

**QUESTION 1**  
(Topic 1)

Refer to the exhibit.

```
R1# show ip route  
  
D      192.168.16.0/26 [90/2679326] via 192.168.1.1  
R      192.168.16.0/24 [120/3] via 192.168.1.2  
O      192.168.16.0/21 [110/2] via 192.168.1.3  
i L1    192.168.16.0/27 [115/30] via 192.168.1.4
```

Which route does R1 select for traffic that is destined to 192.168.16.2?

- A. 192.168.16.0/21
- B. 192.168.16.0/24
- C. 192.168.16.0/26
- D. 192.168.16.0/27

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 2**  
- (Topic 1)

Which technology can prevent client devices from arbitrarily connecting to the network without state remediation?

- A. 802.1x
- B. IP Source Guard
- C. MAC Authentication Bypass
- D. 802.11n

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 3**  
- (Topic 1)

An engineer observes high usage on the 2.4GHz channels and lower usage on the 5GHz channels. What must be configured to allow clients to preferentially use 5GHz access points?

- A. Re- Anchor Roamed Clients
- B. 11ac MU-MIMO
- C. OEPAP Split Tunnel
- D. Client Band Select

**Correct Answer:** D

**Section:** (none)

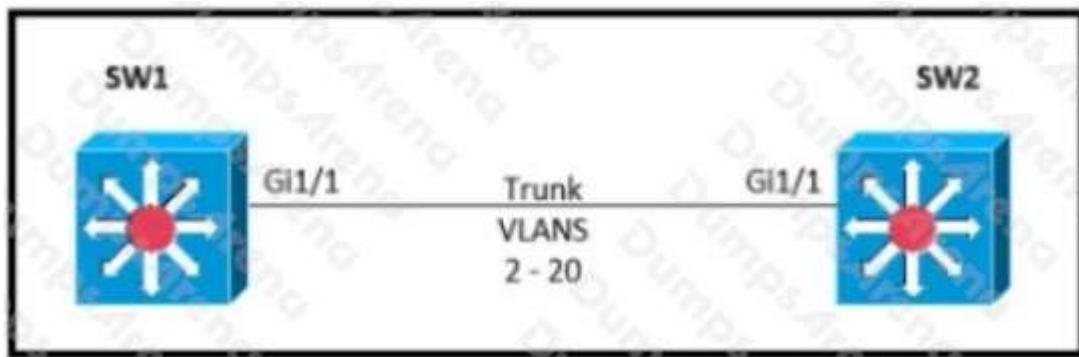
**Explanation**

**Explanation/Reference:**

**QUESTION 4**

- (Topic 1)

Refer to the exhibit.



Which command must be executed for Gi1.1 on SW1 to become a trunk port if Gi1/1 on SW2 is configured in desirable or trunk mode?

- A. switchport mode trunk
- B. switchport mode dot1-tunnel
- C. switchport mode dynamic auto
- D. switchport mode dynamic desirable

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 5**

- (Topic 1)

Which IPv6 address type provides communication between subnets and is unable to route on the Internet?

- A. global unicast
- B. unique local
- C. link-local

D. multicast

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 6**

- (Topic 1)

What are two descriptions of three-tier network topologies? (Choose two)

- A. The core and distribution layers perform the same functions
- B. The access layer manages routing between devices in different domains
- C. The network core is designed to maintain continuous connectivity when devices fail.
- D. The core layer maintains wired connections for each host
- E. The distribution layer runs Layer 2 and Layer 3 technologies

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 7**

- (Topic 1)

Refer to the exhibit.

```
SW1(config-line)#line vty 0 15
SW1(config-line)#no login local
SW1(config-line)#password cisco

SW2(config)#username admin1 password abcd1234
SW2(config)#username admin2 password abcd1234
SW2(config-line)#line vty 0 15
SW2(config-line)#login local

SW3(config)#username admin1 secret abcd1234
SW3(config)#username admin2 secret abcd1234
SW3(config-line)#line vty 0 15
SW3(config-line)#login local

SW4(config)#username admin1 secret abcd1234
SW4(config)#username admin2 secret abcd1234
SW4(config-line)#line console 0
SW4(config-line)#login local
```

An administrator configures four switches for local authentication using passwords that are stored in a cryptographic hash. The four switches must also support SSH access for administrators to manage the network infrastructure. Which switch is configured correctly to meet these requirements?

- A. SW1
- B. SW2
- C. SW3
- D. SW4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 8**

- (Topic 1)

What is a role of access points in an enterprise network?

- A. connect wireless devices to a wired network
- B. support secure user logins to devices or the network
- C. integrate with SNMP in preventing DDoS attacks

- D. serve as a first line of defense in an enterprise network

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 9**

- (Topic 1)

What is a function of TFTP in network operations?

- A. transfers a backup configuration file from a server to a switch using a username and password
- B. transfers files between file systems on a router
- C. transfers a configuration files from a server to a router on a congested link
  
- D. transfers IOS images from a server to a router for firmware upgrades

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 10**

- (Topic 1)

A network engineer must create a diagram of a multivendor network. Which command must be configured on the Cisco devices so that the topology of the network can be mapped?

- A. Device(Config)#lldp run
- B. Device(Config)#cdp run
- C. Device(Config-if)#cdp enable
- D. Device(Config)#flow-sampler-map topology

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 11**

- (Topic 1)

What is the same for both copper and fiber interfaces when using SFP modules?

- A. They support an inline optical attenuator to enhance signal strength
- B. They provide minimal interruption to services by being hot-swappable
- C. They offer reliable bandwidth up to 100 Mbps in half duplex mode
- D. They accommodate single-mode and multi-mode in a single module

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 12**

- (Topic 1)

When a WLAN with WPA2 PSK is configured in the Wireless LAN Controller GUI which format is supported?

- A. Unicode
- B. base64
- C. decimal
- D. ASCII

**Correct Answer:** D

**Section:** (none)

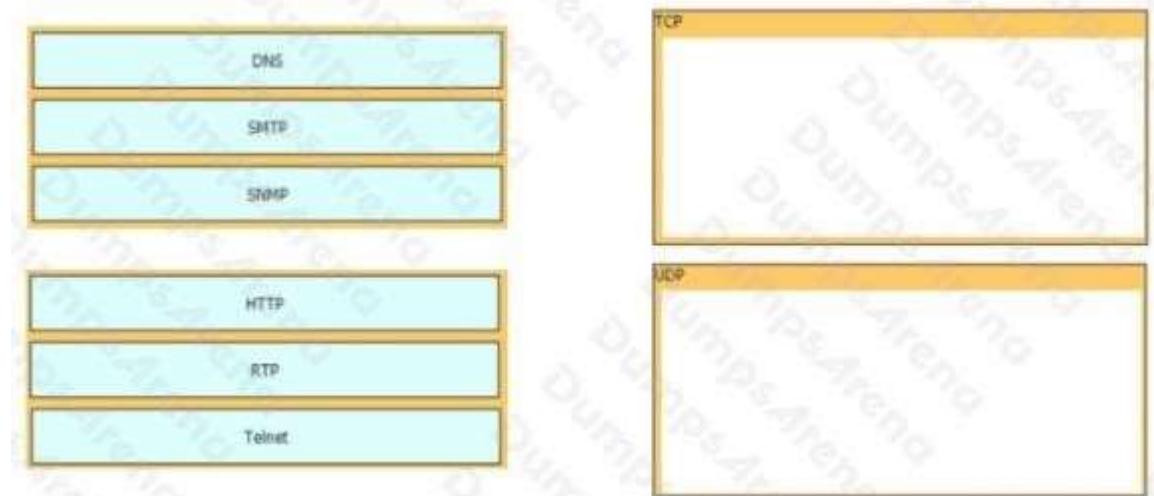
**Explanation**

**Explanation/Reference:**

**QUESTION 13**

- (DRAG DROP) - (Topic 1)

Drag and drop the TCP/IP protocols from the left onto the transmission protocols on the right



A.

B.

C.

D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 14**

- (Topic 1)

When deploying syslog, which severity level logs informational message?

- A. 0
- B. 2
- C. 4
- D. 6

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 15**

- (Topic 1)

Refer to the exhibit.

R1#show ip interface brief					
Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	unassigned	YES	NVRAM	administratively down	down
GigabitEthernet1/0	192.168.0.1	YES	NVRAM	up	up
GigabitEthernet2/0	10.10.1.10	YES	manual	up	up
GigabitEthernet3/0	10.10.10.20	YES	manual	up	up
GigabitEthernet4/0	unassigned	YES	NVRAM	administratively down	down
Loopback0	172.16.15.10	YES	manual		

What does router R1 use as its OSPF router-ID?

- A. 10.10.1.10
- B. 10.10.10.20
- C. 172.16.15.10
- D. 192.168.0.1

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 16

- (Topic 1)

Which protocol does an access point use to draw power from a connected switch?

- A. Internet Group Management Protocol
- B. Adaptive Wireless Path Protocol
- C. Cisco Discovery Protocol
- D. Neighbor Discovery Protocol

**Correct Answer:** C

**Section:** (none)

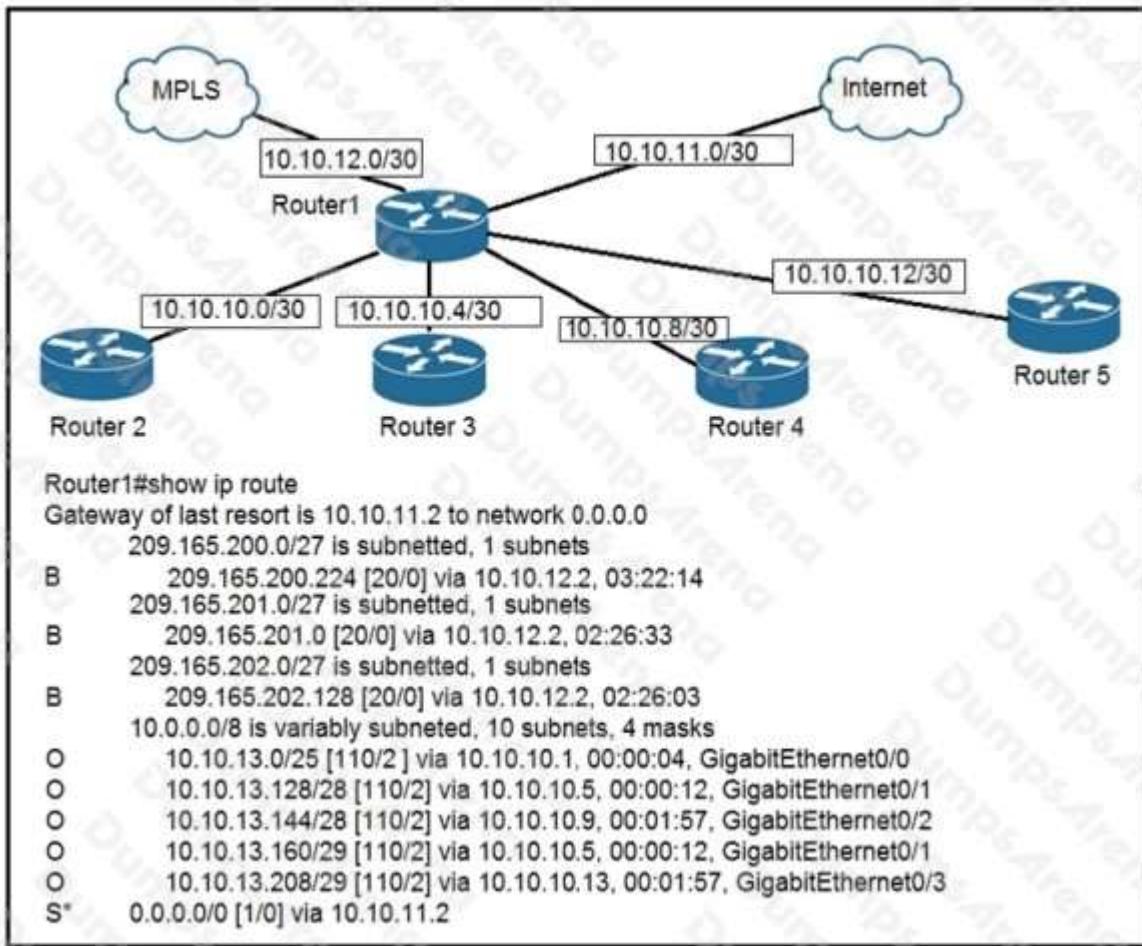
**Explanation**

**Explanation/Reference:**

#### QUESTION 17

- (Topic 1)

Refer to the exhibit.



To which device does Router1 send packets that are destined to host 10.10.13.165?

- A. Router2
- B. Router3
- C. Router4
- D. Router5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 18

- (Topic 1)

Which networking function occurs on the data plane?

- A. forwarding remote client/server traffic
- B. facilitates spanning-tree elections
- C. processing inbound SSH management traffic

D. sending and receiving OSPF Hello packets

**Correct Answer:** A

**Section:** (none)

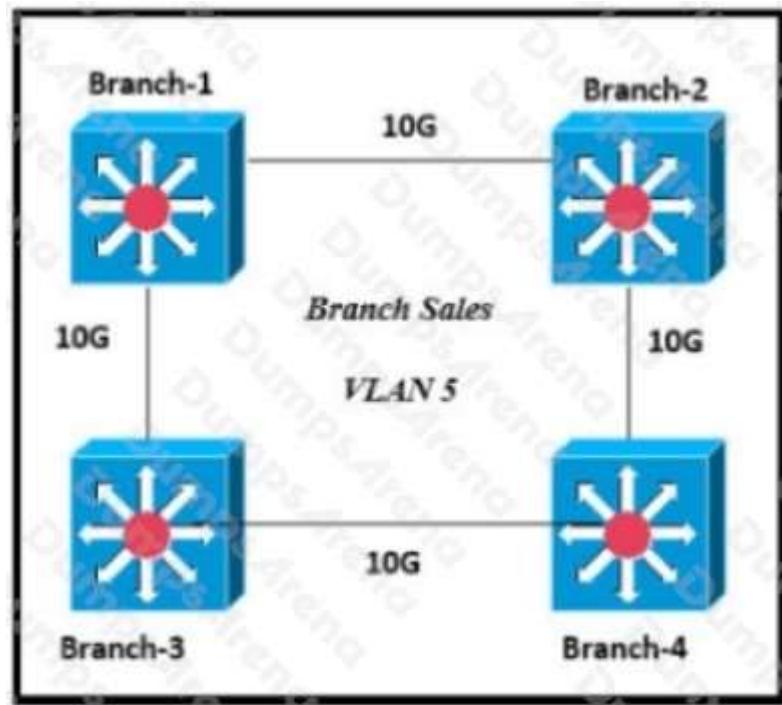
**Explanation**

**Explanation/Reference:**

**QUESTION 19**

- (Topic 1)

Refer to the exhibit.



Only four switches are participating in the VLAN spanning-tree process.

Branch-1 priority 614440

Branch-2: priority 39082416

Branch-3: priority 0

Branch-4: root primary

Which switch becomes the permanent root bridge for VLAN 5?

- A. Branch-1
- B. Branch-2
- C. Branch-3

D. Branch-4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 20**

- (Topic 1)

Which two tasks must be performed to configure NTP to a trusted server in client mode on a single network device? (Choose two)

- A. Enable NTP authentication.
- B. Verify the time zone.
- C. Disable NTP broadcasts
- D. Specify the IP address of the NTP server
  
- E. Set the NTP server private key

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 21**

- (Topic 1)

Refer to the exhibit.

```
SiteA#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02a.db91 (bia 780a.f02b.db91)
  Description: Connection to SiteB
  Internet address is 10.10.10.1/30
  MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 166/255, txload 1/255, rxload 1/255
  Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
  5 minute input rate 264797000 bits/sec, 26672 packets/sec
  5 minute output rate 122464000 bits/sec, 15724 packets/sec

SiteB#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02c.db26 (bia 780c.f02c.db26)
  Description: Connection to SiteA
  Internet address is 10.10.10.2/30
  MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
  5 minute input rate 122464000 bits/sec, 15724 packets/sec
  5 minute output rate 264797000 bits/sec, 26672 packets/sec
```

Shortly after SiteA was connected to SiteB over a new single-mode fiber path users at SiteA report intermittent

connectivity issues with applications hosted at SiteB What is the cause of the intermittent connectivity issue?

- A. Interface errors are incrementing
- B. An incorrect SFP media type was used at SiteA
- C. High usage is causing high latency
- D. The sites were connected with the wrong cable type

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 22**

- (Topic 1)

Where does a switch maintain DHCP snooping information?

- A. in the MAC address table
- B. in the CAM table
- C. in the binding database
  
- D. in the frame forwarding database

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 23**

- (Topic 1)

Refer to the exhibit.

```
SW1#show run int gig 0/1
interface GigabitEthernet0/1
    switchport access vlan 11
    switchport trunk allowed vlan 1-10
    switchport trunk encapsulation dot1q
    switchport trunk native vlan 5
    switchport mode trunk
    speed 1000
    duplex full
```

Which action is expected from SW1 when the untagged frame is received on the GigabitEthernet0/1 interface?

- A. The frame is processed in VLAN 5.
- B. The frame is processed in VLAN 11
- C. The frame is processed in VLAN 1
- D. The frame is dropped

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 24

- (Topic 1)

Refer to the exhibit.

```
SW1#sh lacp neighbor
Flags: S - Device is requesting Slow LACPDU
      F - Device is requesting Fast LACPDU
      A - Device is in Active mode      P - Device is in Passive mode
```

Channel group 35 neighbors

Partner's information:

Port	Flags	LACP port Priority	Dev ID	Age	Admin key	Oper key	Port Number	Port State
Et1/0	SP	32768	aabb.cc80.7000	8s	0x0	0x23	0x101	0x3C
Et1/1	SP	32768	aabb.cc80.7000	8s	0x0	0x23	0x102	0x3C

Based on the LACP neighbor status, in which mode is the SW1 port channel configured?

- A. passive
- B. mode on
- C. auto
- D. active

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 25

- (DRAG DROP) - (Topic 1)

Refer to the exhibit.

```
[root@HostTest ~]# ip route
default via 192.168.1.193 dev eth1 proto static
192.168.1.0/26 dev eth1 proto kernel scope link src 192.168.1.200 metric 1

[root@HostTest ~]# ip addr show eth1
eth1: mtu 1500 qdisc pfifo_fast qlen 1000
    link/ether 00:0C:22:83:79:A3 brd ff:ff:ff:ff:ff:ff
        inet 192.168.1.200/26 brd 192.168.1.255 scope global eth1
            inet6 fe80::20c:29ff:fe89:79b3/64 scope link
                valid_lft forever preferred_lft forever
```

Drag and drop the networking parameters from the left onto the correct values on the right.

default gateway	00:0C:22
host IP address	00:0C:22:83:79:A3
NIC MAC address	192.168.1.193
NIC vendor OUI	192.168.1.200
subnet mask	255.255.255.192

A.

- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



## **QUESTION 26**

- (Topic 1)

Which result occurs when PortFast is enabled on an interface that is connected to another switch?

- A. Spanning tree may fail to detect a switching loop in the network that causes broadcast storms
- B. VTP is allowed to propagate VLAN configuration information from switch to switch automatically.
- C. Root port choice and spanning tree recalculation are accelerated when a switch link goes down
- D. After spanning tree converges PortFast shuts down any port that receives BPDUs.

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## **QUESTION 27**

- (Topic 1)

What is the primary difference between AAA authentication and authorization?

- A. Authentication verifies a username and password, and authorization handles the communication between the authentication agent and the user database.
- B. Authentication identifies a user who is attempting to access a system, and authorization validates the users password
- C. Authentication identifies and verifies a user who is attempting to access a system, and authorization controls the tasks the user can perform.

- D. Authentication controls the system processes a user can access and authorization logs the activities the user initiates

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 28**

- (Topic 1)

A network administrator must to configure SSH for remote access to router R1. The requirement is to use a public and private key pair to encrypt management traffic to and from the connecting client.

Which configuration, when applied, meets the requirements?

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 2048
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate rsa modulus 1024
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 1024
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key encrypt rsa name myKey
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 29**

- (Topic 1)

A network engineer must configure the router R1 GigabitEthernet1/1 interface to connect to the router R2 GigabitEthernet1/1 interface. For the configuration to be applied the engineer must compress the address 2001:0db8:0000:0000:0500:000a:400F:583B. Which command must be issued on the interface?

- A. ipv6 address 2001:0db8::5: a: 4F 583B
- B. ipv6 address 2001:db8::500:a:400F:583B
- C. ipv6 address 2001 db8:0::500:a:4F:583B
- D. ipv6 address 2001::db8:0000::500:a:400F:583B

**Correct Answer:** B

**Section:** (none)

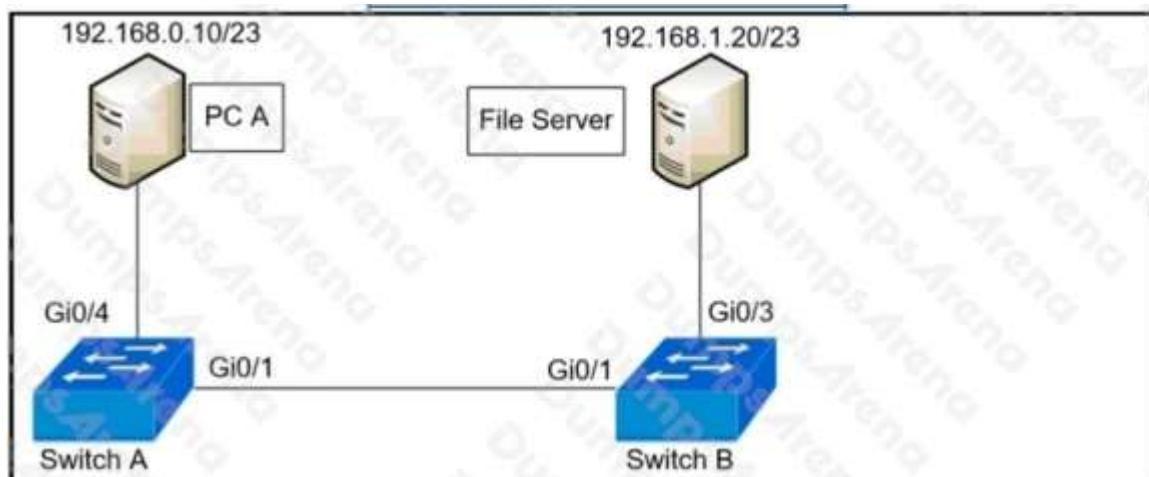
**Explanation**

**Explanation/Reference:**

#### QUESTION 30

- (Topic 1)

Refer to the exhibit.



**Switch A**  
Vlan 10,11,12,13

```
interface GigabitEthernet0/1
switchport mode trunk
switchport trunk allowed vlan 10-12
!
interface GigabitEthernet0/4
switchport access vlan 13
switchport mode access
```

**Switch B**  
Vlan 10,11,12,13

```
interface GigabitEthernet0/1
switchport mode trunk
!
interface GigabitEthernet0/3
switchport access vlan 13
switchport mode access
```

A network administrator assumes a task to complete the connectivity between PC A and the File Server. Switch A and Switch B have been partially configured with VLAN 10, 11, 12, and 13. What is the next step in the

configuration?

- A. Add PC A to VLAN 10 and the File Server to VLAN 11 for VLAN segmentation
- B. Add VLAN 13 to the trunk links on Switch A and Switch B for VLAN propagation
- C. Add a router on a stick between Switch A and Switch B allowing for Inter-VLAN routing.
- D. Add PC A to the same subnet as the File Server allowing for intra-VLAN communication.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 31**

- (Topic 1)

Which goal is achieved by the implementation of private IPv4 addressing on a network?

- A. provides an added level of protection against Internet exposure
- B. provides a reduction in size of the forwarding table on network routers
- C. allows communication across the Internet to other private networks
- D. allows servers and workstations to communicate across public network boundaries

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 32**

- (Topic 1)

What is a characteristic of spine-and-leaf architecture?

- A. Each device is separated by the same number of hops
- B. It provides variable latency
- C. It provides greater predictability on STP blocked ports.
- D. Each link between leaf switches allows for higher bandwidth.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 33**

- (Topic 1)

A router running EIGRP has learned the same route from two different paths. Which parameter does the router

use to select the best path?

- A. cost
- B. administrative distance
- C. metric
- D. as-path

**Correct Answer:** C

**Section:** (none)

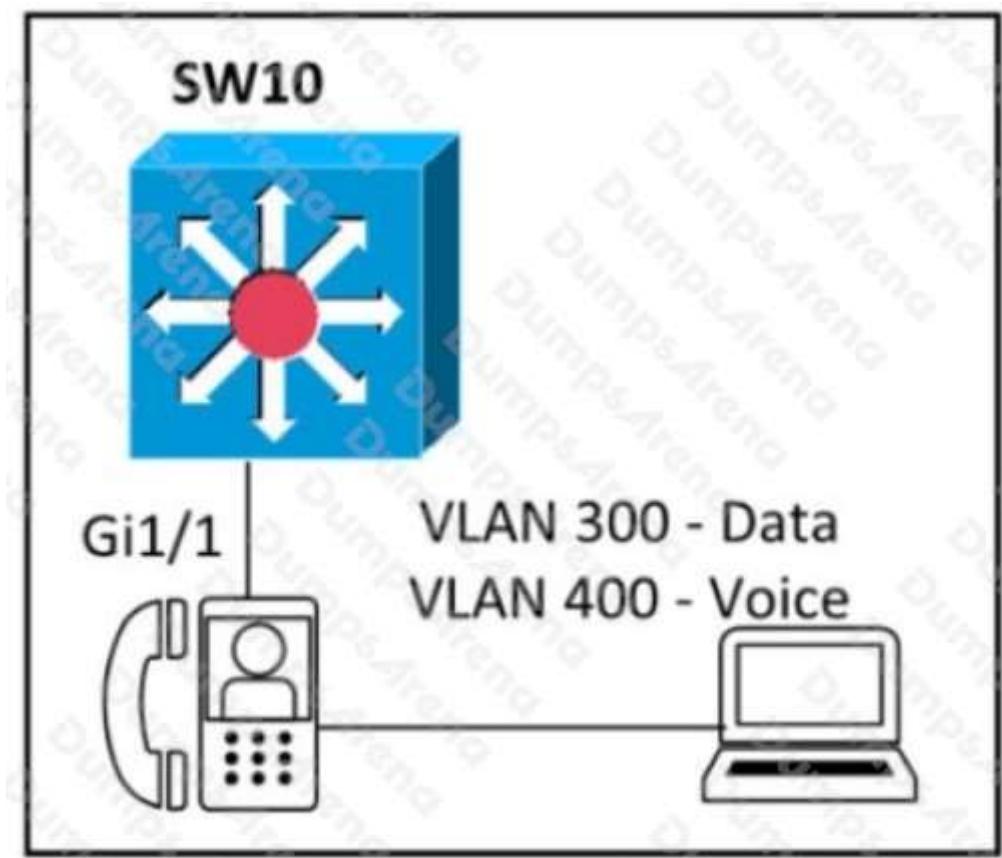
**Explanation**

**Explanation/Reference:**

**QUESTION 34**

- (Topic 1)

Refer to the exhibit.



An engineer must configure GigabitEthernet1/1 to accommodate voice and data traffic. Which configuration accomplishes this task?

```
interface gigabitethernet1/1
switchport mode access
switchport access vlan 300
switchport voice vlan 400
```

```
interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport voice vlan 400
```

```
interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport trunk vlan 400
```

```
interface gigabitethernet1/1
switchport mode access
switchport voice vlan 300
switchport access vlan 400
```

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 35**

- (Topic 1)

Refer to the exhibit.

Designated Router (ID) 10.11.11.11, Interface address 10.10.10.1  
Backup Designated router (ID) 10.3.3.3, Interface address 10.10.10.3  
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5  
oob-resync timeout 40  
Hello due in 00:00:08  
Supports Link-local Signaling (LLS)  
Cisco NSF helper support enabled  
IETF NSF helper support enabled  
Index 1/1/1, flood queue length 0  
Next 0x0(0)/0x0(0)/0x0(0)  
Last flood scan length is 1, maximum is 6  
Last flood scan time is 0 msec, maximum is 1 msec  
Neighbor Count is 3, Adjacent neighbor count is 3  
Adjacent with neighbor 10.1.1.4  
Adjacent with neighbor 10.2.2.2  
Adjacent with neighbor 10.3.3.3 (Backup Designated Router)  
Suppress hello for 0 neighbor(s)

The show ip ospf interface command has been executed on R1 How is OSPF configured?

- A. The interface is not participating in OSPF
- B. A point-to-point network type is configured
- C. The default Hello and Dead timers are in use
- D. There are six OSPF neighbors on this interface

**Correct Answer:** C

**Section:** (none)

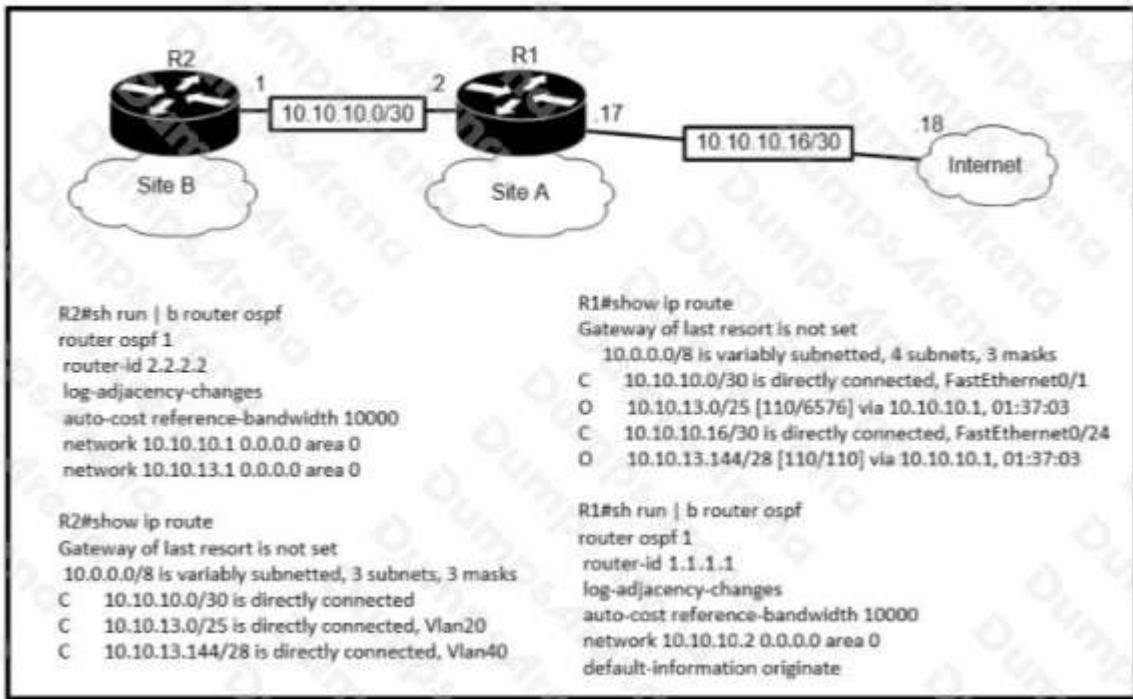
**Explanation**

**Explanation/Reference:**

#### **QUESTION 36**

- (Topic 1)

Refer to the exhibit.



An engineer is bringing up a new circuit to the MPLS provider on the Gi0/1 interface of Router1. The new circuit uses eBGP and teams the route to VLAN25 from the BGP path. What's the expected behavior for the traffic flow for route 10.10.13.0/25?

- A. Traffic to 10.10.13.0.25 is load balanced out of multiple interfaces
- B. Route 10.10.13.0/25 is updated in the routing table as being learned from interface Gi0/1.
- C. Traffic to 10.10.13.0/25 is asymmetrical
- D. Route 10.10.13.0/25 learned via the Gi0/0 interface remains in the routing table

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 37

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
S  172.16.0.0/24 [1/0] via 207.165.200.250, Serial0/0/0
O  172.16.0.128/25 [110/38443] via 207.165.200.254, 00:00:23, Serial0/0/1
D  172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:25, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C  209.165.200.248/30 is directly connected, Serial0/0/0
L  209.165.200.249/32 is directly connected, Serial0/0/0
C  209.165.200.252/30 is directly connected, Serial0/0/1
L  209.165.200.253/32 is directly connected, Serial0/0/1
```

With which metric was the route to host 172.16.0.202 learned?

- A. 0
- B. 110
- C. 38443
- D. 3184439

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 38

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route
...
D      172.16.32.0/27 [90/2888597172]  via 20.1.1.1
O      172.16.32.0/19  [110/292094]   via 20.1.1.10
R      172.16.32.0/24  [120/2]        via 20.1.1.3
```

Router R1 is running three different routing protocols. Which route characteristic is used by the router to forward the packet that it receives for destination IP 172.16.32.1?

- A. longest prefix
- B. metric
- C. cost
- D. administrative distance

**Correct Answer:** A

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 39**

- (Topic 1)

What are two benefits of network automation? (Choose two)

- A. reduced operational costs
- B. reduced hardware footprint
- C. faster changes with more reliable results
- D. fewer network failures
- E. increased network security

**Correct Answer:** AC

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 40**

- (Topic 1)

An administrator must secure the WLC from receiving spoofed association requests. Which steps must be taken to configure the WLC to restrict the requests and force the user to wait 10 ms to retry an association request?

- A. Enable Security Association Teardown Protection and set the SA Query timeout to 10
- B. Enable MAC filtering and set the SA Query timeout to 10
- C. Enable 802.1x Layer 2 security and set me Comeback timer to 10
- D. Enable the Protected Management Frame service and set the Comeback timer to 10

**Correct Answer:** C

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 41**

- (Topic 1)

Which function does an SNMP agent perform?

- A. it sends information about MIB variables in response to requests from the NMS
- B. it requests information from remote network nodes about catastrophic system events.
- C. it manages routing between Layer 3 devices in a network
- D. it coordinates user authentication between a network device and a TACACS+ or RADIUS server

**Correct Answer:** A

**Section:** (none)

## Explanation

### Explanation/Reference:

#### QUESTION 42

- (Topic 1)

What is the effect when loopback interfaces and the configured router ID are absent during the OSPF Process configuration?

- A. No router ID is set, and the OSPF protocol does not run.
- B. The highest up/up physical interface IP address is selected as the router ID.
- C. The lowest IP address is incremented by 1 and selected as the router ID.
- D. The router ID 0.0.0.0 is selected and placed in the OSPF process.

**Correct Answer:** B

**Section:** (none)

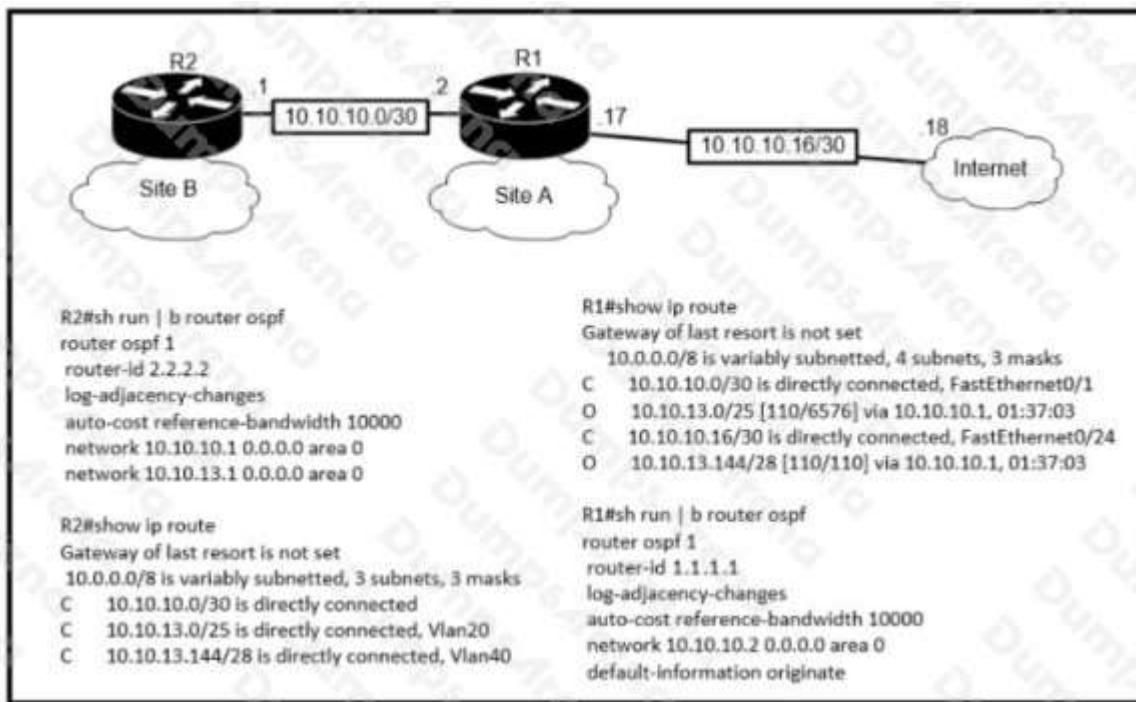
**Explanation**

### Explanation/Reference:

#### QUESTION 43

- (Topic 1)

Refer to the exhibit.



The default-information originate command is configured under the R1 OSPF configuration After testing

workstations on VLAN 20 at Site B cannot reach a DNS server on the Internet Which action corrects the configuration issue?

- A. Add the default-information originate command on R2
- B. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.18 command on R1
- C. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.2 command on R2
- D. Add the always keyword to the default-information originate command on R1

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 44**

- (Topic 1)

Refer to Exhibit.

```
SW2
vtp domain cisco
vtp mode transparent
vtp password ciscotest
interface fastethernet0/1
  description connection to sw1
  switchport mode trunk
  switchport trunk encapsulation dot1q
```

How does SW2 interact with other switches in this VTP domain?

- A. It processes VTP updates from any VTP clients on the network on its access ports.
- B. It receives updates from all VTP servers and forwards all locally configured VLANs out all trunk ports
- C. It forwards only the VTP advertisements that it receives on its trunk ports.
- D. It transmits and processes VTP updates from any VTP Clients on the network on its trunk ports

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 45**

- (Topic 1)

Which condition must be met before an NMS handles an SNMP trap from an agent?

- A. The NMS software must be loaded with the MIB associated with the trap.
- B. The NMS must be configured on the same router as the SNMP agent

- C. The NMS must receive a trap and an inform message from the SNMP agent within a configured interval
- D. The NMS must receive the same trap from two different SNMP agents to verify that it is reliable.

**Correct Answer: A**

**Section: (none)**

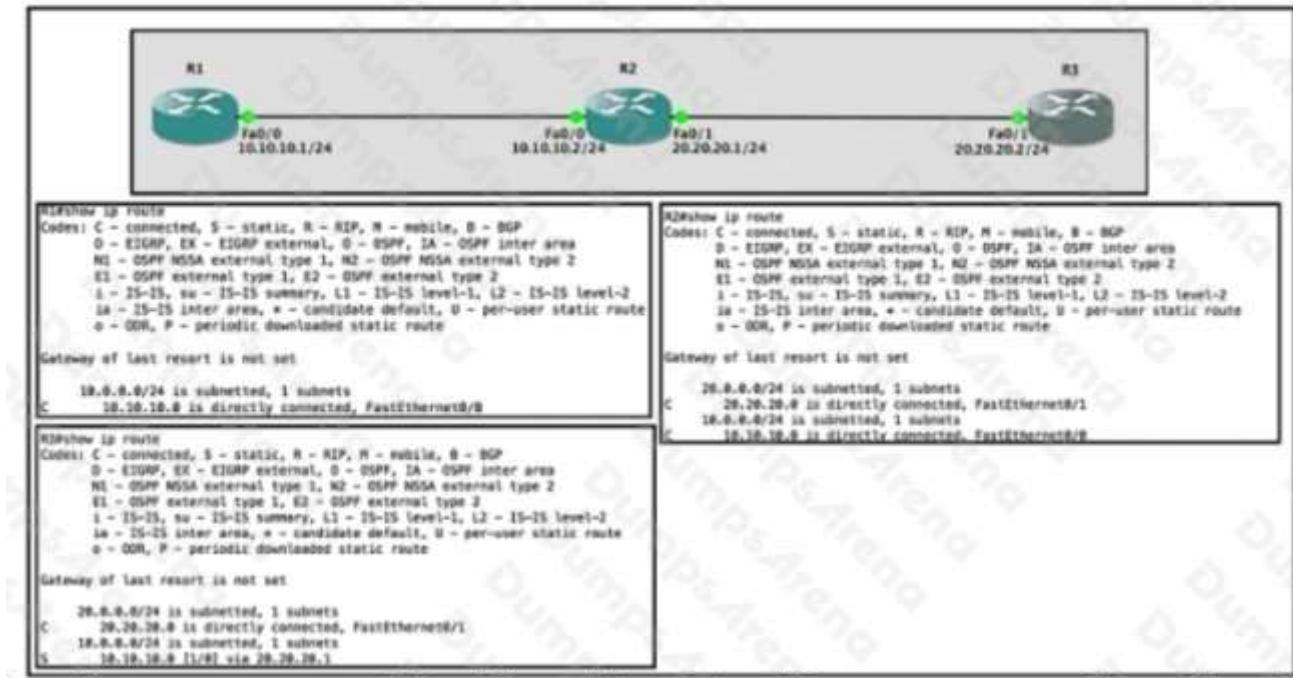
**Explanation**

**Explanation/Reference:**

#### QUESTION 46

- (Topic 1)

Refer to the exhibit.



Router R1 Fa0/0 is unable ping router R3 Fa0/1.

Which action must be taken in router R1 to help resolve the configuration issue?

- A. set the default network as 20.20.20.0/24
- B. set the default gateway as 20.20.20.2
- C. configure a static route with Fa0/1 as the egress interface to reach the 20.20.20.0/24 network
- D. configure a static route with 10.10.10.2 as the next hop to reach the 20.20.20.0/24 network

**Correct Answer: D**

**Section: (none)**

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 47**

- (Topic 1)

How does a Cisco Unified Wireless network respond to Wi-Fi channel overlap?

- A. It alternates automatically between 2.4 GHz and 5 GHz on adjacent access points
- B. It allows the administrator to assign channels on a per-device or per-interface basis.
- C. It segregates devices from different manufacturers onto different channels.
- D. It analyzes client load and background noise and dynamically assigns a channel.

**Correct Answer:** A

**Section:** (none)

**Explanation**

### **Explanation/Reference:**

#### **QUESTION 48**

- (Topic 1)

When a site-to-site VPN is used, which protocol is responsible for the transport of user data?

- A. IKEv2
- B. IKEv1
- C. IPsec
- D. MD5

**Correct Answer:** C

**Section:** (none)

**Explanation**

### **Explanation/Reference:**

#### **QUESTION 49**

- (Topic 1)

An engineer is configuring NAT to translate the source subnet of 10.10.0.0/24 to any of three addresses 192.168.30.1, 192.168.3.2, 192.168.3.3 Which configuration should be used?

```
enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
route-map permit 10.10.0.0 255.255.255.0  
ip nat outside destination list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside  
  
enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.255  
ip nat inside source list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside
```

```
enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.255  
ip nat outside destination list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside  
  
enable  
configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.254  
ip nat inside source list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 50**

- (Topic 1)

What is the primary function of a Layer 3 device?

- A. to analyze traffic and drop unauthorized traffic from the Internet
- B. to transmit wireless traffic between hosts
- C. to pass traffic between different networks
- D. forward traffic within the same broadcast domain

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 51**

- (Topic 1)

Router A learns the same route from two different neighbors, one of the neighbor routers is an OSPF neighbor and the other is an EIGRP neighbor. What is the administrative distance of the route that will be installed in the routing table?

- A. 20
- B. 90
- C. 110
- D. 115

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 52**

- (Topic 1)

When the active router in an HSRP group fails, what router assumes the role and forwards packets?

- A. backup
- B. standby
- C. listening
- D. forwarding

**Correct Answer:** B

**Section:** (none)

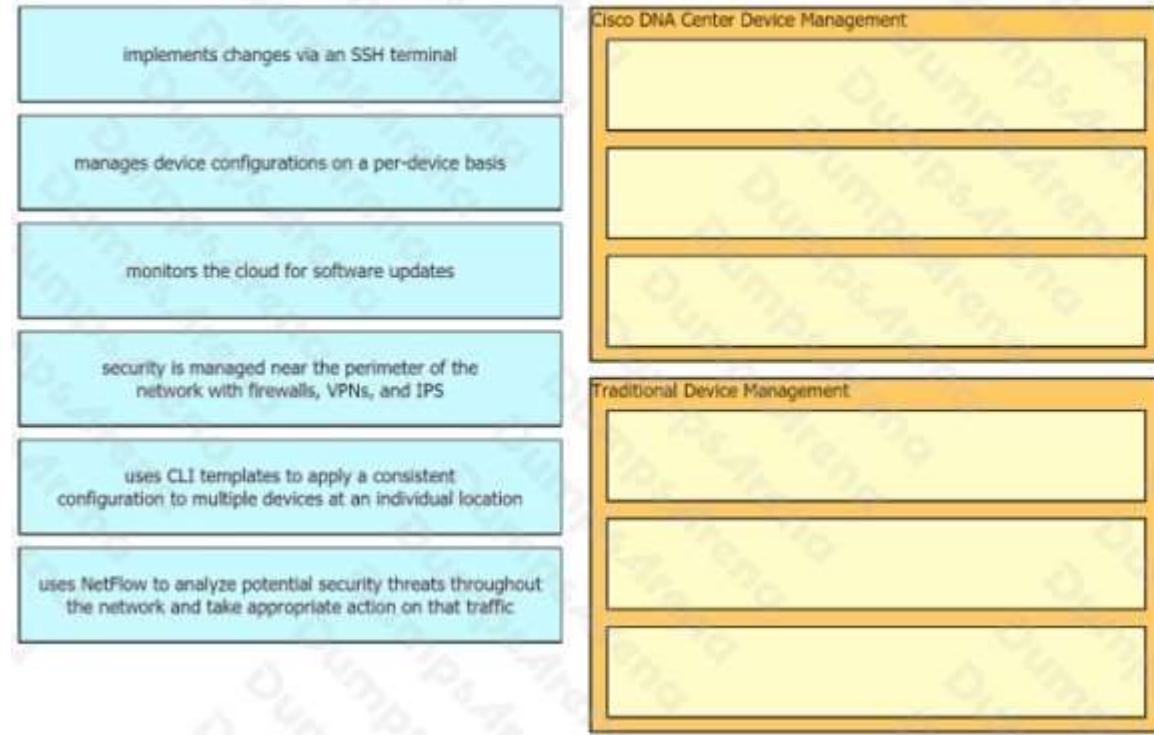
**Explanation**

**Explanation/Reference:**

**QUESTION 53**

- (DRAG DROP) - (Topic 1)

Drag the descriptions of device management from the left onto the types of device management on the right.



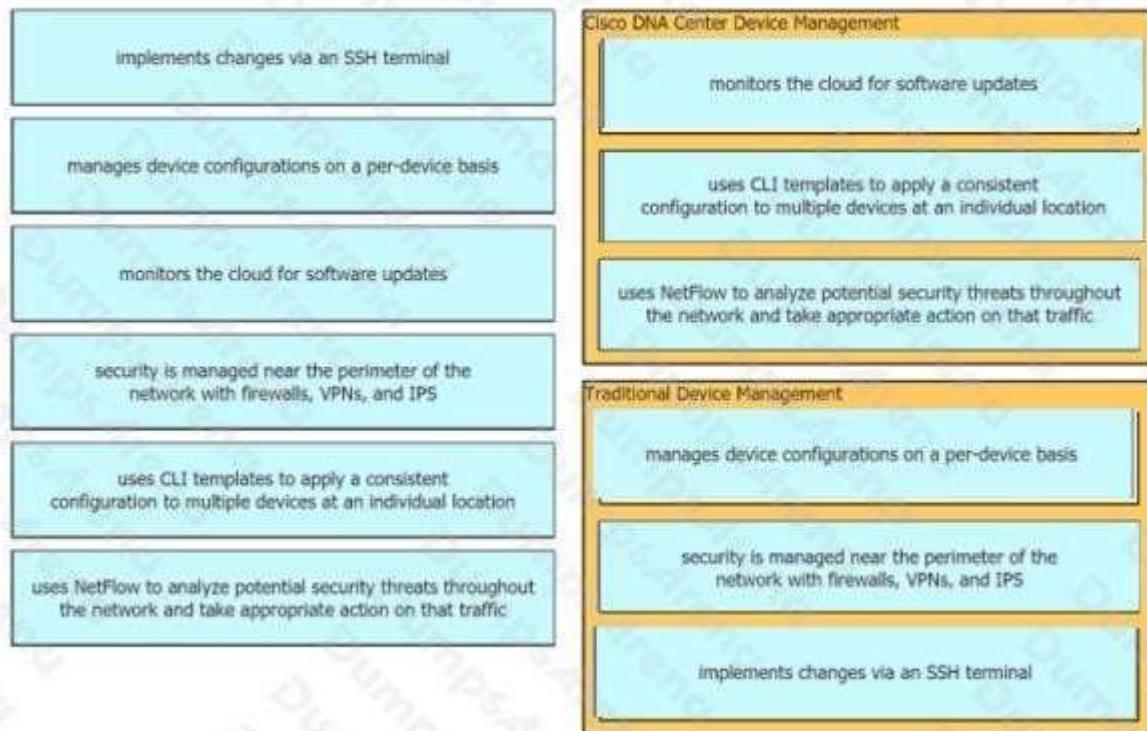
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



#### QUESTION 54

- (Topic 1)

Which two protocols must be disabled to increase security for management connections to a Wireless LAN Controller? (Choose two )

- A. Telnet
- B. SSH
- C. HTTP
- D. HTTPS
  
- E. TFTP

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 55

- (Topic 1)

Which action does the router take as it forwards a packet through the network?

- A. The router replaces the source and destination labels with the sending router interface label as a source and

- the next hop router label as a desbnabon
- B. The router encapsulates the source and destination IP addresses with the sending router P address as the source and the neighbor IP address as the destination
- C. The router replaces the original source and destination MAC addresses with the sending router MAC address as the source and neighbor MAC address as the destination
- D. The router encapsulates the original packet and then includes a tag that identifies the source router MAC address and transmit transparently to the destination

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 56**

- (Topic 1)

Which function is performed by DHCP snooping?

- A. propagates VLAN information between switches
- B. listens to multicast traffic for packet forwarding
- C. provides DDoS mitigation
- D. rate-limits certain traffic

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 57**

- (Topic 1)

When a client and server are not on the same physical network, which device is used to forward requests and replies between client and server for DHCP?

- A. DHCP relay agent
- B. DHCP server
- C. DHCPDISCOVER
- D. DHCPOFFER

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 58**

- (Topic 1)

What is a similarly between 1000BASE-LX and 1000BASE-T standards?

- A. Both use the same data-link header and trailer formats
- B. Both cable types support LP connectors
- C. Both cable types support Rj-45 connectors
- D. Both support up to 550 meters between nodes

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 59**

- (Topic 1)

An organization secures its network with multi-factor authentication using an authenticator app on employee smartphone. How is the application secured in the case of a user's smartphone being lost or stolen?

- A. The application requires an administrator password to reactivate after a configured Interval.
- B. The application requires the user to enter a PIN before it provides the second factor.
- C. The application challenges a user by requiring an administrator password to reactivate when the smartphone is rebooted.
- D. The application verifies that the user is in a specific location before it provides the second factor.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 60**

- (Topic 1)

Which protocol requires authentication to transfer a backup configuration file from a router to a remote server?

- A. DTP
- B. FTP
- C. SMTP
- D. TFTP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 61**

- (Topic 1)

Refer to the exhibit.

```
Switch#show etherchannel summary
```

```
[output omitted]
```

Group	Port-channel	Protocol	Ports	
10	Po10 (SU)	LACP	Gi0/0 (P)	Gi0/1 (P)
20	Po20 (SU)	LACP	Gi0/2 (P)	Gi0/3 (P)

Which two commands were used to create port channel 10? (Choose two )

- int range g0/0-1  
channel-group 10 mode active**
- int range g0/0-1  
channel-group 10 mode desirable**
- int range g0/0-1  
channel-group 10 mode passive**
- int range g0/0-1  
channel-group 10 mode auto**
- int range g0/0-1  
channel-group 10 mode on**

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

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 62**

- (Topic 1)

Refer to the exhibit.

