- E. BGP routers acting as route reflectors

Answer: D

NEW QUESTION 271

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