```
ip arp inspection vlan 2
interface fastethernet 0/1
switchport mode access
switchport access vlan 2
```

What is the effect of this configuration?

- A. The switch port interface trust state becomes untrusted
- B. The switch port remains administratively down until the interface is connected to another switch
- C. Dynamic ARP inspection is disabled because the ARP ACL is missing
- D. The switch port remains down until it is configured to trust or untrust incoming packets

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 63**

- (Topic 1)

An engineer must configure traffic for a VLAN that is untagged by the switch as it crosses a trunk link. Which command should be used?

- A. switchport trunk allowed vlan 10
- B. switchport trunk native vlan 10
- C. switchport mode trunk
- D. switchport trunk encapsulation dot1q

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 64**

- (Topic 1)

While examining excessive traffic on the network, it is noted that all incoming packets on an interface appear to be allowed even though an IPv4 ACL is applied to the interface.

Which two misconfigurations cause this behavior? (Choose two)

- A. The packets fail to match any permit statement
- B. A matching permit statement is too high in the access test
- C. A matching permit statement is too broadly defined
- D. The ACL is empty
- E. A matching deny statement is too high in the access list

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 65**

- (Topic 1)

Why does a switch flood a frame to all ports?

- A. The frame has zero destination MAC addresses.
- B. The source MAC address of the frame is unknown
- C. The source and destination MAC addresses of the frame are the same
- D. The destination MAC address of the frame is unknown.

**Correct Answer:** B

**Section:** (none)

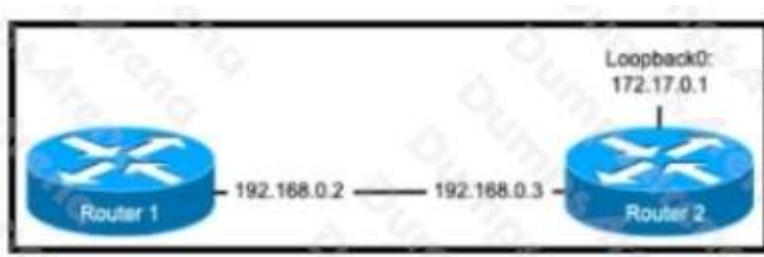
**Explanation**

**Explanation/Reference:**

**QUESTION 66**

- (Topic 1)

Refer to the exhibit.



The `nip server 192.168.0.3` command has been configured on router 1 to make it an NTP client of router 2. Which command must be configured on router 2 so that it operates in server-only mode and relies only on its internal clock?

- A. Router2(config)#ntp passive
- B. Router2(config)#ntp server 172.17.0.1
- C. Router2(config)#ntp master 4
- D. Router2(config)#ntp server 192.168.0.2

**Correct Answer:** B

**Section:** (none)

## Explanation

### Explanation/Reference:

#### QUESTION 67

- (Topic 1)

A network administrator enabled port security on a switch interface connected to a printer. What is the next configuration action in order to allow the port to learn the MAC address of the printer and insert it into the table automatically?

- A. enable dynamic MAC address learning
- B. implement static MAC addressing.
- C. enable sticky MAC addressing
- D. implement auto MAC address learning

**Correct Answer:** C

**Section:** (none)

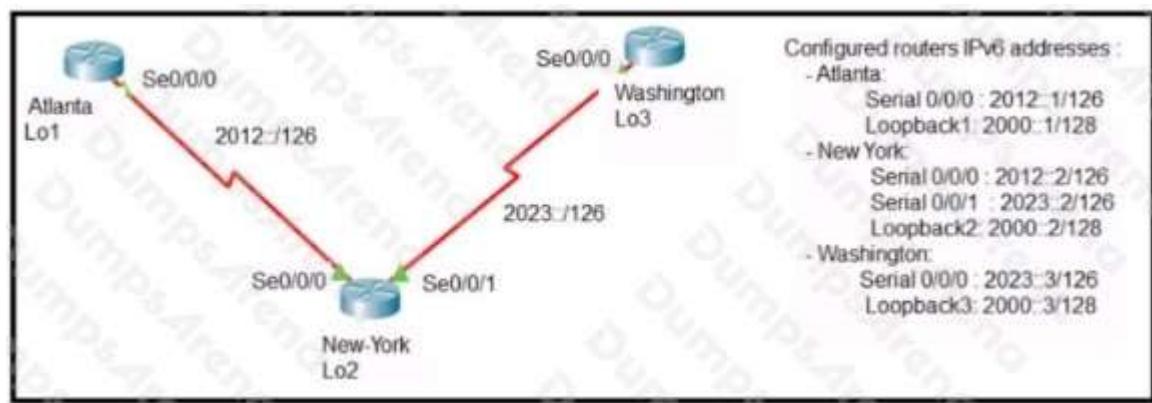
**Explanation**

### Explanation/Reference:

#### QUESTION 68

- (Topic 1)

Refer to the exhibit.



The New York router is configured with static routes pointing to the Atlanta and Washington sites. Which two tasks must be performed so that the Serial0/0/0 interfaces on the Atlanta and Washington routers can reach one another?

(Choose two.)

- A. Configure the ipv6 route 2012::/126 2023::1 command on the Washington router.
- B. Configure the ipv6 route 2023::/126 2012::1 command on the Atlanta router.
- C. Configure theIpv6 route 2012::/126 s0/0/0 command on the Atlanta router.
- D. Configure the ipv6 route 2023::/126 2012::2 command on the Atlanta router.
- E. Configure the ipv6 route 2012::/126 2023::2 command on the Washington router.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 69**

- (Topic 1)

Where is the interface between the control plane and data plane within the software-defined architecture?

- A. control layer and the infrastructure layer
- B. application layer and the infrastructure layer
- C. application layer and the management layer
- D. control layer and the application layer

**Correct Answer:** A

**Section:** (none)

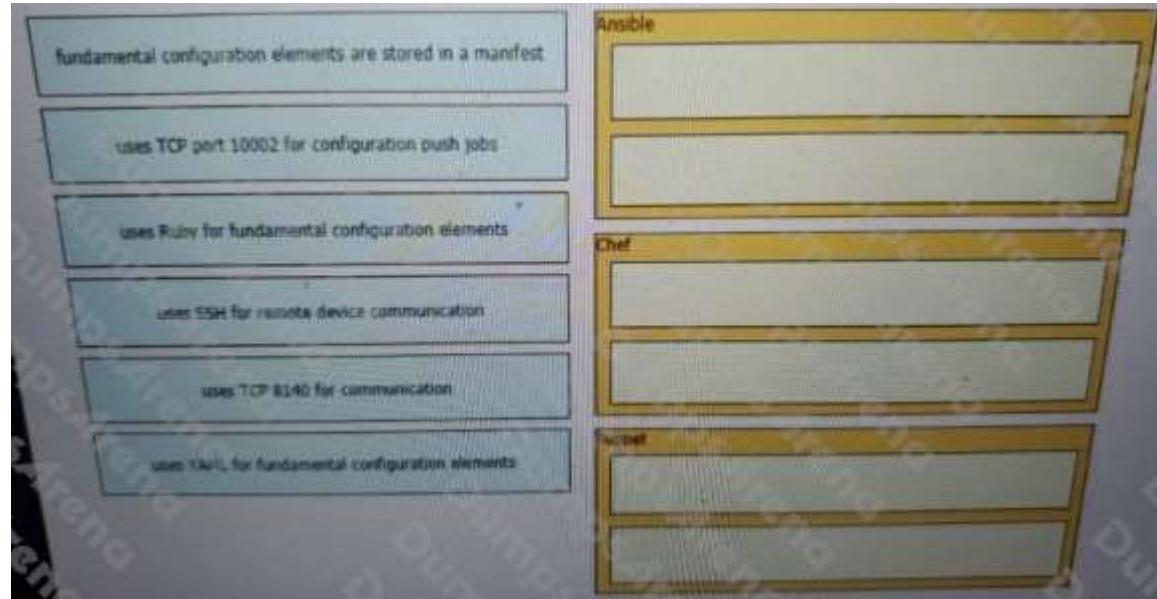
**Explanation**

**Explanation/Reference:**

**QUESTION 70**

- (DRAG DROP) - (Topic 1)

Drag and drop the descriptions from the left onto the configuration-management technologies on the right.



A.

B.

C.

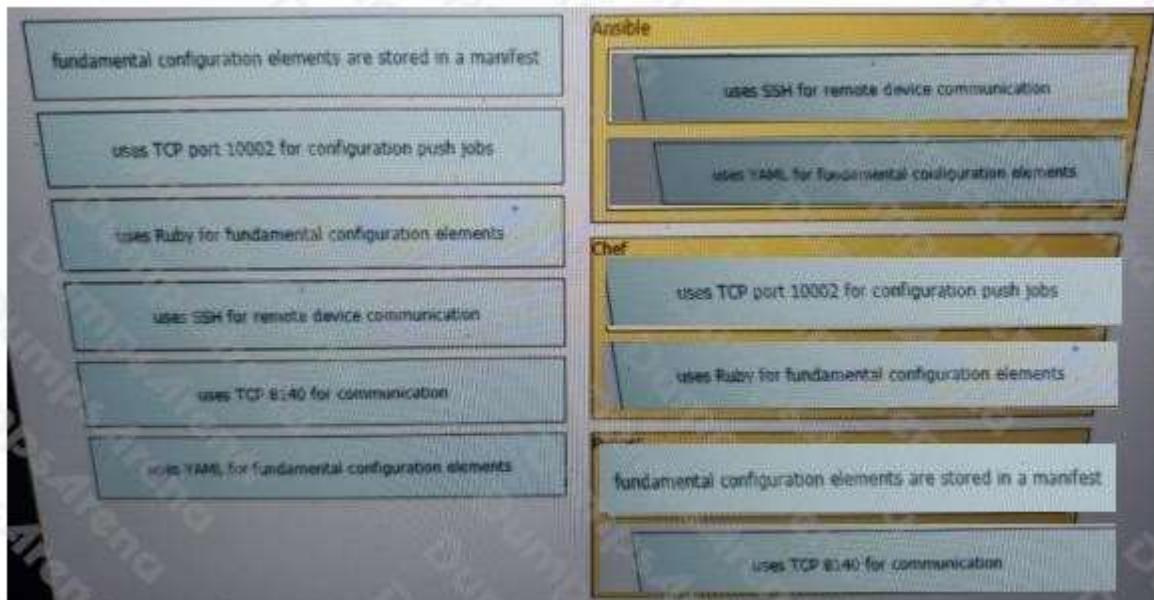
D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



## QUESTION 71

- (Topic 1)

What are two benefits of using the PortFast feature? (Choose two )

- A. Enabled interfaces are automatically placed in listening state
- B. Enabled interfaces come up and move to the forwarding state immediately
- C. Enabled interfaces never generate topology change notifications.
- D. Enabled interfaces that move to the learning state generate switch topology change notifications
- E. Enabled interfaces wait 50 seconds before they move to the forwarding state

**Correct Answer: AB**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 72**

- (Topic 1)

What are two characteristics of an SSID? (Choose Two)

- A. It can be hidden or broadcast in a WLAN
- B. It uniquely identifies an access point in a WLAN
- C. It uniquely identifies a client in a WLAN
- D. It is at most 32 characters long.
- E. IT provides secured access to a WLAN

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 73**

- (Topic 1)

What is the purpose of an SSID?

- A. It provides network security
- B. It differentiates traffic entering access points
- C. It identifies an individual access point on a WLAN
- D. It identifies a WLAN

**Correct Answer:** D

**Section:** (none)

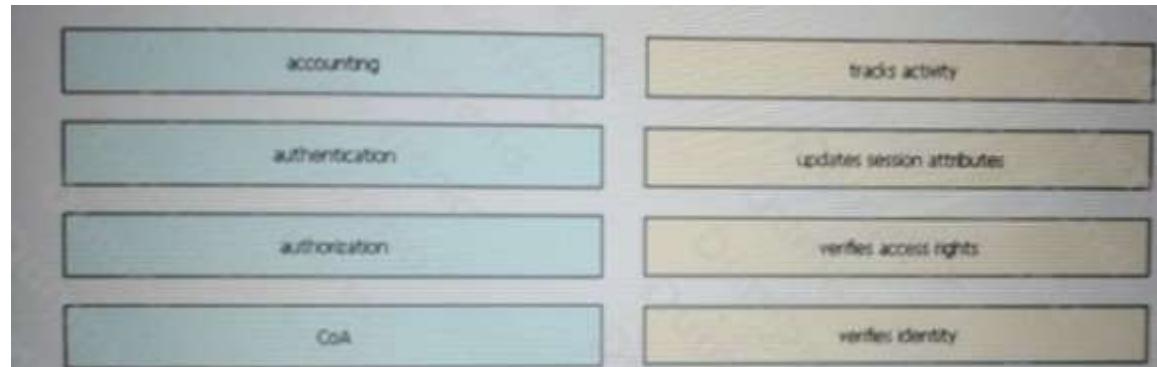
**Explanation**

**Explanation/Reference:**

**QUESTION 74**

- (DRAG DROP) - (Topic 1)

Drag and drop the AAA terms from the left onto the description on the right.



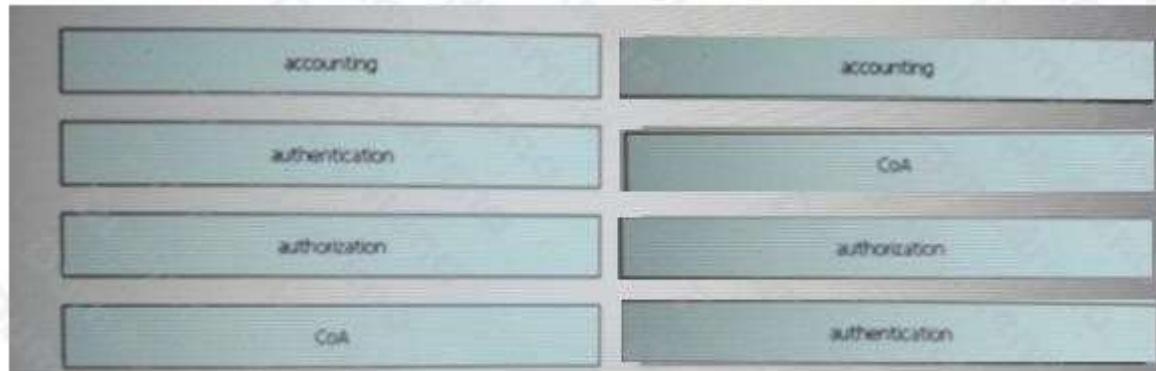
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 75**

- (Topic 1)

Which plane is centralized by an SDN controller?

- A. management-plane
- B. control-plane
- C. data-plane
- D. services-plane

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 76**

- (Topic 1)

Refer to the exhibit.

```

access-list 101 permit ospf any any
access-list 101 permit tcp any any eq 179
access-list 101 permit tcp any eq 179 any
access-list 101 permit gre any any
access-list 101 permit esp any any

access-list 101 deny ospf any any
access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq telnet
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 500
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 4500
access-list 101 deny ip any any log

interface Ethernet0/0
  ip address 10.1.1.25 255.255.255.0
  ip access-group 101 in

```

A network administrator has been tasked with securing VTY access to a router. Which access-list entry accomplishes this task?

- A. access-list 101 permit tcp 10.1.10 0.0.0.255 172.16.10 0.0.0.255 eq ssh
- B. access-list 101 permit tcp 10.11.0 0.0.0.255 172.16.10 0.0.0.255 eq scp
- C. access-list 101 permit tcp 10.11.0 0.0.0.255 172.16.10 0.0.0.255 eq telnet
- D. access-list 101 permit tcp 10.1.10 0.0.0.255 172.16.10 0.0.0.255 eq https

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 77

- (Topic 1)

Which action is taken by a switch port enabled for PoE power classification override?

- A. When a powered device begins drawing power from a PoE switch port a syslog message is generated
- B. As power usage on a PoE switch port is checked data flow to the connected device is temporarily paused
- C. If a switch determines that a device is using less than the minimum configured power it assumes the device has failed and disconnects
- D. Should a monitored port exceeds the maximum administrative value for power, the port is shutdown and err-disabled

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 78

- (Topic 1)

R1 has learned route 192.168.12.0/24 via IS-IS, OSPF, RIP, and Internal EIGRP Under normal operating conditions, which routing protocol is installed in the routing table?

- A. IS-IS
- B. RIP
- C. Internal EIGRP
- D. OSPF

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 79**

- (Topic 1)

What are two reasons that cause late collisions to increment on an Ethernet interface? (Choose two)

- A. when the sending device waits 15 seconds before sending the frame again
- B. when the cable length limits are exceeded
- C. when one side of the connection is configured for half-duplex
- D. when Carrier Sense Multiple Access/Collision Detection is used
- E. when a collision occurs after the 32nd byte of a frame has been transmitted

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 80**

- (Topic 1)

Which QoS tool is used to optimize voice traffic on a network that is primarily intended for data traffic?

- A. FIFO
- B. WFQ
- C. PQ
- D. WRED

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 81**

- (Topic 1)

What are two characteristics of a controller-based network? (Choose two)

- A. The administrator can make configuration updates from the CLI
- B. It uses northbound and southbound APIs to communicate between architectural layers
- C. It moves the control plane to a central point.
- D. It decentralizes the control plane, which allows each device to make its own forwarding decisions
- E. It uses Telnet to report system issues.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 82**

- (Topic 1)

What is the benefit of configuring PortFast on an interface?

- A. After the cable is connected, the interface uses the fastest speed setting available for that cable type
- B. After the cable is connected, the interface is available faster to send and receive user data
- C. The frames entering the interface are marked with higher priority and then processed faster by a switch.
- D. Real-time voice and video frames entering the interface are processed faster

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 83**

- (Topic 1)

An engineer configures interface Gi1/0 on the company PE router to connect to an ISP. Neighbor discovery is disabled.

```
interface Gi1/0
description HQ_DC3978-87297
duplex full
speed 100
negotiation auto
lldp transmit
lldp receive
```

Which action is necessary to complete the configuration if the ISP uses third-party network devices?

- A. Enable LLDP globally
- B. Disable autonegotiation
- C. Disable Cisco Discovery Protocol on the interface
- D. Enable LLDP-MED on the ISP device

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 84**

- (Topic 1)

An implementer is preparing hardware for virtualization to create virtual machines on a host. What is needed to provide communication between hardware and virtual machines?

- A. hypervisor
- B. router
- C. straight cable
- D. switch

**Correct Answer:** A

**Section:** (none)

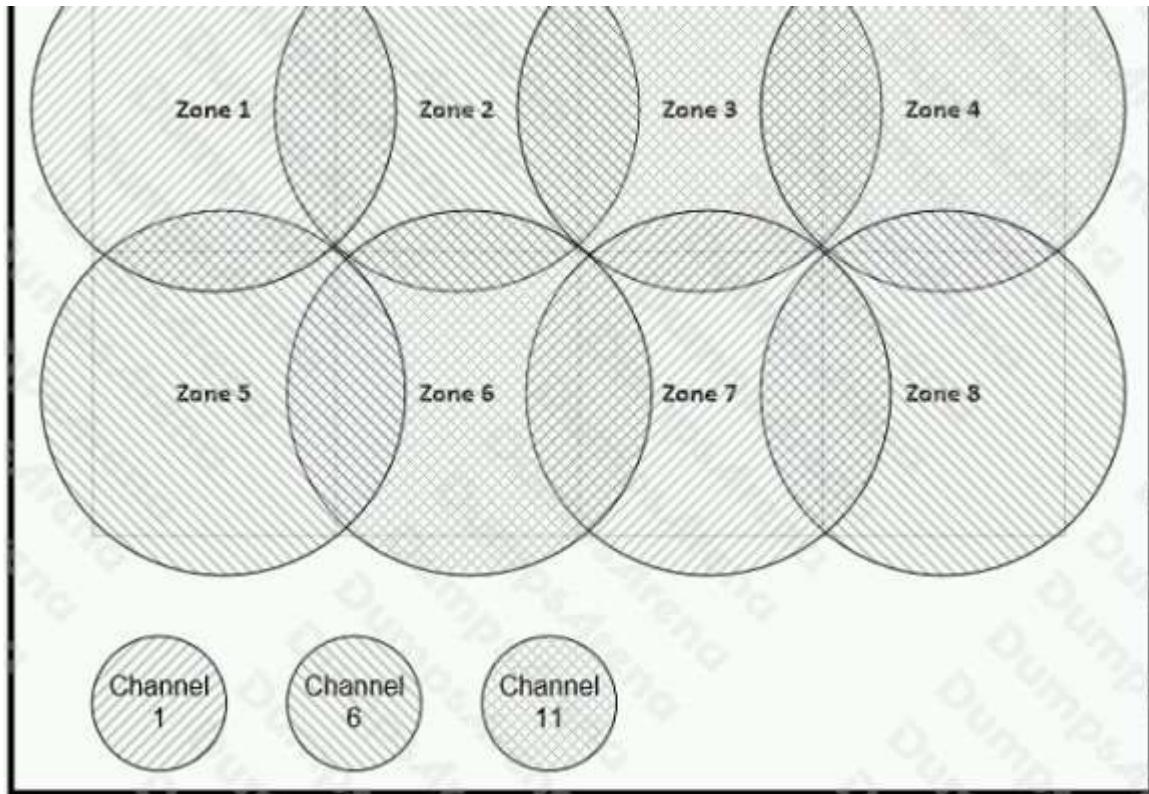
**Explanation**

**Explanation/Reference:**

**QUESTION 85**

- (Topic 1)

Refer to the exhibit.



Between which zones do wireless users expect to experience intermittent connectivity?

- A. between zones 1 and 2
- B. between zones 2 and 5
- C. between zones 3 and 4
- D. between zones 3 and 6

**Correct Answer:** D

**Section:** (none)

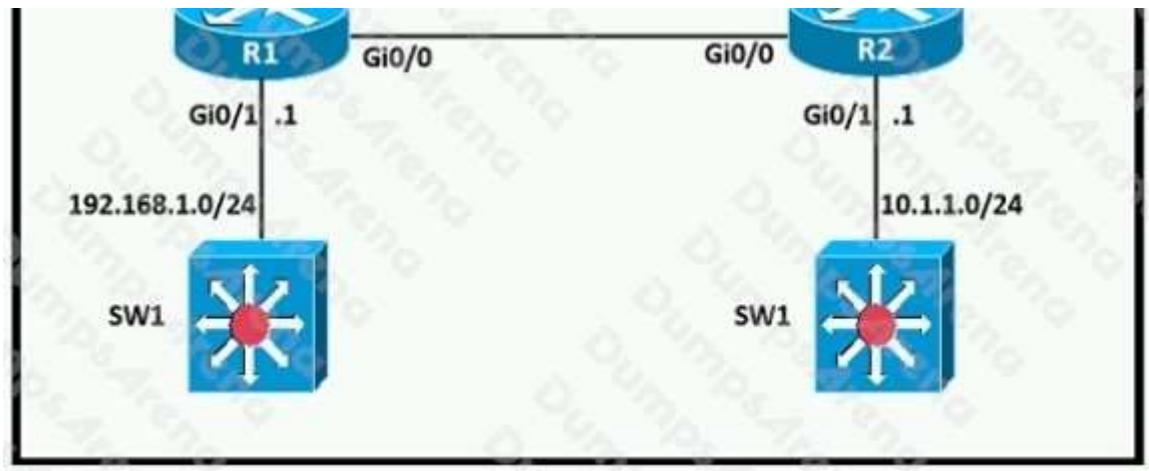
**Explanation**

**Explanation/Reference:**

**QUESTION 86**

- (Topic 1)

Refer to the exhibit.



A network engineer is in the process of establishing IP connectivity between two sites. Routers R1 and R2 are partially configured with IP addressing. Both routers have the ability to access devices on their respective LANs. Which command set configures the IP connectivity between devices located on both LANs in each site?

- R1  
ip route 192.168.1.0 255.255.255.0 GigabitEthernet0/0  
R2  
ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/0
- R1  
ip route 0.0.0.0 0.0.0.0 209.165.200.225  
R2  
ip route 0.0.0.0 0.0.0.0 209.165.200.226
- R1  
ip route 192.168.1.1 255.255.255.0 GigabitEthernet0/1  
R2  
ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/1
- R1  
ip route 0.0.0.0 0.0.0.0 209.165.200.226  
R2  
ip route 0.0.0.0 0.0.0.0 209.165.200.225

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 87**

- (DRAG DROP) - (Topic 1)

Drag and drop the lightweight access point operation modes from the left onto the descriptions on the right

bridge mode	allows the access point to communicate with the WLC over a WAN link.
local mode	allows for packet captures of wireless traffic
monitor mode	rogue detector mode
Flexconnect mode	preferred for connecting access points in a mesh environment.
sniffer mode	receive only mode which acts as a dedicated sensor for RFID and IDS
	transmits normally on one channel and monitors other channels for noise and interference

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

**Correct Answer:**

**Section: (none)**

**Explanation**

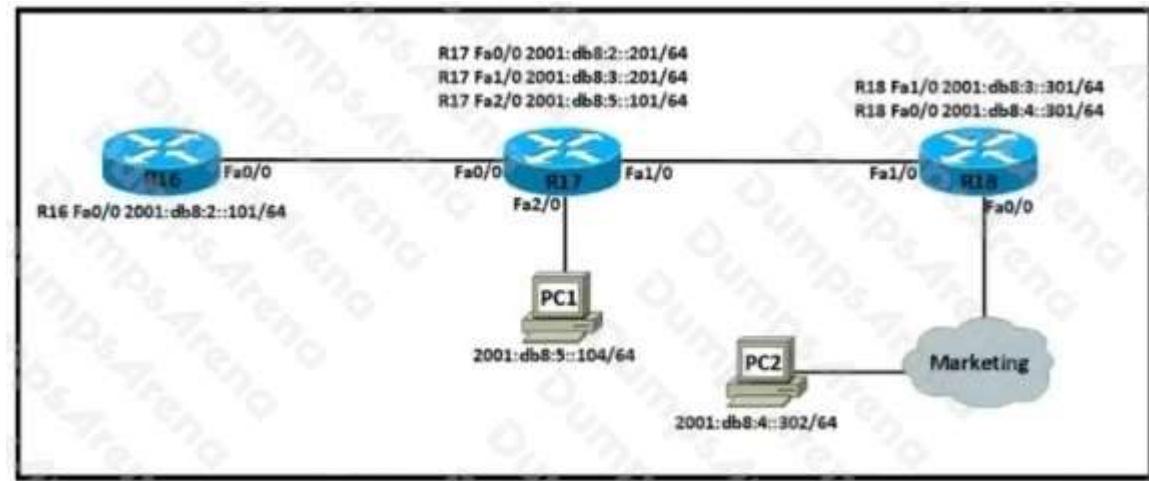
**Explanation/Reference:**



### QUESTION 88

- (Topic 1)

Refer to the exhibit.



Which IPv6 configuration is required for R17 to successfully ping the WAN interface on R18?

A.

```
R17#  
!  
no ip domain lookup  
ip cef  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:3::201/64  
!  
interface FastEthernet1/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:2::201/64  
!  
no cdp log mismatch duplex  
ipv6 route 2001:DB8:4::/64 2001:DB8:5::101
```

B.

```
R17#  
!  
no ip domain lookup  
ip cef  
ipv6 unicast-routing  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:2::201/64  
!  
interface FastEthernet1/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:3::201/64  
!  
no cdp log mismatch duplex  
ipv6 route 2001:DB8:4::/64 2001:DB8:3::301
```

C.

```
R17#  
!  
no ip domain lookup  
ip cef  
ipv6 cef  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:2::201/64  
!  
interface FastEthernet1/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:3::201/64  
!  
no cdp log mismatch duplex  
ipv6 route 2001:DB8:4::/64 2001:DB8:4::302
```

D.

```
R17#  
!  
no ip domain lookup  
ip cef  
ipv6 unicast-routing  
!  
interface FastEthernet0/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:2::201/64  
!  
interface FastEthernet1/0  
no ip address  
duplex auto  
speed auto  
ipv6 address 2001:DB8:3::201/64  
!  
no cdp log mismatch duplex  
ipv6 route 2001:DB8:4::/64 2001:DB8:2::201
```

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 89**

- (Topic 1)

Which type of organization should use a collapsed-core architecture?

- A. large and requires a flexible, scalable network design
- B. large and must minimize downtime when hardware fails
- C. small and needs to reduce networking costs currently
- D. small but is expected to grow dramatically in the near future

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 90**

- (Topic 1)

What is a capability of FTP in network management operations?

- A. encrypts data before sending between data resources
- B. devices are directly connected and use UDP to pass file information
- C. uses separate control and data connections to move files between server and client
- D. offers proprietary support at the session layer when transferring data

**Correct Answer:** C

**Section:** (none)

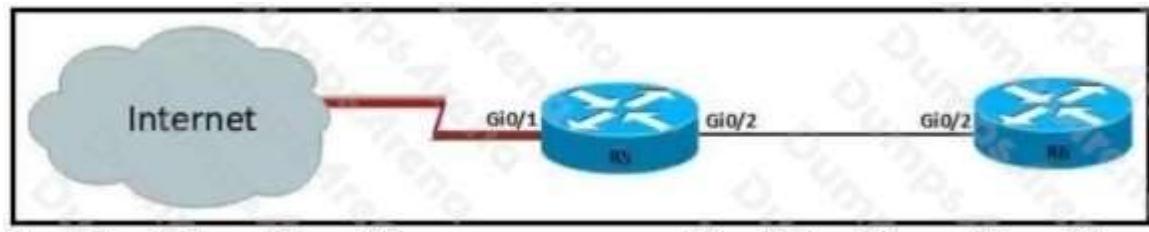
**Explanation**

**Explanation/Reference:**

**QUESTION 91**

- (Topic 1)

Refer to the exhibit.



For security reasons, automatic neighbor discovery must be disabled on the R5 Gi0/1 interface. These tasks must be completed:

- Disable all neighbor discovery methods on R5 interface Gi0/1.
- Permit neighbor discovery on R5 interface Gi0/2.
- Verify there are no dynamically learned neighbors on R5 interface Gi0/1.
- Display the IP address of R6's interface Gi0/2.

Which configuration must be used?

R5(config)#int Gi0/1  
R5(config-if)#no cdp run  
R5(config-if)#exit  
R5(config)#lldp run  
R5(config)#cdp enable  
R5#sh cdp neighbor  
R5#sh lldp neighbor

R5(config)#int Gi0/1  
R5(config-if)#no cdp enable  
R5(config-if)#exit  
R5(config)#no lldp run  
R5(config)#cdp run  
R5#sh cdp neighbor  
R5#sh lldp neighbor

R5(config)#int Gi0/1  
R5(config-if)#no cdp enable  
R5(config-if)#exit  
R5(config)#no lldp run  
R5(config)#cdp run  
R5#sh cdp neighbor detail  
R5#sh lldp neighbor

R5(config)#int Gi0/1  
R5(config-if)#no cdp enable  
R5(config-if)#exit  
R5(config)#lldp run  
R5(config)#no cdp run  
R5#sh cdp neighbor detail  
R5#sh lldp neighbor

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 92**  
- (Topic 1)

What is a function of a Layer 3 switch?

- A. move frames between endpoints limited to IP addresses
- B. transmit broadcast traffic when operating in Layer 3 mode exclusively
- C. forward Ethernet frames between VLANs using only MAC addresses
- D. flood broadcast traffic within a VLAN

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 93**

- (Topic 1)

Which type of API allows SDN controllers to dynamically make changes to the network?

- A. northbound API
- B. REST API
- C. SOAP API
- D. southbound API

**Correct Answer:** D

**Section:** (none)

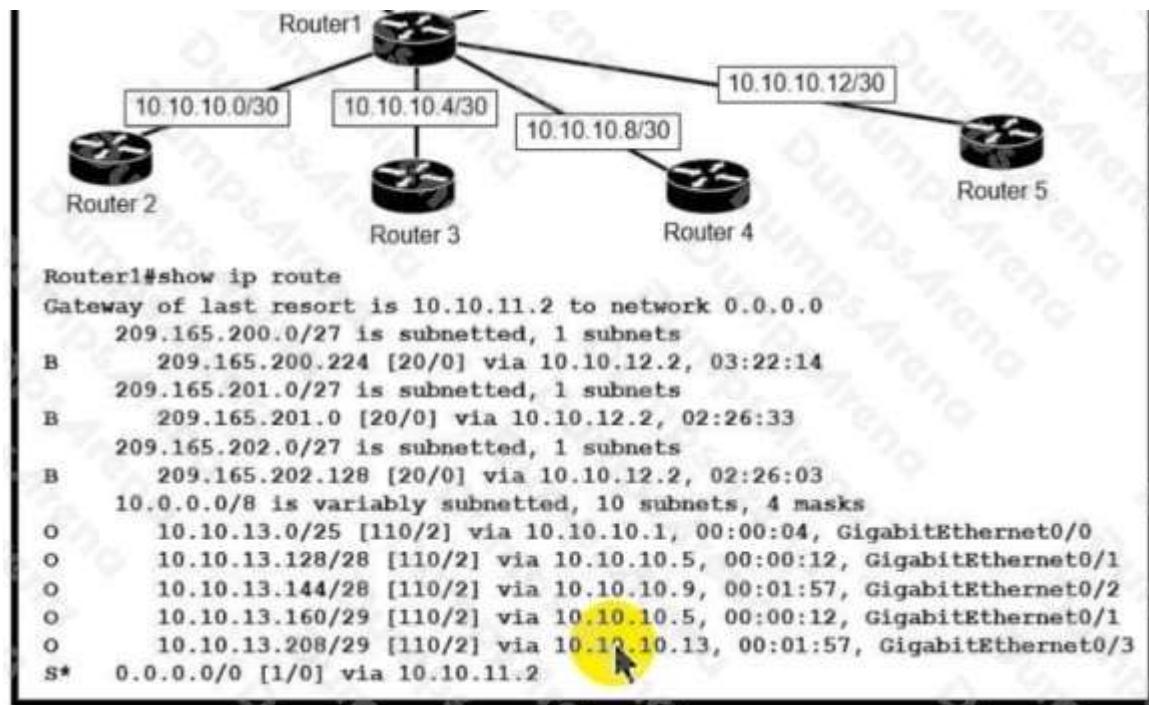
**Explanation**

**Explanation/Reference:**

**QUESTION 94**

- (Topic 1)

Refer to the exhibit.



Which next-hop IP address does Router1 use for packets destined to host 10.10.13.158?

- A. 10.10.10.5  
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# DUMPS ARENA

- B. 10.10.11.2
- C. 10.10.12.2
- D. 10.10.10.9

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 95

- (Topic 1)

A Cisco engineer must configure a single switch interface to meet these requirements

- accept untagged frames and place them in VLAN 20
- accept tagged frames in VLAN 30 when CDP detects a Cisco IP phone

Which command set must the engineer apply?

- A. **switchport mode dynamic desirable**  
switchport access vlan 20  
switchport trunk allowed vlan 30  
switchport voice vlan 30
- B. **switchport mode dynamic auto**  
switchport trunk native vlan 20  
switchport trunk allowed vlan 30  
switchport voice vlan 30
- C. **switchport mode access**  
switchport access vlan 20  
switchport voice vlan 30
- D. **switchport mode trunk**  
switchport access vlan 20  
switchport voice vlan 30

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

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**Correct Answer:** C

**Section:** (none)

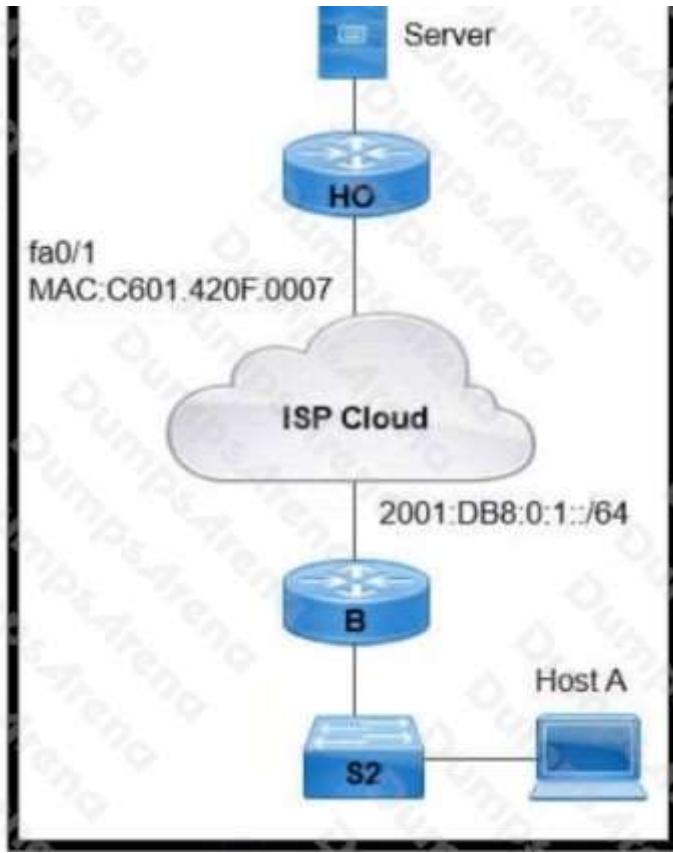
**Explanation**

**Explanation/Reference:**

**QUESTION 96**

- (Topic 1)

Refer to the exhibit.



An engineer is configuring the HO router. Which IPv6 address configuration must be applied to the router fa0'1 interface for the router to assign a unique 64-bit IPv6 address to itself?

- A. ipv6 address 2001:DB8:0:1:C601:42FF:FE0F:7/64
- B. ipv6 address 2001:DB8:0:1:C601:42FE:800F:7/64
- C. ipv6 address 2001 :DB8:0:1:FFFF:C601:420F:7/64
- D. iov6 address 2001 :DB8:0:1:FE80:C601:420F:7/64

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 97

- (Topic 1)

Which WLC management connection type is vulnerable to man-in-the-middle attacks?

- A. SSH
- B. HTTPS
- C. Telnet

D. console

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 98**

- (Topic 1)

Which action is taken by the data plane within a network device?

- A. forwards traffic to the next hop
- B. constructs a routing table based on a routing protocol
- C. provides CLI access to the network device
- D. looks up an egress interface in the forwarding information base

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 99**

- (Topic 1)

What is a function of a Next-Generation IPS?

- A. makes forwarding decisions based on learned MAC addresses
- B. serves as a controller within a controller-based network
- C. integrates with a RADIUS server to enforce Layer 2 device authentication rules
- D. correlates user activity with network events

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 100**

- (Topic 1)

Which characteristic differentiates the concept of authentication from authorization and accounting?

- A. user-activity logging
- B. service limitations
- C. consumption-based billing
- D. identity verification

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 101**

- (Topic 1)

Which value is the unique identifier that an access point uses to establish and maintain wireless connectivity to wireless network devices?

- A. VLANID
- B. SSID
- C. RFID
- D. WLANID

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 102**

- (Topic 1)

An engineer is configuring remote access to a router from IP subnet 10.139.58.0/28. The domain name, crypto keys, and SSH have been configured. Which configuration enables the traffic on the destination router?

- A. 

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.240
    access-group 120 in

    ip access-list extended 120
        permit tcp 10.139.58.0 255.255.255.248 any eq 22
```

---

- B. 

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.252
    ip access-group 110 in

    ip access-list extended 110
        permit tcp 10.139.58.0 0.0.0.15 host 10.122.49.1 eq 22
```

C. `interface FastEthernet0/0  
ip address 10.122.49.1 255.255.255.248  
ip access-group 10 in  
  
ip access-list standard 10  
permit udp 10.139.58.0 0.0.0.7 host 10.122.49.1 eq 22`

D. `interface FastEthernet0/0  
ip address 10.122.49.1 255.255.255.252  
ip access-group 105 in  
  
ip access-list standard 105  
permit tcp 10.139.58.0 0.0.0.7 eq 22 host 10.122.49.1`

A. Option A  
B. Option B

C. Option C  
D. Option D

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 103**

- (Topic 1)

Which QoS per-hop behavior changes the value of the ToS field in the IPv4 packet header?

- A. shaping
- B. classification
- C. policing
- D. marking

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 104**

- (Topic 1)

Refer to the exhibit.



Which route must be configured on R1 so that OSPF routing is used when OSPF is up, but the server is still reachable when OSPF goes down?

- A. ip route 10.1.1.10 255.255.255.255 172.16.2.2 100
- B. ip route 10.1.1.0 255.255.255.0 gi0/1 125
- C. ip route 10.1.1.0 255.255.255.0 172.16.2.2 100
- D. ip route 10.1.1.10 255.255.255.255 gi0/0 125

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 105

- (DRAG DROP) - (Topic 1)

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

This type allows better control over how networks work and how networks are configured.

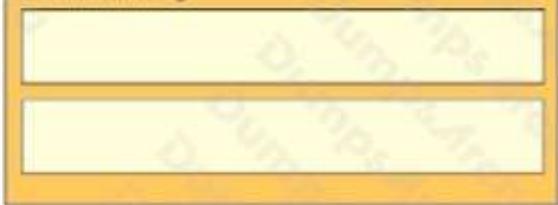
This type enables networks to integrate with applications through APIs.

New devices are configured using the physical infrastructure.

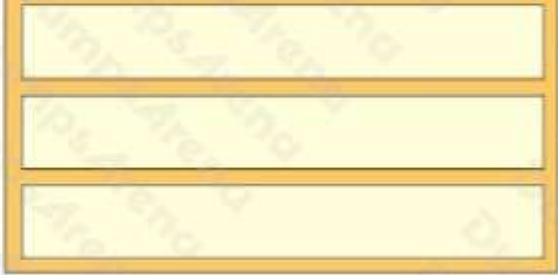
This type provisions resources from a centralized location.

This type requires a distributed control plane.

#### Traditional Networking



#### Controller-Based Networking



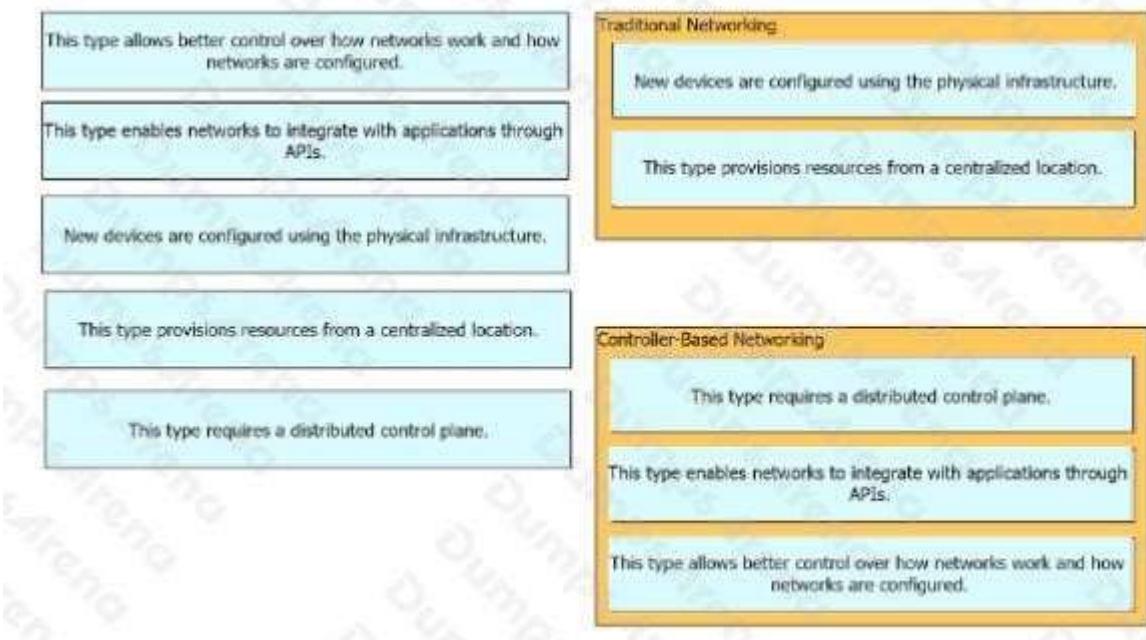
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



### QUESTION 106

- (Topic 1)

Refer to the exhibit.

Fast Transition	Disable <input type="button" value=""/>
<b>Protected Management Frame</b>	
PMF	Disabled <input type="button" value=""/>
<b>WPA+WPA2 Parameters</b>	
WPA Policy	<input type="checkbox"/>
WPA2 Policy	<input checked="" type="checkbox"/>
WPA2 Encryption	<input checked="" type="checkbox"/> AES <input type="checkbox"/> TKIP <input type="checkbox"/> CCMP256 <input type="checkbox"/> GCMP128 <input type="checkbox"/> GCMP256
OSEN Policy	<input type="checkbox"/>
<b>Authentication Key Management <small>19</small></b>	
802.1X	<input type="checkbox"/> Enable
CCKM	<input type="checkbox"/> Enable
PSK	<input checked="" type="checkbox"/> Enable
FT 802.1X	<input type="checkbox"/> Enable
FT PSK	<input type="checkbox"/> Enable

Users need to connect to the wireless network with IEEE 802.11r-compatible devices. The connection must be maintained as users travel between floors or to other areas in the building. What must be the configuration of the connection?

- A. Select the WPA Policy option with the CCKM option.
- B. Disable AES encryption.
- C. Enable Fast Transition and select the FT 802.1x option.
- D. Enable Fast Transition and select the FT PSK option.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 107

- (Topic 1)

Refer to the exhibit.

```
Hardware is ISR4331-3x1GE, address is 5486.bc25.1f70 (bia 5486.bc25.1f70)
Description: <> WAN Link >>
Internet address is 192.0.2.2/30
MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not supported
Full Duplex, 1000Mbps, link type is auto, media type is RJ45
output flow-control is off, input flow-control is off
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:00, output 00:00:11, output hang never
Last clearing of "show interface" counters never
Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 7000 bits/sec, 4 packets/sec
5 minute output rate 4000 bits/sec, 4 packets/sec
    22579370 packets input, 8825545968 bytes, 0 no buffer
    Received 67 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    3612699 input errors, 3612699 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 10747057 multicast, 0 pause input
    12072167 packets output, 1697953637 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    6 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    5 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out
```

What is a reason for poor performance on the network interface?

- A. The interface is receiving excessive broadcast traffic.
- B. The cable connection between the two devices is faulty.
- C. The interface is operating at a different speed than the connected device.
- D. The bandwidth setting of the interface is misconfigured

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 108**

- (Topic 1)

Refer to the exhibit.

```
Switch2# show lldp
Global LLDP Information
  Status: ACTIVE
  LLDP advertisements are sent every 30 seconds
  LLDP hold time advertised is 120 seconds
  LLDP interface reinitialization delay is 2 seconds
```

A network engineer must update the configuration on Switch2 so that it sends LLDP packets every minute and the information sent via LLDP is refreshed every 3 minutes Which configuration must the engineer apply?

- A. **Switch2(config)#lldp timer 60**  
**Switch2(config)#lldp holdtime 180**
- B. **Switch2(config)#lldp timer 60**  
**Switch2(config)#lldp tlv-select 180**

- C. Switch2(config)#lldp timer 1  
Switch2(config)#lldp holdtime 3
- D. Switch2(config)#lldp timer 1  
Switch2(config)#lldp tlv-select 3
  - A. Option A
  - B. Option B
  - C. Option C
  - D. Option D

**Correct Answer:** A

**Section:** (none)

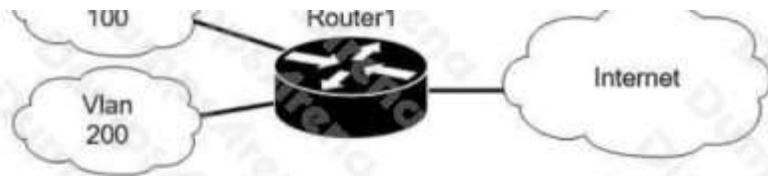
**Explanation**

**Explanation/Reference:**

#### QUESTION 109

- (Topic 1)

Refer to the exhibit.



```
Router1(config)#interface GigabitEthernet0/0
Router1(config-if)#ip address 209.165.200.225 255.255.255.224
Router1(config-if)#ip nat outside
Router1(config)#interface GigabitEthernet0/1
Router1(config-if)#ip nat inside
Router1(config)#interface GigabitEthernet0/1.100
Router1(config-if)#encapsulation dot1Q 100
Router1(config-if)#ip address 10.10.10.1 255.255.255.0
Router1(config)#interface GigabitEthernet0/1.200
Router1(config-if)#encapsulation dot1Q 200
Router1(config-if)#ip address 10.10.20.1 255.255.255.0
Router1(config)#ip access-list standard NAT_INSIDE_RANGES
Router1(config-std-nacl)#permit 10.10.10.0 0.0.0.255
Router1(config)#ip nat inside source list NAT_INSIDE_RANGES interface GigabitEthernet0/0 overload
```

Users on existing VLAN 100 can reach sites on the Internet. Which action must the administrator take to establish connectivity to the Internet for users in VLAN 200?

- A. Define a NAT pool on the router.

- B. Configure static NAT translations for VLAN 200.
- C. Configure the ip nat outside command on another interface for VLAN 200.
- D. Update the NAT INSIDF RANGFS ACL

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 110**

- (Topic 1)

Refer to the exhibit.

RIP	10.1.1.16/28[120/5]	via	F0/0
OSPF	10.1.1.0/24[110/30]	via	F0/1
OSPF	10.1.1.0/24[110/40]	via	F0/2
EIGRP	10.1.0.0/26[90/20]	via	F0/3
EIGRP	10.0.0.0/8 [90/133]	via	F0/4

Packets received by the router from BGP enter via a serial interface at 209 165 201 1 Each route is present within the routing table Which interface is used to forward traffic with a destination IP of 10.1.1.19?

- A. F0/4
- B. F0/0
- C. F0/1
- D. F0/3

**Correct Answer:** B

**Section:** (none)

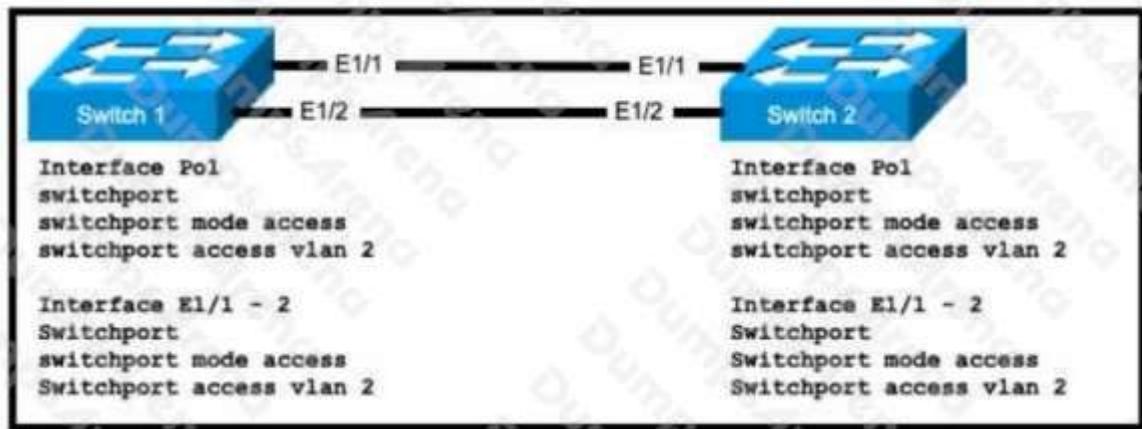
**Explanation**

**Explanation/Reference:**

**QUESTION 111**

- (Topic 1)

Refer to the exhibit.



An engineer is configuring an EtherChannel using LACP between Switches 1 and 2. Which configuration must be applied so that only Switch 1 sends LACP initiation packets?

- A. Switch 1 (config-if)#channel-group 1 mode on  
Switch2(config-if)#channel-group 1 mode passive
- B. Switch1(config-if)#channel-group 1 mode passive  
Switch2(config-if)#channel-group 1 mode active
- C. Switch1{config-if}#channel-group 1 mode active  
Switch2(config-if)#channel-group 1 mode passive
- D. Switch1(config-if)#channel-group 1 mode on  
Switch2(config-if)#channel-group 1 mode active

**Correct Answer:** C

**Section:** (none)

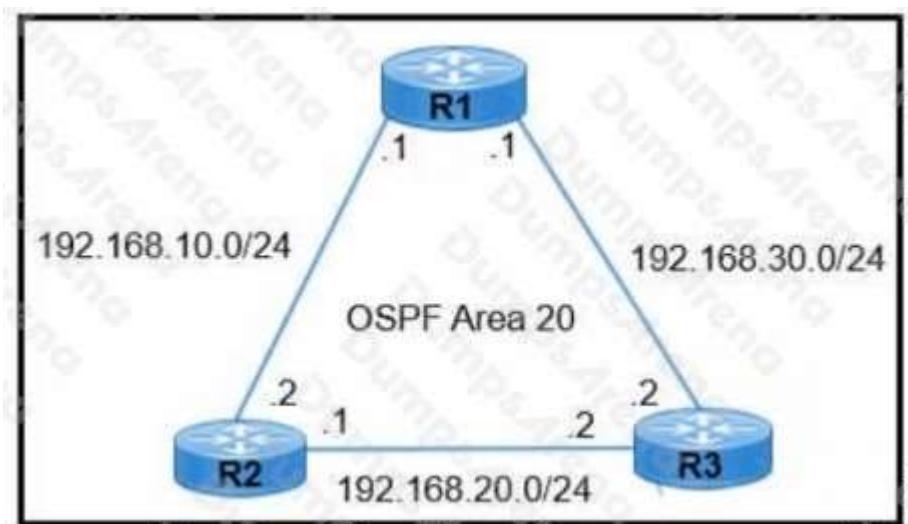
**Explanation**

**Explanation/Reference:**

#### QUESTION 112

- (Topic 1)

Refer to the exhibit.



R1 learns all routes via OSPF Which command configures a backup static route on R1 to reach the 192.168.20.0/24 network via R3?

- A. R1(config)#ip route 192.168.20.0 255.255.0.0 192.168.30.2
- B. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 90
- C. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 111
- D. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 113

- (Topic 1)

What is the difference between IPv6 unicast and anycast addressing?

- A. IPv6 anycast nodes must be explicitly configured to recognize the anycast address, but IPv6 unicast nodes require no special configuration
- B. IPv6 unicast nodes must be explicitly configured to recognize the unicast address, but IPv6 anycast nodes require no special configuration
- C. An individual IPv6 unicast address is supported on a single interface on one node but an IPv6 anycast address is assigned to a group of interfaces on multiple nodes.
- D. Unlike an IPv6 anycast address, an IPv6 unicast address is assigned to a group of interfaces on multiple nodes

**Correct Answer:** C

**Section:** (none)

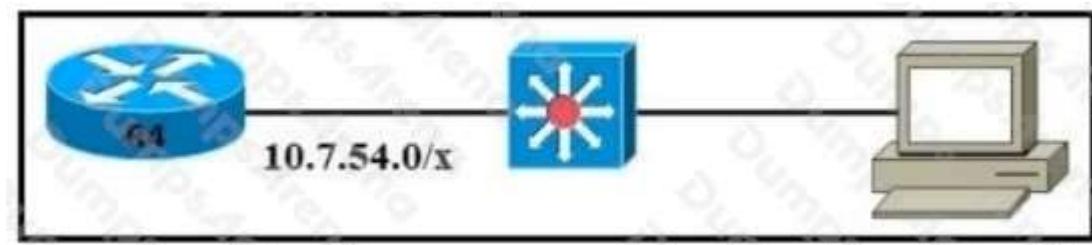
**Explanation**

**Explanation/Reference:**

#### QUESTION 114

- (Topic 1)

Refer to the exhibit.



The router has been configured with a supernet to accommodate the requirement for 380 users on a subnet

The requirement already considers 30% future growth. Which configuration verifies the IP subnet on router R4?

A.

Subnet: 10.7.54.0  
Subnet mask: 255.255.254.0  
Broadcast address: 10.7.54.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254

B.

Subnet: 10.7.54.0  
Subnet mask: 255.255.254.0  
Broadcast address: 10.7.55.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254

C.

Subnet: 10.7.54.0  
Subnet mask: 255.255.128.0  
Broadcast address: 10.7.55.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254

D.

Subnet: 10.7.54.0  
Subnet mask: 255.255.255.0  
Broadcast address: 10.7.54.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254

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

**Correct Answer:** B

**Section:** (none)

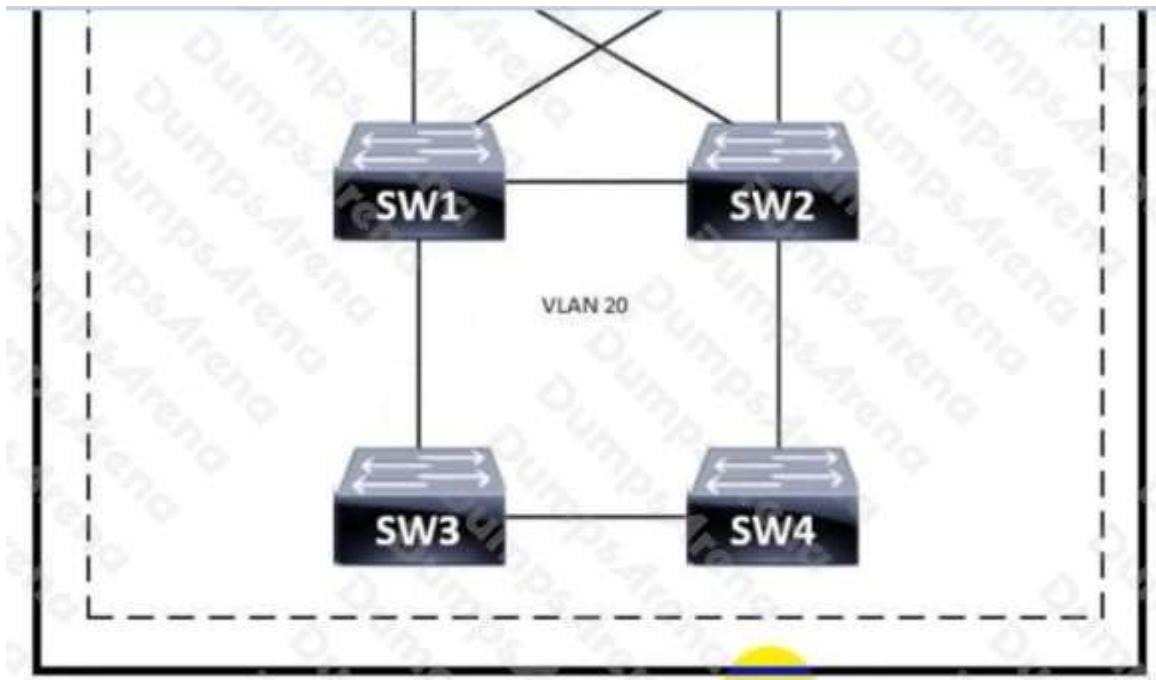
**Explanation**

**Explanation/Reference:**

**QUESTION 115**

- (Topic 1)

Refer to the exhibit.



Which switch becomes the root of a spanning tree for VLAN 20 if all link speeds are equal?

SW1 = 24596 0018.184e.3c00  
 SW2 = 28692 004a.14e5.4077  
 SW3 = 32788 0022.55cf.dd00  
 SW4 = 64000 0041.454d.407f

- A. SW1
- B. SW2
- C. SW3
- D. SW4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 116

- (Topic 1)

Which protocol uses the SSL?

- A. HTTP
- B. SSH
- C. HTTPS
- D. Telnet

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 117**

- (Topic 1)

Which two spanning-tree states are bypassed on an interface running PortFast? (Choose two.)

- A. disabled
- B. listening
- C. forwarding
- D. learning
- E. blocking

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 118**

- (Topic 1)

A Cisco engineer is configuring a factory-default router with these three passwords:

- The user EXEC password for console access is p4ssw0rd1
- The user EXEC password for Telnet access is s3cr3t2
- The password for privileged EXEC mode is pnv4t3p4ss Which command sequence must the engineer configured

A. `enable secret priv4t3p4ss  
!  
line con 0  
password login p4ssw0rd1  
!  
line vty 0 15  
password login s3cr3t2  
login`

B.

- ```
enable secret privilege 15 priv4t3p4ss
!
line con 0
password p4ssw0rd1
login
|
line vty 0 15
password s3cr3t2
login
```
- C. **enable secret priv4t3p4ss**
- ```
!
line con 0
password p4ssw0rd1
login
|
line vty 0 15
password s3cr3t2
login
```
- D. **enable secret priv4t3p4ss**
- ```
!
line con 0
```
- A. Option A  
B. Option B  
C. Option C  
D. Option D

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 119**

- (Topic 1)

How does Rapid PVST+ create a fast loop-free network topology?

- A. It requires multiple links between core switches
- B. It generates one spanning-tree instance for each VLAN
- C. It maps multiple VLANs into the same spanning-tree instance
- D. It uses multiple active paths between end stations.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 120**

- (Topic 1)

Refer to the exhibit.



Manual settings  
100 speed  
full duplex

```
Switch#show interfaces status
```

| Port  | Name | Status    | Vlan | Duplex | Speed | Type         |
|-------|------|-----------|------|--------|-------|--------------|
| Fa0/1 |      | connected | 1    | auto   | auto  | 10/100BaseTX |

The link between PC1 and the switch is up, but it is performing poorly. Which interface condition is causing the performance problem?

- A. There is a duplex mismatch on the interface
- B. There is an issue with the fiber on the switch interface.
- C. There is a speed mismatch on the interface.
- D. There is an interface type mismatch

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 121

- (Topic 1)

Which PoE mode enables powered-device detection and guarantees power when the device is detected?

- A. dynamic
- B. static
- C. active
- D. auto

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 122

- (Topic 1)

What is an expected outcome when network management automation is deployed?

- A. A distributed management plane must be used.
- B. Software upgrades are performed from a central controller
- C. Complexity increases when new device configurations are added
- D. Custom applications are needed to configure network devices

**Correct Answer:** B

**Section:** (none)

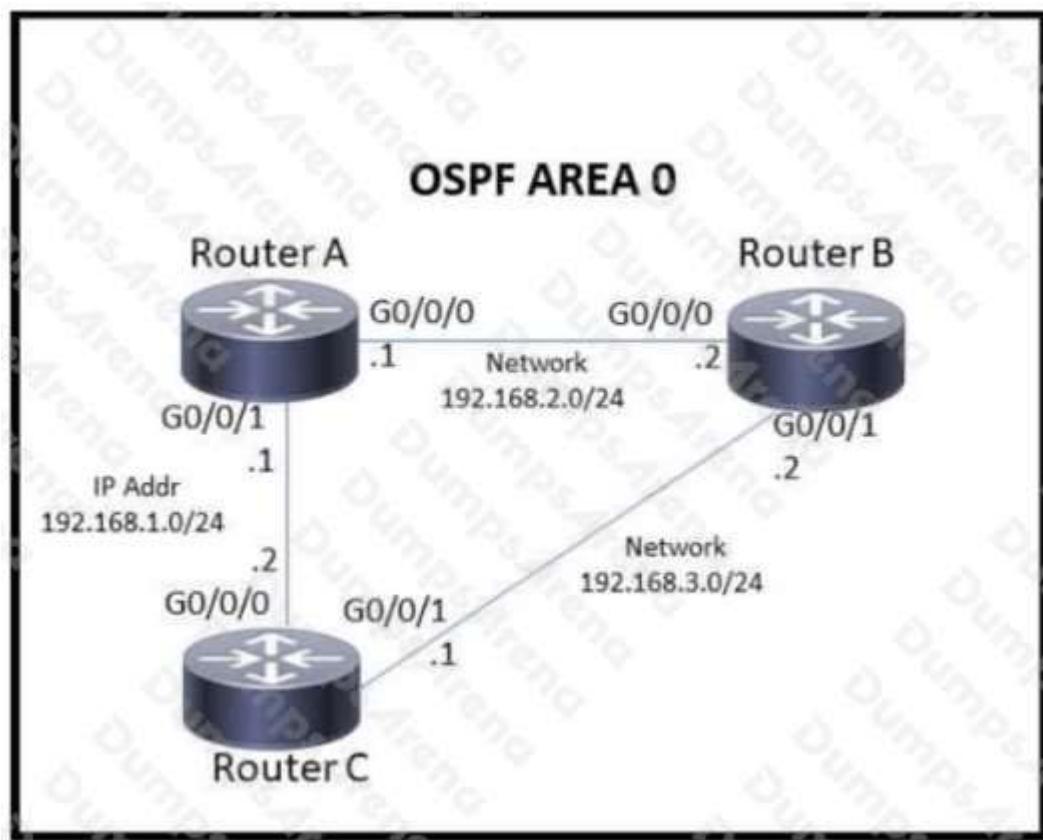
**Explanation**

**Explanation/Reference:**

**QUESTION 123**

- (Topic 1)

Refer to the exhibit.



Which action must be taken to ensure that router A is elected as the DR for OSPF area 0?

- A. Configure the OSPF priority on router A with the lowest value between the three routers.
- B. Configure router B and router C as OSPF neighbors of router A.
- C. Configure the router A interfaces with the highest OSPF priority value within the area.

- D. Configure router A with a fixed OSPF router ID

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 124**

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route
Codes:
C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP, D -
EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area N1 - OSPF NSSA
external type 1, N2 - OSPF NSSA external type 2, E1 - OSPF external type
1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default,
U - per-user static route, o - ODR
Gateway of last resort is not set
C 10.0.0.0/8 is directly connected, Loopback0
  10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
o 10.0.1.3/32 [110/100] via 10.0.1.100, 00:39:08, Serial0
c 10.0.1.0/24 is directly connected, Serial0
o 10.0.1.5/32 [110/5] via 10.0.1.50, 00:39:08, Serial0
o 10.0.10.0/24 [110/10] via 10.0.1.4, 00:39:08, Gigabit Ethernet 0/0
D 10.0.10.0/24 [90/10] via 10.0.1.5, 00:39:08, Gigabit Ethernet 0/1
```

Web traffic is coming in from the WAN interface. Which route takes precedence when the router is processing traffic destined for the LAN network at 10.0.10.0/24?

- A. via next-hop 10.0.1.5
- B. via next-hop 10.0.1.4
- C. via next-hop 10.0.1.50
- D. via next-hop 10.0.1.100

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 125**

- (Topic 1)

Which two components comprise part of a PKI? (Choose two.)

- A. preshared key that authenticates connections
- B. RSA token
- C. CA that grants certificates

- D. clear-text password that authenticates connections
- E. one or more CRLs

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 126**

- (Topic 1)

What are two benefits of FHRPs? (Choose two.)

- A. They enable automatic failover of the default gateway.
- B. They allow multiple devices to serve as a single virtual gateway for clients in the network.
- C. They are able to bundle multiple ports to increase bandwidth.
  
- D. They prevent loops in the Layer 2 network.
- E. They allow encrypted traffic.

**Correct Answer:** AB

**Section:** (none)

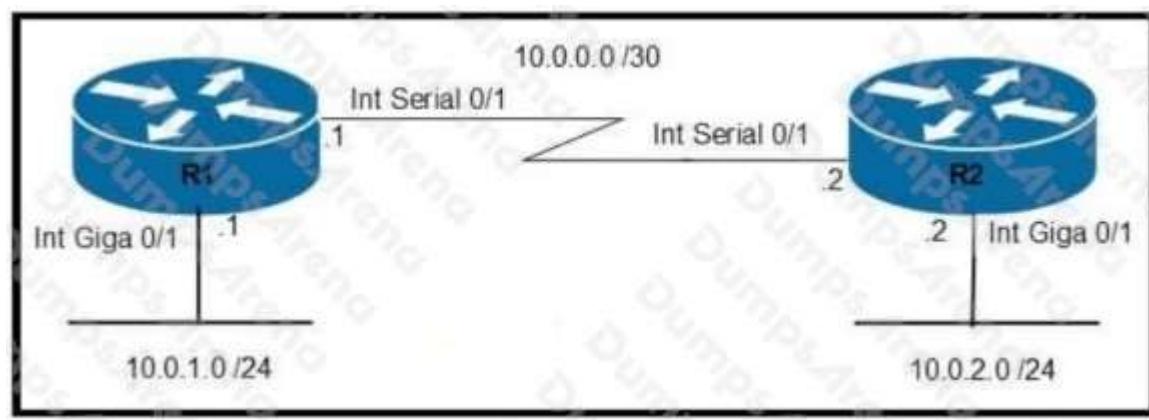
**Explanation**

**Explanation/Reference:**

**QUESTION 127**

- (Topic 1)

Refer to the exhibit.



Which command configures OSPF on the point-to-point link between routers R1 and R2?

- A. router-id 10.0.0.15
- B. neighbor 10.1.2.0 cost 180
- C. ip ospf priority 100

D. network 10.0.0.0 0.0.0.255 area 0

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 128**

- (Topic 1)

What causes a port to be placed in the err-disabled state?

- A. nothing plugged into the port
- B. link flapping
- C. shutdown command issued on the port
- D. latency

**Correct Answer:** B

**Section:** (none)

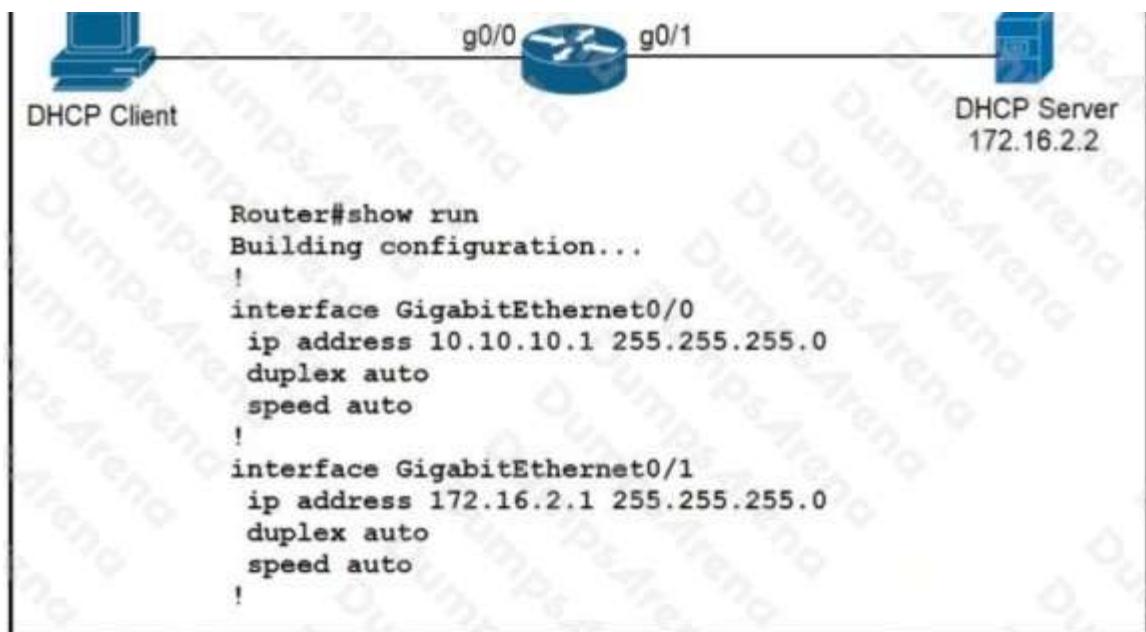
**Explanation**

**Explanation/Reference:**

**QUESTION 129**

- (Topic 1)

Refer to the exhibit.



An engineer is configuring a new router on the network and applied this configuration. Which additional configuration allows the PC to obtain its IP address from a DHCP server?

- A. Configure the ip dhcp relay information command under interface Gi0/1.
- B. Configure the ip dhcp smart-relay command globally on the router
- C. Configure the ip helper-address 172.16.2.2 command under interface Gi0/0
- D. Configure the ip address dhcp command under interface Gi0/0

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 130**

- (Topic 1)

Which Layer 2 switch function encapsulates packets for different VLANs so that the packets traverse the same port and maintain traffic separation between the VLANs?

- A. VLAN numbering
- B. VLAN DSCP
- C. VLAN tagging
- D. VLAN marking

**Correct Answer:** C

**Section:** (none)

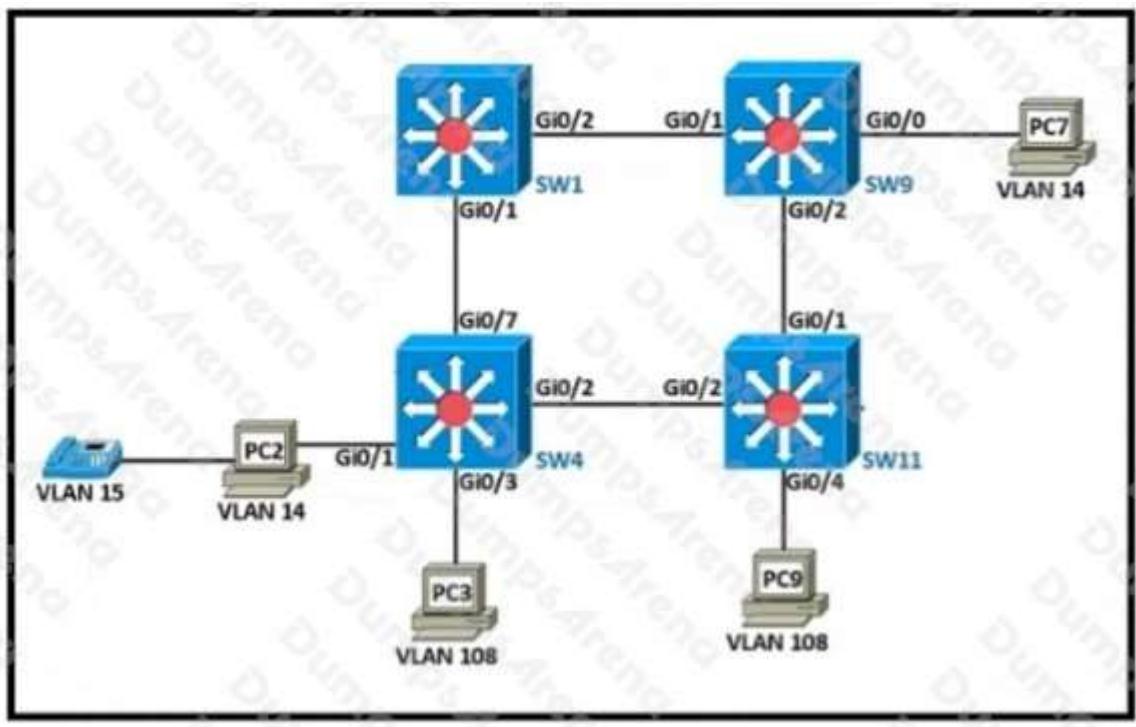
**Explanation**

**Explanation/Reference:**

**QUESTION 131**

- (Topic 1)

Refer to the exhibit.



The following must be considered:

- SW1 is fully configured for all traffic
- The SW4 and SW9 links to SW1 have been configured
- The SW4 interface Gi0/1 and Gi0/0 on SW9 have been configured
- The remaining switches have had all VLANs added to their VLAN database

Which configuration establishes a successful ping from PC2 to PC7 without interruption to traffic flow between other PCs?

A.

```

 SW4#
  interface Gi0/2
  switchport mode trunk
  switchport trunk allowed vlan 14

  SW11#
  interface Gi0/1
  switchport mode trunk
  switchport trunk allowed vlan 14

  SW9#
  interface Gi0/2
  switchport mode trunk
  switchport trunk allowed vlan 108

```

- B. SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14
- SW11#  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14
- SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 108
- C. SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14,108
- SW11#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14,108  
!  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14,108
- SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14

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# DUMPSARENA

SW4#  
interface Gi0/2  
switchport mode access  
switchport access vlan 14

SW11#  
interface Gi0/2  
switchport mode access  
switchport access vlan 14  
!  
interface Gi0/0  
switchport mode access  
switchport access vlan 14  
!  
interface Gi0/1  
switchport mode trunk

SW9#  
interface Gi0/2  
switchport mode access  
switchport access vlan 14

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 132**

- (Topic 1)

R1 as an NTP server must have:

- NTP authentication enabled
- NTP packets sourced from Interface loopback 0
- NTP stratum 2
- NTP packets only permitted to client IP 209.165.200.225

How should R1 be configured?

A.

```
ntp authenticate
ntp authentication-key 2 md5 CISCO123
ntp source Loopback0
nntp access-group server-only 10
ntp master 2
!
access-list 10 permit 209.165.200.225
```

B.

```
ntp authenticate
ntp authentication-key 2 md5 CISCO123
ntp source Loopback0
ntp access-group server-only 10
ntp stratum 2
!
access-list 10 permit udp host 209.165.200.225 any eq 123
```

C.

```
ntp authenticate
ntp authentication-key 2 sha1 CISCO123
ntp source Loopback0
ntp access-group server-only 10
ntp master 2
!
access-list 10 permit udp host 209.165.200.225 any eq 123
```

D. `ntp authenticate`  
`ntp authentication-key 2 md5 CISCO123`  
`ntp interface Loopback0`  
`ntp access-group server-only 10`

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

**Correct Answer:** B

**Section:** (none)

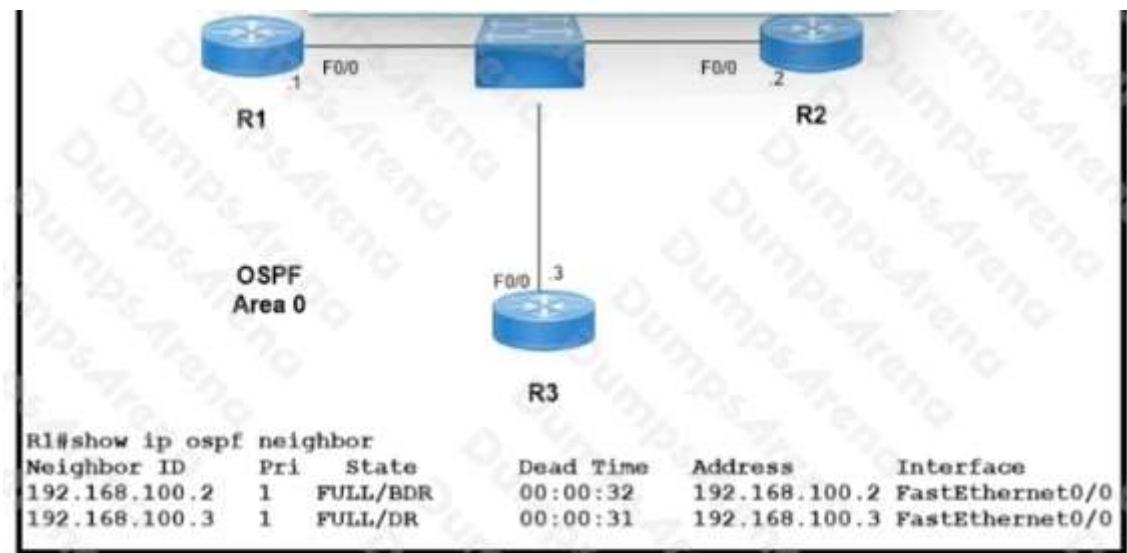
**Explanation**

**Explanation/Reference:**

### QUESTION 133

- (Topic 1)

Refer to the exhibit.



Which two configurations must the engineer apply on this network so that R1 becomes the DR? (Choose two.)

- A. `R1(config)#router ospf 1`  
`R1(config-router)#router-id 192.168.100.1`
- B. `R1(config)#interface fastethernet 0/0`  
`R1(config-if)#ip ospf priority 200`
- C.

```
|R3(config)#interface fastethernet 0/0  
R3(config-if)#ip ospf priority 0
```

D. R1(config)#interface fastethernet 0/0  
R1(config-if)#ip ospf priority 0

E. R3(config)#interface fastethernet 0/0  
R3(config-if)#ip ospf priority 200

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

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 134**

- (Topic 1)

Which type of IPv6 address is similar to a unicast address but is assigned to multiple devices on the same network at the same time?

- A. global unicast address
- B. anycast address
- C. multicast address
- D. link-local address

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 135**

- (Topic 1)

Which two network actions occur within the data plane? (Choose two.)

- A. Add or remove an 802.1Q trunking header.
- B. Make a configuration change from an incoming NETCONF RPC.
- C. Run routing protocols.
- D. Match the destination MAC address to the MAC address table.
- E. Reply to an incoming ICMP echo request.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 136**

- (Topic 1)

Which QoS traffic handling technique retains excess packets in a queue and reschedules these packets for later transmission when the configured maximum bandwidth has been surpassed?

- A. weighted random early detection
- B. traffic policing
- C. traffic shaping
- D. traffic prioritization

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 137**

- (Topic 1)

Refer to the exhibit.

```
CPE# show ip route
    192.168.1.0/24 is variably subnetted, 3 subnets, 3 masks
B    192.168.1.0/24 [20/1] via 192.168.12.2, 00:00:06
R    192.168.1.128/25 [120/5] via 192.168.13.3, 00:02:35, Ethernet0/1
O    192.168.1.192/26 [110/11] via 192.168.14.4, 00:02:23, Ethernet0/2
D    192.168.1.224/27 [90/1024640] via 192.168.15.5, 00:01:40, Ethernet0/3
```

All traffic enters the CPE router from interface Serial0/3 with an IP address of 192.168.50.1. Web traffic from the WAN is destined for a LAN network where servers are load-balanced. An IP packet with a destination address of the HTTP virtual IP of 192.168.1.250 must be forwarded. Which routing table entry does the router use?

- A. 192.168.1.0/24 via 192.168.12.2
- B. 192.168.1.128/25 via 192.168.13.3
- C. 192.168.1.192/26 via 192.168.14.4
- D. 192.168.1.224/27 via 192.168.15.5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 138**

- (Topic 1)

Which interface mode must be configured to connect the lightweight APs in a centralized architecture?

- A. WLAN dynamic
- B. management
- C. trunk
- D. access

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 139**

- (Topic 1)

Refer to the exhibit.



Which two commands must be configured on router R1 to enable the router to accept secure remote-access connections? (Choose two)

- A. transport input telnet
- B. crypto key generate rsa
- C. ip ssh pubkey-chain
- D. login console
- E. username cisco password 0 Cisco

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 140**

- (Topic 1)

Which type of network attack overwhelms the target server by sending multiple packets to a port until the half-open TCP resources of the target are exhausted?

- A. SYIM flood
- B. reflection
- C. teardrop
- D. amplification

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 141**

- (Topic 1)

Refer to the exhibit.

```
A# show ip ospf neighbor
Neighbor ID Pri State      Dead Time Address      Interface
172.1.1.1   1 EXCHANGE/ - 00:00:36  172.16.32.1 Serial0/1
```

An engineer assumes a configuration task from a peer Router A must establish an OSPF neighbor relationship with neighbor 172.1.1.1. The output displays the status of the adjacency after 2 hours. What is the next step in the configuration process for the routers to establish an adjacency?

- A. Configure router A to use the same MTU size as router B.
- B. Set the router B OSPF ID to a nonhost address.
- C. Configure a point-to-point link between router A and router B.
- D. Set the router B OSPF ID to the same value as its IP address

**Correct Answer:** B

**Section:** (none)

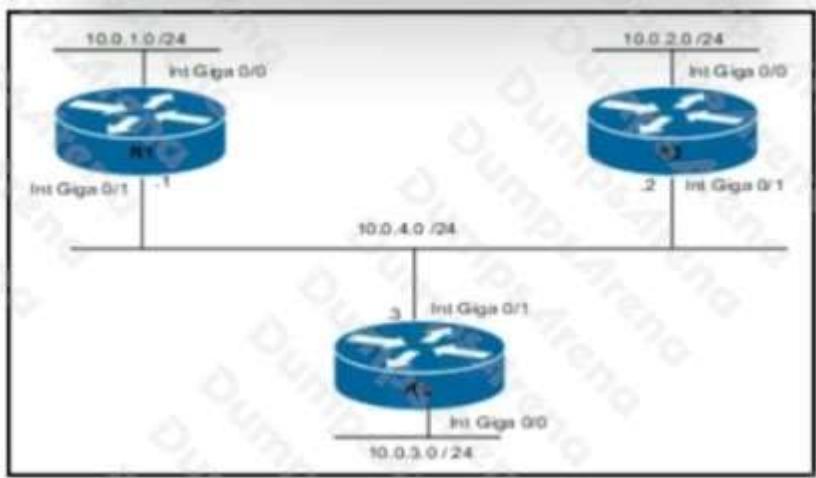
**Explanation**

**Explanation/Reference:**

**QUESTION 142**

- (Topic 1)

Refer to the exhibit.



Routers R1 and R3 have the default configuration. The router R2 priority is set to 99. Which commands on R3 configure it as the DR in the 10.0.4.0/24 network?

- A. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 100
- B. R3(config)#interface Gig0/0 R3(config-if)#ip ospf priority 100
- C. R3(config)#interface Gig0/0 R3(config-if)i=ip ospf priority 1
- D. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 0

**Correct Answer:** B

**Section:** (none)

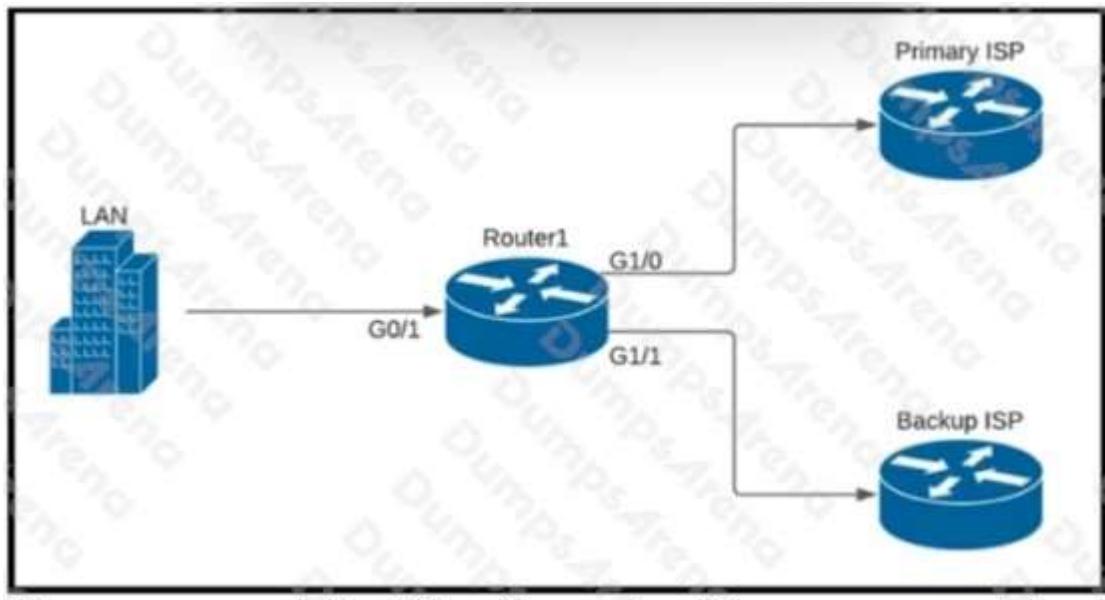
**Explanation**

**Explanation/Reference:**

#### QUESTION 143

- (Topic 1)

Refer to the exhibit.



A company is configuring a failover plan and must implement the default routes in such a way that a floating static route will assume traffic forwarding when the primary link goes down. Which primary route configuration must be used?

- A. ip route 0.0.0.0 0.0.0.0 192.168.0.2 GigabitEthernet1/0
- B. ip route 0.0.0.0 0.0.0.0 192.168.0.2 tracked
- C. ip route 0.0.0.0 0.0.0.0 192.168.0.2 floating
- D. ip route 0.0.0.0 0.0.0.0 192.168.0.2

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 144

- (Topic 1)

What is one reason to implement LAG on a Cisco WLC?

- A. to increase security and encrypt management frames
- B. to provide link redundancy and load balancing
- C. to allow for stateful and link-state failover
- D. to enable connected switch ports to failover and use different VLANs

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 145**

- (Topic 1)

Which action implements physical access control as part of the security program of an organization?

- A. configuring a password for the console port
- B. backing up syslogs at a remote location
- C. configuring enable passwords on network devices
- D. setting up IP cameras to monitor key infrastructure

**Correct Answer:** A**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 146**

- (DRAG DROP) - (Topic 1)

Drag and drop the facts about wireless architectures from the left onto the types of access point on the right.  
Not all options are used.



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

**Correct Answer:****Section:** (none)**Explanation**

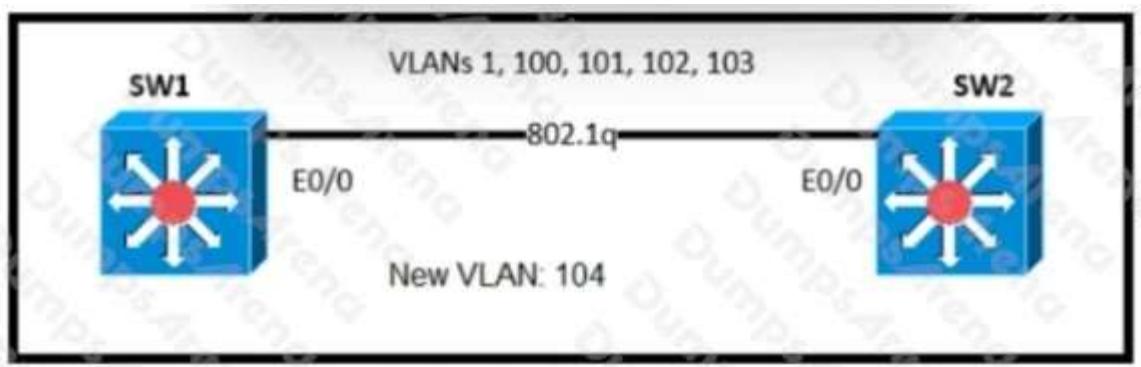
**Explanation/Reference:**

|                                                         |                                                         |
|---------------------------------------------------------|---------------------------------------------------------|
| supports automatic deployment                           | Autonomous Access Point                                 |
| managed from a web-based dashboard                      |                                                         |
| accessible for management via Telnet, SSH, or a web GUI |                                                         |
| configured and managed by a WLC                         |                                                         |
| requires a management IP address                        | Cloud-Based Access Point                                |
|                                                         | accessible for management via Telnet, SSH, or a web GUI |
|                                                         | configured and managed by a WLC                         |
|                                                         | requires a management IP address                        |
|                                                         | supports automatic deployment                           |

**QUESTION 147**

- (Topic 1)

Refer to the exhibit.



An engineer is asked to insert the new VLAN into the existing trunk without modifying anything previously configured. Which command accomplishes this task?

- A. switchport trunk allowed vlan 100-104
- B. switchport trunk allowed vlan add 104
- C. switchport trunk allowed vlan all
- D. switchport trunk allowed vlan 104

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 148**

- (DRAG DROP) - (Topic 1)

An engineer is tasked to configure a switch with port security to ensure devices that forward unicasts multicasts and broadcasts are unable to flood the port. The port must be configured to permit only two random MAC addresses at a time. Drag and drop the required configuration commands from the left onto the sequence on the right. Not all commands are used.



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

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

|                                                     |                                             |
|-----------------------------------------------------|---------------------------------------------|
| switchport mode access                              | switchport port-security                    |
| switchport port-security                            | switchport port-security mac-address sticky |
| switchport port-security mac-address 00E0.3E0D.77A8 | switchport port-security maximum 2          |
| switchport port-security mac-address 00D0.D3ED.8224 | switchport port-security violation shutdown |
| switchport port-security mac-address sticky         |                                             |
| switchport port-security maximum 2                  |                                             |
| switchport port-security violation shutdown         |                                             |

**QUESTION 149**  
- (Topic 1)

Which field within the access-request packet is encrypted by RADIUS?

- A. authorized services
- B. authenticator
- C. username
- D. password

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 150**  
- (Topic 1)

A network administrator is setting up a new IPv6 network using the 64-bit address 2001 0EB8 00C1 2200:0001 0000 0000 0331/64 To simplify the configuration the administrator has decided to compress the address Which IP address must the administrator configure?

- A. ipv6 address 21:EB8:C1:2200:1::331/64
- B. ipv6 address 2001:EB8:C1:22:1::331/64
- C. ipv6 address 2001 :EB8:C 1:2200.1 ::331-64
- D. ipv6 address 2001:EB8:C1:2200:1:0000:331/64

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 151**

- (Topic 1)

A network engineer is configuring a switch so that it is remotely reachable via SSH. The engineer has already configured the host name on the router. Which additional command must the engineer configure before entering the command to generate the RSA key?

- A. password password
- B. crypto key generate rsa modulus 1024
- C. ip domain-name domain
- D. ip ssh authentication-retries 2

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 152**

- (Topic 1)

Refer to the exhibit.

```
ip domain-name CNAC.com
!
interface GigabitEthernet0/0/0
  ip address 192.168.1.10 255.255.255.0
  duplex auto
  speed auto
!
line vty 0 15
  login local

R1#show crypto key mypubkey rsa

R1#show ssh
#No SSHv2 server connections running.
#No SSHv1 server connections running.
```

Which two commands must be added to update the configuration of router R1 so that it accepts only encrypted connections? (Choose two )

- A. username CNAC secret R!41!4319115@
- B. ip ssh version 2
- C. line vty 0 4
- D. crypto key generate rsa 1024
- E. transport input ssh

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 153**

- (Topic 1)

A network engineer must configure two new subnets using the address block 10 70 128 0/19 to meet these requirements:

- The first subnet must support 24 hosts
- The second subnet must support 472 hosts
- Both subnets must use the longest subnet mask possible from the address block

Which two configurations must be used to configure the new subnets and meet a requirement to use the first available address in each subnet for the router interfaces? (Choose two )

- A. interface vlan 1234  
ip address 10.70.159.1 255.255.254.0
- B. interface vlan 1148  
ip address 10.70.148.1 255.255.254.0
- C. interface vlan 4722  
ip address 10.70.133.17 255.255.255.192
- D. interface vlan 3002  
ip address 10.70.147.17 255.255.255.224
- E. interface vlan 155  
ip address 10.70.155.65 255.255.255.224

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 154**

- (Topic 1)

What is a function of Opportunistic Wireless Encryption in an environment?

- A. offer compression
- B. increase security by using a WEP connection

- C. provide authentication
- D. protect traffic on open networks

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 155**

- (Topic 1)

Refer to the exhibit.

| Switch#show etherchannel summary<br>[output omitted] |              |          |           |           |
|------------------------------------------------------|--------------|----------|-----------|-----------|
| Group                                                | Port-channel | Protocol | Ports     |           |
| 10                                                   | Po10 (SU)    | LACP     | Gi0/0 (P) | Gi0/1 (P) |
| 20                                                   | Po20 (SU)    | LACP     | Gi0/2 (P) | Gi0/3 (P) |

Which two commands when used together create port channel 10? (Choose two.)

- A. int range g0/0-1  
channel-group 10 mode active
- B. int range g0/0-1 chanm.l-group 10 mode desirable
- C. int range g0/0-1  
channel-group 10 mode passive
- D. int range g0/0-1 channel-group 10 mode auto
- E. int range g0/0-1 channel-group 10 mode on

**Correct Answer:** AC

**Section:** (none)

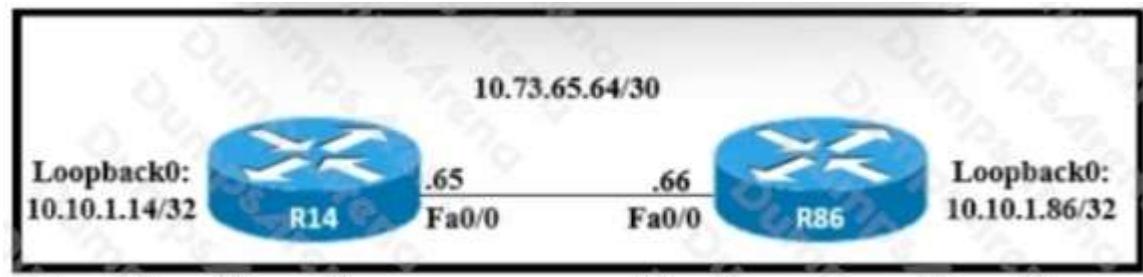
**Explanation**

**Explanation/Reference:**

**QUESTION 156**

- (Topic 1)

Refer to the exhibit.



A static route must be configured on R14 to forward traffic for the 172.21.34.0/25 network that resides on R86. Which command must be used to fulfill the request?

- A. ip route 172.21.34.0 255.255.255.192 10.73.65.65
- B. ip route 172.21.34.0 255.255.255.0 10.73.65.65
- C. ip route 172.21.34.0 255.255.128.0 10.73.65.64
- D. ip route 172.21.34.0 255.255.255.128 10.73.65.66

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 157

- (Topic 1)

A network engineer must implement an IPv6 configuration on the vlan 2000 interface to create a routable locally-unique unicast address that is blocked from being advertised to the internet. Which configuration must the engineer apply?

- A. interface vlan 2000  
 ipv6 address ffc0:0000:aaaa::1234:2343/64
- B. interface vlan 2000  
 ipv6 address fc00:0000:aaaa:a15d:1234:2343:8aca/64
- C. interface vlan 2000  
 ipv6 address fe80:0000:aaaa::1234:2343/64
- D. interface vlan 2000  
 ipv6 address fd00::1234:2343/64

**Correct Answer:** B

**Section:** (none)

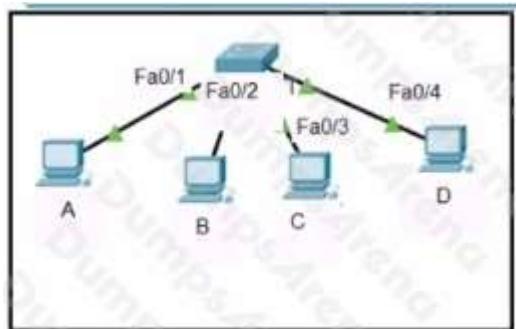
**Explanation**

**Explanation/Reference:**

#### QUESTION 158

- (Topic 1)

Refer to the exhibit.



Host A sent a data frame destined for host D

```
SwitchA#show mac-address table
Mac Address Table
Vlan Mac Address Type Ports
---  -----
2   000c.859c.bb7b DYNAMIC Fa0/1
2   0010.11dc.3e91 DYNAMIC Fa0/2
2   0041.45d7.e451 DYNAMIC Fa0/3
SwitchA#
```

What does the switch do when it receives the frame from host A?

- A. It drops the frame from the switch CAM table.
- B. It floods the frame out of all ports except port Fa0/1.
- C. It shuts down the port Fa0/1 and places it in err-disable mode.
- D. It experiences a broadcast storm.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 159

- (Topic 1)

What is the function of the controller in a software-defined network?

- A. multicast replication at the hardware level
- B. fragmenting and reassembling packets
- C. making routing decisions
- D. forwarding packets

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 160

- (Topic 1)

Refer to the exhibit.

```
SW1#show run interface fastEthernet 0/1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode on

SW1#show run interface fastEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode on

SW2#show run interface fastEthernet 0/1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode active

SW2#show run interface fastEthernet 0/2
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 100,200,300
channel-group 1 mode active
```

An engineer built a new L2 LACP EtherChannel between SW1 and SW2 and executed these show commands to verify the work. Which additional task allows the two switches to establish an LACP port channel?

- A. Change the channel-group mode on SW2 to auto
- B. Change the channel-group mode on SW1 to desirable.
- C. Configure the interface port-channel 1 command on both switches.
- D. Change the channel-group mode on SW1 to active or passive.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 161

- (Topic 1)

What is a requirement for nonoverlapping Wi-Fi channels?

- A. different security settings
- B. discontinuous frequency ranges
- C. different transmission speeds
- D. unique SSIDs

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 162**

- (Topic 1)

A network engineer is installing an IPv6-only capable device. The client has requested that the device IP address be reachable only from the internal network. Which type of IPv6 address must the engineer assign?

- A. unique local address
- B. link-local address
- C. aggregatable global address
- D. IPv4-compatible IPv6 address

**Correct Answer:** B

**Section:** (none)

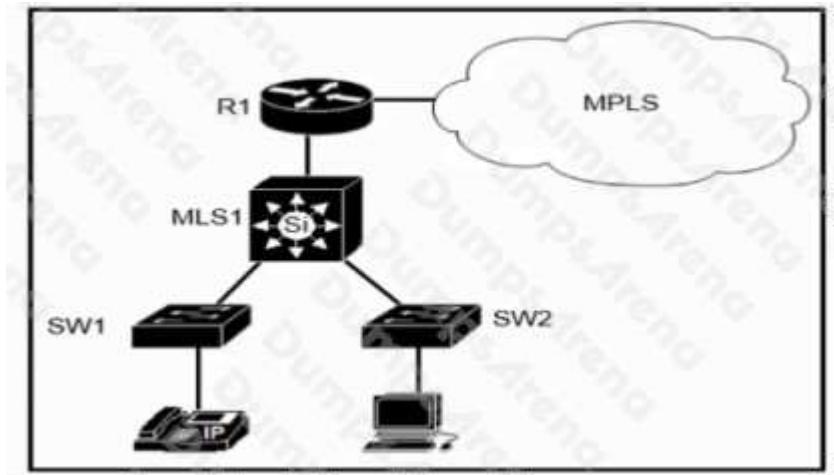
**Explanation**

**Explanation/Reference:**

**QUESTION 163**

- (Topic 1)

Refer to the exhibit.



Which plan must be implemented to ensure optimal QoS marking practices on this network?

- A. As traffic traverses MLS1 remark the traffic, but trust all markings at the access layer.
- B. Trust the IP phone markings on SW1 and mark traffic entering SW2 at SW2.
- C. Remark traffic as it traverses R1 and trust all markings at the access layer.
- D. As traffic enters from the access layer on SW1 and SW2, trust all traffic markings.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 164

- (Topic 1)

Refer to the exhibit.

```
TenGigabitEthernet0/0/0 is up, line protocol is up
  Hardware is BUILT-IN-2T+6X1GE, address is 74a0.2f7a.0123 (bia 74a0.2f7a.0123)
  Description: Uplink
  Internet address is 10.1.1.24
  MTU 1500 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  Full Duplex, 10000Mbps, link type is force-up, media type is unknown media type
  output flow-control is on, input flow-control is on
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:05:40, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 6160000 bits/sec, 1113 packets/sec
  5 minute output rate 11213000 bits/sec, 1553 packets/sec
    12662416065 packets input, 12607032232894 bytes, 0 no buffer
    Received 14117163 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 26271385 multicast, 0 pause input
    7907779058 packets output, 5073750426832 bytes, 0 underruns
    0 output errors, 8662416065 collisions, 1 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out
    1 carrier transitions
```

Traffic that is flowing over interface TenGigabitEthernet0/0 experiences slow transfer speeds. What is the reason for the issue?

- A. heavy traffic congestion
- B. a duplex incompatibility
- C. a speed conflict
- D. queuing drops

**Correct Answer:** C

**Section:** (none)

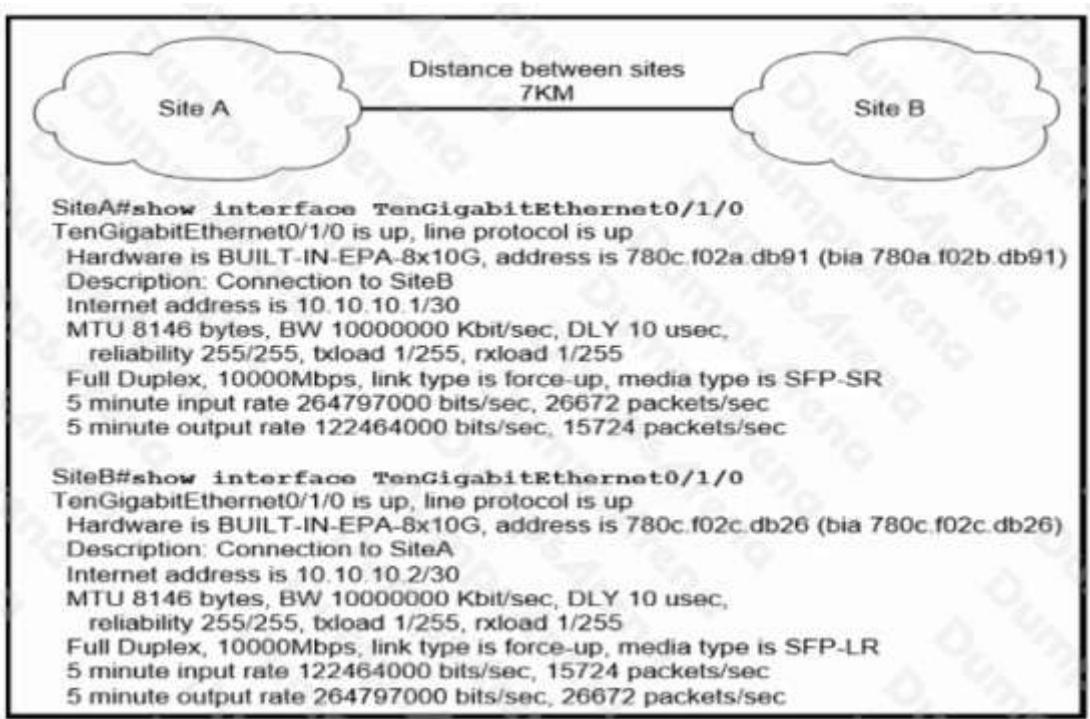
**Explanation**

**Explanation/Reference:**

**QUESTION 165**

- (Topic 1)

Refer to the exhibit.



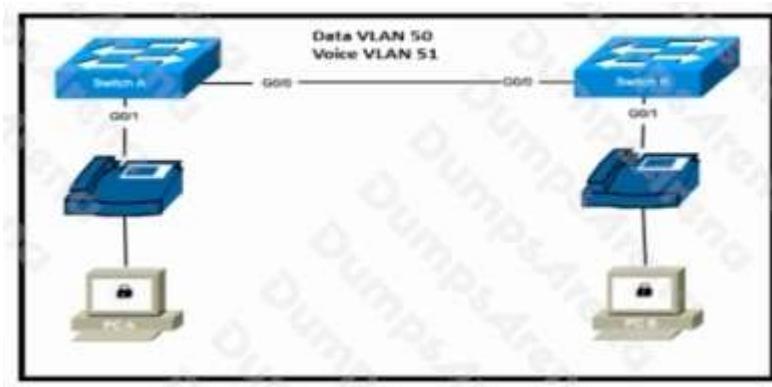
Site A was recently connected to site B over a new single-mode fiber path. Users at site A report Intermittent connectivity Issues with applications hosted at site B. What is the reason for the problem?

- A. Heavy usage is causing high latency.
- B. An incorrect type of transceiver has been inserted into a device on the link.
- C. physical network errors are being transmitted between the two sites.
- D. The wrong cable type was used to make the connection.

**Correct Answer: B****Section: (none)****Explanation****Explanation/Reference:****QUESTION 166**

- (Topic 1)

Refer to the exhibit.



Switch A is newly configured. All VLANs are present in the VLAN database. The IP phone and PC A on Gi0/1 must be configured for the appropriate VLANs to establish connectivity between the PCs. Which command set fulfills the requirement?

- A. 

```
SwitchA(config-if)#switchport mode access
SwitchA(config-if)#switchport access vlan 50
SwitchA(config-if)#switchport voice vlan 51
```
  - B. 

```
SwitchA(config-if)#switchport mode access
SwitchA(config-if)#switchport access vlan 50
SwitchA(config-if)#switchport voice vlan untagged
```
  - C. 

```
SwitchA(config-if)#switchport mode trunk
SwitchA(config-if)#switchport trunk allowed vlan add 50, 51
SwitchA(config-if)#switchport voice vlan dot1p
```
  - D. 

```
SwitchA(config-if)#switchport mode trunk
SwitchA(config-if)#switchport trunk allowed vlan 50, 51
SwitchA(config-if)#mls qos trust cos
```
- A. Option A
  - B. Option B
  - C. Option C
  - D. Option D

**Correct Answer:** A

**Section:** (none)

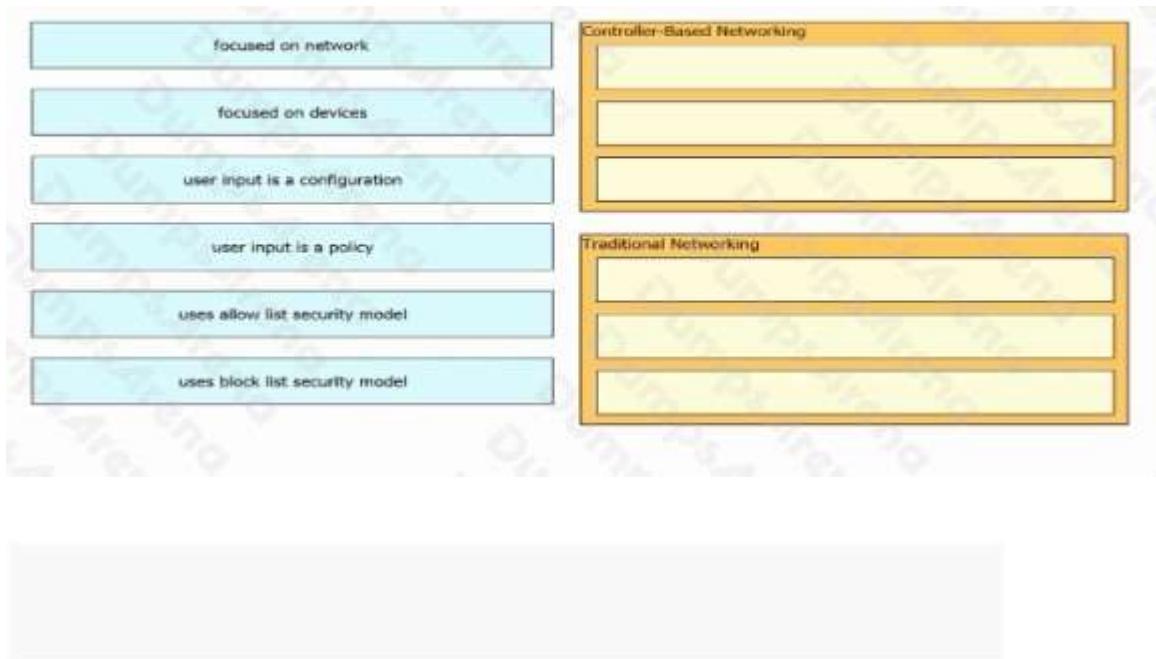
**Explanation**

**Explanation/Reference:**

#### QUESTION 167

- (DRAG DROP) - (Topic 1)

Drag and drop the characteristics of networking from the left onto the networking types on the right.



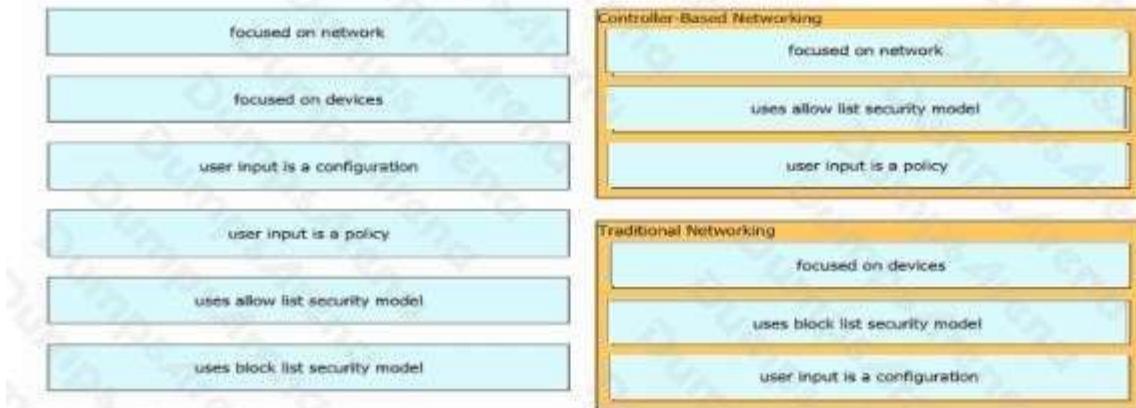
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



### QUESTION 168

- (Topic 1)

An engineer must configure R1 for a new user account. The account must meet these requirements:

- \* It must be configured in the local database.
  - \* The username is engineer.
- \* It must use the strongest password configurable. Which command must the engineer configure on the router?
- R1 (config)# username engineer2 algorithm-type scrypt secret test2021
  - R1(config)# username engineer2 secret 5 .password S1\$b1Ju\$kZbBS1Pyh4QzwXyZ
  - R1(config)# username engineer2 privilege 1 password 7 test2021
  - R1(config)# username englneer2 secret 4 S1Sb1Ju\$kZbBS1Pyh4QzwXyZ

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 169

- (Topic 1)

Refer to the exhibit.

```
R1#show run
!
router ospf 1
auto-cost reference-bandwidth 100000
!
interface GigabitEthernet0/0
bandwidth 10000000
!
interface GigabitEthernet0/1
bandwidth 100000000
!
interface GigabitEthernet0/2
ip ospf cost 100
!
interface GigabitEthernet0/3
ip ospf cost 1000
end
```

Router R1 resides in OSPF Area 0. After updating the R1 configuration to influence the paths that it will use to direct traffic, an engineer verified that each of the four Gigabit interfaces has the same route to 10.10.0.0/16. Which interface will R1 choose to send traffic to reach the route?

- GigabitEthernet0/0
- GigabitEthernet0/1
- GigabitEthernet0/2
- GigabitEthernet0/3

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 170**

- (Topic 1)

What is a requirement when configuring or removing LAG on a WLC?

- A. The Incoming and outgoing ports for traffic flow must be specified If LAG Is enabled.
- B. The controller must be rebooted after enabling or reconfiguring LAG.
- C. The management interface must be reassigned if LAG disabled.
- D. Multiple untagged interfaces on the same port must be supported.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 171**

- (Topic 1)

Refer to the exhibit.

```
Switch#show ip dhcp snooping
Switch DHCP snooping is enabled
Switch DHCP learning is disabled
DHCP snooping is configured on following VLANs:
 1
DHCP snooping is operational on following VLANs:
 1
DHCP snooping is configured on the following L3 Interfaces:
Insertion of option 82 is disabled
circuit-id default format: vlan-mod-port
remote-id: aabb.cc00.6500 (MAC)
Option 82 on untrusted port is not allowed
Verification of hwaddr field is enabled
Verification of giaddr field is enabled
DHCP snooping trust/rate is configured on the following Interfaces:
Interface Trusted Allow option Rate limit (pps)
```

```
Switch#show ip dhcp snooping statistics detail
Packets Processed by DHCP Snooping = 34
Packets Dropped Because
  IDB not known = 0
  Queue full = 0
  Interface is in errdisabled = 0
  Rate limit exceeded = 0
  Received on untrusted ports = 32
  Nonzero giaddr = 0
  Source mac not equal to chaddr = 0
  No binding entry = 0
  Insertion of opt82 fail = 0
  Unknown packet = 0
  Interface Down = 0
  Unknown output interface = 0
  Misdirected Packets = 0
  Packets with Invalid Size = 0
  Packets with Invalid Option = 0
```

The DHCP server and clients are connected to the same switch. What is the next step to complete the DHCP configuration to allow clients on VLAN 1 to receive addresses from the DHCP server?

- A. Configure the ip dhcp snooping trust command on the interface that is connected to the DHCP client.
- B. Configure the ip dhcp relay information option command on the interface that is connected to the DHCP client.
- C. Configure the ip dhcp snooping trust command on the interface that is connected to the DHCP server.
- D. Configure the ip dhcp relay information option command on the interface that is connected to the DHCP server.

**Correct Answer:** C

**Section:** (none)

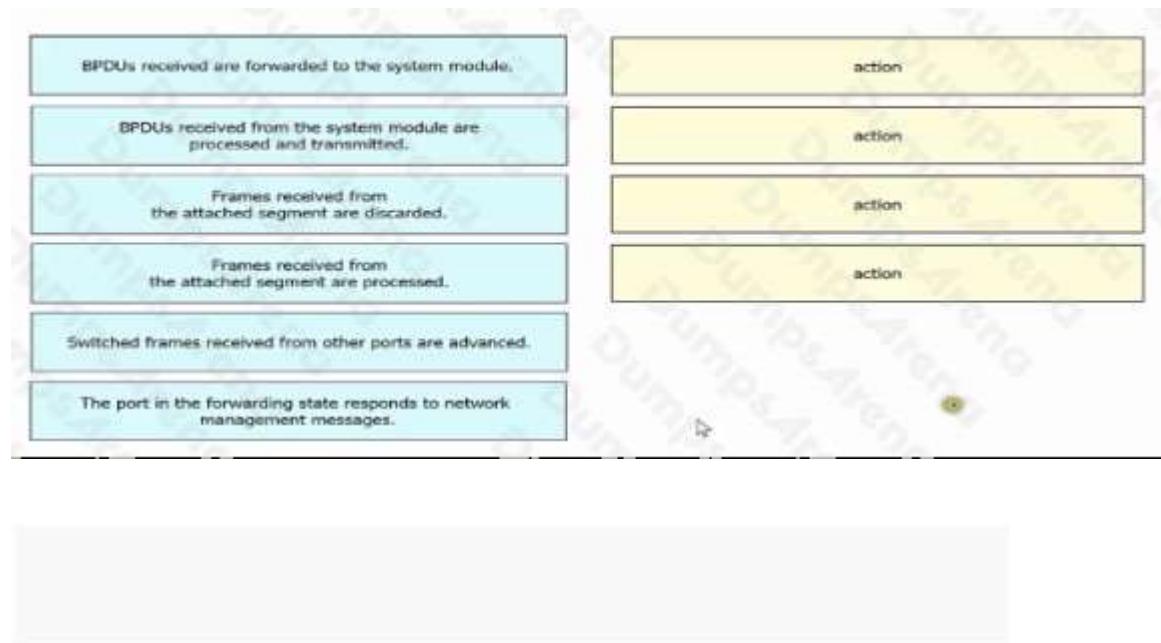
**Explanation**

**Explanation/Reference:**

**QUESTION 172**

- (DRAG DROP) - (Topic 1)

Drag and drop the Rapid PVST+ forwarding slate actions from the left to the right. Not all actions are used.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                                                                           |                                                                           |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------|
| BPDUs received are forwarded to the system module.                        | BPDUs received are forwarded to the system module.                        |
| BPDUs received from the system module are processed and transmitted.      | BPDUs received from the system module are processed and transmitted.      |
| Frames received from the attached segment are discarded.                  | Frames received from the attached segment are discarded.                  |
| Frames received from the attached segment are processed.                  | The port in the forwarding state responds to network management messages. |
| Switched frames received from other ports are advanced.                   |                                                                           |
| The port in the forwarding state responds to network management messages. |                                                                           |

### QUESTION 173

- (Topic 1)

What provides centralized control of authentication and roaming In an enterprise network?

- A. a lightweight access point
- B. a firewall
- C. a wireless LAN controller
- D. a LAN switch

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 174

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate
      default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C 192.168.3.5 is directly connected, Loopback0
  10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
  O 10.0.1.3/32 [110/100] via 192.168.0.40, 00:39:08, Serial0
  C 10.0.1.0/24 is directly connected, Serial0
  O 10.0.1.190/32 [110/5] via 192.168.0.35, 00:39:08, Serial0
  O 10.0.1.0/24 [110/10] via 192.168.0.4, 00:39:08, Gigabit Ethernet 0/0
  D 10.0.1.0/28 [90/10] via 192.168.0.7, 00:39:08, Gigabit Ethernet 0/0
```

Traffic sourced from the loopback0 Interface is trying to connect via ssh to the host at 10.0.1.15. What Is the next hop to the destination address?

- A. 192.168.0.7
- B. 192.168.0.4
- C. 192.168.0.40
- D. 192.168.3.5

**Correct Answer:** B

**Section:** (none)

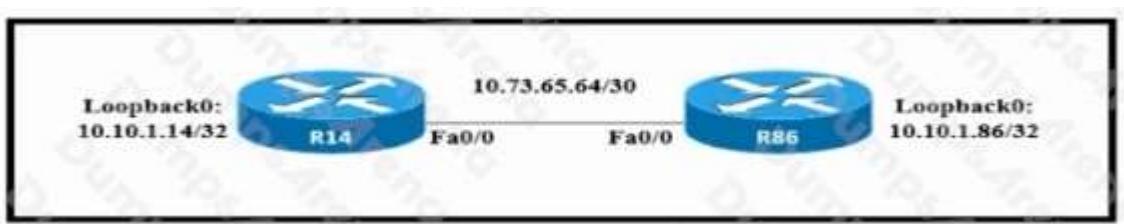
**Explanation**

**Explanation/Reference:**

#### QUESTION 175

- (Topic 1)

Refer to the exhibit.



Which configuration allows routers R14 and R86 to form an OSPFv2 adjacency while acting as a central point for exchanging OSPF information between routers?

A.

```
R14#  
interface Loopback0  
ip ospf 10 area 0  
  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf network broadcast  
ip ospf 10 area 0  
ip mtu 1500  
  
router ospf 10  
ip ospf priority 255  
router-id 10.10.1.14  
  
R86#  
interface Loopback0  
ip ospf 10 area 0  
  
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf network broadcast  
ip ospf 10 area 0  
ip mtu 1500
```

B.

```
R14#  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf network broadcast  
ip ospf priority 255  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0  
R86#  
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf network broadcast  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.86  
network 10.10.1.86 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0
```

C.

```
R14#  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf network broadcast  
ip ospf priority 0  
ip mtu 1400  
  
router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0  
R86#  
interface Loopback0  
ip address 10.10.1.86 255.255.255.255
```

D.

```
R14#  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf network broadcast  
ip ospf priority 255  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0  
R86#  
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf network broadcast  
ip mtu 1400  
  
router ospf 10  
router-id 10.10.1.86  
network 10.10.1.86 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0
```

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

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 176**

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.254 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.254, Serial0/0/1
    is directly connected, Serial0/0/1
  172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
C   172.16.1.0/24 is directly connected, FastEthernet0/0
L   172.16.1.1/32 is directly connected, FastEthernet0/0
R   172.16.2.0/24 [120/2] via 207.165.200.250, 00:00:25, Serial0/0/0
G   192.168.1.0/24 [110/4437] via 207.165.200.254, 00:00:17, Serial0/0/1
D   192.168.2.0/24 [90/84437] via 207.165.200.254, 00:00:15, Serial0/0/1
  207.165.200.0/24 is variably subnetted, 5 subnets, 2 masks
S   207.165.200.244/30 [1/1] via 207.165.200.254, Serial0/0/1
C   207.165.200.248/30 is directly connected, Serial0/0/0
L   207.165.200.249/32 is directly connected, Serial0/0/0
C   207.165.200.252/30 is directly connected, Serial0/0/1
L   207.165.200.253/32 is directly connected, Serial0/0/1
```

Which network prefix was learned via EIGRP?

- A. 172.16.0.0/16
- B. 192.168.2.0/24
- C. 207.165.200.0/24
- D. 192.168.1.0/24

**Correct Answer:** B

**Section:** (none)

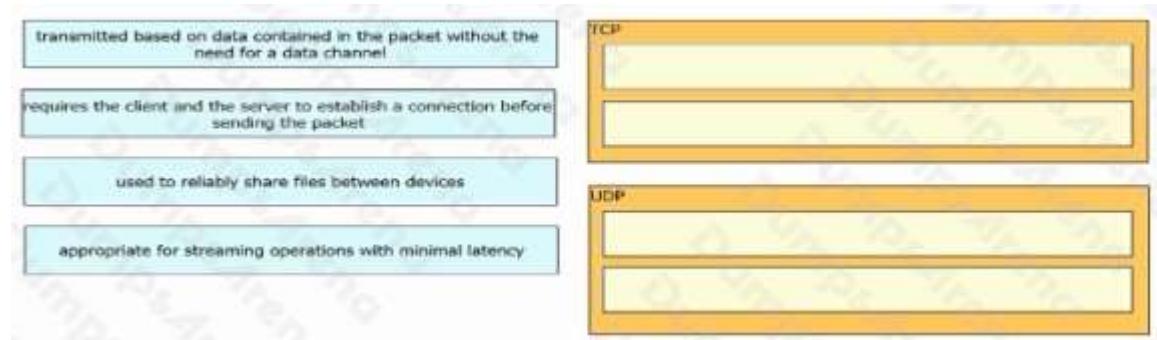
**Explanation**

**Explanation/Reference:**

### QUESTION 177

- (DRAG DROP) - (Topic 1)

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

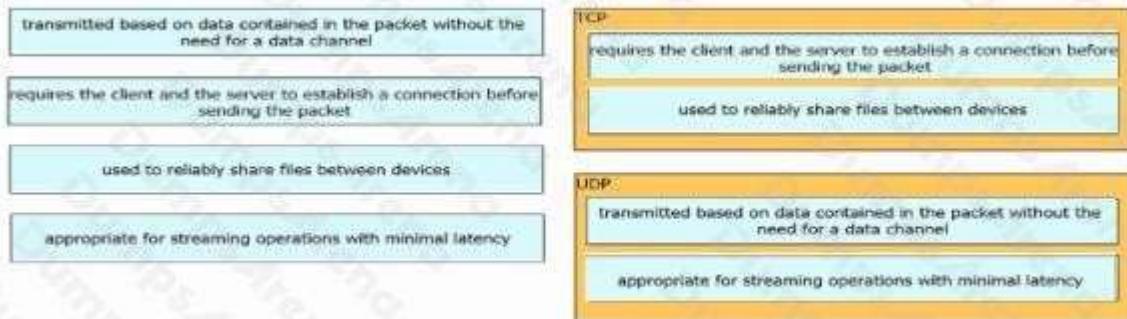


- A.
- B.
- C.
- D.

**Correct Answer:**

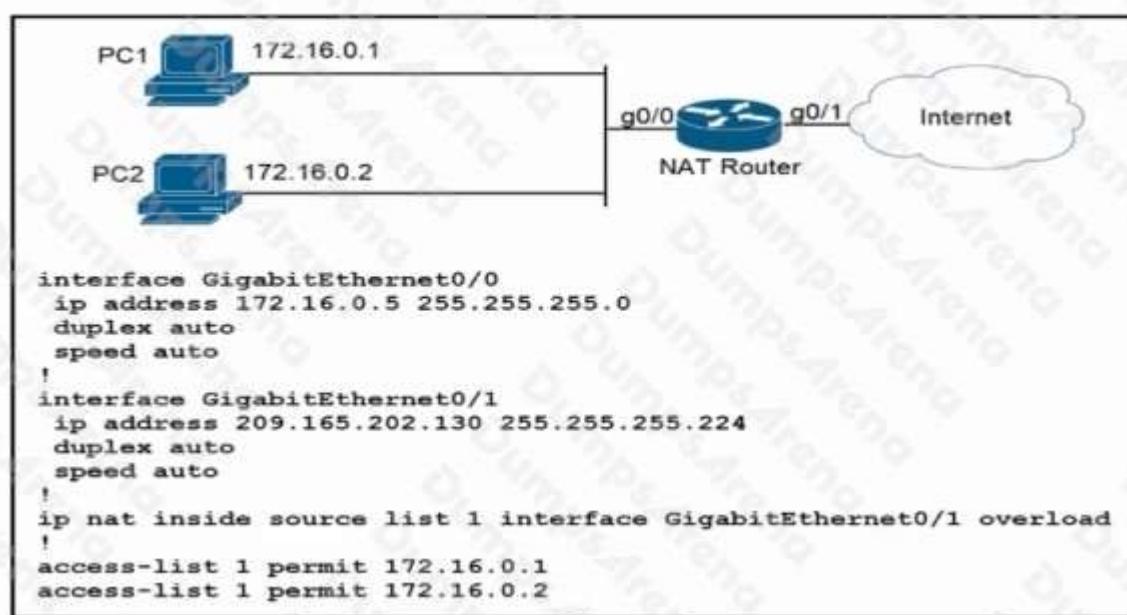
**Section: (none)**  
**Explanation**

**Explanation/Reference:**



**QUESTION 178**  
- (Topic 1)

Refer to the exhibit.



How should the configuration be updated to allow PC1 and PC2 access to the Internet?

- A. Modify the configured number of the second access list.
- B. Add either the ip nat {inside|outside} command under both interfaces.
- C. Remove the overload keyword from the ip nat inside source command.
- D. Change the ip nat inside source command to use interface GigabitEthernet0/0.

**Correct Answer: B**

**Section: (none)**

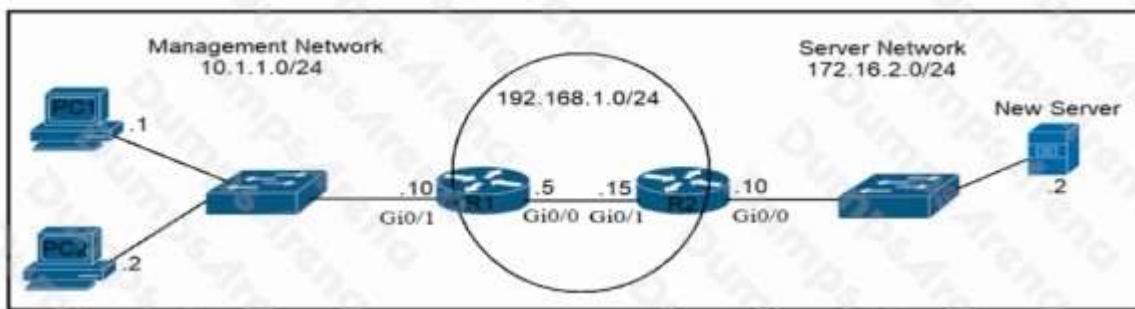
**Explanation**

**Explanation/Reference:**

**QUESTION 179**

- (Topic 1)

Refer to the exhibit.



An engineer is updating the R1 configuration to connect a new server to the management network. The PCs on the management network must be blocked from pinging the default gateway of the new server. Which command must be configured on R1 to complete the task?

- A. R1(config)#ip route 172.16.2.2 255.255.255.248 gi0/1
- B. R1(config)#jp route 172.16.2.2 255.255.255.255 gi0/0
- C. R1(config)>#ip route 172.16.2.0 255.255.255.0 192.168.1.15
- D. R1(config)#ip route 172.16.2.0 255.255.255.0 192.168.1.5

**Correct Answer: C**

**Section: (none)**

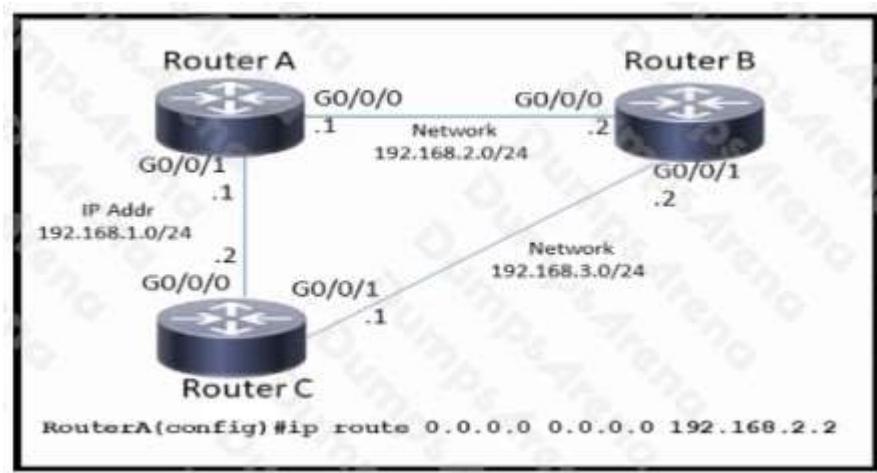
**Explanation**

**Explanation/Reference:**

**QUESTION 180**

- (Topic 1)

Refer to the exhibit.



Which command must be issued to enable a floating static default route on router A?

- A. Ip route 0.0.0.0 0.0.0.0 192.168.1.2
- B. ip default-gateway 192.168.2.1
- C. ip route 0.0.0.0 0.0.0.0 192.168.2.1 10
- D. ip route 0.0.0.0 0.0.0.0 192.168.1.2 10

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 181

- (DRAG DROP) - (Topic 1)

Drag and drop the descriptions of AAA services from the left onto the corresponding services on the right.



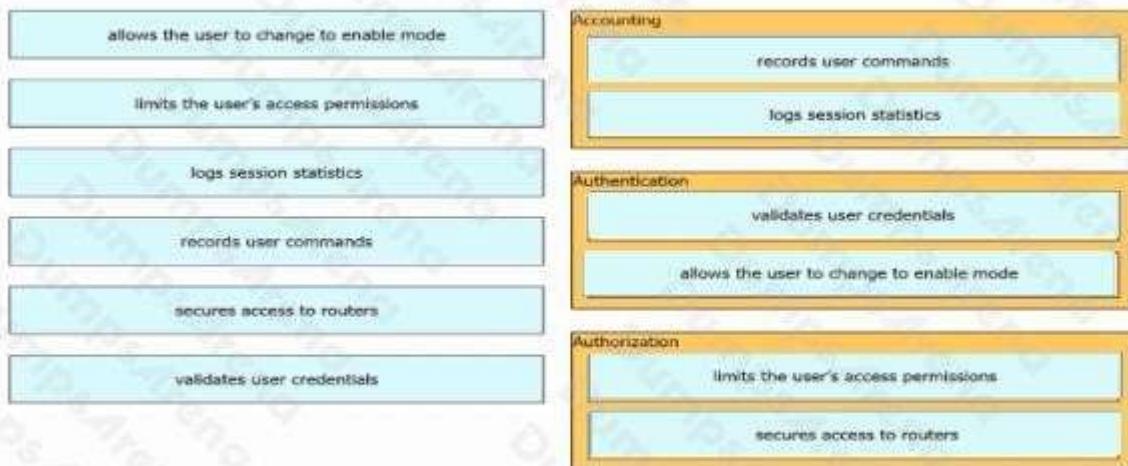
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 182**

- (Topic 1)

Which protocol is used for secure remote CLI access?

- A. HTTPS
- B. HTTP
- C. Telnet
- D. SSH

**Correct Answer: D**

**Section: (none)**

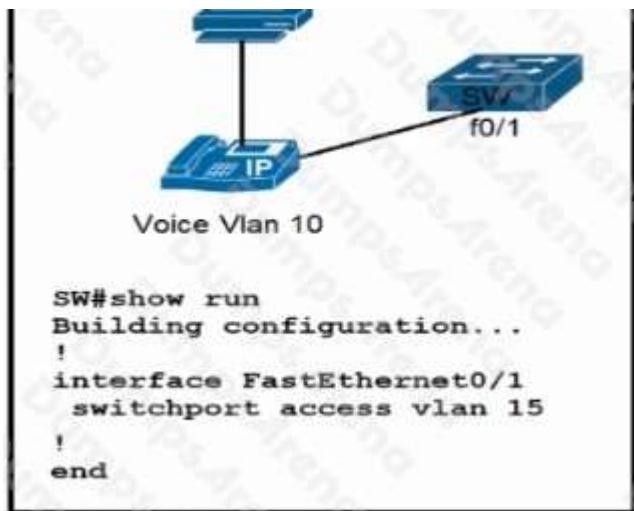
**Explanation**

**Explanation/Reference:**

**QUESTION 183**

- (Topic 1)

Refer to the exhibit.



All VLANs are present in the VLAN database. Which command sequence must be applied to complete the configuration?

- A. Interface FastEthernet0/1 switchport trunk native vlan 10 switchport trunk allowed vlan 10,15
- B. Interface FastEthernet0/1 switchport mode trunk switchport trunk allowed vlan 10,15
- C. interface FastEthernet0/1 switchport mode access switchport voice vlan 10
- D. Interface FastEthernet0/1 switchport trunk allowed vlan add 10 vlan 10 private-vlan isolated

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 184**

- (Topic 1)

Refer to the exhibit.

```
Router#show run
Building configuration...

Current configuration : 1530 bytes
!
! Last configuration change at 11:32:53 UTC Sat Oct 10 2020
upgrade fpd auto
version 15.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router
!
boot-start-marker
boot-end-marker
!
!
!
no aaa new-model
no ip icmp rate-limit unreachable
!
!
!
!
!
--More--
```

Which minimum configuration items are needed to enable Secure Shell version 2 access to R15?

- A. Router(config)#hostname R15  
R15(config)#crypto key generate rsa general-keys modulus 1024  
R15(config-line)#line vty 0 15  
R15(config-line)# transport input ssh  
R15(config)#ip ssh source-interface Fa0/0  
R15(config)#ip ssh stricthostkeycheck
- B. Router(config)#crypto key generate rsa general-keys modulus 1024  
Router(config)#ip ssh version 2  
Router(config-line)#line vty 0 15  
Router(config-line)# transport input ssh  
Router(config)#ip ssh logging events  
R15(config)#ip ssh stricthostkeycheck
- C. Router(config)#ip domain-name cisco.com  
Router(config)#crypto key generate rsa general-keys modulus 1024  
Router(config)#ip ssh version 2  
Router(config-line)#line vty 0 15  
Router(config-line)# transport input all  
Router(config)#ip ssh logging events
- D. DumpsArena - Pass Your Next Certification Exam Fast!  
dumpsarena.com - Page 110 of 722

# DUMPS ARENA

```
Router(config)#hostname R15
R15(config)#ip domain-name cisco.com
R15(config)#crypto key generate rsa general-keys modulus 1024
R15(config)#ip ssh version 2
R15(config-line)#line vty 0 15
R15(config-line)# transport input ssh
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 185

- (Topic 1)

What is the purpose of the ip address dhcp command?

- A. to configure an Interface as a DHCP server
- B. to configure an interface as a DHCP helper
- C. to configure an interface as a DHCP relay
- D. to configure an interface as a DHCP client

**Correct Answer:** D

**Section:** (none)

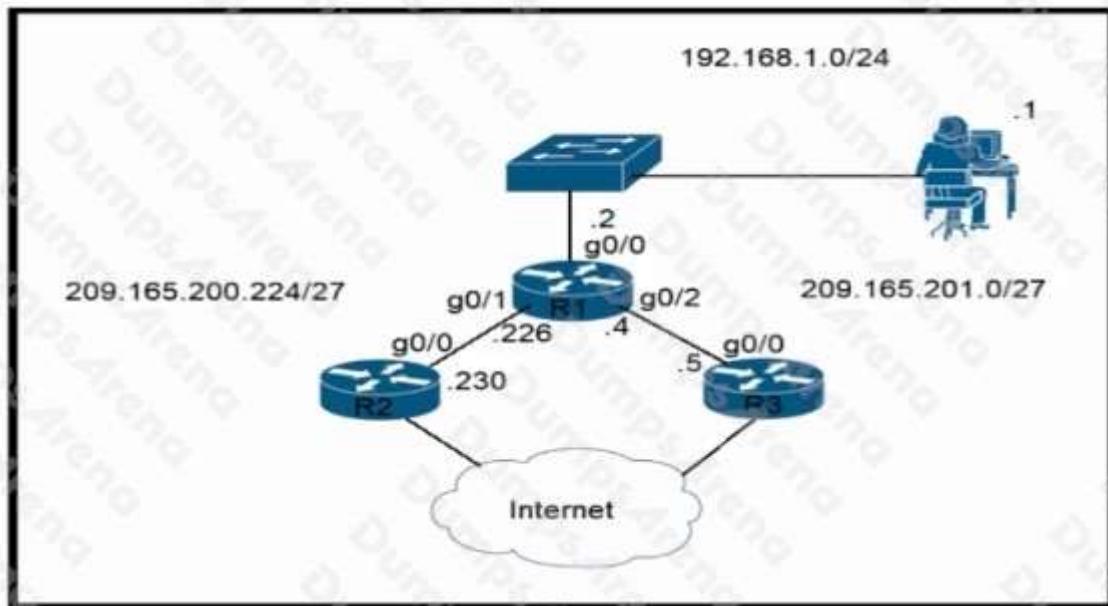
**Explanation**

**Explanation/Reference:**

## QUESTION 186

- (Topic 1)

Refer to the exhibit.



Router R1 currently is configured to use R3 as the primary route to the Internet, and the route uses the default administrative distance settings. A network engineer must configure R1 so that it uses R2 as a backup, but only if R3 goes down. Which command must the engineer configure on R1 so that it correctly uses R2 as a backup route, without changing the administrative distance configuration on the link to R3?

- A. ip route 0.0.0.0 0.0.0.0 g0/1 1
- B. ip route 0.0.0.0 0.0.0.0 209.165.201.5 10
- C. ip route 0.0.0.0 0.0.0.0 209.165.200.226 1
- D. ip route 0.0.0.0 0.0.0.0 g0/1 6

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 187

- (Topic 1)

Refer to the exhibit.

```

service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname R4
!
boot-start-marker
boot-end-marker
!
ip cef
!
interface FastEthernet0/0
description WAN_INTERFACE
ip address 10.0.1.2 255.255.255.252
ip access-group 100 in
!
interface FastEthernet0/1
description LAN_INTERFACE
ip address 10.148.2.1 255.255.255.0
duplex auto
speed auto
!
ip forward-protocol nd
!
access-list 100 permit eigrp any any
access-list 100 permit icmp any any
access-list 100 permit tcp 10.149.3.0 0.0.0.255 host 10.0.1.2 eq 22
access-list 100 permit tcp any any eq 80
access-list 100 permit tcp any any eq 443
access-list 100 deny ip any any log

```

Which configuration enables DHCP addressing for hosts connected to interface FastEthernet0/1 on router R4?

- A. interface FastEthernet0/0  
ip helper-address 10.0.1.1  
!  
access-list 100 permit udp host 10.0.1.1 eq bootps host 10.148.2.1
- B. interface FastEthernet0/1  
ip helper-address 10.0.1.1  
!  
access-list 100 permit tcp host 10.0.1.1 eq 67 host 10.148.2.1
- C. interface FastEthernet0/0  
ip helper-address 10.0.1.1  
!  
access-list 100 permit host 10.0.1.1 host 10.148.2.1 eq bootps
- D. interface FastEthernet0/1  
ip helper-address 10.0.1.1  
!  
access-list 100 permit udp host 10.0.1.1 eq bootps host 10.148.2.1

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 188

- (Topic 1)

OSPF must be configured between routers R1 and R2. Which OSPF configuration must be applied to router R1

to avoid a DR/BDR election?

- A. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0  
interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf network broadcast
  - B. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0  
interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf network point-to-point
  - C. router ospf 1
- 
- network 192.168.1.1 0.0.0.0 area 0  
interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf cost 0
  - D. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0  
hello interval 15  
interface e1/1  
ip address 192.168.1.1 255.255.255.252

**Correct Answer:** B

**Section:** (none)

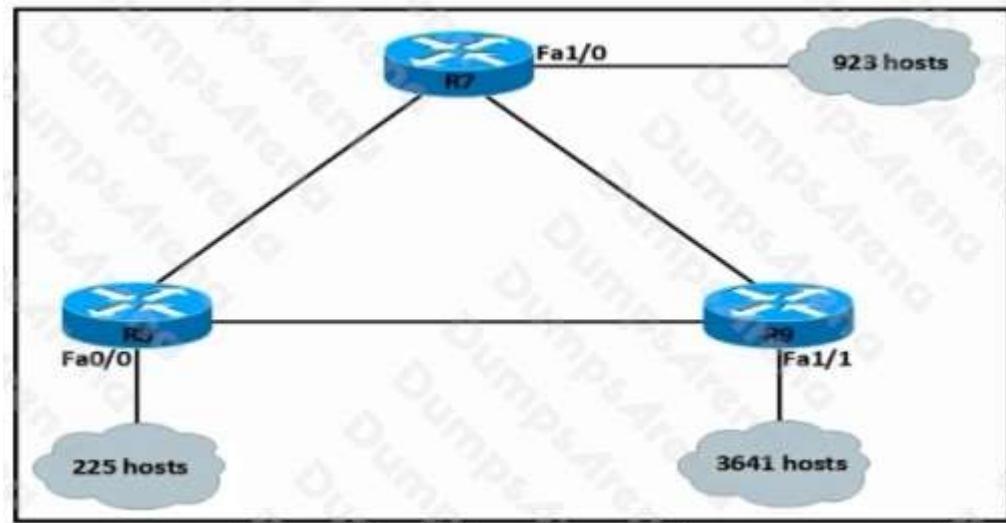
**Explanation**

**Explanation/Reference:**

#### QUESTION 189

- (Topic 1)

Refer to the exhibit.



An IP subnet must be configured on each router that provides enough addresses for the number of assigned

hosts and anticipates no more than 10% growth for now hosts. Which configuration script must be used?

A.

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.252.0
no shutdown

R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.255.0
no shutdown

R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.240.0
no shutdown
```

B. R7#
`configure terminal`
`Interface Fa1/0`
`ip address 10.1.56.1 255.255.248.0`
`no shutdown`

```
R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.254.0
no shutdown

R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.248.0
no shutdown
```

C. R7#
`configure terminal`
`interface Fa1/0`
`ip address 10.1.56.1 255.255.240.0`
`no shutdown`

R8#
`configure terminal`
`interface Fa0/0`
`ip address 10.9.32.1 255.255.224.0`
`no shutdown`

R9#
`configure terminal`
`interface Fa1/1`
`ip address 10.23.96.1 255.255.192.0`
`no shutdown`

D. R7#
`configure terminal`
`interface Fa1/0`
`ip address 10.1.56.1 255.255.192.0`
`no shutdown`

R8#
`configure terminal`
`interface Fa0/0`
`ip address 10.9.32.1 255.255.224.0`
`no shutdown`

R9#
`configure terminal`
`interface Fa1/1`
`ip address 10.23.96.1 255.255.128.0`
`no shutdown`

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 190**

- (Topic 1)

Which wireless security protocol relies on Perfect Forward Secrecy?

- A. WPA3
- B. WPA
- C. WEP
- D. WPA2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 191**

- (Topic 1)

What is a function of an endpoint on a network?

- A. forwards traffic between VLANs on a network
- B. connects server and client devices to a network
- C. allows users to record data and transmit to a tile server
- D. provides wireless services to users in a building

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 192**

- (Topic 1)

Refer to the exhibit.

|       |                         |     |       |
|-------|-------------------------|-----|-------|
| EIGRP | 10.10.10.0/24 [90/1441] | via | F0/10 |
| EIGRP | 10.10.10.0/24 [90/144]  | via | F0/11 |
| EIGRP | 10.10.10.0/24 [90/1441] | via | F0/12 |
| OSPF  | 10.10.10.0/24 [110/20]  | via | F0/13 |
| OSPF  | 10.10.10.0/24 [110/30]  | via | F0/14 |

Packets received by the router from BGP enter via a serial interface at 209.165.201.10. Each route is present within the routing table. Which interface is used to forward traffic with a destination IP of 10.10.10.24?

- A. F0/10
- B. F0/11
- C. F0/12
- D. F0/13

**Correct Answer:** B

**Section:** (none)

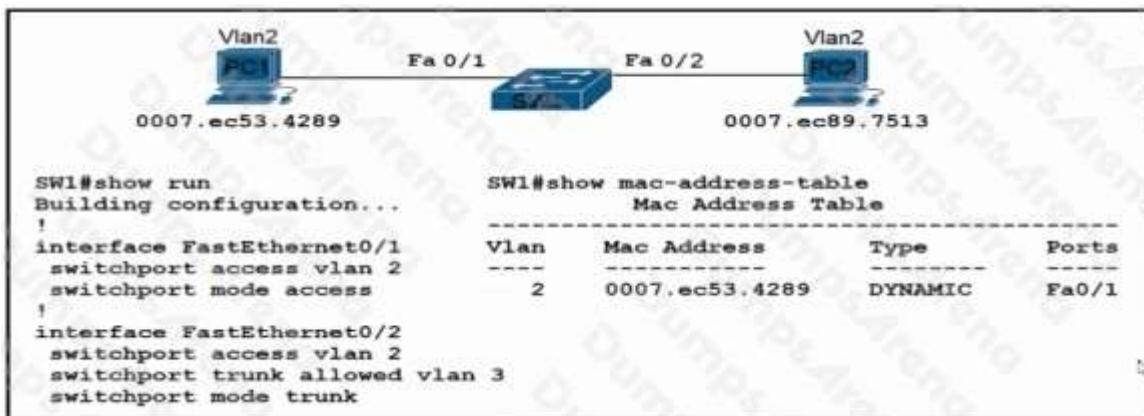
**Explanation**

**Explanation/Reference:**

### QUESTION 193

- (Topic 1)

Refer to the exhibit.



An engineer has started to configure replacement switch SW1. To verify part of the configuration, the engineer issued the commands as shown and noticed that the entry for PC2 is missing. Which change must be applied to SW1 so that PC1 and PC2 communicate normally?

- A. SW1(config)#interface fa0/2
   
SW1(config-if)#no switchport mode trunk
   
SW1(config-if)#no switchport trunk allowed vlan 3
   
SW1(config-if)#switchport mode **access**
- B. SW1(config)#interface fa0/1
   
SW1(config-if)#no switchport access vlan 2
   
SW1(config-if)#switchport trunk native vlan 2
   
SW1(config-if)#switchport trunk allowed vlan 3

C.  
SW1(config)#interface fa0/1  
SW1(config-if)#no switchport access vlan 2  
SW1(config-if)#switchport access vlan 3  
SW1(config-if)#switchport trunk allowed vlan 2

D.  
SW1(config)#interface fa0/2  
SW1(config-if)#no switchport access vlan 2  
SW1(config-if)#no switchport trunk allowed vlan 3  
SW1(config-if)#switchport trunk allowed vlan 2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 194**

- (DRAG DROP) - (Topic 1)

Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.

configure the BPDU guard feature

802.1q double tagging

configure the dynamic ARP inspection feature

ARP spoofing

configure the root guard feature

unwanted superior BPDUs

configure a VLAN access control list

unwanted BPDUs on PortFast-enabled interfaces

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

|                                              |                                              |
|----------------------------------------------|----------------------------------------------|
| configure the BPDU guard feature             | configure a VLAN access control list         |
| configure the dynamic ARP inspection feature | configure the dynamic ARP inspection feature |
| configure the root guard feature             | configure the root guard feature             |
| configure a VLAN access control list         | configure the BPDU guard feature             |

### QUESTION 195

- (Topic 1)

What is a zero-day exploit?

- A. It is when a new network vulnerability is discovered before a fix is available
- B. It is when the perpetrator inserts itself in a conversation between two parties and captures or alters data.
- C. It is when the network is saturated with malicious traffic that overloads resources and bandwidth
- D. It is when an attacker inserts malicious code into a SOL server.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 196

- (Topic 1)

A network engineer is replacing the switches that belong to a managed-services client with new Cisco Catalyst switches. The new switches will be configured for updated security standards, including replacing Telnet services with encrypted connections and doubling the modulus size from 1024. Which two commands must the engineer configure on the new switches? (Choose two.)

- A. crypto key generate rsa general-keys modulus 1024
- B. transport input all
- C. crypto key generate rsa usage-keys
- D. crypto key generate rsa modulus 2048
- E. transport Input ssh

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 197**

- (Topic 1)

Which QoS queuing method discards or marks packets that exceed the desired bit rate of traffic flow?

- A. shaping
- B. policing
- C. CBWFQ
- D. LLQ

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 198**

- (Topic 1)

What is the role of disaggregation in controller-based networking?

- A. It divides the control-plane and data-plane functions.
- B. It summarizes the routes between the core and distribution layers of the network topology.
- C. It enables a network topology to quickly adjust from a ring network to a star network
- D. It streamlines traffic handling by assigning individual devices to perform either Layer 2 or Layer 3 functions.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 199**

- (DRAG DROP) - (Topic 1)

Drag and drop the IPv6 address details from the left onto the corresponding types on the right.

|                                            |           |
|--------------------------------------------|-----------|
| identifies an interface on an IPv6 device  | Anycast   |
| includes link-local and loopback addresses |           |
| provides one-to-many communications        | Multicast |
| used exclusively by a non-host device      |           |
| assigned to more than one interface        | Unicast   |
| derived from the FF00::/8 address range    |           |

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

**Correct Answer:**

**Section: (none)**  
**Explanation**

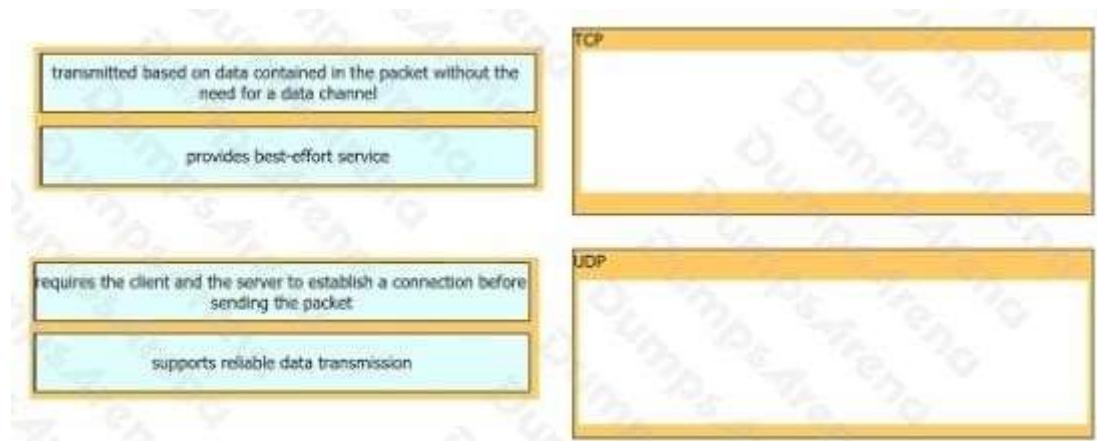
**Explanation/Reference:**

|                                            |           |                                            |
|--------------------------------------------|-----------|--------------------------------------------|
| Identifies an interface on an IPv6 device  | Anycast   | provides one-to-many communications        |
| includes link-local and loopback addresses |           | used exclusively by a non-host device      |
| provides one-to-many communications        | Multicast | assigned to more than one interface        |
| used exclusively by a non-host device      |           | derived from the FF00::/8 address range    |
| assigned to more than one interface        | Unicast   | Identifies an interface on an IPv6 device  |
| derived from the FF00::/8 address range    |           | Includes link-local and loopback addresses |

**QUESTION 200**

- (DRAG DROP) - (Topic 1)

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.



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

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

|                                                                                        |     |                                                                                        |
|----------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------|
| transmitted based on data contained in the packet without the need for a data channel  | TCP | requires the client and the server to establish a connection before sending the packet |
| provides best-effort service                                                           |     | supports reliable data transmission                                                    |
| requires the client and the server to establish a connection before sending the packet | UDP | transmitted based on data contained in the packet without the need for a data channel  |
| supports reliable data transmission                                                    |     | provides best-effort service                                                           |

## QUESTION 201

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set
  10.0.0.0/24 is subnetted, 5 subnets
D  10.1.2.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0
D  10.1.3.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0
D  10.1.2.0/25 [90/2170112] via 10.165.20.126, 00:01:30, Serial0/0
D  10.1.3.0/25 [90/2170112] via 10.165.20.146, 00:01:30, Serial0/0
D  10.1.4.0/25 [90/2170112] via 10.165.20.156, 00:01:30, Serial0/0
      192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C   192.168.10.0/24 is directly connected, GigabitEthernet0/0
      192.168.21.0/24 is variably subnetted, 2 subnets, 2 masks
C   192.168.11.0/24 is directly connected, GigabitEthernet0/1
      10.165.20.0/24 is variably subnetted, 2 subnets, 2 masks
C   10.165.20.224/24 is directly connected, Serial0/0
S   10.1.2.112/28 [1/0] via 10.165.20.166
```

What is the next hop for traffic entering R1 with a destination of 10.1.2.126?

- A. 10.165.20.126
- B. 10.165.20.146
- C. 10.165.20.166
- D. 10.165.20.226

**Correct Answer:** D

**Section:** (none)

**Explanation:**

**Explanation/Reference:**

### QUESTION 202

- (Topic 1)

Refer to the exhibit.

```
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix :
Description . . . . . : Realtek PCIe GBE Family
Controller
Physical Address. . . . . : 3C-52-82-33-F3-8F
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix : arcep.se
Description . . . . . : Intel(R) Dual Band
Wireless-AC 7265
Physical Address. . . . . : C8-21-58-B4-F3-EF
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::45a1:b3fa:2f37:bf37%2 (Preferred)
IPv4 Address. . . . . : 192.168.1.226 (Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : October 3, 2019 12:28:08 PM
Lease Expires . . . . . : October 3, 2019 7:18:37 PM
Default Gateway . . . . . : 192.168.1.100
DHCP Server . . . . . : 192.168.1.254
DHCPv6 IAID . . . . . : 46670168
DHCPv6 Client DUID. . . . . : 00-01-00-01-20-FF-05-55-3C-52-82-33-D3-84
DNS Servers . . . . . : 192.168.1.253
NetBIOS over Tcpip. . . . . : Enabled
Connection-specific DNS Suffix Search List :
arcep.se
```

The given Windows PC is requesting the IP address of the host at [www.cisco.com](http://www.cisco.com). To which IP address is the request sent?

- A. 192.168.1.226
- B. 192.168.1.100
- C. 192.168.1.254
- D. 192.168.1.253

**Correct Answer:** D

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 203**

- (Topic 1)

Why would VRRP be implemented when configuring a new subnet in a multivendor environment?

- A. when a gateway protocol is required that support more than two Cisco devices for redundancy
- B. to enable normal operations to continue after a member failure without requiring a change In a host ARP cache
- C. to ensure that the spanning-tree forwarding path to the gateway is loop-free
- D. to interoperate normally with all vendors and provide additional security features for Cisco devices

**Correct Answer:** A

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 204**

- (Topic 1)

An engineer has configured the domain name, user name, and password on the local router. What is the next step to complete the configuration for a Secure Shell access RSA key?

- A. crypto key import rsa pem
- B. crypto key pubkey-chain rsa
- C. crypto key generate rsa
- D. crypto key zeroize rsa

**Correct Answer:** C

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 205**

- (Topic 1)

An engineer is configuring SSH version 2 exclusively on the R1 router. What is the minimum configuration required to permit remote management using the cryptographic protocol?

```
hostname R1
ip domain name cisco
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input ssh
login local

hostname R1
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input all
login local

hostname R1
service password-encryption
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input ssh
login local

hostname R1
ip domain name cisco
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input all
login local
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 206**

- (Topic 1)

After a recent security breach and a RADIUS failure, an engineer must secure the console port of each enterprise router with a local username and password. Which configuration must the engineer apply to accomplish this task?

- aaa new-model**  
line con 0  
password plaintextpassword  
privilege level 15
- username localuser secret plaintextpassword**  
line con 0  
login authentication default  
privilege level 15
- username localuser secret plaintextpassword**  
line con 0  
no login local  
privilege level 15
- aaa new-model**  
aaa authorization exec default local  
aaa authentication login default radius  
username localuser privilege 15 secret plaintextpassword

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

**Correct Answer:** B**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 207**

- (DRAG DROP) - (Topic 1)

Drag and drop each characteristic of device-management technologies from the left onto the deployment type on the right.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



### QUESTION 208

- (Topic 1)

Which REST method updates an object in the Cisco DNA Center Intent API?

- A. CHANGE
- B. UPDATE
- C. POST
- D. PUT

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 209

- (Topic 1)

Which two practices are recommended for an acceptable security posture in a network? (Choose two)

- A. Backup device configurations to encrypted USB drives for secure retrieval
- B. maintain network equipment in a secure location
- C. Use a cryptographic keychain to authenticate to network devices
- D. Place internal email and file servers in a designated DMZ
- E. Disable unused or unnecessary ports, interfaces and services

**Correct Answer:** CE

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 210**

- (Topic 1)

An administrator must use the password complexity not manufacturer-name command to prevent users from adding "cisco" as a password. Which command must be issued before this command?

- A. Password complexity enable
- B. confreg 0x2142
- C. Login authentication my-auth-list
- D. service password-encryption

**Correct Answer:** A

**Section:** (none)

**Explanation**

### **Explanation/Reference:**

#### **QUESTION 211**

- (Topic 1)

An engineer is configuring router R1 with an IPv6 static route for prefix 2019:C15C:0CAF:E001::/64. The next hop must be 2019:C15C:0CAF:E002::1. The route must be reachable via the R1 Gigabit 0/0 interface. Which command configures the designated route?

- A. R1(config)#ipv6 route 2019:C15C:0CAF:E001::/64 2019:C15C:0CAF:E002::1
- B. R1(config-if)#ipv6 route 2019:C15C:0CAF:E001::/64 2019:C15C:0CAF:E002::1
- C. R1(config-if)#ip route 2019:C15C:0CAF:E001::/64 GigabitEthernet0/0
- D. R1(config)#ip route 2019:C15C:0CAF:E001::/64 GigabitEthernet0/0

**Correct Answer:** C

**Section:** (none)

**Explanation**

### **Explanation/Reference:**

#### **QUESTION 212**

- (Topic 1)

Refer to the exhibit.

The screenshot shows the 'Policy-Mapping' tab selected in a Cisco Wireless Controller configuration interface. Under the 'Layer 2' tab, the 'Layer 2 Security' dropdown is set to 'WPA+WPA2'. The 'Security Type' is 'Enterprise'. Under 'WPA+WPA2 Parameters', 'WPA2 Policy' is checked, while 'WPA Policy' is not. 'WPA2 Encryption' includes 'CCMP128(AES)' (checked), 'TKIP' (unchecked), 'CCMP256' (unchecked), 'GCMP128' (unchecked), and 'GCMP256' (unchecked). Under 'Fast Transition', 'Fast Transition' is set to 'Disable'. Under 'Protected Management Frame', 'PMF' is set to 'Disabled'. Under 'Authentication Key Management', '802.1X-SHA1' is checked.

What must be configured to enable 802.11w on the WLAN?

- A. Set PMF to Required.
- B. Enable MAC Filtering.
- C. Enable WPA Policy.
- D. Set Fast Transition to Enabled

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 213

- (Topic 1)

Refer to the exhibit.

**Security**

**RADIUS Authentication Servers > New**

|                                     |                                      |                                                                                                           |
|-------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>AAA</b>                          | <b>Server Index (Priority)</b>       | <input type="text" value="1"/>                                                                            |
| <b>RADIUS</b>                       | <b>Server IP Address(Ipv4/Ipv6)</b>  | <input type="text" value="192.168.25.2"/>                                                                 |
| <b>  Authentication</b>             | <b>Shared Secret Format</b>          | <input type="text" value="ASCII"/>                                                                        |
| <b>  Accounting</b>                 | <b>Shared Secret</b>                 | <input type="password" value="*****"/>                                                                    |
| <b>  Fallback</b>                   | <b>Confirm Shared Secret</b>         | <input type="password" value="*****"/>                                                                    |
| <b>TACACS+</b>                      | <b>Key Wrap</b>                      | <input type="checkbox"/> (Designed for 802.1x customers and requires a key wrap compliant RADIUS server.) |
| <b>  LDAP</b>                       | <b>Port Number</b>                   | <input type="text" value="1812"/>                                                                         |
| <b>  Local Net Users</b>            | <b>Server Status</b>                 | <input checked="" type="radio"/> Enabled                                                                  |
| <b>  MAC Filtering</b>              | <b>Support for CoA</b>               | <input checked="" type="radio"/> Disabled                                                                 |
| <b>  Disabled Clients</b>           | <b>Server Timeout</b>                | <input type="text" value="2"/> seconds                                                                    |
| <b>  User Login Policies</b>        | <b>Network User</b>                  | <input type="checkbox"/> Enable                                                                           |
| <b>  Af Policies</b>                | <b>Management</b>                    | <input type="checkbox"/> Enable                                                                           |
| <b>  Password Policies</b>          | <b>Management Retransmit Timeout</b> | <input type="text" value="2"/> seconds                                                                    |
| <b>Local EAP</b>                    | <b>Tunnel Proxy</b>                  | <input type="checkbox"/> Enable                                                                           |
| <b>Advanced EAP</b>                 | <b>IPsec</b>                         | <input type="checkbox"/> Enable                                                                           |
| <b>Priority Order</b>               |                                      |                                                                                                           |
| <b>Certificate</b>                  |                                      |                                                                                                           |
| <b>Access Control Lists</b>         |                                      |                                                                                                           |
| <b>Wireless Protection Policies</b> |                                      |                                                                                                           |

A network engineer configures the Cisco WLC to authenticate local wireless clients against a RADIUS server. Which task must be performed to complete the process?

- A. Change the Server Status to Disabled
- B. Select Enable next to Management
- C. Select Enable next to Network User
- D. Change the Support for CoA to Enabled.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 214**

- (DRAG DROP) - (Topic 1)

Drag and drop the elements of a security program from the left onto the corresponding descriptions on the right

|                   |                                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| awareness         | document that outlines an organization's security goals and practices and the roles and responsibilities of the organization's personnel |
| education         | tactical document that sets out specific tasks and methods to maintain security                                                          |
| security policy   | user-awareness learning level that focuses on learning about topics and practices beyond what is typically required by the user's job    |
| security standard | user-awareness learning level that focuses on security practices that all employees must understand and enforce                          |
| training          | user-awareness learning level that focuses on teaching employees how to perform tasks specifically required by their jobs                |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



### QUESTION 215

- (DRAG DROP) - (Topic 1)

Drag and drop the Cisco IOS attack mitigation features from the left onto the types of network attack they mitigate on the right.

|                        |                                           |
|------------------------|-------------------------------------------|
| DHCP snooping          | rogue server that spoofs IP configuration |
| Dynamic ARP Inspection | cache poisoning                           |
| IP Source Guard        | flood attacks                             |
| storm control          | rogue clients on the network              |

- A.
- B.
- C.

D.

**Correct Answer:**

**Section: (none)**

**Explanation**

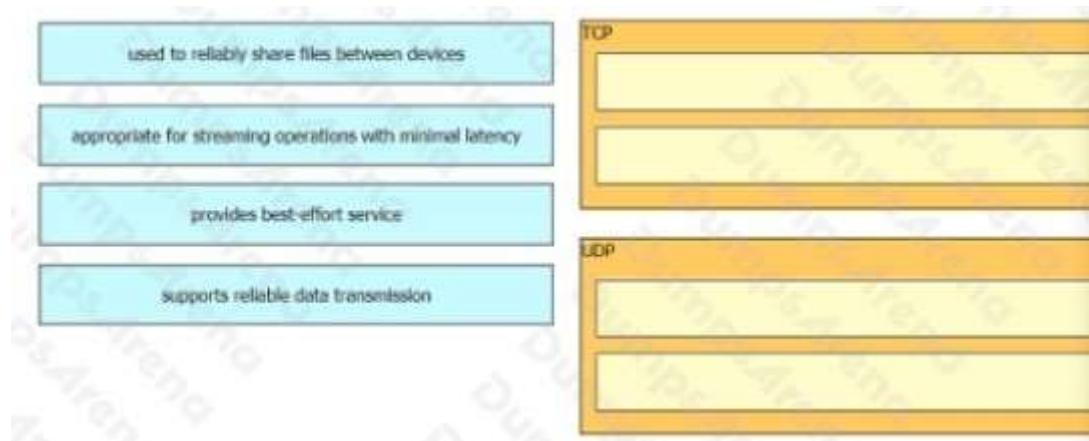
**Explanation/Reference:**



**QUESTION 216**

- (DRAG DROP) - (Topic 1)

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.



A.

B.

C.

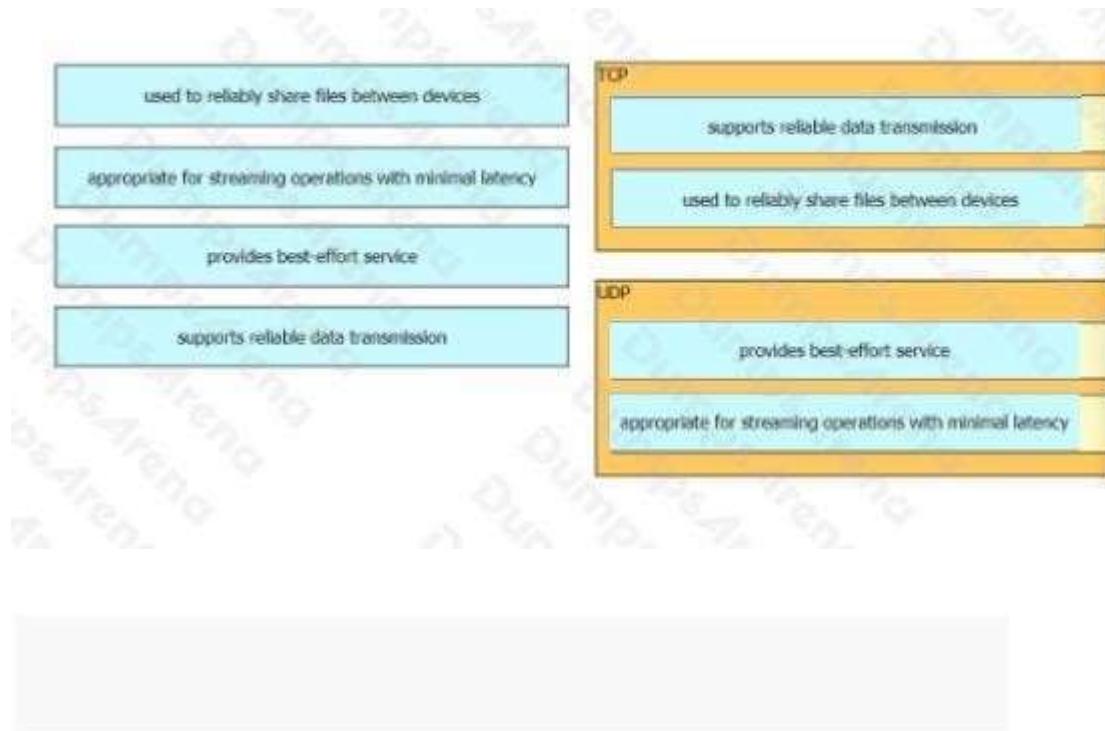
D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 217**

- (Topic 1)

What is a function of Cisco Advanced Malware Protection for a Next-Generation IPS?

- A. authorizing potentially compromised wireless traffic
- B. inspecting specific files and file types for malware
- C. authenticating end users
- D. URL filtering

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 218**

- (Topic 1)

Refer to the exhibit.

```
{  
    "SW1" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW2" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW3" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],  
    "SW4" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"]  
}
```

How many JSON objects are represented?

- A. 1
- B. 2
- C. 3
- D. 4

**Correct Answer:** D

**Section:** (none)

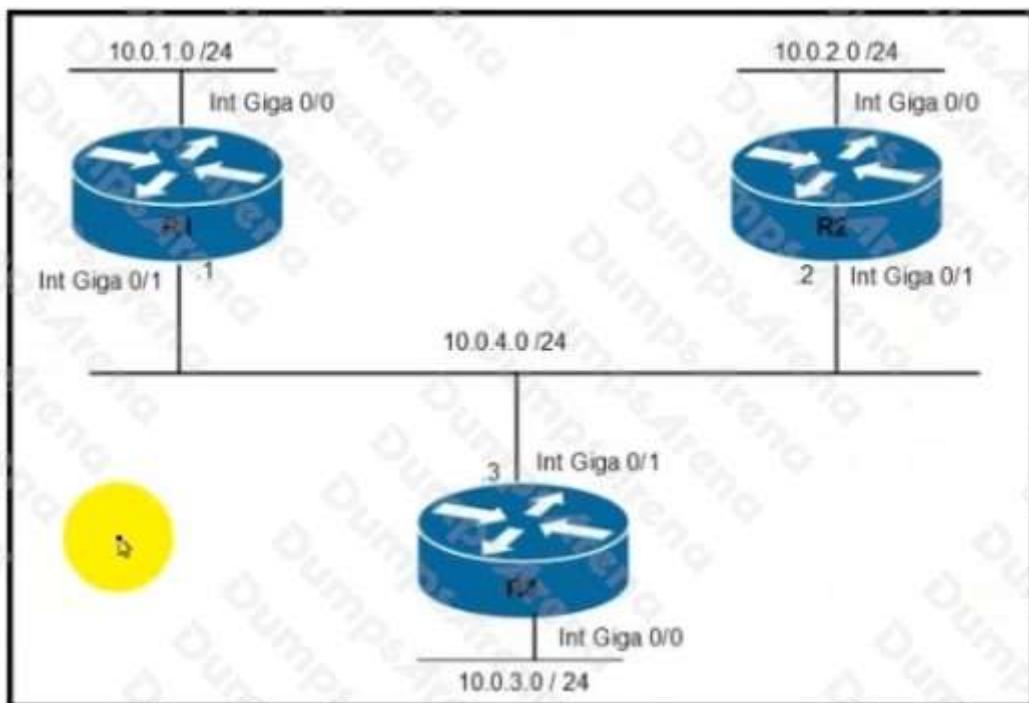
**Explanation**

**Explanation/Reference:**

**QUESTION 219**

- (Topic 1)

Refer to the exhibit.



Router R1 must be configured to reach the 10.0.3.0/24 network from the 10.0.1.0/24 segment.

Which command must be used to configure the route?

- A. ip route 10.0.3.0 0.255.255.255 10.0.4.2
- B. route add 10.0.3.0 mask 255.255.255.0 10.0.4.3
- C. Ip route 10.0.3.0 255.255.255.0 10.0.4.3
- D. route add 10.0.3.0 0.255.255.255 10.0.4.2

**Correct Answer:** C

**Section:** (none)

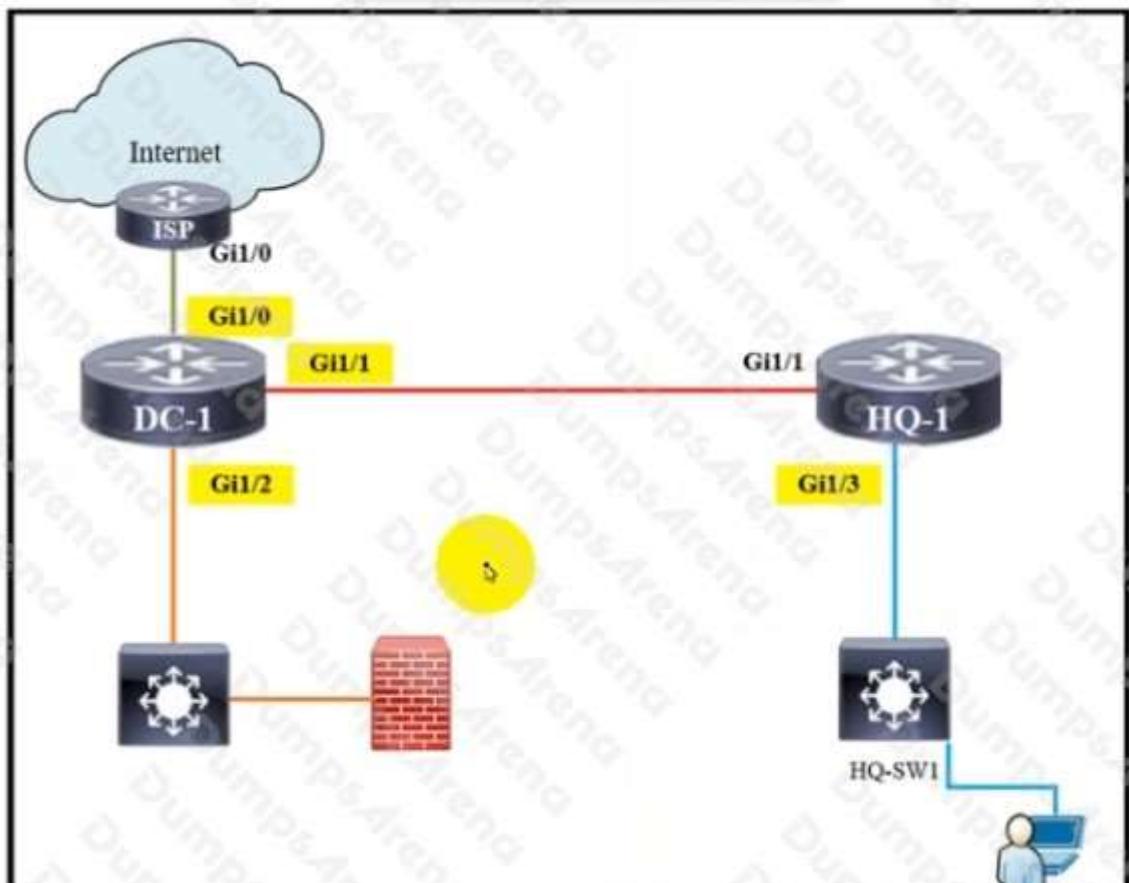
**Explanation**

**Explanation/Reference:**

#### QUESTION 220

- (DRAG DROP) - (Topic 1)

Refer to Exhibit.



Rotor to the exhibit. The IP address configurations must be completed on the DC-1 and HQ-1 routers based on these requirements:

DC-1 Gi1/0 must be the last usable address on a /30

DC-1 Gi1/1 must be the first usable address on a /29

DC-1 Gi1/2 must be the last usable address on a /28

HQ-1 Gi1/3 must be the last usable address on a /29

Drag and drop the commands from the left onto the destination interfaces on the right. Not all commands are used



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

**Correct Answer:**

**Section: (none)**

**Explanation**

### Explanation/Reference:

|                                            |                                            |
|--------------------------------------------|--------------------------------------------|
| ip address 192.168.4.9 255.255.255.248     | DC-1                                       |
| ip address 192.168.3.14 255.255.255.240    | ip address 209.165.202.130 255.255.255.252 |
| ip address 209.165.202.129 255.255.255.252 | ip address 192.168.4.9 255.255.255.248     |
| ip address 192.168.4.13 255.255.255.240    | ip address 192.168.3.14 255.255.255.240    |
| ip address 209.165.202.130 255.255.255.252 | HQ-1                                       |
| ip address 209.165.202.131 255.255.255.252 | ip address 192.168.3.14 255.255.255.248    |
| ip address 192.168.3.14 255.255.255.248    |                                            |

### QUESTION 221

- (DRAG DROP) - (Topic 1)

Drag and drop the IPv6 address description from the left onto the IPv6 address types on the right. Not all options are used.

|                                                        |                        |
|--------------------------------------------------------|------------------------|
| IPv6 addresses in the format FF02::5                   | Unique Local Addresses |
| IPv6 addresses that begin with FD                      |                        |
| may be used by multiple organizations at the same time |                        |
| private IPv6 addresses                                 | Link-Local Addresses   |
| serve as next-hop addresses                            |                        |
| unable to serve as destination addresses               |                        |

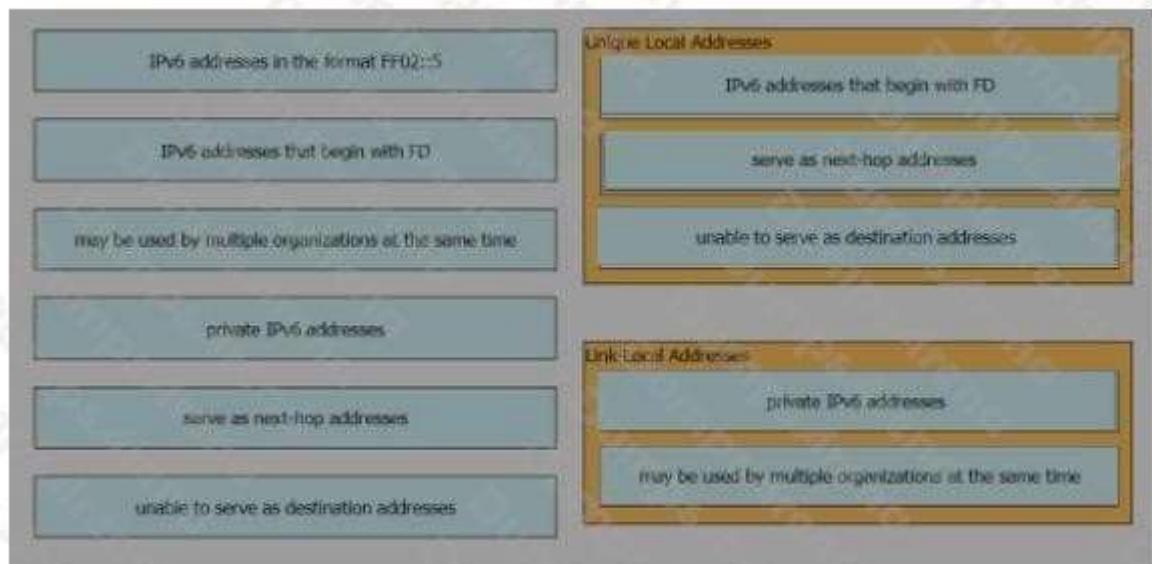
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 222**

- (DRAG DROP) - (Topic 1)



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 223**

- (Topic 1)

Refer to the exhibit.

```
Codes: C - Connected, L - Local, S - Static, U - Per-user Static route
      B - BGP, R - RIP, H - NHRP, I1 - ISIS L1
      I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary, D - EIGRP
      EX - EIGRP external, ND - ND Default, NDp - ND Prefix, DCE - Destination
      NDr - Redirect, O - OSPF Intra, OI - OSPF Inter, OE1 - OSPF ext 1
      OE2 - OSPF ext 2, ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2
      la - LISP alt, lr - LISP site-registrations, ld - LISP dyn-eid
      lA - LISP away, le - LISP extranet-policy, lp - LISP publications
ND ::/0 [2/0]
  via FE80::A8BB:CCFF:FE00:200, Ethernet0/0
NDp 2001:DB8:1234:1::/64 [2/0]
  via Ethernet0/0, directly connected
L 2001:DB8:1234:1:A8BB:CCFF:FE00:100/128 [0/0]
  via Ethernet0/0, receive
C 2001:DB8:1234:2::/64 [0/0]
  via Ethernet0/1, directly connected
L 2001:DB8:1234:2:A8BB:CCFF:FE00:110/128 [0/0]
  via Ethernet0/1, receive
L FF00::/8 [0/0]
  via Null0, receive
```

The administrator must configure a floating static default route that points to 2001:db8:1234:2::1 and replaces the current default route only if it fails. Which command must the engineer configure on the CPE?

- A. ipv6 route ::/0 2001:db8:1234:2::1 3
- B. ipv6 route ::/128 2001:db8:1234:2::1 3
- C. ipv6 route ::/0 2001:db8:1234:2::1 1
- D. ipv6 route ::/0 2001:db8:1234:2::1 2

**Correct Answer:** B**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 224**

- (Topic 1)

What is the function of "off-the-shell" switches in a controller-based network?

- A. providing a central view of the deployed network
- B. forwarding packets
- C. making routing decisions
- D. setting packet-handling policies

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 225**

- (DRAG DROP) - (Topic 1)

Drag and drop the QoS terms from the left onto the descriptions on the right.

|                                   |                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------|
| class-based weighted fair queuing | categorizes packets based on the value of a traffic descriptor                          |
| classification                    | guarantees minimum bandwidth to specific traffic classes when an interface is congested |
| congestion                        | prevents congestion by reducing the flow of outbound traffic                            |
| policing                          | outcome of overutilization                                                              |
| shaping                           | uses defined criteria to limit the transmission of one or more classes of traffic       |

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 226**

- (Topic 1)

Which command do you enter so that a switch configured with Rapid PVST + listens and learns for a specific time period?

- A. switch(config)#spanning-tree vlan 1 max-age 6
- B. switch(config)#spanning-tree vlan 1 hello-time 10
- C. switch(config)#spanning-tree vlan 1 priority 4096
- D. switch(config)#spanning-tree vlan 1 forward-time 20

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 227**

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - RGP
      I - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
      U - per-user static route, o - GDR
Gateway of last resort is not set
C    172.16.0.0/16 is directly connected, Loopback0
      172.16.0/16 is variably subnetted, 4 subnets, 2 masks
O      172.16.1.3/24 [110/100] via 192.168.7.40, 00:39:08, Serial0
C      172.16.1.0/24 is directly connected, Serial0
O      172.16.1.184/29 [110/5] via 192.168.7.35, 00:39:08, Serial0
O      172.16.3.0/24 [110/10] via 192.168.7.4, 00:39:08, Gigabit Ethernet 0/0
D      172.16.1.0/28 [90/10]  via 192.168.7.7, 00:39:08, Gigabit Ethernet 0/0
```

Load-balanced traffic is coming in from the WAN destined to a host at 172.16.1.190. Which next-hop is used by the router to forward the request?

- A. 192.168.7.4
- B. 192.168.7.7
- C. 192.168.7.35
- D. 192.168.7.40

**Correct Answer:** D

**Section:** (none)

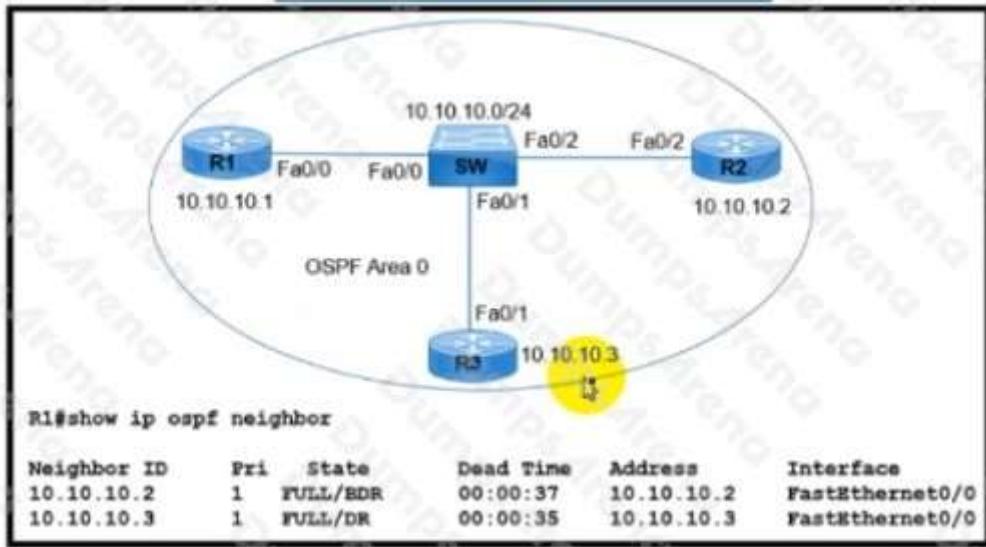
**Explanation**

**Explanation/Reference:**

#### QUESTION 228

- (Topic 1)

Refer to the exhibit.



R1 has taken the DROTHER role in the OSPF DR/BDR election process. Which configuration must an engineer implement so that R1 is elected as the DR?

- R1(config)#interface FastEthernet 0/0  
R1(config-if)#ip ospf priority 1  
R1#clear ip ospf process
- R1(config)#interface FastEthernet 0/0  
R1(config-if)#ip ospf priority 200  
R1#clear ip ospf process
- R3(config)#interface FastEthernet 0/1  
R3(config-if)#ip ospf priority 200  
R3#clear ip ospf process
- R2(config)#interface FastEthernet 0/2  
R2(config-if)#ip ospf priority 1  
R2#clear ip ospf process

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

**Correct Answer:** B

**Section:** (none)  
**Explanation**

**Explanation/Reference:**

#### QUESTION 229

- (Topic 1)

What is a feature of WPA?

- 802.1x authentication
- preshared key
- TKIP/MIC encryption

- D. small Wi-Fi application

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 230**

- (Topic 1)

Refer to the exhibit.

```
Cat9K-1# show lldp entry Cat9K-2
Local Intf: G1/0/21
Chassis Id: 308b:b2b3.2880
Port Id: G1/0/21
Port Description: GigabitEthernet1/0/21
System Name: Cat9K-2
Management Addresses:
IP: 10.9.110.2
```

The network administrator must prevent the switch Cat9K-2 IP address from being visible in LLDP without disabling the protocol. Which action must be taken must be taken to complete the task?

- A. Configure the no lldp tlv-select-management-address command globally on Cat9K-2
- B. Configure the no lldp transmit command on interface G1/0/21 in Cat9K-1
- C. Configure the no lldp receive command on interface G1/0/21 on Cat9K-1
- D. Configure the no lldp mac-phy-cfg command globally on Cat9K-2

**Correct Answer:** A

**Section:** (none)

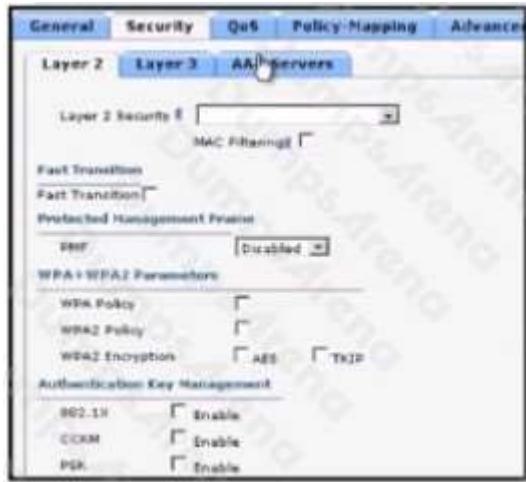
**Explanation**

**Explanation/Reference:**

**QUESTION 231**

- (Topic 1)

Refer to the exhibit.



What are the two steps an engineer must take to provide the highest encryption and authentication using domain credentials from LDAP?

- A. Select PSK under Authentication Key Management
- B. Select WPA+WPA2 on Layer 2 Security
- C. Select Static-WEP + 802.1X on Layer 2 Security
- D. Select WPA Policy with TKIP Encryption
- E. Select 802.1X from under Authentication Key Management

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 232

- (Topic 1)

Which WAN topology has the highest degree of reliability?

- A. full mesh
- B. Point-to-point
- C. hub-and-spoke
- D. router-on-a-stick

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 233

- (Topic 1)

An engineer must configure neighbor discovery between the company router and an ISP

```
interface gigabitethernet0/0
description Circuit-ATT4203-21099
duplex full
speed 1000
media-type gbic
negotiation auto
lldp transmit
lldp receive
```

What is the next step to complete the configuration if the ISP uses a third-party router?

- A. Enable LLDP globally.
- B. Disable CDP on gi0/0.
- C. Enable LLDP TLVs on the ISP router.
- D. Disable auto-negotiation.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 234

- (Topic 1)

Refer to the exhibit.

```
SW1#show spanning-tree vlan 30

VLAN0030
Spanning tree enabled protocol rstp
Root ID    Priority          32798
            Address           0025.63e9.c800
            Cost              19
            Port              1 (FastEthernet 2/1)
            Hello Time        2 sec
            Max Age           30 sec
            Forward Delay     20 sec

[Output suppressed]
```

What are two conclusions about this configuration? {Choose two.)

- A. The spanning-tree mode is Rapid PVST+.
- B. This is a root bridge.
- C. The root port is FastEthernet 2/1.
- D. The designated port is FastEthernet 2/1.
- E. The spanning-tree mode is PVST+.

**Correct Answer:** A

**Section:** (none)

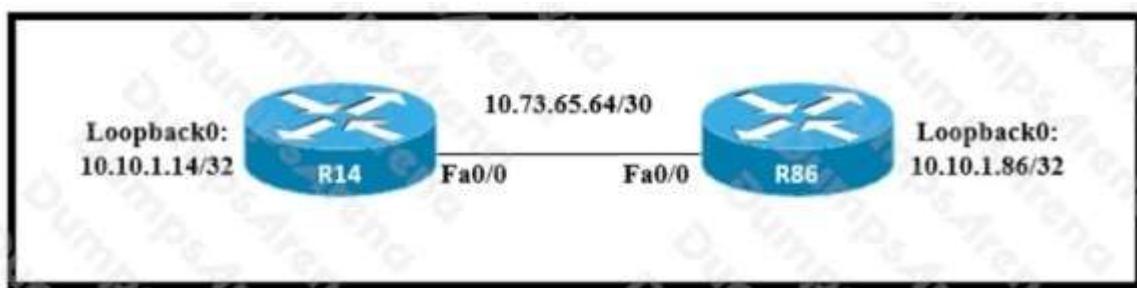
**Explanation**

**Explanation/Reference:**

**QUESTION 235**

- (Topic 1)

Refer to the exhibit.



All interfaces are configured with duplex auto and ip ospf network broadcast. Which configuration allows routers R14 and R86 to form an OSPFv2 adjacency and act as a central point for exchanging OSPF information between routers?

R14#

```
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf priority 0
ip mtu 1500

router ospf 10
router-id 10.10.1.14
network 10.10.1.14 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

R86#

```
interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip mtu 1500

router ospf 10
router-id 10.10.1.86
network 10.10.1.86 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

R14#  
interface Loopback0  
ip ospf 10 area 0  
  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf priority 255  
ip ospf 10 area 0  
ip mtu 1500

router ospf 10  
router-id 10.10.1.14

R86#  
interface Loopback0  
ip ospf 10 area 0  
  
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf 10 area 0  
ip mtu 1500

router ospf 10  
router-id 10.10.1.86

R14#

```
interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf priority 255
ip mtu 1500

router ospf 10
router-id 10.10.1.14
network 10.10.1.14 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

R86#

```
interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip mtu 1400

router ospf 10
router-id 10.10.1.86
network 10.10.1.86 0.0.0.0 area 0
network 10.73.65.64 0.0.0.3 area 0
```

R14#

```
interface Loopback0
ip ospf 10 area 0

interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf 10 area 0
ip mtu 1500

router ospf 10
ip ospf priority 255
router-id 10.10.1.14
```

R86#

```
interface Loopback0
ip ospf 10 area 0

interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip ospf 10 area 0
ip mtu 1500

router ospf 10
router-id 10.10.1.86
```

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

**Correct Answer:** B

**Section:** (none)

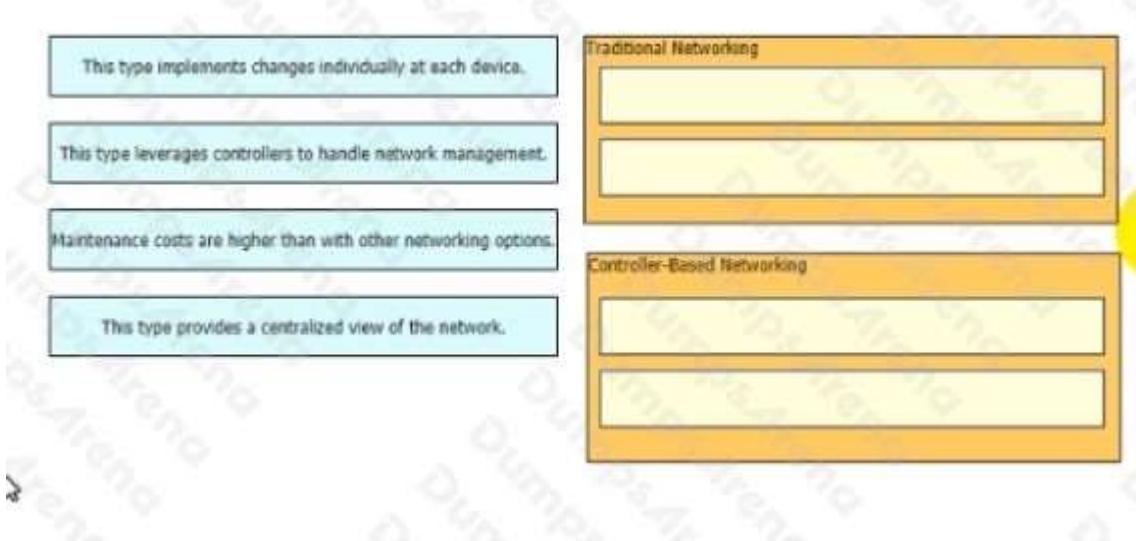
**Explanation**

**Explanation/Reference:**

#### **QUESTION 236**

- (DRAG DROP) - (Topic 1)

Drag and drop the statements about networking from the left onto the corresponding networking types on the right



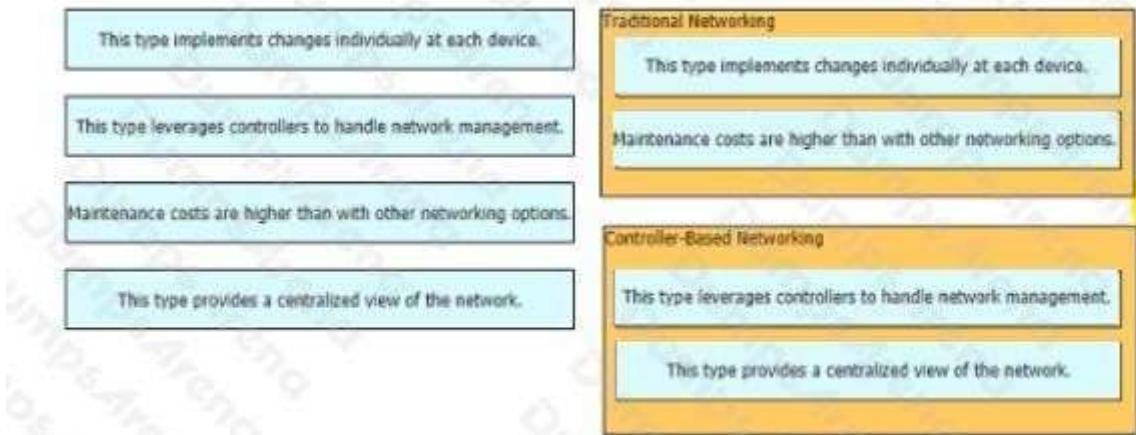
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

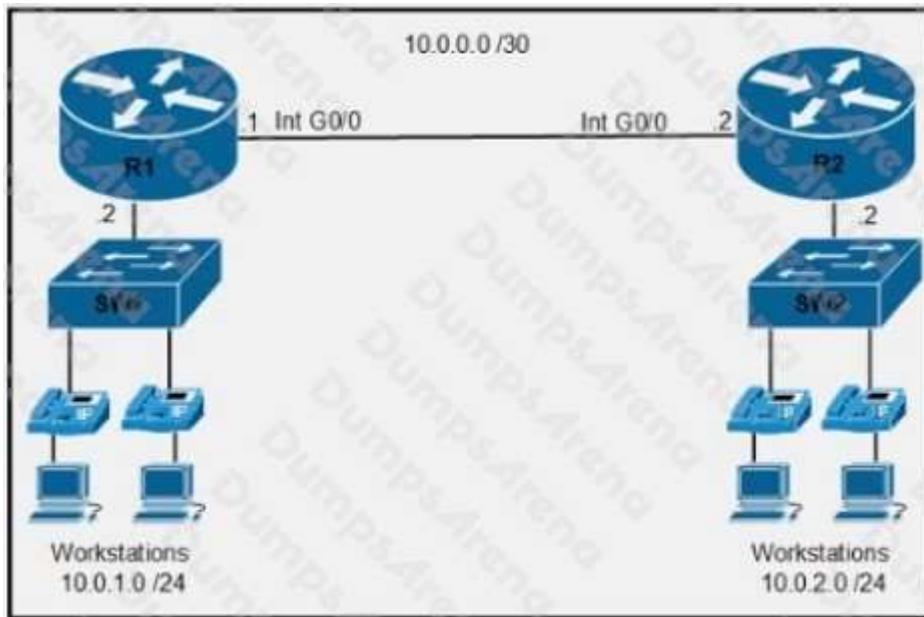
**Explanation**

**Explanation/Reference:**



**QUESTION 237**

- (Topic 1)



Refer to the exhibit. An engineer is asked to configure router R1 so that it forms an OSPF single-area neighbor relationship with R2. Which command sequence must be implemented to configure the router?

- router ospf 10  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.2.0 0.0.0.255 area 0
- router ospf 10  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.1.0 0.0.0.255 area 0
- router ospf 100  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.2.0 255.255.255.0 area 0
- router ospf 100  
network 10.0.0.0 0.0.0.252 area 0  
network 10.0.1.0 0.0.0.255 area 0

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

**Correct Answer:** B**Section:** (none)

**Explanation****Explanation/Reference:****QUESTION 238**

- (Topic 1)

What is a function performed by a web server?

- A. provide an application that is transmitted over HTTP
- B. send and retrieve email from client devices
- C. authenticate and authorize a user's identity
- D. securely store files for FTP access

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 239**

- (Topic 1)

What is the collapsed layer in collapsed core architectures?

- A. core and WAN
- B. access and WAN
- C. distribution and access
- D. core and distribution

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 240**

- (Topic 1)

Which set of 2.4 GHz nonoverlapping wireless channels is standard in the United States?

- A. channels 2, 7, 9, and 11
- B. channels 1, 6, 11, and 14
- C. channels 2, 7, and 11
- D. channels 1, 6, and 11

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 241**

- (Topic 1)

An engineer is installing a new wireless printer with a static IP address on the Wi-Fi network. Which feature must be enabled and configured to prevent connection issues with the printer?

- A. client exclusion
- B. passive client
- C. DHCP address assignment
- D. static IP tunneling

**Correct Answer:** C

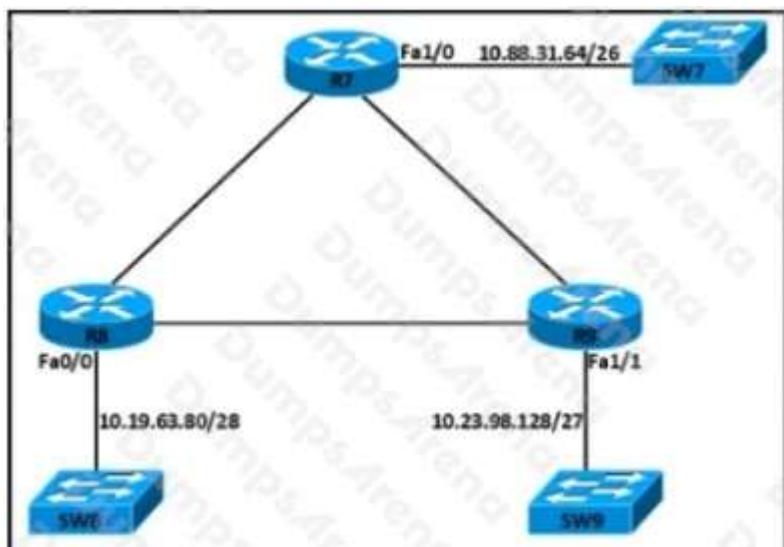
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 242**

- (Topic 1)



Refer to the exhibit. Each router must be configured with the last usable IP address in the subnet. Which configuration fulfills this requirement?

```
R7#  
interface FastEthernet1/0  
ip address 10.88.31.126 255.255.255.240  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.94 255.255.255.192  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.158 255.255.255.248  
  
R7#  
interface FastEthernet1/0  
ip address 10.88.31.127 255.255.255.240  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.95 255.255.255.192  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.159 255.255.255.248  
  
R7#  
interface FastEthernet1/0  
ip address 10.88.31.126 255.255.255.192  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.94 255.255.255.240  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.158 255.255.255.224  
  
R7#  
interface FastEthernet1/0  
ip address 10.88.31.127 255.255.255.192  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.95 255.255.255.240  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.159 255.255.255.224
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 243**

- (DRAG DROP) - (Topic 1)

Drag and drop the functions of AAA supporting protocols from the left onto the protocols on the right.

- encrypts only the password when it sends an access request
- encrypts the entire body of the access-request packet
- separates all three AAA operations
- combines authentication and authorization
- uses TCP 
- uses UDP



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

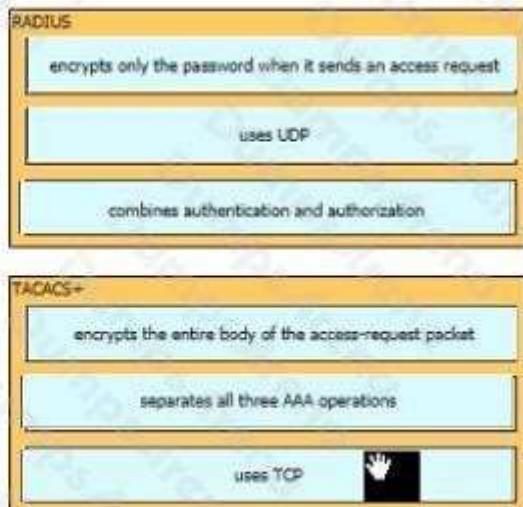
**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

- encrypts only the password when it sends an access request
- encrypts the entire body of the access-request packet
- separates all three AAA operations
- combines authentication and authorization
- uses TCP 
- uses UDP



**QUESTION 244**

- (DRAG DROP) - (Topic 1)

Drag and drop the HTTP methods used with REST-Based APIs from the left onto the descriptions on the right.

|        |                                                                                          |
|--------|------------------------------------------------------------------------------------------|
| DELETE | creates a resource and returns its URI in the response header                            |
| GET    | creates or replaces a previously modified resource using information in the request body |
| POST   | removes a resource                                                                       |
| PATCH  | retrieves a list of a resource's URIs                                                    |
| PUT    | updates a resource using instructions included in the request body                       |

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

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

|        |        |
|--------|--------|
| DELETE | POST   |
| GET    | DELETE |
| POST   | PATCH  |
| PATCH  | PUT    |
| PUT    | GET    |

**QUESTION 245**

- (Topic 1)

What is the MAC address used with VRRP as a virtual address?

- A. 00-00-0C-07-AD-89
- B. 00-00-5E-00-01-0a
- C. 00-07-C0-70-AB-01
- D. 00-C6-41-93-90-91

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 246**

- (DRAG DROP) - (Topic 1)

Drag and drop the IPv6 addresses from the left onto the corresponding address types on the right.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



#### **QUESTION 247**

- (Topic 1)

Refer to the exhibit.

```

R1#sho ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route, H - NHRP, l - LISPF
      + - replicated route, # - next hop override

Gateway of last resort is 10.56.0.1 to network 0.0.0.0

B*   0.0.0.0/0 [1/0] via 10.56.0.1
      10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C     10.56.0.0/17 is directly connected, Vlan56
L     10.56.0.19/32 is directly connected, Vlan56
C     10.56.128.0/18 is directly connected, Vlan57
L     10.56.128.19/32 is directly connected, Vlan57

```

When router R1 is sending traffic to IP address 10.56.192.1, which interface or next hop address does it use to route the packet?

- A. 0.0.0.0/0
- B. 10.56.0.1
- C. 10.56.128.19
- D. Vlan57

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 248

- (Topic 1)

What is the difference between 1000BASE-LX/LH and 1000BASE-ZX interfaces?

- A. 1000BASE-ZX is supported on links up to 1000km, and 1000BASE-LX/LH operates over links up to 70 km.
- B. 1000BASE-LX/LH interoperates with multimode and single-mode fiber, and 1000BASE-ZX needs a conditioning patch cable with a multimode.
- C. 1000BASE-LX/LH is supported on links up to 10km, and 1000BASE-ZX operates over links up to 70 km
- D. 1000BASE-ZX interoperates with dual-rate 100M/1G 10Km SFP over multimode fiber, and 1000BASE-LX/LH supports only single-rate.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 249**

- (Topic 1)

What is a benefit for external users who consume public cloud resources?

- A. implemented over a dedicated WAN
- B. located in the same data center as the users
- C. all hosted on physical servers
- D. accessed over the Internet

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 250**

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is not set
  172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
C   172.16.1.0/24 is directly connected, FastEthernet0/0
L   172.16.1.1/32 is directly connected, FastEthernet0/0
EX  172.16.2.0/24 [170/2] via 207.165.200.250, 00:00:25, Serial0/0/0
O   192.168.1.0/24 [110/84437] via 207.165.200.254, 00:00:17, Serial0/0/1
D   192.168.2.0/24 [90/184437] via 207.165.200.254, 00:00:15, Serial0/0/1
E1  192.168.3.0/24 [110/1851437] via 207.165.200.254, 00:00:19, Serial0/0/1
    207.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C   207.165.200.248/30 is directly connected, Serial0/0/0
L   207.165.200.249/32 is directly connected, Serial0/0/0
C   207.165.200.252/30 is directly connected, Serial0/0/1
L   207.165.200.253/32 is directly connected, Serial0/0/1
```

Which prefix did router R1 learn from internal EIGRP?

- A. 192.168.10/24
- B. 192.168.3.0/24
- C. 192.168.2.0/24
- D. 172.16 1.0/24

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 251**

- (Topic 1)

An engineer is configuring switch SW1 to act an NTP server when all upstream NTP server connectivity fails. Which configuration must be used?

- A. SW1# config t  
SW1(config)#ntp peer 192.168.1.1  
SW1(config)#ntp access-group peer accesslist1
- B. SW1# config t  
SW1(config)#ntp master  
SW1(config)#ntp server 192.168.1.1
- C.
- SW1# config t  
SW1(config)#ntp server 192.168.1.1  
SW1(config)#ntp access-group server accesslist1
- D. SW1# config t  
SW1(config)#ntp backup  
SW1(config)#ntp server 192.168.1.1

A. Option A  
B. Option B

C. Option C  
D. Option D

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 252**

- (Topic 1)

How does authentication differ from authorization?

- A. Authentication verifies the identity of a person accessing a network, and authorization determines what resource a user can access.
- B. Authentication is used to record what resource a user accesses, and authorization is used to determine what resources a user can access
- C. Authentication is used to determine what resources a user is allowed to access, and authorization is used to track what equipment is allowed access to the network
- D. Authentication is used to verify a person's identity, and authorization is used to create syslog messages for logins.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 253**

- (Topic 1)

When should an engineer implement a collapsed-core architecture?

- A. for small networks with minimal need for growth
- B. the access and distribution layers must be on the same device
- C. for large networks that are connected to multiple remote sites
- D. only when using VSS technology

**Correct Answer:** C

**Section:** (none)

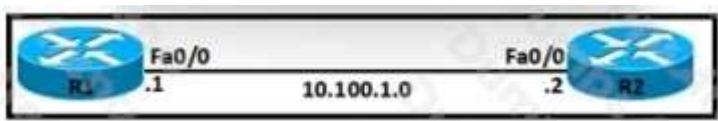
**Explanation**

**Explanation/Reference:**

#### QUESTION 254

- (Topic 1)

Refer to the exhibit.



An OSPF neighbor relationship must be configured using these guidelines:

- R1 is only permitted to establish a neighbor with R2
- R1 will never participate in DR elections
- R1 will use a router-id of 101.1.1.

Which configuration must be used?

- A. 

```
interface Loopback0
  ip address 10.1.1.1 255.255.255.255

interface FastEthernet0/0
  ip address 10.100.1.1 255.255.255.252
  ip ospf priority 100
  ip access-group 102 in

router ospf 10
  log-adjacency-changes
  network 10.1.1.1 0.0.0.0 area 0
  network 10.100.1.0 0.0.0.3 area 0
  ospf router-id 10.1.1.1

access-list 102 permit 88 host 10.100.1.2 host 224.0.0.5
access-list 102 deny 88 any any
access-list 102 permit ip any any
```

B.

```
interface Loopback0
 ip address 10.1.1.1 255.255.255.255

interface FastEthernet0/0
 ip address 10.100.1.1 255.255.255.252
 ip ospf priority 0
 ip access-group 102 in

router ospf 10
 log-adjacency-changes
 network 10.1.1.1 0.0.0.0 area 0
 network 10.100.1.0 0.0.0.3 area 0
 router-id 10.1.1.1

access-list 102 permit 88 host 10.100.1.2 host 224.0.0.5
access-list 102 deny 88 any any
access-list 102 permit ip any any
```

C.

```
interface FastEthernet0/0
 ip address 10.100.1.1 255.255.255.252
 ip ospf priority 100
 ip access-group 102 in

router ospf 10
 log-adjacency-changes
 network 10.1.1.1 0.0.0.0 area 0
 network 10.100.1.0 0.0.0.3 area 0
 ospf router-id 10.1.1.1

access-list 102 permit 89 host 10.100.1.2 host 224.0.0.5
access-list 102 deny 89 any any
access-list 102 permit ip any any
```

D.

```
interface FastEthernet0/0
 ip address 10.100.1.1 255.255.255.252
 ip ospf priority 0
 ip access-group 102 in

router ospf 10
 log-adjacency-changes
 network 10.1.1.1 0.0.0.0 area 0
 network 10.100.1.0 0.0.0.3 area 0
 router-id 10.1.1.1

access-list 102 permit 89 host 10.100.1.2 host 224.0.0.5
access-list 102 deny 89 any any
access-list 102 permit ip any any
```

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 255**

- (Topic 1)

Which two wireless security stewards use Counter Mode Cipher Block Chaining Message Authentication Code Protocol for encryption and data integrity? (Choose two.)

- A. WPA2
- B. WPA3
- C. Wi-Fi 6
- D. WEP

E. WPA

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 256**

- (Topic 1)

What is the default port-security behavior on a trunk link?

- A. It causes a network loop when a violation occurs.
- B. It disables the native VLAN configuration as soon as port security is enabled.
- C. It places the port in the err-disabled state if it learns more than one MAC address.
- D. It places the port in the err-disabled slate after 10 MAC addresses are statically configured.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 257**

- (Topic 1)

When a switch receives a frame for an unknown destination MAC address, how is the frame handled?

- A. broadcast to all ports on the switch
- B. flooded to all ports except the origination port
- C. forwarded to the first available port
- D. inspected and dropped by the switch

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 258**

- (Topic 1)

Refer to the exhibit.

```

interface g2/0/0
    channel-group 1 mode active
interface g4/0/0
    channel-group 1 mode active
interface Port-channel1
    ip address 203.0.113.65 255.255.255.252
%LINEPROTO-5-UPDOWN: Line protocol on Interface Port-channel1, changed state to down

```

An engineer is configuring a Layer 3 port-channel interface with LACP. The configuration on the first device is complete, and it is verified that both interfaces have registered the neighbor device in the CDP table. Which task on the neighbor device enables the new port channel to come up without negotiating the channel?

- A. Change the EtherChannel mode on the neighboring interfaces to auto.
- B. Configure the IP address of the neighboring device.
- C. Bring up the neighboring interfaces using the no shutdown command.
- D. Modify the static EtherChannel configuration of the device to passive mode.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 259

- (Topic 1)

Refer to the exhibit.

```

Router1#show ip route
Gateway of last resort is 10.10.11.2 to network 0.0.0.0

 209.165.200.0/27 is subnetted, 1 subnets
B   209.165.200.224 [20/0] via 10.10.12.2, 03:22:14
 209.165.201.0/27 is subnetted, 1 subnets
B   209.165.201.0 [20/0] via 10.10.12.2, 02:26:33
 209.165.202.0/27 is subnetted, 1 subnets
B   209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks
C     10.10.10.0/28 is directly connected, GigabitEthernet0/0
C     10.10.11.0/30 is directly connected, FastEthernet2/0
C     10.10.12.0/30 is directly connected, GigabitEthernet0/1
O     10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
O     10.10.13.128/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
O     10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
O     10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
O     10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
S*   0.0.0.0/0 [1/0] via 10.10.11.2

```

What is the subnet mask of the route to the 10.10.13.160 prefix?

- A. 255.255.255.240

- B. 255.255.255.128
- C. 255.255.248.
- D. 255.255.255.248

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 260**

- (Topic 1)

What is the purpose of the Cisco DNA Center controller?

- A. to secure physical access to a data center
- B. to scan a network and generate a Layer 2 network diagram
- C. to securely manage and deploy network devices
- D. to provide Layer 3 services to autonomous access points

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 261**

- (Topic 1)

Which encryption method is used by WPA3?

- A. PSK
- B. TKIP
- C. SAE
- D. AES

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 262**

- (Topic 1)

What differentiates device management enabled by Cisco DNA Center from traditional campus device management?

- A. per-device
- B. centralized

- C. device-by-device hands-on
- D. CLI-oriented device

**Correct Answer:** B

**Section:** (none)

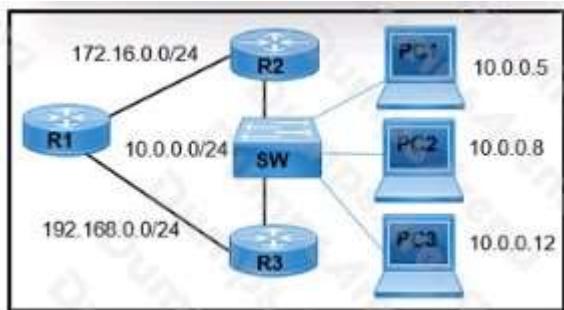
**Explanation**

**Explanation/Reference:**

**QUESTION 263**

- (Topic 1)

Refer to the exhibit.



A network engineer must configure R1 so that it sends all packets destined to the 10.0.0.0/24 network to R3, and all packets destined to PCI to R2. Which configuration must the engineer implement?

- A. 

```
R1(config)#ip route 10.0.0.0 255.255.255.0 172.16.0.2
R1(config)#ip route 10.0.0.5 255.255.255.255 192.168.0.2
```
- B. 

```
R1(config)#ip route 10.0.0.0 255.255.0.0 172.16.0.2
R1(config)#ip route 10.0.0.5 255.255.255.255 192.168.0.2
```
- C. 

```
R1(config)#ip route 10.0.0.0 255.255.255.0 192.168.0.2
R1(config)#ip route 10.0.0.5 255.255.255.255 172.16.0.2
```
- D. 

```
R1(config)#ip route 10.0.0.0 255.255.0.0 192.168.0.2
R1(config)#ip route 10.0.0.0 255.255.255.0 172.16.0.2
```

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 264**

- (Topic 1)

Which command implies the use of SNMPv3?

- A. snmp-server host

- B. snmp-server community
- C. snmp-server enable traps
- D. snmp-server user

**Correct Answer:** B

**Section:** (none)

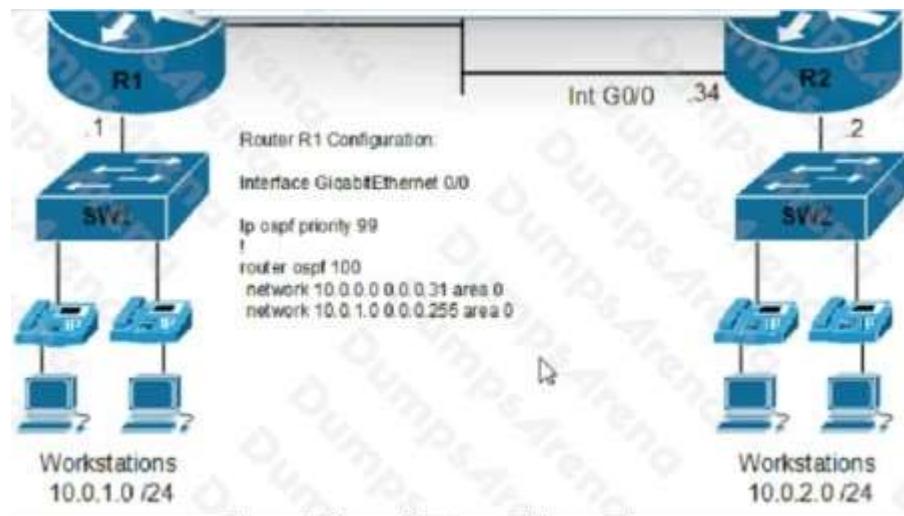
**Explanation**

**Explanation/Reference:**

#### QUESTION 265

- (Topic 1)

Refer to the exhibit.



An engineer must configure router R2 so it is elected as the DR on the WAN subnet. Which command sequence must be configured?

- A. `interface gigabitethernet0/0  
ip address 10.0.0.34 255.255.255.224  
ip ospf priority 100`
- B. `interface gigabitethernet0/0  
ip address 10.0.1.1 255.255.255.224  
ip ospf priority 98`
- C. `interface gigabitethernet0/0  
ip address 10.0.0.34 255.255.255.248  
ip ospf priority 0`
- D. `interface gigabitethernet0/0  
ip address 10.0.1.1 255.255.255.0  
ip ospf priority 255`

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 266**

- (DRAG DROP) - (Topic 1)

Drag and drop the Wi-Fi terms from the left onto the descriptions on the right.

|                               |                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------|
| distribution system           | Wi-Fi option in which cells from different access points are linked together                         |
| extended service set          | Wi-Fi option that enables two or more clients to communicate directly without a central access point |
| independent basic service set | Wi-Fi option based around one or more access points                                                  |
| infrastructure mode           | alphanumeric text string that identifies a wireless network                                          |
| SSID                          | entire wireless cell of an access point and the linkage to the wired network                         |

A.

B.

C.

D.

**Correct Answer:**

**Section:** (none)

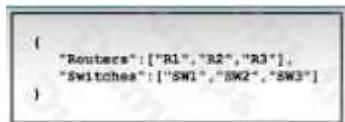
**Explanation**

**Explanation/Reference:**



**QUESTION 267**  
- (Topic 1)

Refer to the exhibit.



What is represented by "R1" and "SW1" within the JSON output?

- A. key
- B. array
- C. value

- D. object

**Correct Answer:** C

**Section:** (none)

**Explanation**

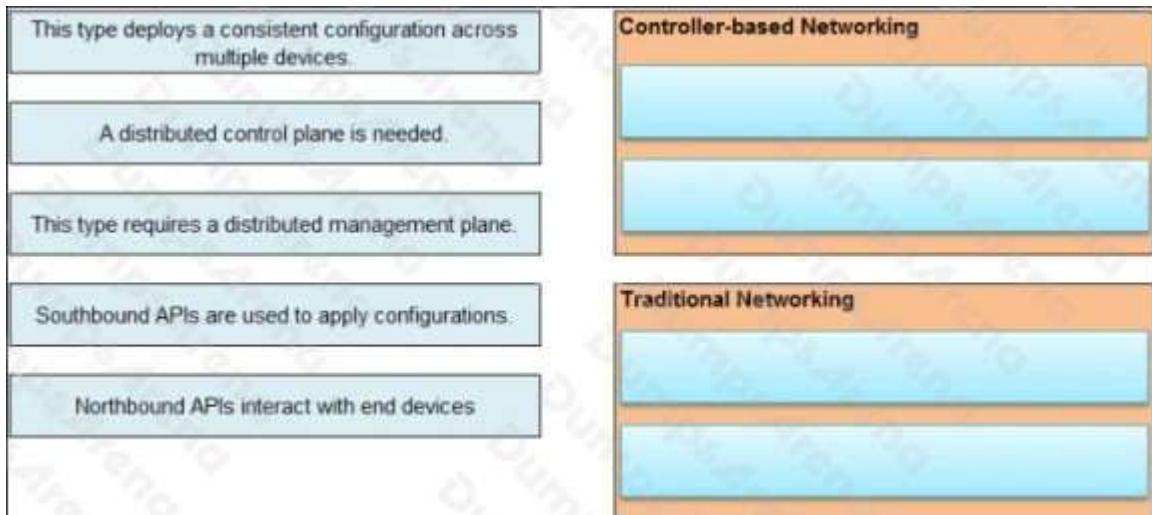
**Explanation/Reference:**

**QUESTION 268**

- (DRAG DROP) - (Topic 1)

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

right. Not all statements are used.



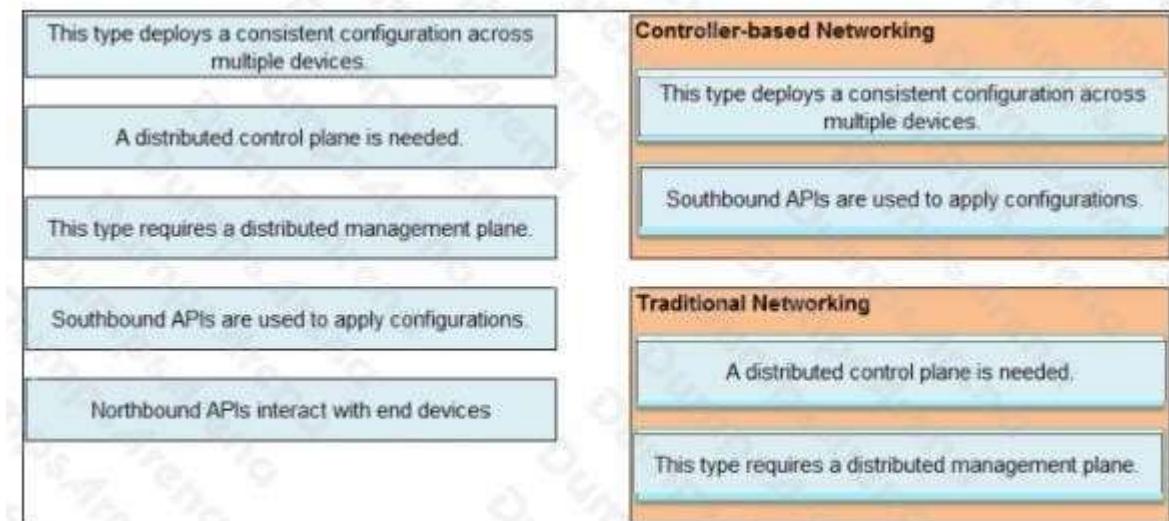
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

Northbound APIs do not interact with end devices. They allow the SND controller to interact with applications on the application plane

**QUESTION 269**

- (Topic 1)

Refer to the exhibit.

```
    "attributes": {
        "pwd": "password1",
        "firstName": "Abraham",
        "lastName": "Lincoln",
        "phone": "5555551212",
        "email": "test@cisco.com"
    },
    "children": [
        {
            "aaaUserDomain": {
                "attributes": {
                    "name": "ExampleCisco"
                },
                "children": [
                    {
                        "aaaUserRole": {
                            "attributes": {
                                "name": "admin"
                            }
                        }
                    }
                ]
            }
        }
    ]
}
```

How many objects are present in the given JSON-encoded data?

- A. one
- B. four
- C. seven
- D. nine

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 270**

- (Topic 1)

What are two examples of multifactor authentication? (Choose two.)

- A. single sign-on

- B. unique user knowledge
- C. passwords that expire
- D. soft tokens
- E. shared password responsibility

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 271**

- (DRAG DROP) - (Topic 1)

Drag and chop the TCP/IP protocols from the left onto their primary transmission protocols on the right.



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

**Correct Answer:**

**Section:** (none)

**Explanation**

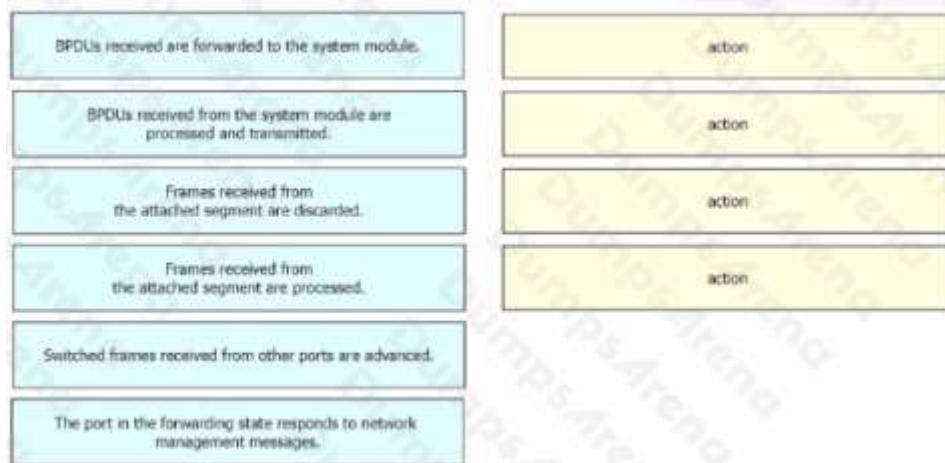
**Explanation/Reference:**



### QUESTION 272

- (DRAG DROP) - (Topic 1)

Drag and drop the Rapid PVST+ forwarding state actions from the left to the right. Not all actions are used.



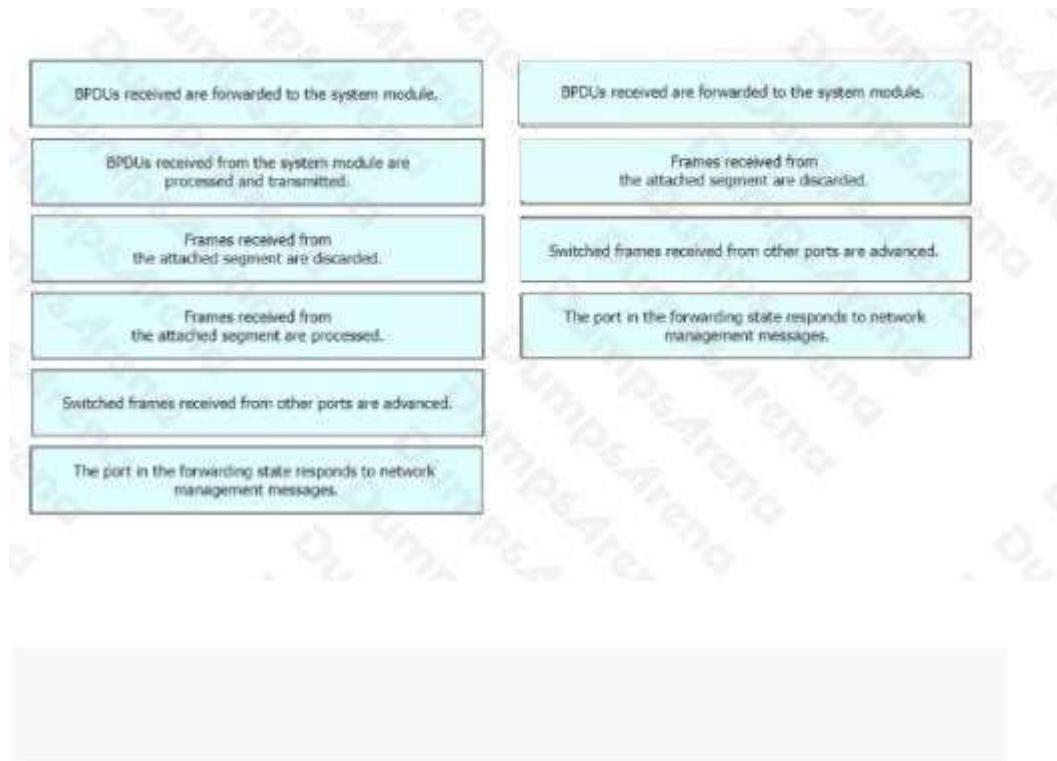
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

## Explanation/Reference:



## QUESTION 273

- (Topic 1)

Refer to the exhibit.

```
Known via "connected", distance 0, metric 0 (connected, via interface)
Routing Descriptor Blocks:
 * directly connected, via Ethernet0/1
   Route metric is 0, traffic share count is 1

CPE# ping 203.0.113.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 203.0.113.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms

CPE# show ip route
Gateway of last resort is 198.51.100.1 to network 0.0.0.0
B*   0.0.0.0/0 [20/0] via 198.51.100.1, 00:02:07
      198.51.100.0/24 is variably subnetted, 2 subnets, 2 masks
C     198.51.100.0/30 is directly connected, Ethernet0/0
L     198.51.100.2/32 is directly connected, Ethernet0/0
      203.0.113.0/24 is variably subnetted, 2 subnets, 2 masks
C     203.0.113.0/30 is directly connected, Ethernet0/1
L     203.0.113.2/32 is directly connected, Ethernet0/1
```

After configuring a new static route on the CPE, the engineer entered this series of commands to verify that the new configuration is operating normally. When is the static default route installed into the routing table?

- A. when 203.0.113.1 is no longer reachable as a next hop
- B. when the default route learned over external BGP becomes invalid

- B. when a route to 203.0 113 1 is learned via BGP
- C. when the default route over external BGP changes its next hop

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 274**

- (Topic 1)

How does encryption protect the wireless network?

- A. via integrity checks to identify wireless forgery attacks in the frame
- B. via specific ciphers to detect and prevent zero-day network attacks
- C. via an algorithm to change wireless data so that only the access point and client understand it
- D. via a policy to prevent unauthorized users from communicating on the wireless network

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 275**

- (Topic 1)

Which action implements physical access control as part of the security program of an organization?

- A. backing up syslogs at a remote location
- B. configuring a password for the console port
- C. configuring enable passwords on network devices
- D. setting up IP cameras to monitor key infrastructure

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 276**

- (Topic 1)

Why implement VRRP?

- A. to provide end users with a virtual gateway in a multivendor network
- B. to leverage a weighting scheme to provide uninterrupted service
- C. to detect link failures without the overhead of Bidirectional Forwarding Detection
- D. to hand over to end users the autodiscovery of virtual gateways

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 277**

- (Topic 1)

A packet from a company's branch office is destined to host 172.31.0.1 at headquarters. The sending router has three possible matches in its routing table for the packet prefixes: 172.31.0.0/16, 172.31.0.0/24, and 172.31.0.0/25. How does the router handle the packet?

- A. It sends the traffic via prefix 172.31.0.0/16
- B. It sends the traffic via the default gateway 0.0.0.070.
- C. It sends the traffic via prefix 172.31.0.0/24
- D. It sends the traffic via prefix 172.31.0.0/25

**Correct Answer:** D

**Section:** (none)

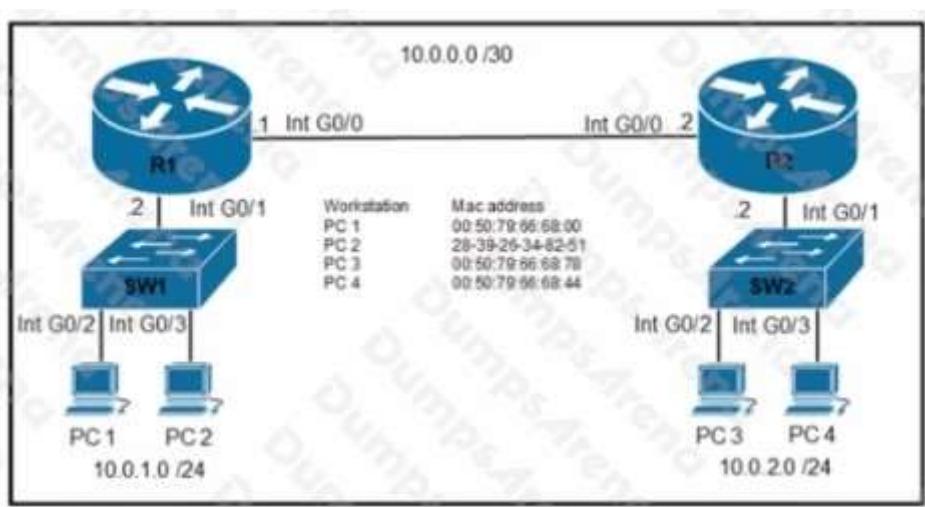
**Explanation**

**Explanation/Reference:**

**QUESTION 278**

- (Topic 1)

Refer to the exhibit.



An engineer must configure the interface that connects to PC 1 and secure it in a way that only PC1 is allowed to use the port. No VLAN tagging can be used except for a voice VLAN. Which command sequence must be entered to configure the switch?

- A. SW1(config-if)#switchport mode nonegotiate  
SW1(config-if)#switchport port-security  
SW1(config-if)#switchport port-security maximum 1
- B. SW1(config-if)#switchport mode access  
SW1(config-if)#switchport port-security  
SW1(config-if)#switchport port-security mac-address 0050.7966.6800
- C. SW1(config-if)#switchport mode dynamic auto  
SW1(config-if)#switchport port-security  
SW1(config-if)#switchport port-security violation restrict
- D. SW1(config-if)#switchport mode dynamic desirable  
SW1(config-if)#switchport port-security mac-address 0050.7966.6800  
SW1(config-if)#switchport port-security mac-address sticky

**Correct Answer:** B

**Section:** (none)

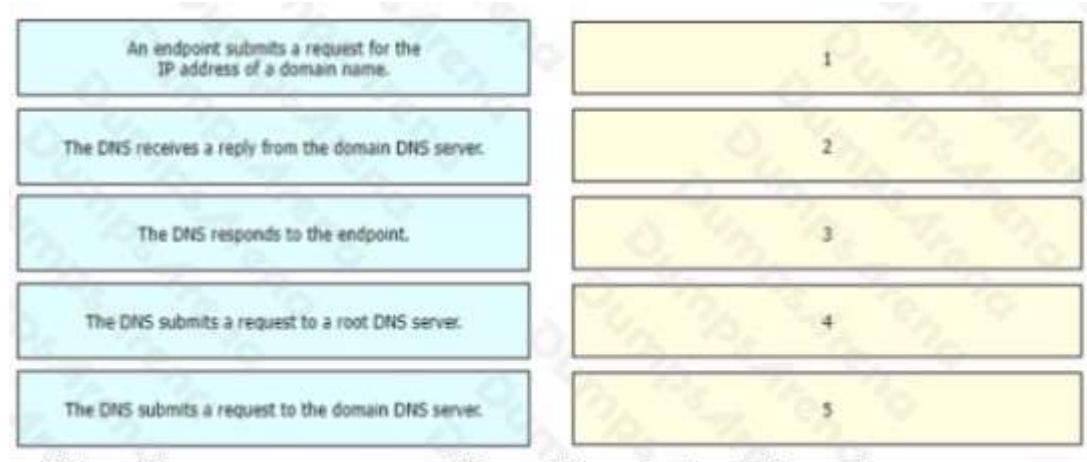
**Explanation**

**Explanation/Reference:**

#### QUESTION 279

- (DRAG DROP) - (Topic 1)

Drag and drop the steps in a standard DNS lookup operation from the left into the order on the right.



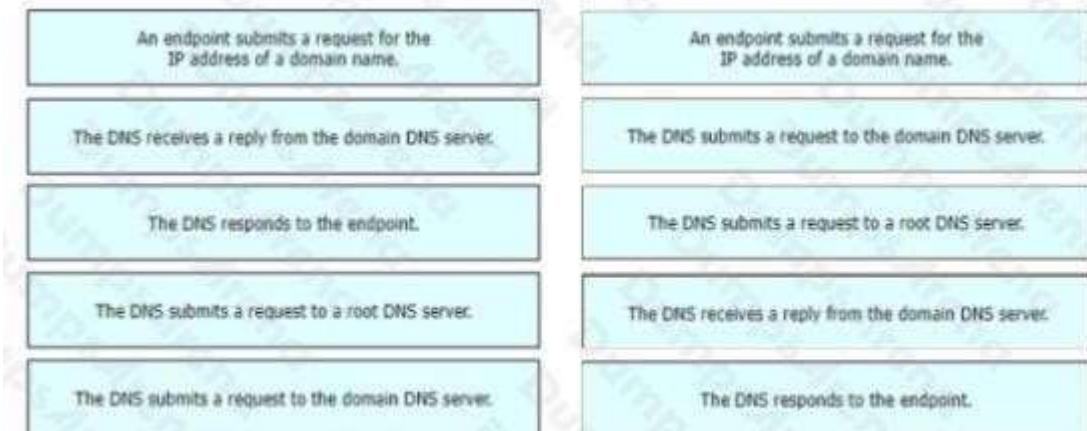
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 280**

- (Topic 1)

In a cloud-computing environment what is rapid elasticity?

- A. control and monitoring of resource consumption by the tenant
- B. automatic adjustment of capacity based on need
- C. pooling resources in a multitenant model based on need
- D. self-service of computing resources by the tenant

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 281**

- (Topic 1)

What is a reason to implement IPv4 private addressing?

- A. Reduce the risk of a network security breach
- B. Comply with PCI regulations
- C. Comply with local law
- D. Reduce the size of the forwarding table on network routers

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 282**

- (DRAG DROP) - (Topic 1)

Drag and drop the IPv6 address types from the left onto their description on the right.

|                                         |                                                                                      |
|-----------------------------------------|--------------------------------------------------------------------------------------|
| 2001:DB8::bc0d:1234:456d:aacc           | multicast address used only locally within the site                                  |
| FD00:0000:0000:1a2d:a153:3992:a19d:ccca | address that is automatically created on a link when IPv6 is enabled on an interface |
| FE80::abcf:ffff:12de:3992               | address that is prohibited from routing to the Internet                              |
| FF05::23:becf:22:1111                   | address that is unique and reserved for documentation purposes                       |

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

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

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| 2001:DB8::bc0d:1234:456d:aacc           | FF05::23:becf:22:1111                   |
| FD00:0000:0000:1a2d:a153:3992:a19d:ccca | FE80::abcf:ffff:12de:3992               |
| FE80::abcf:ffff:12de:3992               | FD00:0000:0000:1a2d:a153:3992:a19d:ccca |
| FF05::23:becf:22:1111                   | 2001:DB8::bc0d:1234:456d:aacc           |

**QUESTION 283**

- (Topic 1)

What is the purpose of configuring different levels of syslog for different devices on the network?

- A. to rate-limit messages for different severity levels from each device
- B. to set the severity of syslog messages from each device
- C. to identify the source from which each syslog message originated
- D. to control the number of syslog messages from different devices that are stored locally

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 284**

- (Topic 1)

What is a function of MAC address learning?

- A. It is enabled by default on all VLANs and interfaces
- B. It increases the potential for MAC address flooding.
- C. It is disabled by default on all interfaces connected to trunks
- D. It increases security on the management VLAN

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 285**

- (Topic 1)

Which 802.11 frame type is Association Response?

- A. management
- B. control
- C. action
- D. protected frame

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 286**

- (Topic 1)

Which two IPv6 addresses are used to provide connectivity between two routers on a shared link? (Choose two)

- A. ::ffff:1011:1011/96

- B. 2001 7011046:1111:1/64
- C. ;jff06bb43cd4dd111bbff02 4545234d
- D. 2002 5121204b 1111:1/64
- E. FF02::0WIFF00:0l)00/104

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 287**

- (Topic 1)

Refer to the exhibit.

When router R1 receives a packet with destination IP address 10.56.0.62, through which interface does it route the packet?

- A. Null0
- B. Vlan58
- C. Vlan60
- D. Vlan59

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 288**

- (Topic 1)

What are two features of the DHCP relay agent? (Choose two.)

- A. assigns DNS locally and then forwards request to DHCP server
- B. permits one IP helper command under an individual Layer 3 interface
- C. allows only MAC-to-IP reservations to determine the local subnet of a client
- D. minimizes the necessary number of DHCP servers
- E. configured under the Layer 3 interface of a router on the client subnet

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 289**

- (Topic 1)

Which is a fact related to FTP?

- A. It uses block numbers to identify and mitigate data-transfer errors
- B. It always operates without user authentication
- C. It relies on the well-known UDP port 69.
- D. It uses two separate connections for control and data traffic

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 290**

- (DRAG DROP) - (Topic 1)

Drag and drop the descriptions of IP protocol transmissions from the left onto the IP traffic types on the right.



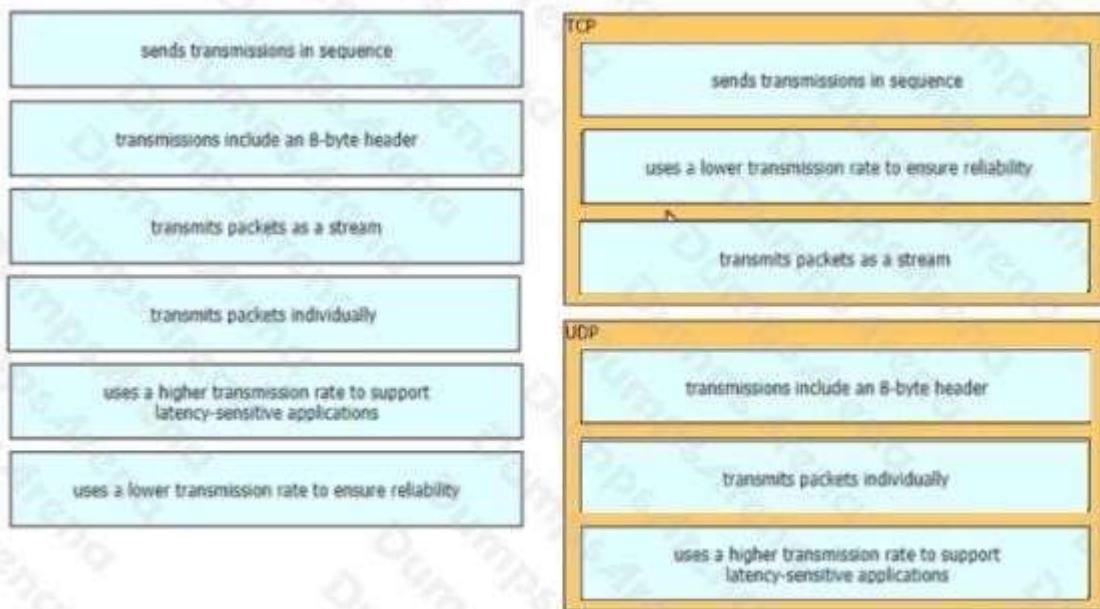
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



### QUESTION 291

- (Topic 1)

Refer to the exhibit.

```
router# show ip route
...
D 172.18.32.0/26 [90/25789217] via 10.1.1.1
R 172.18.32.0/24 [120/4] via 10.1.1.2
O 172.18.32.0/19 [110/229840] via 10.1.1.3
C 172.18.32.32/32 is directly connected, Loopback0
C 172.18.32.36/30 is directly connected, GigabitEthernet0/0
L 172.18.32.37/32 is directly connected, GigabitEthernet0/0
```

A packet sourced from 172.18.33.2 is destined for 172.18.32.38. Where does the router forward the packet?

- A. GigabitEthernet0/0
- B. Loopback0
- C. 10.1.1.1
- D. 10.1.1.3

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 292**

- (Topic 1)

Which command configures the Cisco WLC to prevent a serial session with the WLC CLI from being automatically logged out?

- A. config sessions maxsessions 0
- B. config sessions timeout 0
- C. config serial timeout 0
- D. config serial timeout 9600

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 293**

- (Topic 1)

Refer to the exhibit.

```
{
    "SW1" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],
    "SW2" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],
    "SW3" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"],
    "SW4" : ["Ten-GigabitEthernet0/0", "Ten-GigabitEthernet0/1"]
}
```

How many JSON objects are presented?

- A. 1
- B. 2
- C. 3
- D. 4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 294**

- (Topic 1)

Which enhancement is implemented in WPA3?

- A. applies 802.1x authentication
- B. uses TKIP
- C. employs PKI to identify access points
- D. protects against brute force attacks

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 295**

- (Topic 1)

What must be considered for a locally switched FlexConnect AP if the VLANs that are used by the AP and client access are different?

- A. The APs must be connected to the switch with multiple links in LAG mode
- B. The switch port mode must be set to trunk
- C. The native VLAN must match the management VLAN of the AP
- D. IEEE 802.10 trunking must be disabled on the switch port.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 296**

- (Topic 1)

What is an advantage of using auto mode versus static mode for power allocation when an access point is connected to a PoE switch port?

- A. All four pairs of the cable are used
- B. It detects the device is a powered device
- C. The default level is used for the access point
- D. Power policing is enabled at the same time

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 297**

- (Topic 1)

Which type of port is used to connect to the wired network when an autonomous AP maps two VLANs to its WLANs?

- A. LAG
- B. EtherChannel
- C. trunk
- D. access

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 298**

- (Topic 1)

What is a function of an endpoint?

- A. It is used directly by an individual user to access network services
- B. It passes unicast communication between hosts in a network
- C. It transmits broadcast traffic between devices in the same VLAN
- D. It provides security between trusted and untrusted sections of the network.

**Correct Answer:** A

**Section:** (none)

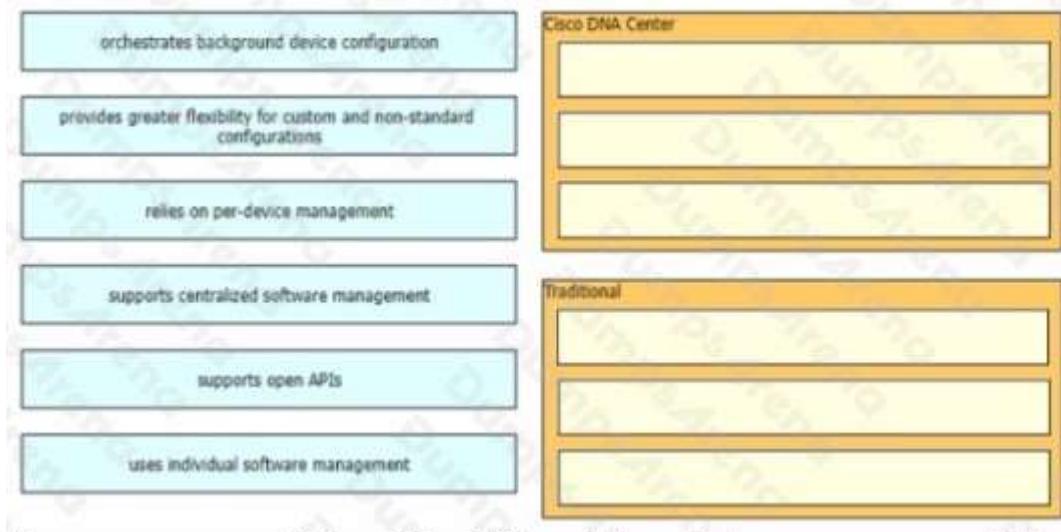
**Explanation**

**Explanation/Reference:**

**QUESTION 299**

- (DRAG DROP) - (Topic 1)

Drag and drop the characteristics of device-management technologies from the left onto the corresponding deployment types on the right.



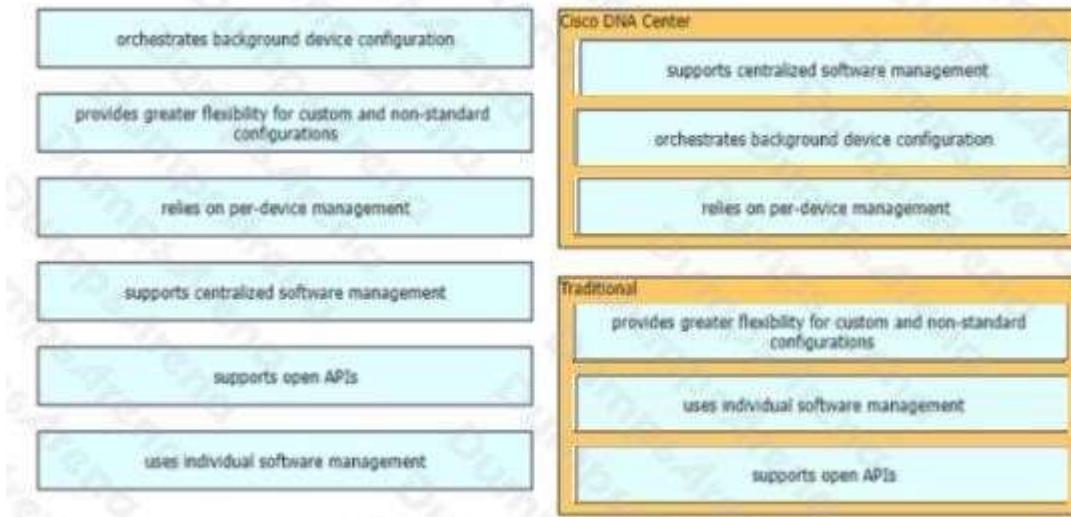
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 300**

- (Topic 1)

Refer to the exhibit.

The screenshot shows the Cisco Security interface with the 'SECURITY' tab selected. On the left, a navigation tree under 'AAA' includes options like General, RADIUS, TACACS+, LDAP, Local Net Users, MAC Filtering, Disabled Clients, User Logon Policies, AP Policies, and Password Policies. The main panel is titled 'Local Net Users > New'. It contains fields for User Name (NA-User), Password, Confirm Password, Guest User (with a checked checkbox), Lifetime (seconds) set to 86400, Guest User Role (unchecked), WLAN Profile set to 'Any WLAN', and a Description field containing 'For NA WLAN Auth'.

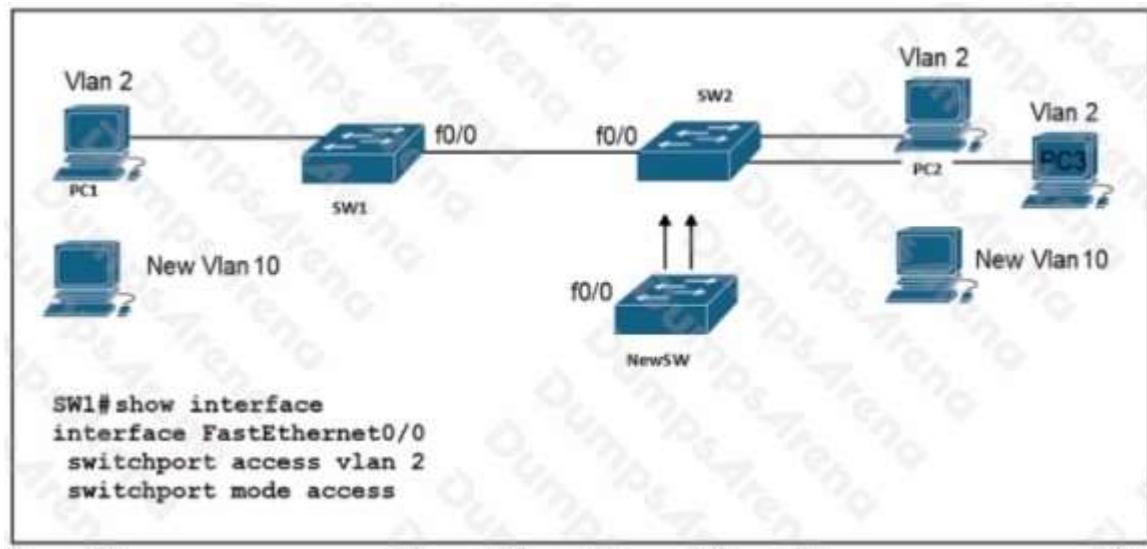
Wireless LAN access must be set up to force all clients from the NA WLAN to authenticate against the local database. The WLAN is configured for local EAP authentication. The time that users access the network must not be limited. Which action completes this configuration?

- A. Uncheck the Guest User check box
- B. Check the Guest User Role check box
- C. Set the Lifetime (seconds) value to 0
- D. Clear the Lifetime (seconds) value

**Correct Answer:** C**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 301**

- (Topic 1)

Refer to the exhibit.



An engineer is configuring a new Cisco switch NewSW, to replace SW2. The details have been provided

- Switches SW1 and SW2 are third-party devices without support for trunk ports
- The existing connections must be maintained between PC1 PC2 and PC3
- Allow the switch to pass traffic from future VLAN 10. Which configuration must be applied?

- A. `NewSW(config)#interface f0/0  
 NewSW(config-if)#switchport mode access  
 NewSW(config-if)#switchport trunk allowed vlan 2,10  
 NewSW(config-if)#switchport trunk native vlan 10`
- B. `NewSW(config)#interface f0/0  
 NewSW(config-if)#switchport mode trunk  
 NewSW(config-if)#switchport trunk allowed vlan 2,10  
 NewSW(config-if)#switchport trunk native vlan 2`
- C. `NewSW(config)#interface f0/0  
 NewSW(config-if)#switchport mode trunk  
 NewSW(config-if)#switchport trunk allowed vlan 10  
 NewSW(config-if)#switchport trunk native vlan 10`
- D.

```

  NewSW(config)#interface f0/0
  NewSW(config-if)#switchport mode access
  NewSW(config-if)#switchport trunk allowed vlan 2,10
  NewSW(config-if)#switchport trunk native vlan 2
  
```

**Correct Answer:** B

**Section:** (none)

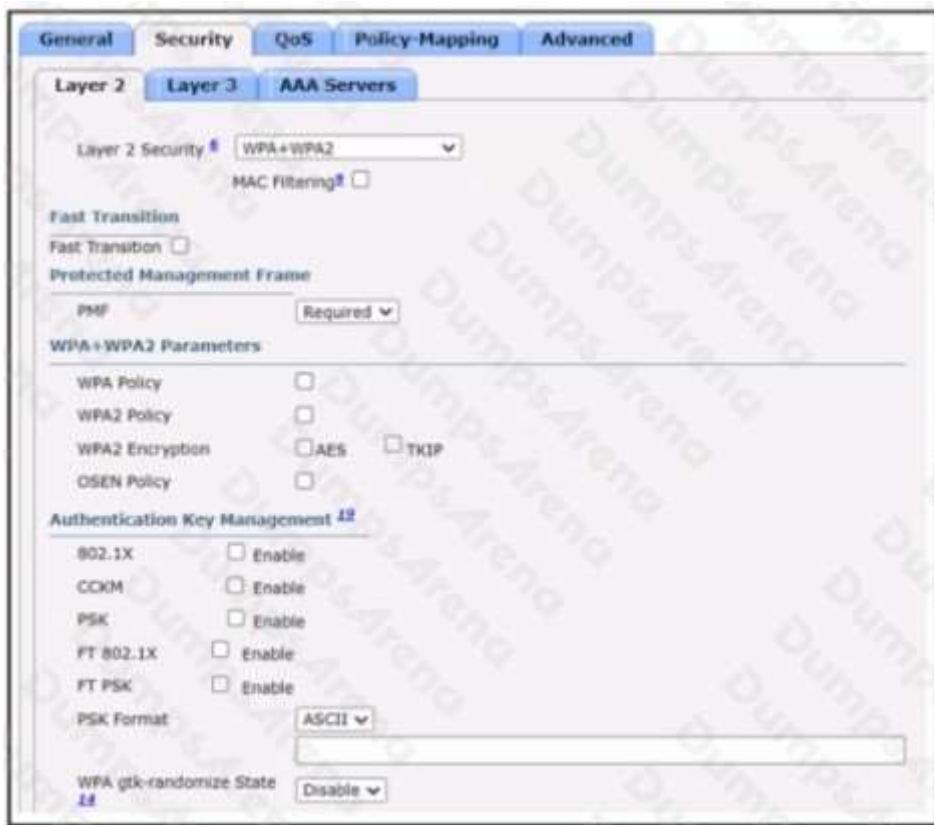
**Explanation**

**Explanation/Reference:**

**QUESTION 302**

- (Topic 1)

Refer to the exhibit.



- A.  
Select WPA Policy  
Select WPA2 Policy  
Enable FT PSK

B.

- Select WPA2 Policy  
Disable PMF  
Enable PSK

- C.  
Select WPA Policy  
Enable CCKM  
Enable PSK

- D.  
Disable PMF  
Enable PSK  
Enable 802.1x

**Correct Answer: C**

**Section: (none)**

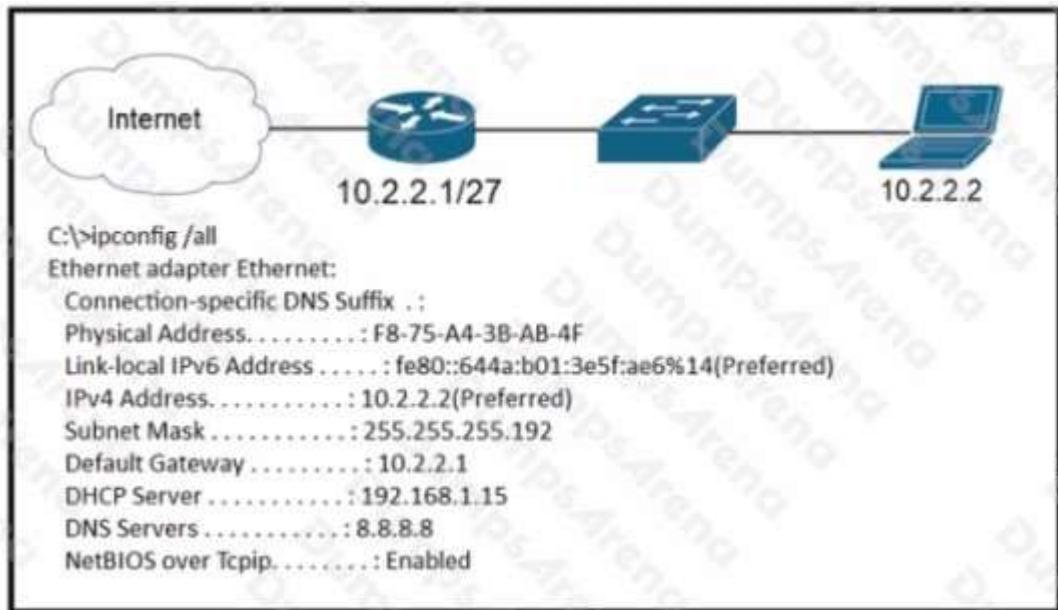
**Explanation**

**Explanation/Reference:**

**QUESTION 303**

- (Topic 1)

Refer to the exhibit.



A newly configured PC fails to connect to the internet using TCP port 80 to www.cisco.com. Which setting must be modified for the connection to work?

- A. Subnet Mask
- B. DNS Servers
- C. Default Gateway
- D. DHCP Server

**Correct Answer: B****Section: (none)****Explanation****Explanation/Reference:****QUESTION 304**

- (Topic 1)

Refer to the exhibit.

```
CPE1# show protocols e0/1
Ethernet0/1 is up, line protocol is up
  Internet address is 10.0.12.2/24

CPE1# show ip access-list LAN
Standard IP access list LAN
  10 permit 10.0.12.0, wildcard bits 0.0.0.255

CPE1# show ip nat translations

CPE1# show ip nat statistics
Total active translations: 0 (0 static, 0 dynamic; 0 extended)
Peak translations: 0
Outside interfaces:
Inside interfaces:
  Ethernet0/1
    Hits: 0 Misses: 0
    CEF Translated packets: 0, CEF Punted packets: 0
    Expired translations: 0
    Dynamic mappings:
      -- Inside Source
      [Id: 1] access-list LAN pool NATPOOL refcount 0
        pool NATPOOL: netmask 255.255.255.0
          start 198.51.100.11 end 198.51.100.20
          type generic, total addresses 10, allocated 0 (0%), misses 0

    Total doors: 0
    Appl doors: 0
    Normal doors: 0
    Queued Packets: 0
```

What is the next step to complete the implementation for the partial NAT configuration shown?

- A. Reconfigure the static NAT entries that overlap the NAT pool
- B. Configure the NAT outside interface
- C. Modify the access list for the internal network on e0/1
- D. Apply the ACL to the pool configuration

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 305

- (DRAG DROP) - (Topic 1)

Drag and drop the Ansible features from the left to the right Not all features are used.

|                                                         |         |
|---------------------------------------------------------|---------|
| executes modules via SSH by default                     | feature |
| uses the YAML language                                  | feature |
| uses agents to manage hosts                             | feature |
| pushes configurations to the client                     | feature |
| requires clients to pull configurations from the server |         |
| operates without agents                                 |         |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                                                         |                                     |
|---------------------------------------------------------|-------------------------------------|
| executes modules via SSH by default                     | operates without agents             |
| uses the YAML language                                  | executes modules via SSH by default |
| uses agents to manage hosts                             | uses agents to manage hosts         |
| pushes configurations to the client                     | pushes configurations to the client |
| requires clients to pull configurations from the server |                                     |
| operates without agents                                 |                                     |

### **QUESTION 306**

- (Topic 1)

The address block 192 168 32 0/24 must be subnetted into smaller networks. The engineer must meet these requirements

- Create 8 new subnets
- Each subnet must accommodate 30 hosts
- Interface VLAN 10 must use the last usable IP in the first new subnet
- A Layer 3 interface is used

Which configuration must be applied to the interface?

- A. 

```
no switchport mode access
ip address 192.168.32.62 255.255.255.240
```
- B. 

```
switchport
ip address 192.168.32.65 255.255.255.240
```
- C.
  
- D. 

```
no switchport mode trunk
ip address 192.168.32.97 255.255.255.224
```

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 307

- (DRAG DROP) - (Topic 1)

Refer to the exhibit.

```
xi# show ip route | begin gateway
Gateway of last resort is not set
      172.16.0.0/16 is variably subnetted, 5 subnets, 5 masks
      0    172.16.2.128/25 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
      0    172.16.3.64/27 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
      0    172.16.3.128/28 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
      0    172.16.3.192/29 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
      0    172.16.4.0/23 [110/3184437] via 207.165.200.250, 00:00:25, Serial0/0/0
          207.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
      C    207.165.200.248/30 is directly connected, Serial0/0/0
      L    207.165.200.249/32 is directly connected, Serial0/0/0
      C    207.165.200.252/30 is directly connected, Serial0/0/1
      L    207.165.200.253/32 is directly connected, Serial0/0/1
```

Drag and drop the learned prefixes from the left onto the subnet masks on the right

|              |                 |
|--------------|-----------------|
| 172.16.3.128 | 255.255.254.0   |
| 172.16.3.64  | 255.255.255.128 |
| 172.16.2.128 | 255.255.255.224 |
| 172.16.3.192 | 255.255.255.240 |
| 172.16.4.0   | 255.255.255.248 |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|              |              |
|--------------|--------------|
| 172.16.3.128 | 172.16.4.0   |
| 172.16.3.64  | 172.16.2.128 |
| 172.16.2.128 | 172.16.3.64  |
| 172.16.3.192 | 172.16.3.128 |
| 172.16.4.0   | 172.16.3.192 |

### **QUESTION 308**

- (Topic 1)

What are two reasons a switch experiences frame flooding? (Choose two.)

- A. A defective patch cable is connected to the switch port
- B. Topology changes are occurring within spanning-tree

- C. An aged MAC table entry is causing excessive updates
- D. Port-security is configured globally
- E. The forwarding table has overflowed

**Correct Answer:** AB

**Section:** (none)

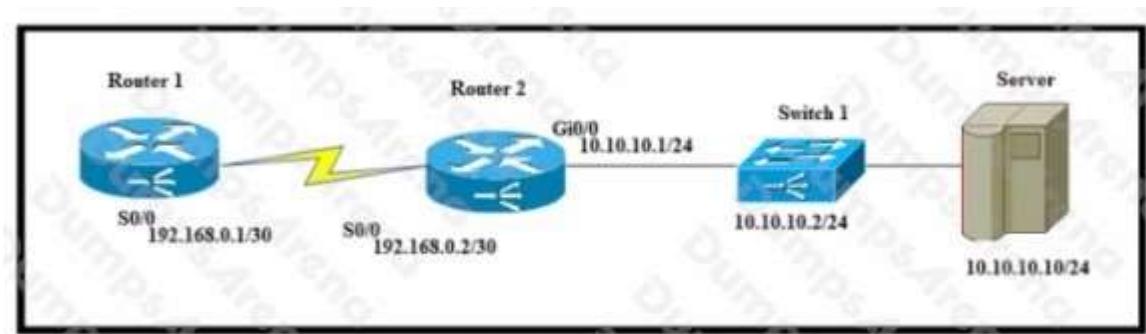
**Explanation**

**Explanation/Reference:**

### QUESTION 309

- (Topic 1)

Refer to the exhibit.



A network engineer must configure router R1 with a host route to the server. Which command must the engineer configure?

- A. R1(conftg)#ip route 10.10.10.0 255.255.255.0 192.168.0.2
- B. R1(Config)#ip route 10.10.10.10 265.255.255.255 192.168.0.2
- C. R1(config)#ip route 192.168.0.2 255.255.255.255 10.10.10.10
- D. R1(config)3|p route 0.0.0.0 0.0.0.0 192.168.0.2

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 310

- (Topic 1)

A Cisco engineer at a new branch office is configuring a wireless network with access points that connect to a controller that is based at corporate headquarters. Wireless client traffic must terminate at the branch office and access-point survivability is required in the event of a WAN outage. Which access point mode must be selected?

- A. Lightweight with local switching disabled
- B. Local with AP fallback enabled

- C. OfficeExtend with high availability disabled
- D. FlexConnect with local switching enabled

**Correct Answer:** C

**Section:** (none)

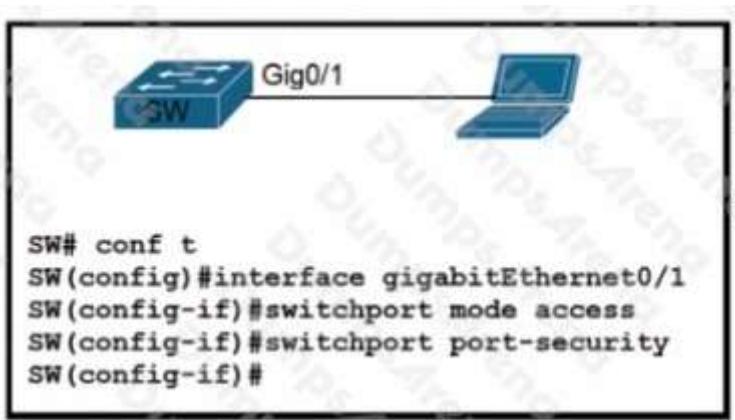
**Explanation**

**Explanation/Reference:**

**QUESTION 311**

- (Topic 1)

Refer to the exhibit



A network engineer started to configure port security on a new switch. These requirements must be met:

- \* MAC addresses must be learned dynamically
- \* Log messages must be generated without disabling the interface when unwanted traffic is seen

Which two commands must be configured to complete this task"? (Choose two)

- A. SW(ccnfig-if)=switchport port-security mac-address sticky
- B. SW(confKj-if)=switchport port-security violation restrict
- C. SW(config.if)sswitchport port-security mac-address 0010.7B84.45E6
- D. SW(config-if)aswitchport port-security maximum 2
- E. SW(ccnfig-if)=switchport port-security violation shutdown

**Correct Answer:** C

**Section:** (none)

**Explanation**

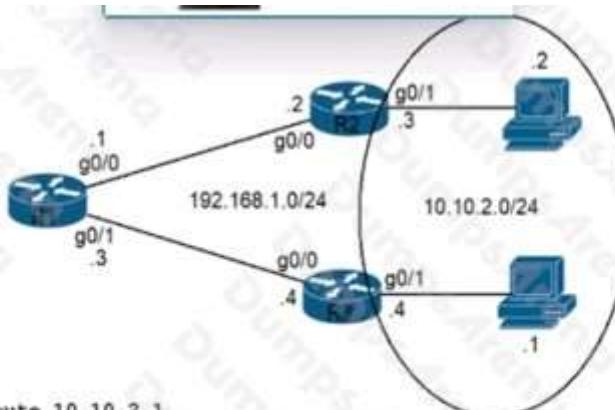
**Explanation/Reference:**

**QUESTION 312**

- (Topic 1)

Refer to the exhibit.

Traffic from R1 to the 10.10.2.0/24 subnet uses 192.168.1.2 as its next hop. An network engineer wants to update the R1 configuration so that traffic with destination 10.10.2.1 passes through router R3, and all other traffic to the 10.10.20/24 subnet passes through r2. Which command must be used?



```
R1#show ip route 10.10.2.1
Routing entry for 10.10.2.0/24
Known via "ospf 1", distance 110, metric 2, type intra area
Last update from 192.168.1.2 on GigabitEthernet0/0, 01:23:15 ago
Routing Descriptor Blocks:
* 192.168.1.2, from 192.168.1.2, 01:23:15 ago, via GigabitEthernet0/0
  Route metric is 2, traffic share count is 1
```

- A. Ip route 10.10.2.1 255.255.255.255 192.168.1.4 115
- B. Ip route 10.10.2.0 255.255.255.0 192.168.1.4 100
- C. Ip route 10.10.2.0 255.255.255.0 192.168.1.4 115
- D. Ip route 10.10.2.1 255.255.255.255 192.168.1.4 100

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 313

- (Topic 1)

Refer the exhibit.

```
R19#sh int fa0/0
FastEthernet0/0 is up, line protocol is up
Hardware is DEC21140, address is ca02.7788.0000 (bia ca02.7788.0000)
Description: SALES_SUBNET
Internet address is 10.32.102.2/30
MTU 1500 bytes, BW 100000 Kbit/sec, DLY 100 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (60 sec)
Full-duplex, 100Mb/s, 100BaseTX/FX
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:01, output 00:00:00, output hang never
Last clearing of "show interface" counters never
Input queue: 0/300/0/0 (size/max/drops/flushes); Total output drops:
135298429
Queueing strategy: fifo
Output queue: 0/300 (size/max)
30 second input rate 0 bits/sec, 0 packets/sec
30 second output rate 0 bits/sec, 0 packets/sec
73310 packets input, 7101162 bytes
Received 73115 broadcasts (0 IP multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 4 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog
0 input packets with dribble condition detected
3927513096455 packets output, 14404034810952 bytes, 0 underruns
0 output errors, 11 collisions, 0 interface resets
```

What is the cause of poor performance on router R19?

- A. excessive collisions
- B. speed and duplex mismatch
- C. port oversubscription
- D. excessive CRC errors

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 314**

- (Topic 1)

Which two protocols are used by an administrator for authentication and configuration on access points?

- A. Kerberos
- B. 802.1Q
- C. 802.1x
- D. TACACS+
- E. RADIUS

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 315**

- (Topic 1)

What is a similarity OM3 and OM4 fiber optical cable?

- A. Both have a 62.5 micron core diameter.
- B. Both have a 50 micron core diameter.
- C. Both have a 100 micron core diameter.
- D. Both have a 9 micron core diameter.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 316**

- (Topic 1)

Why is TCP desired over UDP for application that require extensive error checking, such as HTTPS?

- A. UDP operates without acknowledgments, and TCP sends an acknowledgment for every packet received.
- B. UDP reliably guarantees delivery of all packets, and TCP drops packets under heavy load.
- C. UDP uses flow control mechanisms for the delivery of packets, and TCP uses congestion control for efficient packet delivery.
- D. UDP uses sequencing data to packets to arrive in order, and TCP offers the capability to receive packets in random order.

**Correct Answer:** A

**Section:** (none)

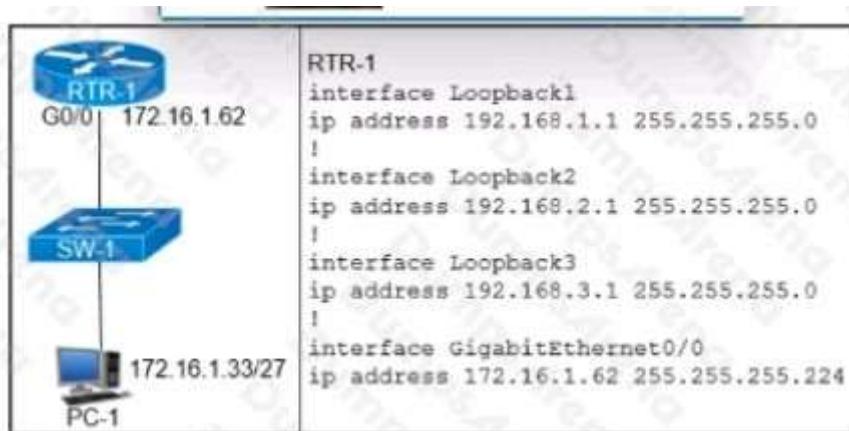
**Explanation**

**Explanation/Reference:**

#### **QUESTION 317**

- (Topic 1)

Refer to the exhibit.



Which configuration for RTR-1 denies SSH access from PC-1 to any RTR-1 interface and allows all other traffic?

- A. 

```
access-list 100 deny tcp host 172.16.1.33 any eq 22
access-list 100 permit ip any any

interface GigabitEthernet0/0
ip access-group 100 in
```
- B. 

```
access-list 100 deny tcp host 172.16.1.33 any eq 22
access-list 100 permit ip any any

line vty 0 15
access-class 100 in
```
- C. 

```
access-list 100 deny tcp host 172.16.1.33 any eq 23
access-list 100 permit ip any any

Interface GigabitEthernet0/0
ip access-group 100 in
```
- D. 

```
access-list 100 deny tcp host 172.16.1.33 any eq 23
access-list 100 permit ip any any

line vty 0 15
access-class 100 in
```

**Correct Answer: B**

Section: (none)

Explanation

**Explanation/Reference:****QUESTION 318**

- (Topic 1)

An engineer is configuring a switch port that is connected to a VoIP handset. Which command must the engineer configure to enable port security with a manually assigned MAC address of abcd-abcd on voice VLAN 4?

- A. switchport port-security mac-address abcd.abcd.abcd
- B. switchport port-security mac-address abed.abed.abed vlan 4
- C. switchport port-security mac-address sticky abcd.abcd.abcd vlan 4
- D. switchport port-security mac-address abcd.abcd.abcd vlan voice

**Correct Answer:** A**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 319**

- (DRAG DROP) - (Topic 1)

Drag and drop the Ansible terms from the left onto the right.

|              |                                                                                            |
|--------------|--------------------------------------------------------------------------------------------|
| control node | collection of actions to perform on target devices, expressed in YAML format               |
| inventory    | device with Ansible installed that manages target devices                                  |
| managed node | network device, without Ansible installed, upon which commands can be executed             |
| module       | specific action to be performed on one or more target devices                              |
| playbook     | unit of Python code to be executed                                                         |
| task         | Ansible file that defines the target devices upon which commands and tasks can be executed |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 320**

- (Topic 1)

Refer to the exhibit.

| Entry #                        |
|--------------------------------|
| 1 192.168.10.0 255.255.254.0   |
| 2 192.168.10.0 255.255.255.192 |
| 3 192.168.10.0 255.255.0.0     |
| 4 192.168.10.0 255.255.224.0   |

Which entry is the longest prefix match for host IP address 192.168.10.5?

- A. 1
- B. 2
- C. 3

D. 4

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 321**

- (Topic 1)

What is the function of northbound API?

- A. It upgrades software and restores files.
- B. It relies on global provisioning and configuration.
- C. It supports distributed processing for configuration.
- D. It provides a path between an SDN controller and network applications.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 322**

- (Topic 1)

Which interface enables communication between a program on the controller and a program on the networking devices?

- A. northbound interface
- B. software virtual interface
- C. southbound interface
- D. tunnel Interface

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 323**

- (Topic 1)

Refer to the exhibit.



The loopback1 interface of the Atlanta router must reach the lookback3 interface of the Washington router.

- A. ipv6 route 2000::1/128 2012::2
- B. ipv6 route 2000::1/128 2012::1
- C. ipv6 route 2000:3 123 s0/0/0
- D. ipv6 route 2000::3/128 2023::3
- E. ipv6 route 2000::1/128 s0/0/1

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 324

- (Topic 1)

Refer to the exhibit.

```
Router1#show ip route
Gateway of last resort is not set
      209.165.200.0/27 is subnetted, 1 subnets
B        209.165.200.224 [20/0] via 10.10.12.2, 00:09:57
      10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
C          10.10.10.0/28 is directly connected, GigabitEthernet0/0
C          10.10.11.0/30 is directly connected, FastEthernet2/0
O          10.10.13.0/24 [110/2] via 10.10.10.1, 00:08:34, GigabitEthernet0/0
C          10.10.12.0/30 is directly connected, GigabitEthernet0/1
```

Which action by the router when a packet is sourced from 10.10.10.2 and destined 10.10.10.16?

- A. It queues the packets waiting for the route to be learned.
- B. It floods packets to all learned next hops.
- C. It discards the packets.
- D. It uses a route that is similar to the destination address.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 325**

- (Topic 1)

What does a switch do when it receives a frame whose destination MAC address is missing from the MAC address table?

- A. It floods the frame unchanged across all remaining ports in the incoming VLAN.
- B. It appends the table with a static entry for the MAC and shuts down the port.
- C. It updates the CAM table with the destination MAC address of the frame.
- D. It changes the checksum of the frame to a value that indicates an invalid frame.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 326**

- (Topic 1)

Which security method is used to prevent man-in-the-middle attack?

- A. authorization
- B. authentication
- C. anti-replay
- D. accounting

**Correct Answer:** B

**Section:** (none)

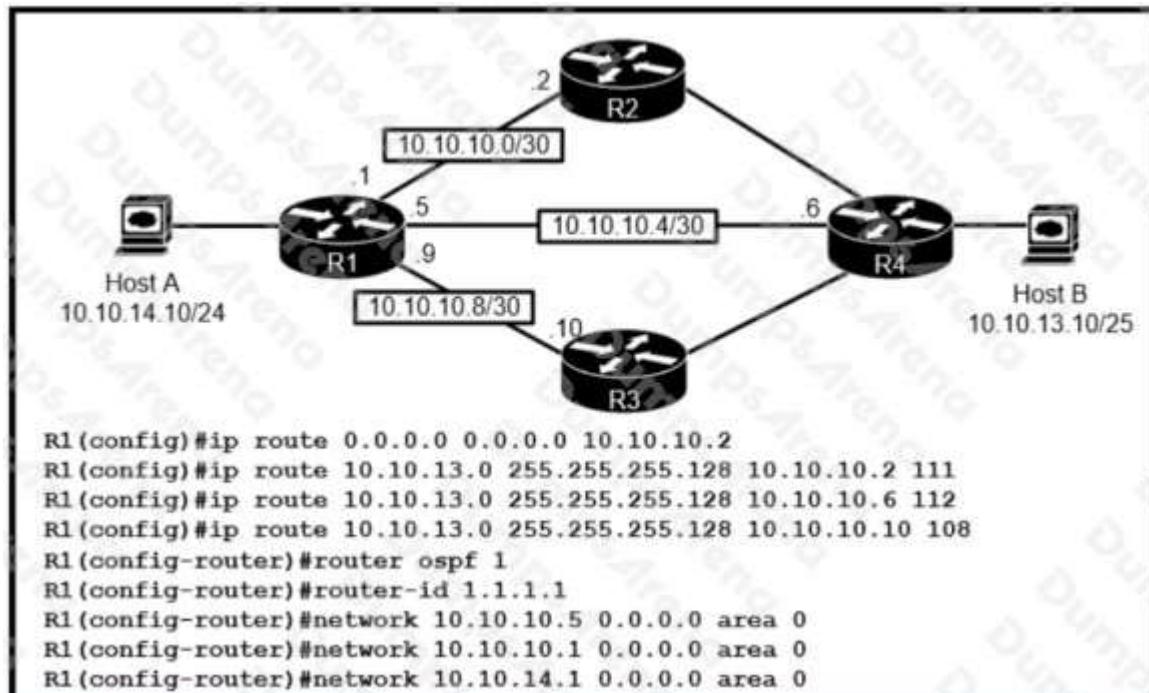
**Explanation**

**Explanation/Reference:**

**QUESTION 327**

- (Topic 1)

Refer to the exhibit.



R1 has just received a packet from host A that is destined to host B. Which route in the routing table is used by R1 to reach B?

- A. 10.10.13.0/25 [108/0] via 10.10.10.10
- B. 10.10.13.0/25 [110/2] via 10.10.10.2
- C. 10.10.13.0/25 [110/2] via 10.10.10.6
- D. 10.10.13.0/25 [1/0] via 10.10.10.2

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 328

- (DRAG DROP) - (Topic 1)

Drag and drop the WLAN components from the left onto the component details on the right.

|                         |                                                             |
|-------------------------|-------------------------------------------------------------|
| access point            | manages access points                                       |
| virtual interface       | provides Wi-Fi devices with a connection to a wired network |
| dynamic interface       | used for out-of-band management                             |
| service port            | used for guest authentication                               |
| wireless LAN controller | applied to the WLAN for wireless client communication       |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                         |                         |
|-------------------------|-------------------------|
| access point            | wireless LAN controller |
| virtual interface       | access point            |
| dynamic interface       | service port            |
| service port            | virtual interface       |
| wireless LAN controller | dynamic interface       |

**QUESTION 329**

- (Topic 1)

Which IPsec transport mode encrypts the IP header and the payload?

- A. pipe
- B. control
- C. transport
- D. tunnel

**Correct Answer:** D

**Section:** (none)

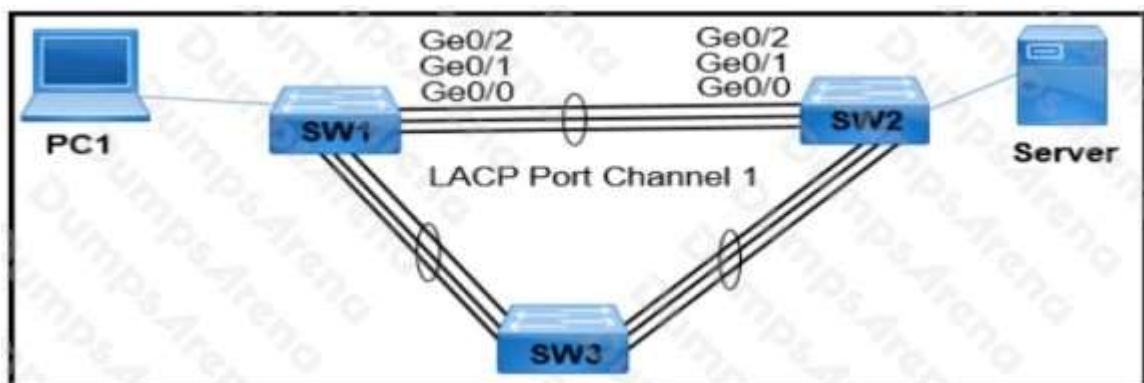
**Explanation**

**Explanation/Reference:**

**QUESTION 330**

- (Topic 1)

Refer to the exhibit.



PC1 regularly sends 1800 Mbps of traffic to the server. A network engineer needs to configure the EtherChannel to disable Port Channel 1 between SW1 and SW2 when the Ge0/0 and Ge0/1 ports on SW2 go down. Which configuration must the engineer apply to the switch?

- A. 

```
SW2# configure terminal
SW2(config)# interface port-channel 1
SW2(config-if)# lacp port-priority 32000
```
- B. 

```
SW2# configure terminal
SW2(config)# interface port-channel 1
SW2(config-if)# lacp max-bundle 2
```
- C. 

```
SW2# configure terminal
SW2(config)# lacp system-priority 32000
```
- D. 

```
SW2# configure terminal
SW2(config)# interface port-channel 1
SW2(config-if)# port-channel min-links 2
```

**Correct Answer:** D

**Section:** (none)

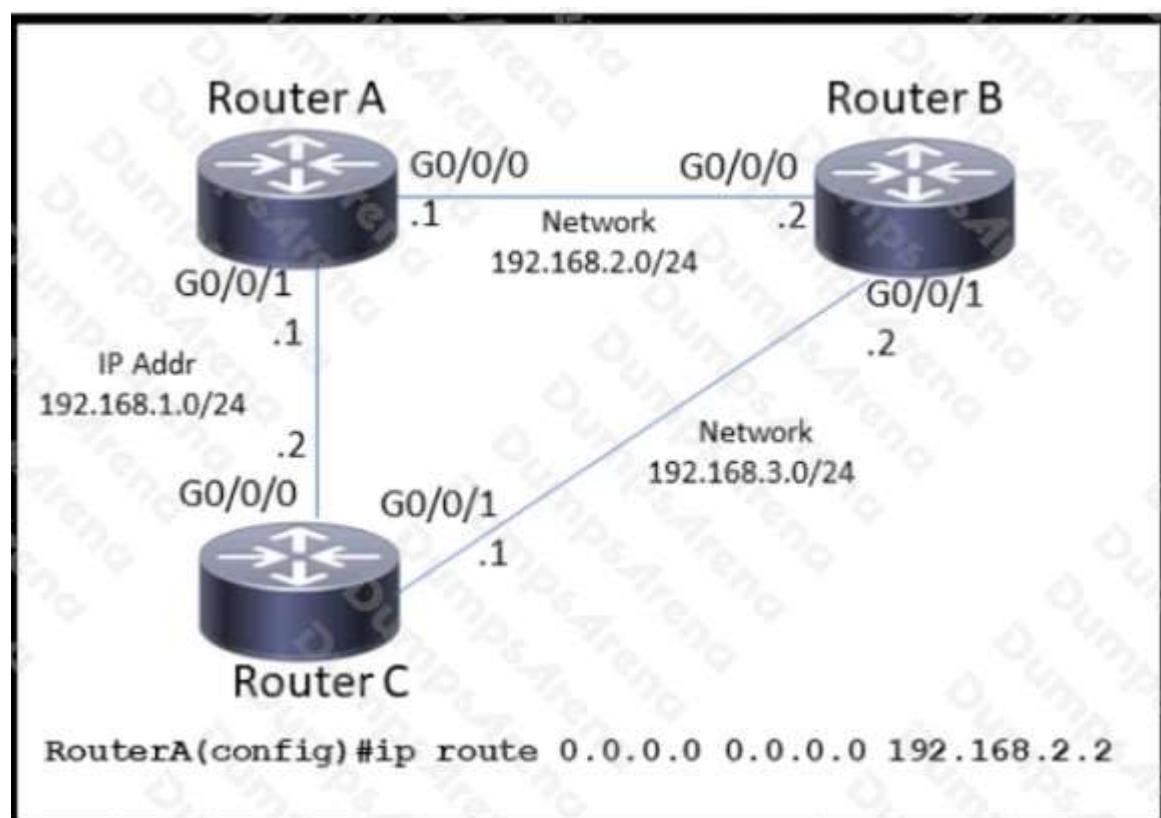
**Explanation**

**Explanation/Reference:**

**QUESTION 331**

- (Topic 1)

Refer to the exhibit.



Which command must be enable a floating default route on router A?

- A. ip route 0.0.0.0 0.0.0.0 192.168.1.2
- B. ip default-gateway 192.168.2.1
- C. ip route 0.0.0.0 0.0.0.0 192.168.1.2 10
- D. ip route 0.0.0.0 0.0.0.0 192.168.2.1 10

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 332**

- (DRAG DROP) - (Topic 1)

Drag and drop the DNS commands from the left onto their effects on the right.

Drag and drop the DNS commands from the left onto their effects on the right.

|                              |                                            |
|------------------------------|--------------------------------------------|
| ip domain-lookup             | adds an entry to the host table            |
| ip domain-name               | completes the FQDN of the DNS server       |
| ip host switch_1 192.168.0.1 | displays address-mapping information       |
| ip name-server               | enables host-to-IP-address translation     |
| show hosts                   | specifies the IP address of the DNS server |

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

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

Drag and drop the DNS commands from the left onto their effects on the right.

Drag and drop the DNS commands from the left onto their effects on the right.

|                              |                              |
|------------------------------|------------------------------|
| ip domain-lookup             | ip domain-name               |
| ip domain-name               | ip domain-lookup             |
| ip host switch_1 192.168.0.1 | show hosts                   |
| ip name-server               | ip host switch_1 192.168.0.1 |
| show hosts                   | ip name-server               |

**QUESTION 333**

- (Topic 1)

Refer to the exhibit.

| <u>Current Neighbor Relationship</u> |     |         |           |             |                    |
|--------------------------------------|-----|---------|-----------|-------------|--------------------|
| Neighbor ID                          | Pri | State   | Dead Time | Address     | Interface          |
| 192.168.1.1                          | 1   | FULL/DR | 00:00:33  | 192.168.1.1 | GigabitEthernet0/0 |
| <u>Desired Neighbor Relationship</u> |     |         |           |             |                    |
| Neighbor ID                          | Pri | State   | Dead Time | Address     | Interface          |
| 192.168.1.1                          | 0   | FULL/ - | 00:00:31  | 192.168.1.1 | GigabitEthernet0/0 |

How must OSPF be configured on the GigabitEthernet0/0 interface of the neighbor device to achieve.

- A. Router(config)#interface GigabitEthernet 0/0  
Router(config-if)#ip ospf priority 1
- B. Router(config)#interface GigabitEthernet 0/0  
Router(config-if)#ip ospf 1 area 2
- C. Router(config)#interface GigabitEthernet 0/0  
Router(config-if)#ip ospf cost 5
- D. Router(config)#interface GigabitEthernet 0/0  
Router(config-if)#ip ospf network point-to-point
  - A. Option A
  - B. Option B
  - C. Option C
  - D. Option D

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 334**

- (Topic 1)

What is the purpose of using First Hop Redundancy Protocol on a specific subnet?

- A. ensures a loop-free physical topology
- B. filters traffic based on destination IP addressing
- C. sends the default route to the hosts on a network
- D. forwards multicast hello messages between routers

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 335**

- (Topic 1)

Which two features introduced in SNMPv2 provides the ability to retrieve large amounts of data in one request

- A. Get
- B. GetNext
- C. Set
- D. GetBulk
- E. Inform

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 336**

- (Topic 1)

Refer to the exhibit. A multivendor network exists and the company is implementing VoIP over the network for the first time.

- A. SW1(config)#no cdp enable  
SW1(config)#interface gigabitethernet1/0/1  
SW1(config-if)#cdp run
- B. SW1(config)#lldp enable  
SW1(config)#interface gigabitethernet1/0/1  
SW1(config-if)#lldp run
- C. SW1(config)#lldp run  
SW1(config)#interface gigabitethernet1/0/1  
SW1(config-if)#lldp enable
- D. SW1(config)#no cdp run  
SW1(config)#interface gigabitethernet1/0/1  
SW1(config-if)#lldp transmit  
SW1(config-if)#lldp receive

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 337**

- (Topic 1)

Refer to the exhibit.

```
Switch2# show lldp
Global LLDP Information
  Status: ACTIVE
    LLDP advertisements are sent every 30 seconds
    LLDP hold time advertised is 120 seconds
    LLDP interface reinitialization delay is 2 seconds
```

A network engineer must update the configuration on switch2 so that it sends LLDP packets.

- A. `Switch2(config)#lldp timer 1`  
`Switch2(config)#lldp tlv-select 3`
- B. `Switch2(config)#lldp timer 1`  
`Switch2(config)#lldp holdtime 3`
- C. `Switch2(config)#lldp timer 60`  
`Switch2(config)#lldp holdtime 180`
- D. `> Switch2(config)#lldp timer 60`  
`Switch2(config)#lldp tlv-select 180`

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 338**

- (Topic 1)

Which IPv6 address range is suitable for anycast addresses for distributed services such DHCP or DNS?

- A. FF00:1/12

- B. 2001:db8:0234:ca3e::1/128
- C. 2002:db84:3f37:ca98:be05:8/64
- D. FE80::1/10

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 339**

- (Topic 1)

What differentiates device management enabled by cisco DNA center from traditional campus device management?

- A. CLI-oriented device
- B. device-by-device hands-on
- C. centralized
- D. per-device

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 340**

- (Topic 1)

A WLC sends alarms about a rogue AP, and the network administrator verifies that the alarms are caused by a legitimate autonomous AP.

- A. Place the AP into manual containment.
- B. Remove the AP from WLC management.
- C. Manually remove the AP from Pending state.
- D. Set the AP Class Type to Friendly.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 341**

- (Topic 1)

What is the primary purpose of private address space?

- A. conserve globally unique address space
- B. simplify the addressing in the network

- C. limit the number of nodes reachable via the Internet
- D. reduce network complexity

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 342

- (Topic 1)

Refer to the exhibit.

The screenshot shows the 'General' tab of a WLC configuration interface. Under the 'P2P Blocking Action' section, the dropdown menu is set to 'Disabled'. Other settings visible include 'Allow AAA Override' (Enabled), 'Coverage Hole Detection' (Enabled), 'Enable Session Timeout' (1800 seconds), 'Aironet IE' (Enabled), 'Diagnostic Channel' (Enabled), 'Override Interface ACL' (IPv4: None, IPv6: None), 'Layer2 ACL' (None), 'URL ACL' (None), 'P2P Blocking Action' (Disabled), 'Client Exclusion' (Enabled, timeout 180 seconds), 'Maximum Allowed Clients' (0), 'Static IP Tunneling' (Enabled), 'Wi-Fi Direct Clients Policy' (Disabled), and 'Maximum Allowed Clients Per AP Radio' (200). On the right side, there are sections for 'DHCP' (DHCP Server: 0.0.0.0, Override checked), 'Management Frame Protection (MFP)' (MFP Client Protection: Optional), 'DTIM Period (in beacon intervals)' (802.11a/n: 1, 802.11b/g/n: 1), 'NAC' (NAC Status: None), and 'Load Balancing and Band Select'.

The P2P blocking action option is disabled on the WLC.

- A. Enable the Static IP Tunneling option.
- B. Disable the Coverage Hole Detection option.
- C. Check the DHCP Addr. Assignment check box.
- D. Set the P2P Blocking Action option to Forward-UpStream.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 343

- (Topic 1)

What is a reason to configure a trunk port that connects to a WLC distribution port?

- A. Eliminate redundancy with a link failure in the data path.

- B. Allow multiple VLAN to be used in the data path.
- C. Provide redundancy if there is a link failure for out-of-band management.
- D. Permit multiple VLANs to provide out-of-band management.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 344**

- (Topic 1)

What is a purpose of traffic shaping?

- A. It enables dynamic flow identification.
- B. It enables policy-based routing.
- C. It provides best-effort service.
- D. It limits bandwidth usage.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 345**

- (Topic 1)

What is a characteristic of a collapsed-core network topology?

- A. It allows the core and distribution layers to run as a single combined layer.
- B. It enables the core and access layers to connect to one logical distribution device over an EtherChannel.
- C. It enables all workstations in a SOHO environment to connect on a single switch with internet access.
- D. It allows wireless devices to connect directly to the core layer, which enables faster data transmission.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 346**

- (Topic 1)

To improve corporate security, an organization is planning to implement badge authentication to limit access to the data center. Which element of a security program is being deployed?

- A. user training

- B. user awareness
- C. vulnerability verification
- D. physical access control

**Correct Answer:** D

**Section:** (none)

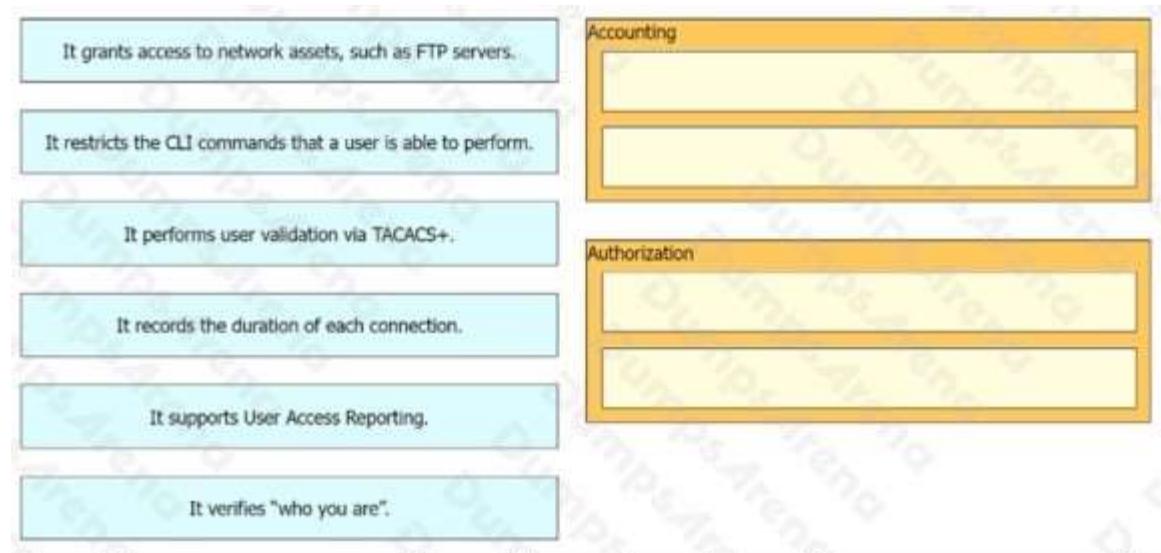
**Explanation**

**Explanation/Reference:**

**QUESTION 347**

- (DRAG DROP) - (Topic 1)

Drag and drop the statement about AAA services from the left to the corresponding AAA services on the right.



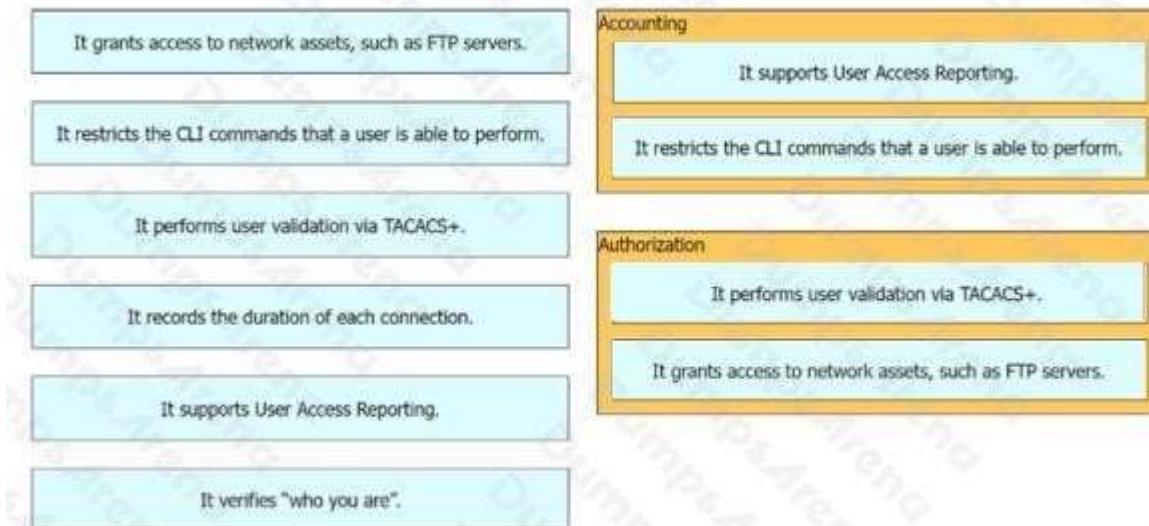
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 348**  
- (Topic 1)

When a WPA2-PSK WLAN is configured in the Wireless LAN Controller, what is the minimum number of characters that is required in ASCII format?

- A. 6
- B. 8
- C. 12
- D. 18

**Correct Answer:** B  
**Section:** (none)  
**Explanation**

**Explanation/Reference:**

**QUESTION 349**  
- (Topic 1)

Refer to the exhibit.

```
R1# show ip route
...
D      172.16.32.0/27 [90/2888597172]  via 20.1.1.1
O      172.16.32.0/19  [110/292094]    via 20.1.1.10
R      172.16.32.0/24  [120/2]        via 20.1.1.3
```

An engineer executed the script and added commands that were not necessary for SSH and now must remove

the commands.

- A. metric
- B. cost
- C. longest prefix
- D. administrative distance

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 350**

- (Topic 1)

Which cipher is supported for wireless encryption only with the WPA2 standard?

- A. AES256
- B. AES
- C. RC4
- D. SHA

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 351**

- (Topic 1)

What is a specification for SSIDS?

- A. They are a Cisco proprietary security feature.
- B. They must include one number and one letter.
- C. They define the VLAN on a switch.
  
- D. They are case sensitive.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 352**

- (DRAG DROP) - (Topic 1)

An engineer must configure a core router with a floating static default route to the backup router at 10.200.0.2.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**QUESTION 353**

- (Topic 1)

Refer to the exhibit.

How does router R1 handle traffic to the 172.16.1.4/30 subnet?

- A. It sends all traffic over the path via 172.16.9.5 using 172.16.4.4 as a backup.
- B. It sends all traffic over the path via 10.0.1.100.
- C. It load-balances traffic over 172.16.9.5 and 172.16.4.4.
- D. It sends all traffic over the path via 172.16.4.4.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 354**

- (Topic 1)

Which type of address is shared by routers in a HSRP implementation and used by hosts on the subnet as their default gateway address?

- A. multicast address
- B. loopback IP address
- C. virtual IP address
- D. broadcast address

**Correct Answer:** C

**Section:** (none)

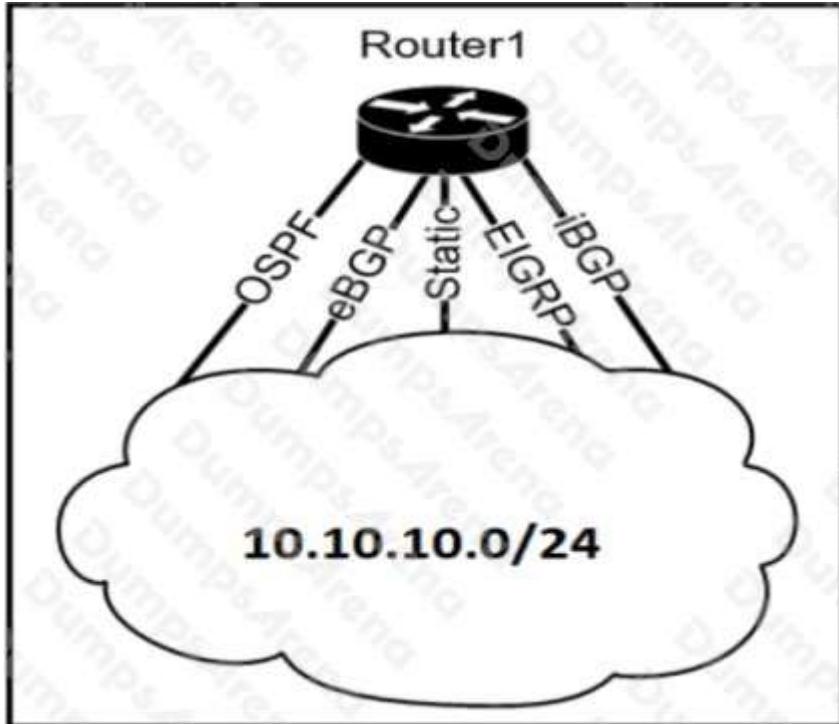
**Explanation**

**Explanation/Reference:**

**QUESTION 355**

- (DRAG DROP) - (Topic 1)

Refer to the exhibit.



The Router1 routing table has multiple methods to reach 10.10.10.0/24 as shown. The default Administrative Distance is used. Drag and drop the network conditions from the left onto the routing methods that Router1 uses on the right.



- A.
- B.
- C.

D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

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# DUMPS ARENA

|                                      |        |                                      |
|--------------------------------------|--------|--------------------------------------|
| All protocols are up.                | eBGP   | All protocols are up.                |
| OSPF and eBGP are down.              |        | OSPF and eBGP are down.              |
| The static route and eBGP are down.  | EIGRP  | The static route and EIGRP are down. |
| The static route and EIGRP are down. |        |                                      |
| The static route and OSPF are down.  | Static | The static route and OSPF are down.  |
|                                      |        | The static route and eBGP are down.  |

## QUESTION 356

- (Topic 1)

Which device segregates a network into separate zones that have their own security policies?

- A. IPS
- B. firewall
- C. access point
- D. switch

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 357**

- (Topic 1)

Refer to the exhibit.

```
Gateway of last resort is 172.16.2.2 to network 0.0.0.0

  10.0.0.0/8 is variably subnetted, 3 subnets, 3 masks
    10.10.100.0/26 is directly connected, GigabitEthernet0/0/6
  C      10.10.10.0/24 is directly connected, GigabitEthernet0/0/0
  L      10.10.10.3/32 is directly connected, GigabitEthernet0/0/0
        172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
  S      172.16.1.33/32 is directly connected, GigabitEthernet0/0/1
  C      172.16.2.0/23 is directly connected, GigabitEthernet0/0/1
  L      172.16.2.1/32 is directly connected, GigabitEthernet0/0/1
S*    0.0.0.0/0 [1/0] via 172.16.2.2
```

A packet sourced from 10.10.10.32 is destined for the internet.

- A. 0
- B. 1
- C. 2
- D. 32

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 358**

- (DRAG DROP) - (Topic 1)

Drag and drop the wireless architecture benefits from the left onto the architecture types on the right.

Drag and drop the wireless architecture benefits from the left onto the architecture types on the right.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Drag and drop the wireless architecture benefits from the left onto the architecture types on the right.



**QUESTION 359**

- (Topic 1)

A network analyst is tasked with configuring the date and time on a router using EXEC mode. The date must be set to January 1, 2020 and the time must be set to 12:00 am. Which command should be used?

- A. clock summer-time recurring
- B. clock timezone
- C. clock summer-time date
- D. clock set

**Correct Answer:** D**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 360**

- (DRAG DROP) - (Topic 1)

Drag and drop the REST API call method for HTTP from the left onto the action they perform on the right.

|        |                                    |
|--------|------------------------------------|
| DELETE | creates a resource on the server   |
| GET    | reads data from the server         |
| POST   | removes a resource from the server |
| PUT    | updates an entry in the database   |
| PATCH  |                                    |

A.

B.

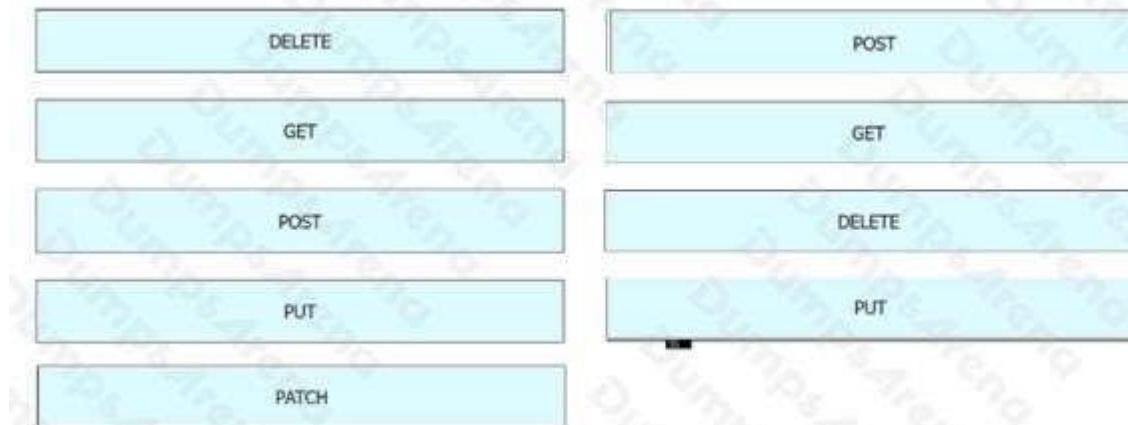
C.  
D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



**QUESTION 361**

- (Topic 1)

Which type of IPv4 address type helps to conserve the globally unique address classes?

- A. multicast
- B. private
- C. loopback
- D. public

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 362**

- (Topic 1)

Which functionality is provided by the console connection on a Cisco WLC?

- A. out-of-band management
- B. secure in-band connectivity for device administration
- C. unencrypted in-band connectivity for file transfers
- D. HTTP-based GUI connectivity

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 363**

- (Topic 1)

What determines the sequence in which materials are planned during the material requirements planning (MRP) run?

- A. The control parameters of the MRP run
- B. The creation date of the materials
- C. The low-level code of the materials
- D. The replenishment lead time of the materials

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 364**

- (Topic 1)

Which advantage does the network assurance capability of Cisco DNA Center provide over traditional campus management?

- A. Cisco DNA Center correlates information from different management protocols to obtain insights, and traditional campus management requires manual analysis.
- B. Cisco DNA Center handles management tasks at the controller to reduce the load on infrastructure devices, and traditional campus management uses the data backbone.
- C. Cisco DNA Center leverages YANG and NETCONF to assess the status of fabric and nonfabric devices, and traditional campus management uses CLI exclusively.
- D. Cisco DNA Center automatically compares security postures among network devices, and traditional campus management needs manual comparisons.

**Correct Answer:** C

**Section:** (none)

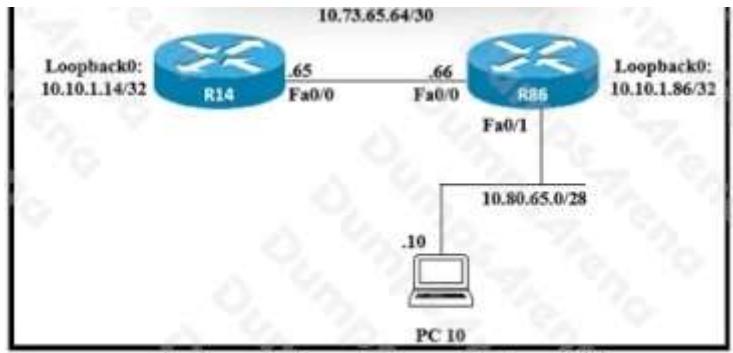
**Explanation**

**Explanation/Reference:**

**QUESTION 365**

- (Topic 1)

Refer to the exhibit.



Router R14 is in the process of being configured. Which configuration must be used to establish a host route to PC 10?

- A. ip route 10.80.65.10 255.255.255.254 10.80.65.1
- B. ip route 10.8065.10 255.255.255.255 10.73.65.66
- C. ip route 1073.65.65 255.0.0.0 10.80.65.10
- D. ip route 10.73.65.66 0.0.0.255 10.80.65.10

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 366

- (Topic 1)

What is the put method within HTTP?

- A. It is a read-only operation.
- B. It is a nondempotent operation.
- C. It replaces data at the destination.
- D. It displays a web site.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 367

- (Topic 1)

How do TCP and UDP fit into a query-response model?

- A. TCP establishes a connection prior to sending data, and UDP sends immediately.
- B. TCP uses error detection for packets, and UDP uses error recovery.
- C. TCP avoids using sequencing, and UDP avoids using acknowledgments.

- D. TCP encourages out-of-order packet delivery, and UDP prevents re-ordering.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 368**

- (Topic 1)

What does the implementation of a first-hop redundancy protocol protect against on a network?

- A. root-bridge loss
- B. spanning-tree loops
- C. default gateway failure
  
- D. BGP neighbor flapping

**Correct Answer:** C

**Section:** (none)

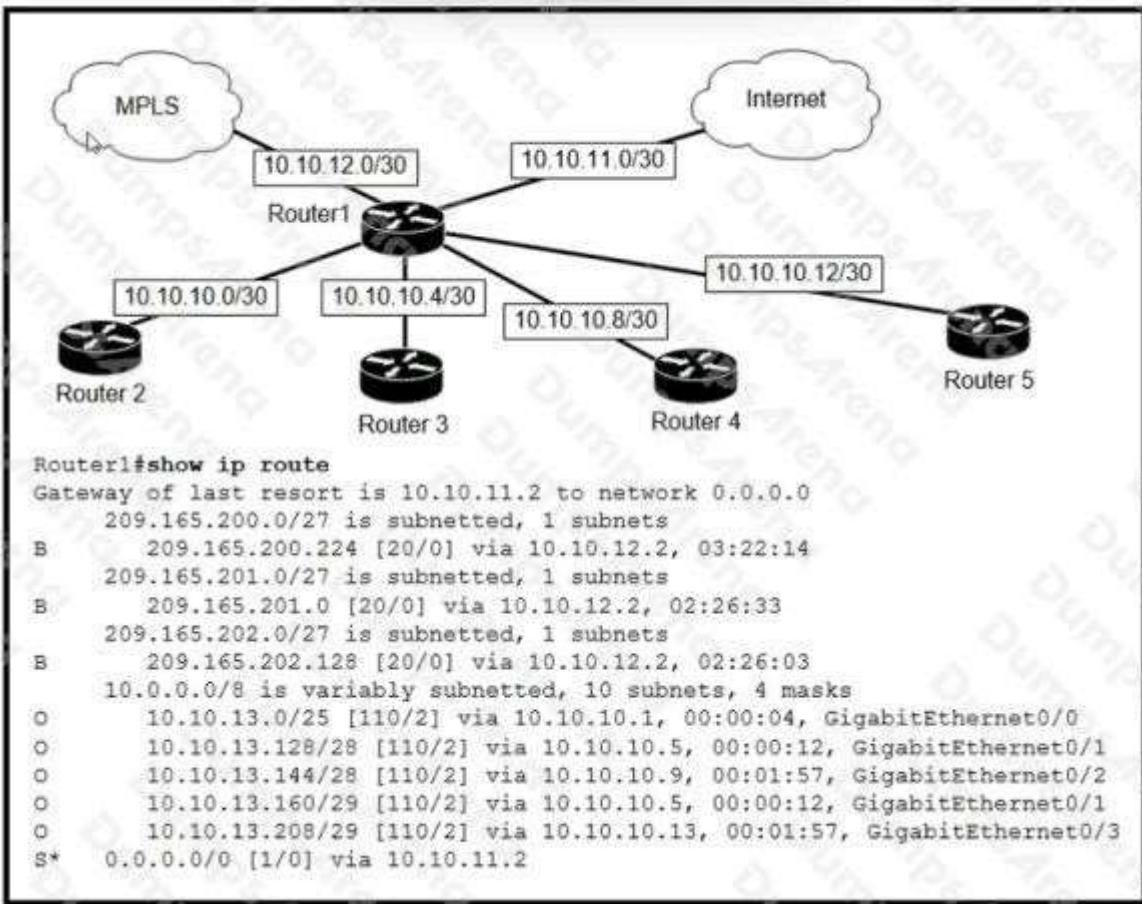
**Explanation**

**Explanation/Reference:**

**QUESTION 369**

- (DRAG DROP) - (Topic 1)

Refer to the exhibit.



Drag and drop the destination IPs from the left onto the paths to reach those destinations on the right.

|                |                |
|----------------|----------------|
| 1.1.1.1        | Router2        |
| 10.10.13.126   | Router3        |
| 10.10.13.129   | Router4        |
| 10.10.13.150   | Router5        |
| 10.10.13.209   | Internet cloud |
| 209.165.200.30 | MPLS cloud     |

A.

- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                |                |
|----------------|----------------|
| 1.1.1.1        | 10.10.13.126   |
| 10.10.13.126   | 10.10.13.129   |
| 10.10.13.129   | 10.10.13.150   |
| 10.10.13.150   | 10.10.13.209   |
| 10.10.13.209   | 209.165.200.30 |
| 209.165.200.30 | 1.1.1.1        |

### **QUESTION 370**

- (Topic 1)

Which benefit does Cisco DNA Center provide over traditional campus management?

- A. Cisco DNA Center leverages SNMPv3 for encrypted management, and traditional campus management uses SNMPv2.
- B. Cisco DNA Center automates HTTPS for secure web access, and traditional campus management uses HTTP.
- C. Cisco DNA Center leverages APIs, and traditional campus management requires manual data gathering.
- D. Cisco DNA Center automates SSH access for encrypted entry, and SSH is absent from traditional campus management.

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### **QUESTION 371**

- (Topic 1)

Refer to the exhibit.

```
Last clearing of "show interface" counters never
Input queue: 1/75/1/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: random early detection(RED)
Output queue :0/40 (size/max)
5 minute input rate 1000 bits/sec, 2 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
    7558065 packets input, 783768942 bytes, 1 no buffer
    Received 8280963 broadcasts, 0 runts, 0 giants, 1 throttles
    15 input errors, 14278 CRC, 0 frame, 0 overrun, 3 ignored
    0 input packets with dribble condition detected
    798092 packets output, 50280266 bytes, 0 underruns
    0 output errors, 15000 collisions, 0 interface resets
    0 babbles, 0 late collision, 179 deferred
    0 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out
```

An administrator received a call from a branch office regarding poor application performance hosted at the headquarters. Ethernet 1 is connected between Router1 and the LAN switch. What identifies the issue?

- A. The QoS policy is dropping traffic.
- B. There is a duplex mismatch.
- C. The link is over utilized.
- D. The MTU is not set to the default value.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 372

- (Topic 1)

Refer to the exhibit.

```
1 [
2   { "switch": "3750", "port": e2 },
3   { "router": "2951", "port": e20 },
4   { "switch": "3750", "port": e23 }
5 ]
```

What is represented by the word "switch" in line 2 of the JSON schema?

- A. array
- B. key
- C. value
- D. object

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 373**

- (Topic 1)

The clients and DHCP server reside on different subnets. Which command must be used to forward requests and replies between clients on the 10.10.0.1/24 subnet and the DHCP server at 192.168.10.1?

- A. ip route 192.168.10.1
- B. ip default-gateway 192.168.10.1
- C. ip helper-address 192.168.10.1
- D. ip dhcp address 192.168.10.1

**Correct Answer:** C

**Section:** (none)

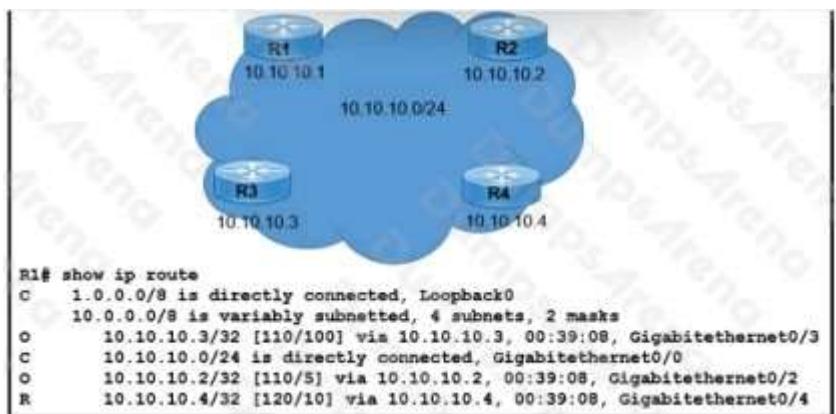
**Explanation**

**Explanation/Reference:**

**QUESTION 374**

- (Topic 1)

Refer to the exhibit.



Which next-hop IP address has the least desirable metric when sourced from R1?

- A. 10.10.10.5
- B. 10.10.10.3
- C. 10.10.10.4
- D. 10.10.10.2

**Correct Answer:** C

**Section:** (none)

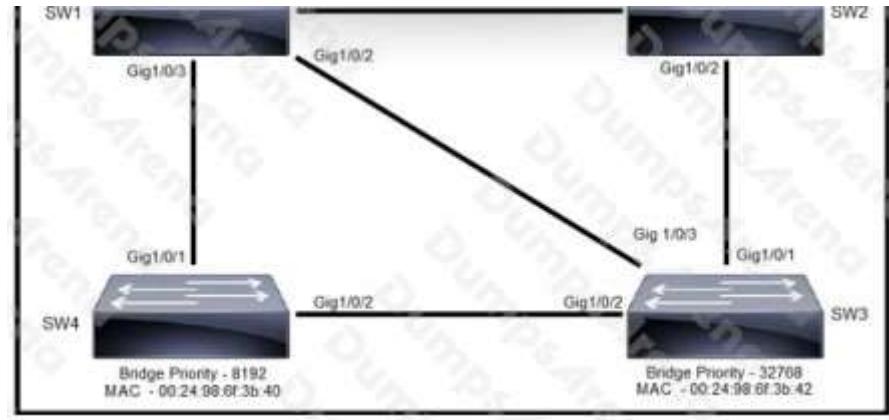
**Explanation**

**Explanation/Reference:**

**QUESTION 375**

- (Topic 1)

Refer to the exhibit.



Rapid PVST+ mode is on the same VLAN on each switch. Which switch becomes the root bridge and why?

- A. SW2, because its MAC address is the highest
- B. SW3, because its priority is the highest
- C. SW4, because its priority is highest and its MAC address is lower
- D. SW1, because its priority is the lowest and its MAC address is higher

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 376

- (DRAG DROP) - (Topic 1)

Drag and drop the statements about access-point modes from the left onto the corresponding modes on the right.

|         |                                                                                                                                                                                                           |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monitor | <ul style="list-style-type: none"> <li>It provides air-quality data and interference detection across all enabled channels.</li> <li>It enables enhanced RFID-tag location tracking.</li> </ul>           |
| Sensor  | <ul style="list-style-type: none"> <li>It supports analytics for wireless performance testing.</li> <li>It supports real-time Wi-Fi client troubleshooting when network engineers are offsite.</li> </ul> |
| Sniffer | <ul style="list-style-type: none"> <li>It supports software that analyzes wireless frames on a remote device.</li> <li>It captures and forwards packets on a specific wireless channel.</li> </ul>        |

- A.  
B.  
C.  
D.

**Correct Answer:**  
**Section: (none)**  
**Explanation**

**Explanation/Reference:**

|         |                                                                                                                                                                                                           |                                                                                                                                                                                                           |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monitor | <ul style="list-style-type: none"> <li>It supports analytics for wireless performance testing.</li> <li>It supports real-time Wi-Fi client troubleshooting when network engineers are offsite.</li> </ul> | <ul style="list-style-type: none"> <li>It provides air-quality data and interference detection across all enabled channels.</li> <li>It enables enhanced RFID-tag location tracking.</li> </ul>           |
| Sensor  | <ul style="list-style-type: none"> <li>It provides air-quality data and interference detection across all enabled channels.</li> <li>It enables enhanced RFID-tag location tracking.</li> </ul>           | <ul style="list-style-type: none"> <li>It supports analytics for wireless performance testing.</li> <li>It supports real-time Wi-Fi client troubleshooting when network engineers are offsite.</li> </ul> |
| Sniffer | <ul style="list-style-type: none"> <li>It supports software that analyzes wireless frames on a remote device.</li> <li>It captures and forwards packets on a specific wireless channel.</li> </ul>        | <ul style="list-style-type: none"> <li>It supports software that analyzes wireless frames on a remote device.</li> <li>It captures and forwards packets on a specific wireless channel.</li> </ul>        |

**QUESTION 377**

- (Topic 1)

PC1 tries to send traffic to newly installed PC2. The PC2 MAC address is not listed in the MAC address table of the switch, so the switch sends the packet to all ports in the same VLAN. Which switching concept does this describe?

- A. MAC address aging
- B. MAC address table
- C. frame flooding
- D. spanning-tree protocol

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 378**

- (Topic 1)

A network engineer is upgrading a small data center to host several new applications, including server backups that are expected to account for up to 90% of the bandwidth during peak times. The data center connects to the MPLS network provider via a primary circuit and a secondary circuit. How does the engineer inexpensively update the data center to avoid saturation of the primary circuit by traffic associated with the backups?

- A. Assign traffic from the backup servers to a dedicated switch.
- B. Configure a dedicated circuit for the backup traffic.
- C. Place the backup servers in a dedicated VLAN.
- D. Advertise a more specific route for the backup traffic via the secondary circuit.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 379**

- (DRAG DROP) - (Topic 1)

Drag and drop the characteristics of northbound APIs from the left onto any position on the right. Not all characteristics are used.

|                                                                   |
|-------------------------------------------------------------------|
| supports automation                                               |
| Communicates between the SDN controller and the application plane |
| supports data sharing between systems                             |
| communicates between the SDN controller and the data plane        |
| supports network virtualization protocols                         |
| supports REST-based requirements                                  |
| uses OpenFlow to interface between the data and control planes    |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

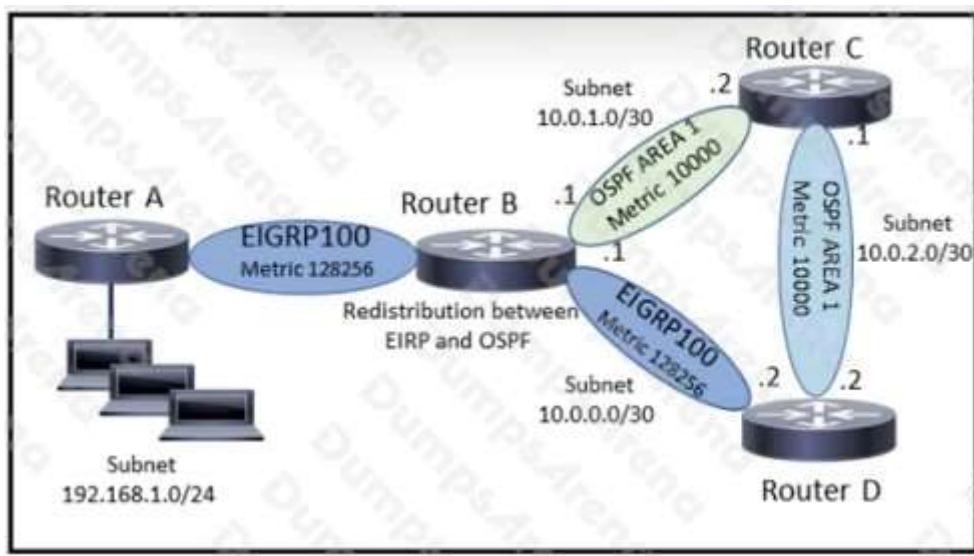
|                                                                   |
|-------------------------------------------------------------------|
| supports automation                                               |
| Communicates between the SDN controller and the application plane |
| supports data sharing between systems                             |
| communicates between the SDN controller and the data plane        |
| supports network virtualization protocols                         |
| supports REST-based requirements                                  |
| uses OpenFlow to interface between the data and control planes    |

|                                                            |
|------------------------------------------------------------|
| supports data sharing between systems                      |
| communicates between the SDN controller and the data plane |
| supports network virtualization protocols                  |
| supports REST-based requirements                           |

## QUESTION 380

- (Topic 1)

Refer to the exhibit.



A network engineer executes the show ip route command on router D. What is the next hop to network 192.168.1.0/24 and why?

- A. The next hop is 10.0.2.1 because it uses distance vector routing
  - B. The next hop is 10.0.2.1 because it is a link-state routing protocol
  - C. The next hop is 10.0.0.1 because it has a better administrative distance
  - D. The next hop is 10.0.0.1 because it has a higher metric.

**Correct Answer:** B

**Section: (none)**

## **Explanation**

#### **Explanation/Reference:**

## QUESTION 381

- (Topic 1)

Refer to the exhibit.



A Cisco engineer creates a new WLAN called lantest. Which two actions must be performed so that only high-speed 2.4-Ghz clients connect? (Choose two.)

- A. Enable the Broadcast SSID option
- B. Enable the Status option.
- C. Set the Radio Policy option to 802.11g Only.
- D. Set the Radio Policy option to 802.11a Only.
- E. Set the Interface/Interface Group(G) to an interface other than guest

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 382**

- (Topic 1)

What is the role of nonoverlapping channels in a wireless environment?

- A. to reduce interference
- B. to allow for channel bonding
- C. to stabilize the RF environment
- D. to increase bandwidth

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 383**

- (Topic 1)

A router has two static routes to the same destination network under the same OSPF process. How does the

router forward packets to the destination if the next-hop devices are different?

- A. The router chooses the route with the oldest age.
- B. The router load-balances traffic over all routes to the destination.
  
- C. The router chooses the next hop with the lowest MAC address.
- D. The router chooses the next hop with the lowest IP address.

**Correct Answer:** B

**Section:** (none)

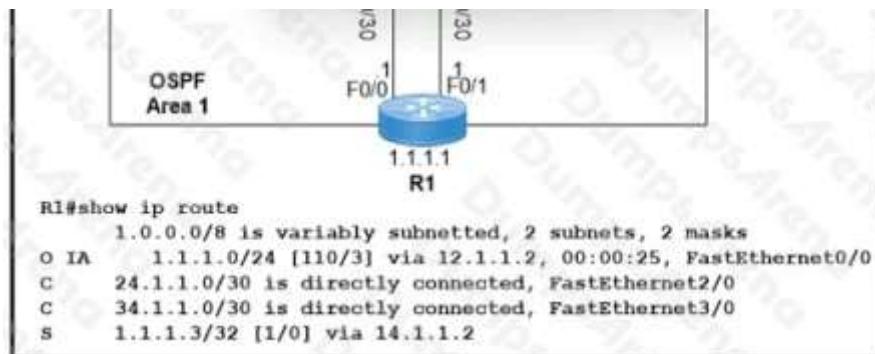
**Explanation**

**Explanation/Reference:**

#### **QUESTION 384**

- (Topic 1)

Refer to the exhibit.



Which two values does router R1 use to determine the best path to reach destinations in network 1.0.0.0/8?  
(Choose two.)

- A. longest prefix match
- B. highest administrative distance
- C. highest metric
- D. lowest metric
- E. lowest cost to reach the next hop

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 385**

- (Topic 1)

Refer to the exhibit.



Host A switch interface is configured in VLAN 2. Host D sends a unicast packet destined for the IP address of host A.

```
Sw1#show mac-address table
Mac Address Table
-----
Vlan  Mac Address      Type    Ports
----  -----
2    000c.859c.bb7b  DYNAMIC  e0/1
3    000c.859c.bb7b  DYNAMIC  e0/1
2    0010.11dc.3e91  DYNAMIC  e0/2
3    0010.11dc.3e91  DYNAMIC  e0/2
2    0043.49d4.c383  DYNAMIC  e0/3
Sw1#
```

What does the switch do when it receives the frame from host D?

- A. It creates a broadcast storm.
- B. It drops the frame from the MAC table of the switch.
- C. It shuts down the source port and places it in err-disable mode.
- D. It floods the frame out of every port except the source port.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 386**

- (Topic 1)

Which property is shared by 10GBase-SR and 10GBase-LR interfaces?

- A. Both require fiber cable media for transmission.
- B. Both require UTP cable media for transmission.
- C. Both use the single-mode fiber type.
- D. Both use the multimode fiber type.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 387**

- (Topic 1)

Refer to the exhibit.

```

R1
interface GigabitEthernet0/1
 ip address 192.168.12.1 255.255.255.128
 no shutdown
router ospf 1
 network 192.168.12.1 0.0.0.0 area 1

R2
interface GigabitEthernet0/1
 ip address 192.168.12.2 255.255.255.128
 no shutdown

```

A network engineer started to configure two directly-connected routers as shown. Which command sequence must the engineer configure on R2 so that the two routers become OSPF neighbors?

- A. router ospf 1  
network 192.168.12.1 0.0.0.0 area 1
  - B. interface GigabitEthernet0/1  
ip ospf 1 area 1
  - C. interface GigabitEthernet0/1  
ip ospf 1 area 0
  - D. router ospf 1  
network 192.168.12.0 0.0.0.127 area 0
- A. Option A
  - B. Option B
  - C. Option C
  - D. Option D

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 388

- (Topic 1)

Refer to the exhibit.

```

MacOS$ ifconfig
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=400<CHANNEL_20>
    ether f0:18:98:64:60:32
    inet6 fe80::492:c09f:57cf:8c36%en0 prefixlen 64 secured scopeid 0x6
    inet 10.8.138.14 netmask 0xfffffe000 broadcast 10.8.139.255
    nd6 options=201<PERFORMNUD,DAD>
    media: autoselect
    status: active

```

A network engineer must provide configured IP addressing details to investigate a firewall rule issue. Which

subnet and mask Identify what is configured on the en0 interface?

- A. 10.8.0.0/16
- B. 10.8.64.0/18
- C. 10.8.128.0/19
- D. 10.8.138.0/24

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 389

- (Topic 1)

Refer to the exhibit.

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate
default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C   10.0.0.0/8 is directly connected, Loopback0
      10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
O     10.0.1.3/32 [110/100] via 10.0.1.100, 00:39:08, Serial0
C     10.0.1.0/24 is directly connected, Serial0
O     10.0.1.5/32 [110/5] via 10.0.1.50, 00:39:08, Gigabit Ethernet 0/0
D     10.0.1.4/32 [110/10] via 10.0.1.4, 00:39:08, Gigabit Ethernet 0/0
```

What does route 10.0.1.3/32 represent in the routing table?

- A. the 10.0.0.0 network
- B. a single destination address
- C. the source 10.0.1.100
- D. all hosts in the 10.0.1.0 subnet

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 390

- (Topic 1)

Refer to the exhibit.

```
access-list 10 permit 10.0.0.0 0.0.0.255  
interface Serial0  
ip access-list 10 in
```

of the configuration as the administrator applies the command?

- A. The permit command fails and returns an error code.
- B. The router accepts all incoming traffic to Serial0 with the last octet of the source IP set to 0.
- C. The sourced traffic from IP range 10.0.0.0 - 10.0.0.255 is allowed on Serial0.
- D. The router fails to apply the access list to the interface.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 391**

- (Topic 1)

What is the role of community strings in SNMP operations?

- A. It serves as a sequence tag on SNMP traffic messages.
- B. It serves as a password to protect access to MIB objects.
- C. It passes the Active Directory username and password that are required for device access.
- D. It translates alphanumeric MIB output values to numeric values.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 392**

- (Topic 1)

Which access point mode relies on a centralized controller for management, roaming, and SSID configuration?

- A. repeater mode
- B. autonomous mode
- C. bridge mode
- D. lightweight mode

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 393**

- (Topic 1)

What are two characteristics of a small office / home office connection environment? (Choose two.)

- A. It requires 10Gb ports on all uplinks.
- B. It supports between 50 and 100 users.
- C. It supports between 1 and 50 users.
  
- D. It requires a core, distribution, and access layer architecture.
- E. A router port connects to a broadband connection.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 394**

- (Topic 1)

Which syslog severity level is considered the most severe and results in the system being considered unusable?

- A. Alert
- B. Error
- C. Emergency
- D. Critical

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 395**

- (Topic 1)

What is the definition of backdoor malware?

- A. malicious code that is installed onto a computer to allow access by an unauthorized user
- B. malicious code with the main purpose of downloading other malicious code
- C. malicious program that is used to launch other malicious programs
- D. malicious code that infects a user machine and then uses that machine to send spam

**Correct Answer: A**

**Section: (none)**

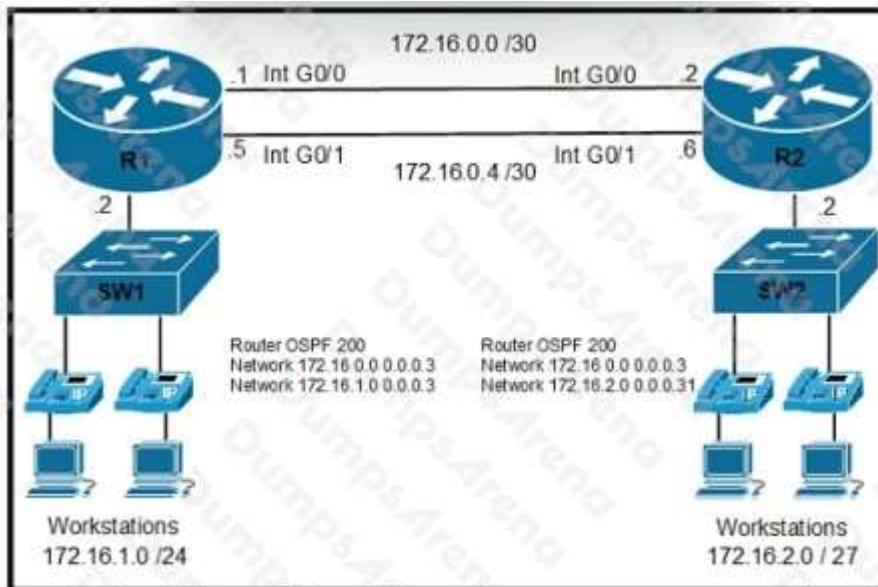
**Explanation**

**Explanation/Reference:**

**QUESTION 396**

- (Topic 1)

Refer to the exhibit.



The primary route across Gi0/0 is configured on both routers. A secondary route must be configured to establish connectivity between the workstation networks. Which command set must be configured to complete this task?

- A. 

```
R1
ip route 172.16.2.0 255.255.255.240 172.16.0.2 113

R2
ip route 172.16.1.0 255.255.255.0 172.16.0.1 114
```
- B. 

```
R1
ip route 172.16.2.0 255.255.255.240 172.16.0.5 89

R2
ip route 172.16.1.0 255.255.255.0 172.16.0.6 89
```
- C. 

```
R1
ip route 172.16.2.0 255.255.255.248 172.16.0.5 110

R2
ip route 172.16.1.0 255.255.255.0 172.16.0.6 110
```

- D.
- R1  
ip route 172.16.2.0 255.255.255.224 172.16.0.6 111
- R2  
ip route 172.16.1.0 255.255.255.0 172.16.0.5 112

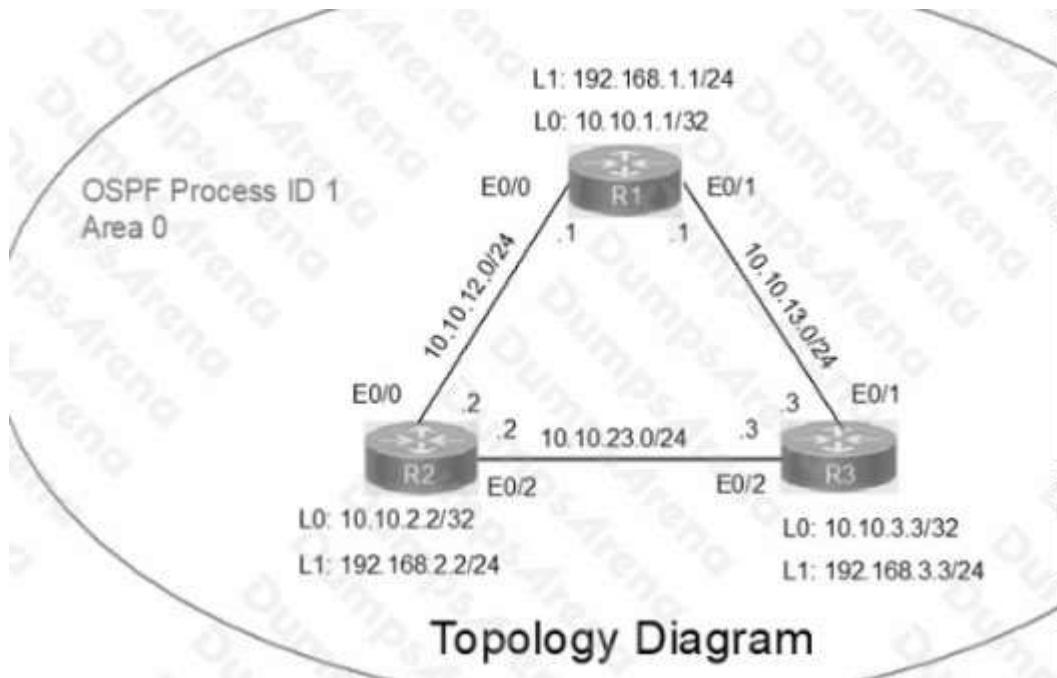
**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 397**  
- (SIMULATION) - (Topic 1)



## Guidelines

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IP connectivity between the three routers is configured. OSPF adjacencies must be established.

1. Configure R1 and R2 Router IDs using the interface IP addresses from the link that is shared between them.
2. Configure the R2 links with a max value facing R1 and R3. R2 must become the DR. R1 and R3 links facing R2 must remain with the default OSPF configuration for DR election. Verify the configuration after clearing the OSPF process.
3. Using a host wildcard mask, configure all three routers to advertise their respective Loopback1 networks.
4. Configure the link between R1 and R3 to disable their ability to add other OSPF routers.

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See the below.

Explanation:

Answer as below configuration:

on R1

conf terminal

interface Loopback0

```
ip address 10.10.1.1 255.255.255.255
```

```
!
```

```
interface Loopback1
```

```
ip address 192.168.1.1 255.255.255.0
```

```
!
```

```
interface Ethernet0/0
```

```
no shut
```

```
ip address 10.10.12.1 255.255.255.0
```

```
ip ospf 1 area 0
```

```
duplex auto
```

```
!
```

```
interface Ethernet0/1
```

```
no shut
```

```
ip address 10.10.13.1 255.255.255.0
```

```
ip ospf 1 area 0
```

```
duplex auto
```

```
!
```

```
router ospf 1
```

```
router-id 10.10.12.1
```

```
network 10.10.1.1 0.0.0.0 area 0
```

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# DUMPSQ ARENA

```
network 192.168.1.0 0.0.0.255 area 0
```

```
!
```

```
copy run star
```

---

On R2

```
conf terminal
```

```
interface Loopback0
```

```
    ip address 10.10.2.2 255.255.255.255
```

```
!
```

```
interface Loopback1
```

```
    ip address 192.168.2.2 255.255.255.0
```

```
!
```

```
interface Ethernet0/0
```

```
    no shut
```

```
    ip address 10.10.12.2 255.255.255.0
```

```
    ip ospf priority 255
```

```
    ip ospf 1 area 0
```

```
    duplex auto
```

```
!
```

```
interface Ethernet0/2
```

```
    no shut
```

```
    ip address 10.10.23.2 255.255.255.0
```

```
    ip ospf priority 255
```

```
    ip ospf 1 area 0
```

```
    duplex auto
```

```
!
```

```
router ospf 1
```

```
    network 10.10.2.0 0.0.0.0 area 0
```

```
    network 192.168.2.0 0.0.0.255 area 0
```

```
!
```

# DUMPS ARENA

```
copy runs start
```

---

```
On R3
```

```
conf ter
```

```
interface Loopback0
```

```
ip address 10.10.3.3 255.255.255.255
```

```
!
```

```
interface Loopback1
```

```
ip address 192.168.3.3 255.255.255.0
```

```
!
```

```
interface Ethernet0/1
```

```
no shut
```

```
ip address 10.10.13.3 255.255.255.0
```

```
ip ospf 1 area 0
```

```
duplex auto
```

```
!
```

```
interface Ethernet0/2
```

```
no shut
```

```
ip address 10.10.23.3 255.255.255.0
```

```
ip ospf 1 area 0
```

```
duplex auto
```

```
!
```

```
router ospf 1
```

```
network 10.10.3.3 0.0.0.0 area 0
```

```
network 192.168.3.0 0.0.0.255 area 0
```

!

```
copy run start
```

!

### QUESTION 398

- (SIMULATION) - (Topic 1)

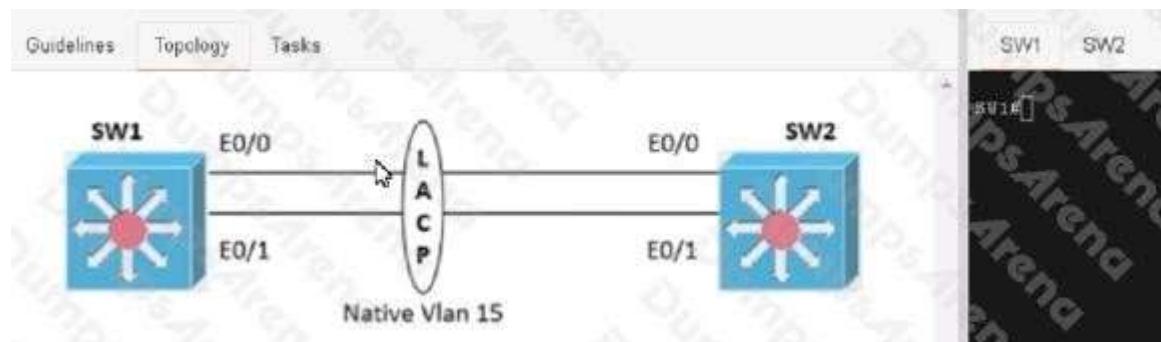
Physical connectivity is implemented between the two Layer 2 switches, and the network connectivity between them must be configured

1. Configure an LACP EtherChannel and number it as 1; configure it between switches SW1 and SW2 using interfaces Ethernet0/0 and Ethernet0/1 on both sides. The LACP mode must match on both ends
2. Configure the EtherChannel as a trunk link.
3. Configure the trunk link with 802.1q tags.
4. Configure the native VLAN of the EtherChannel as VLAN 15.

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See the below.

Explanation:

Answer as below configuration:

On SW1:

conf terminal

vlan 15

exit

interface range eth0/0 - 1

channel-group 1 mode active

exit

interface port-channel 1

switchport trunk encapsulation dot1q

switchport mode trunk

switchport trunk native vlan 15

end

copy run start

on SW2:

conf terminal

vlan 15

exit

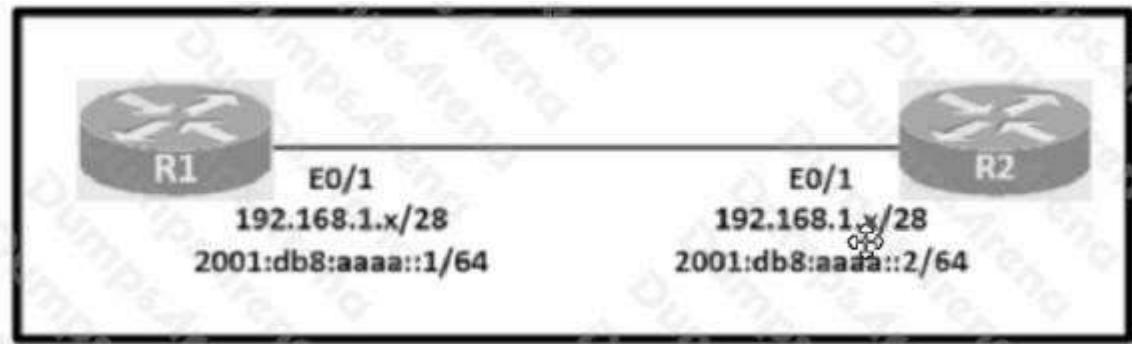
```
interface range eth0/0 - 1
channel-group 1 mode active
exit
interface port-channel 1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk native vlan 15
end
copy run start
```

**QUESTION 399**

- (SIMULATION) - (Topic 1)

Configure IPv4 and IPv6 connectivity between two routers. For IPv4, use a /28 network from the 192.168.1.0/24 private range. For IPv6, use the first /64 subnet from the 2001:0db8:aaaa::/48 subnet.

1. Using Ethernet0/1 on routers R1 and R2, configure the next usable/28 from the 192.168.1.0/24 range. The network 192.168.1.0/28 is unavailable.
  2. For the IPv4 /28 subnet, router R1 must be configured with the first usable host address.
  3. For the IPv4 /28 subnet, router R2 must be configured with the last usable host address.
  4. For the IPv6 /64 subnet, configure the routers with the IP addressing provided from the topology.
5. A ping must work between the routers on the IPv4 and IPv6 address ranges.



Guidelines    Topology    Tasks

## Guidelines

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- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
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- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See the below.

Explanation:

Answer as below configuration:

on R1

config terminal

ipv6 unicast-routing

inter eth0/1

ip addre 192.168.1.1 255.255.255.240

ipv6 addre 2001:db8:aaaa::1/64

not shut

end

copy running start

on R2

config terminal

# DUMPS ARENA

```
ipv6 unicast-routing
inter eth0/1
ip address 192.168.1.14 255.255.255.240
ipv6 address 2001:db8:aaaa::2/64
not shut
end
copy running start
```

-----  
for test from R1

ping ipv6 2001:db8:aaaa::1

for test from R2

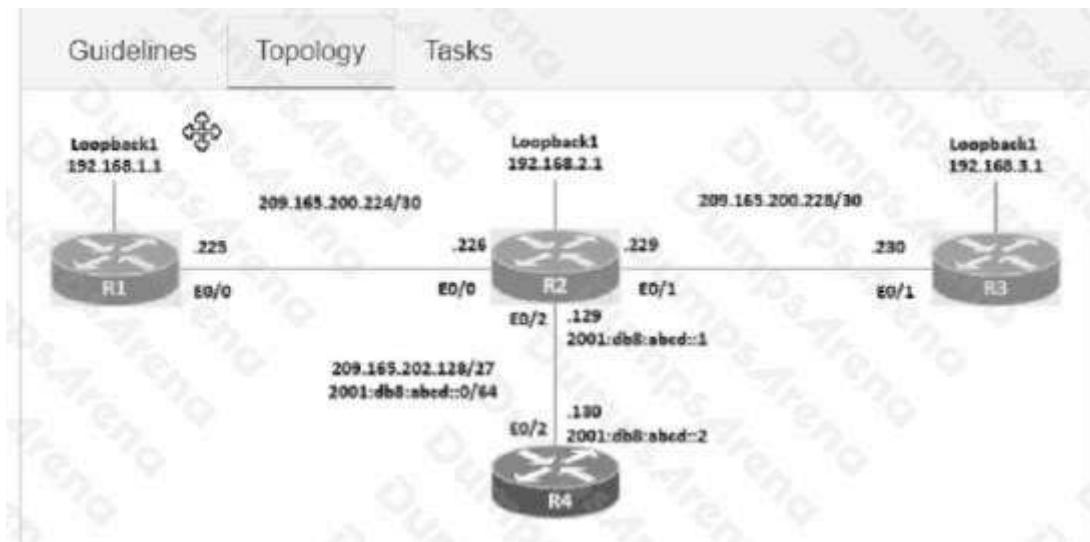
ping ipv6 2001:db8:aaaa::2

## QUESTION 400

- (SIMULATION) - (Topic 1)

Connectivity between four routers has been established. IP connectivity must be configured in the order presented to complete the implementation. No dynamic routing protocols are included.

1. Configure static routing using host routes to establish connectivity from router R3 to the router R1 Loopback address using the source IP of 209.165.200.230.
2. Configure an IPv4 default route on router R2 destined for router R4.
3. Configure an IPv6 default router on router R2 destined for router R4.



## Guidelines

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- Do not change the enable password or hostname for any device.
- **Save your configurations to NVRAM** before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

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

### Correct Answer:

**Section: (none)**

**Explanation**

### Explanation/Reference:

ANSWER: See the below.

Explanation:

Answer as below configuration:

1.- on R3

config terminal

ip route 192.168.1.1 255.255.255.255 209.165.200.229

end

copy running start

2.- on R2

config terminal

ip route 0.0.0.0 0.0.0.0 209.165.202.130

end

copy running start

3.- on R2

config terminal

ipv6 route ::/0 2001:db8:abcd::2

end

copy running start

## QUESTION 401

- (SIMULATION) - (Topic 1)

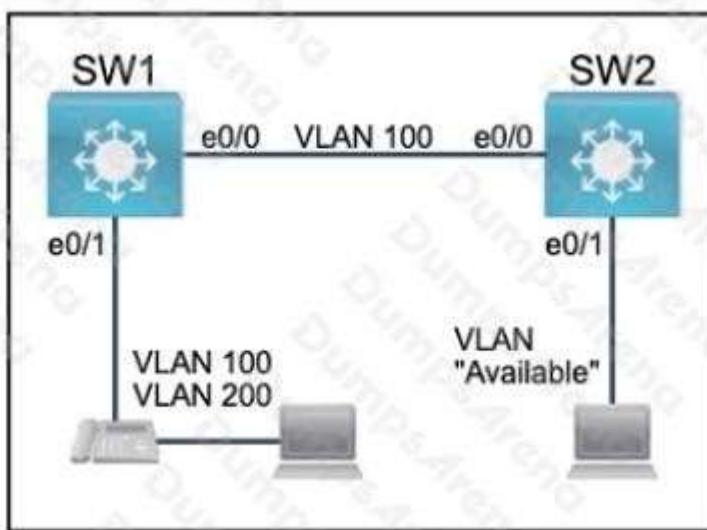
### Guidelines

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All physical cabling between the two switches is installed. Configure the network connectivity between the switches using the designated VLANs and interfaces.

1. Configure VLAN 100 named Compute and VLAN 200 named Telephony where required for each task.
2. Configure Ethernet0/1 on SW2 to use the existing VLAN named Available.
3. Configure the connection between the switches using access ports.
4. Configure Ethernet0/1 on SW1 using data and voice VLANs.
5. Configure Ethernet0/1 on SW2 so that the Cisco proprietary neighbor discovery protocol is turned off for the designated interface only.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See the below.

Explanation:

Answer as below configuration:

```
on sw1
enable
conf t
vlan 100
name Compute
vlan 200
name Telephony
int e0/1
switchport voice vlan 200
switchport access vlan 100
int e0/0
switchport mode access
do wr
on sw2
Vlan 99
Name Available
```

```
Int e0/1
Switchport access vlan 99
do wr
```

#### **QUESTION 402** - (SIMULATION) - (Topic 1)

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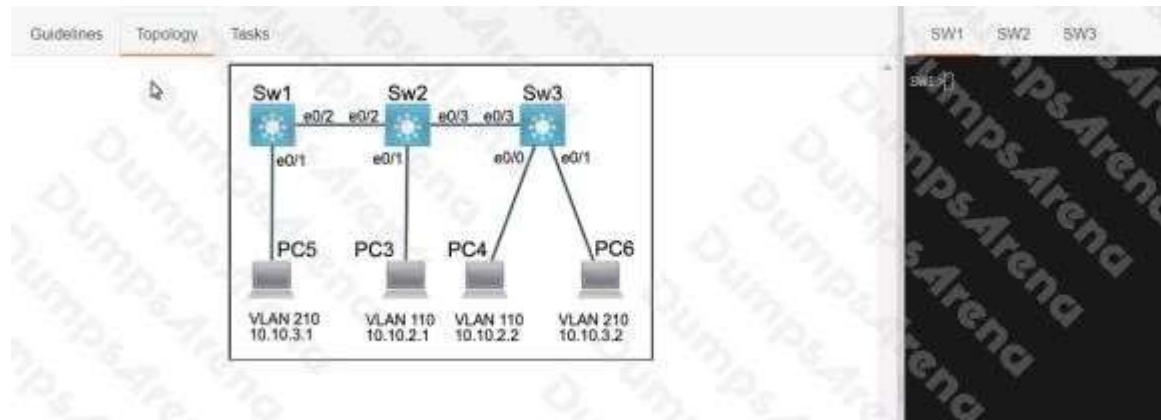
Three switches must be configured for Layer 2 connectivity. The company requires only the designated VLANs to be configured on their respective switches and permitted across any links between switches for security purposes. Do not modify or delete VTP configurations.

The network needs two user-defined VLANs configured:

VLAN 110: MARKETING

VLAN 210: FINANCE

1. Configure the VLANs on the designated switches and assign them as access ports to the interfaces connected to the PCs.
2. Configure the e0/2 interfaces on Sw1 and Sw2 as 802.1q trunks with only the required VLANs permitted.
3. Configure the e0/3 interfaces on Sw2 and Sw3 as 802.1q trunks with only the required VLANs permitted.



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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

ANSWER: See the below.

Explanation:

Answer as below configuration:

Sw1

enable

config t

Vlan 210

Name FINANCE

Int e0/1

Switchport access vlan 210

do wr

Sw2

Enable

config t

Vlan 110

Name MARKETING

Int e0/1

Switchport aceses vlan 110

do wr

Sw3

Enable

config t

Vlan 110

Name MARKETING

Vlan 210

Name FINANCE

Int e0/0

Switchport access vlan 110

Int e0/1

Switchport access vlan 210

Sw1

Int e0/1

Switchport allowed vlan 210

Sw2

Int e0/2

Switchport trunk allowed vlan 210

Sw3

Int e0/3

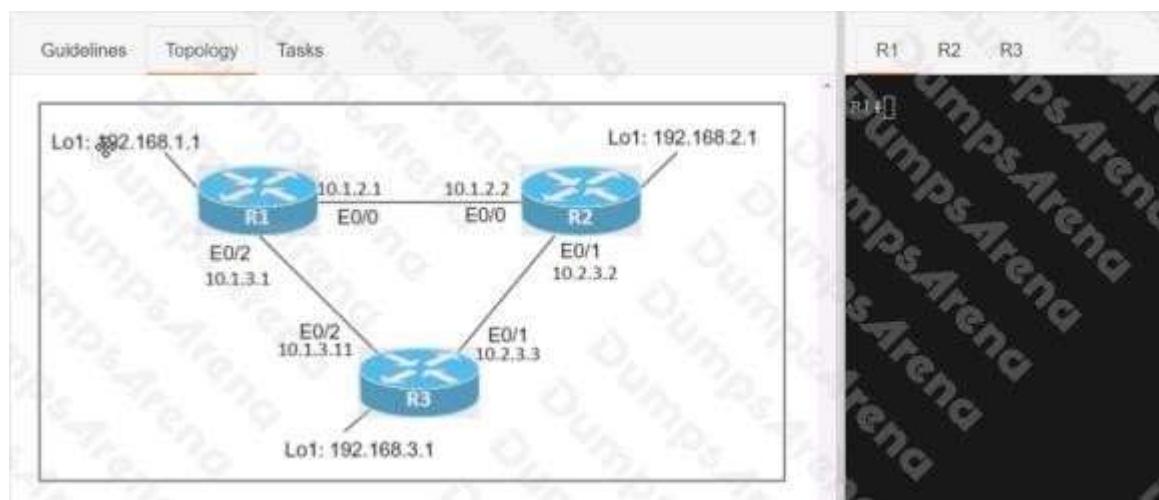


Switchport trunk allowed vlan 210

Switchport trunk allowed vlan 210,110

### QUESTION 403

- (SIMULATION) - (Topic 1)



Guidelines   Topology   Tasks

## Guidelines

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Connectivity between three routers has been established, and IP services must be configured in the order presented to complete the implementation. Tasks assigned include configuration of NAT, NTP, DHCP, and SSH services.

1. All traffic sent from R3 to the R1 Loopback address must be configured for NAT on R2. All source addresses must be translated from R3 to the IP address of Ethernet0/0 on R2, while using only a standard access list named NAT. To verify, a ping must be successful to the R1 Loopback address sourced from R3. Do not use NVI NAT configuration.

2. Configure R1 as an NTP server and R2 as a client, not as a peer, using the IP address of the R1 Ethernet0/2 interface.

Set the clock on the NTP server for midnight on January 1, 2019.

3. Configure R1 as a DHCP server for the network 10.1.3.0/24 in a pool named TEST. Using a single command, exclude addresses 1-10 from the range. Interface Ethernet0/2 on R3 must be issued the IP address of 10.1.3.11 via DHCP.

4. Configure SSH connectivity from R1 to R3, while excluding access via other remote connection protocols. Access for user root and password Cisco must be set on router R3 using RSA and 1024 bits. Verify connectivity using an SSH session from router R1 using a destination address of 10.1.3.11. Do NOT modify console access or line numbers to accomplish this task.

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See the below.

Explanation:

Answer as below configuration:

```
conf t  
R1(config)#ntp master 1  
R2(config)#ntp server 10.1.2.1  
Exit  
Router#clock set 00:00:00 jan 1 2019  
ip dhcp pool TEST  
network 10.1.3.0 255.255.255.0  
ip dhcp excluded-address 10.1.3.1 10.1.3.10  
R3(config)#int e0/3  
R3(config)#int e0/2  
ip address dhcp  
no shut  
crypto key generate RSA  
Copy run start
```

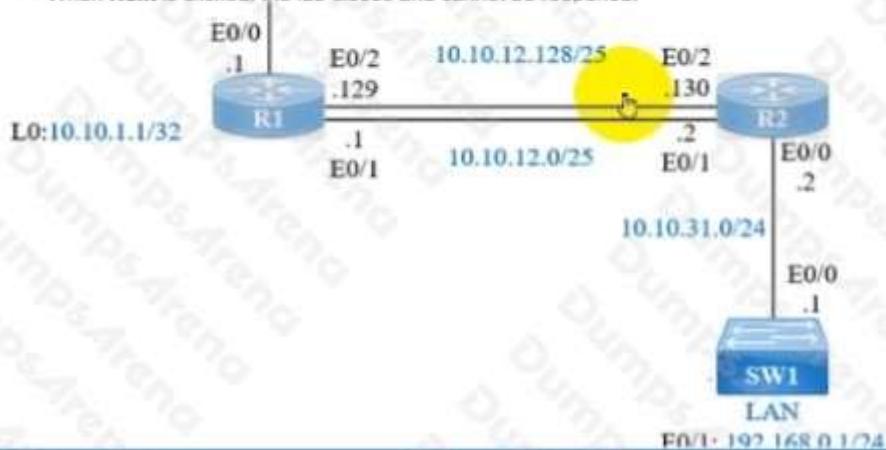
**QUESTION 404**

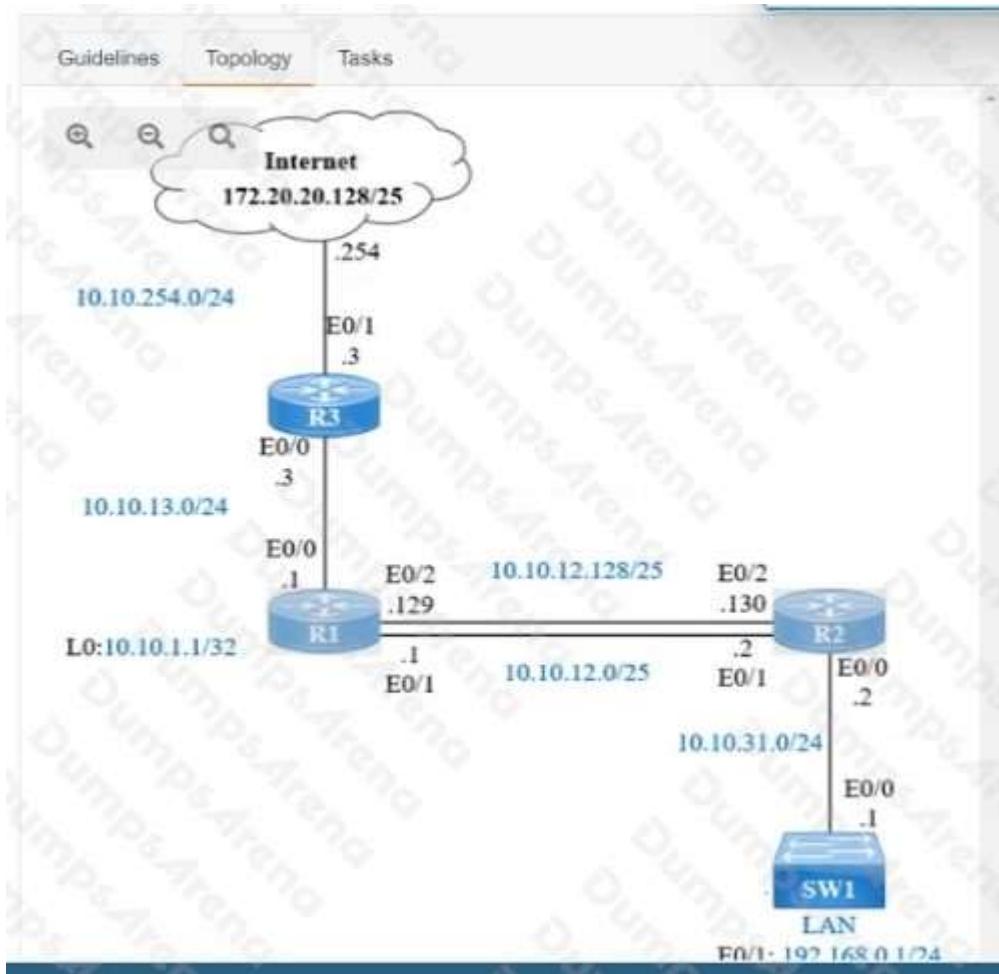
- (SIMULATION) - (Topic 1)

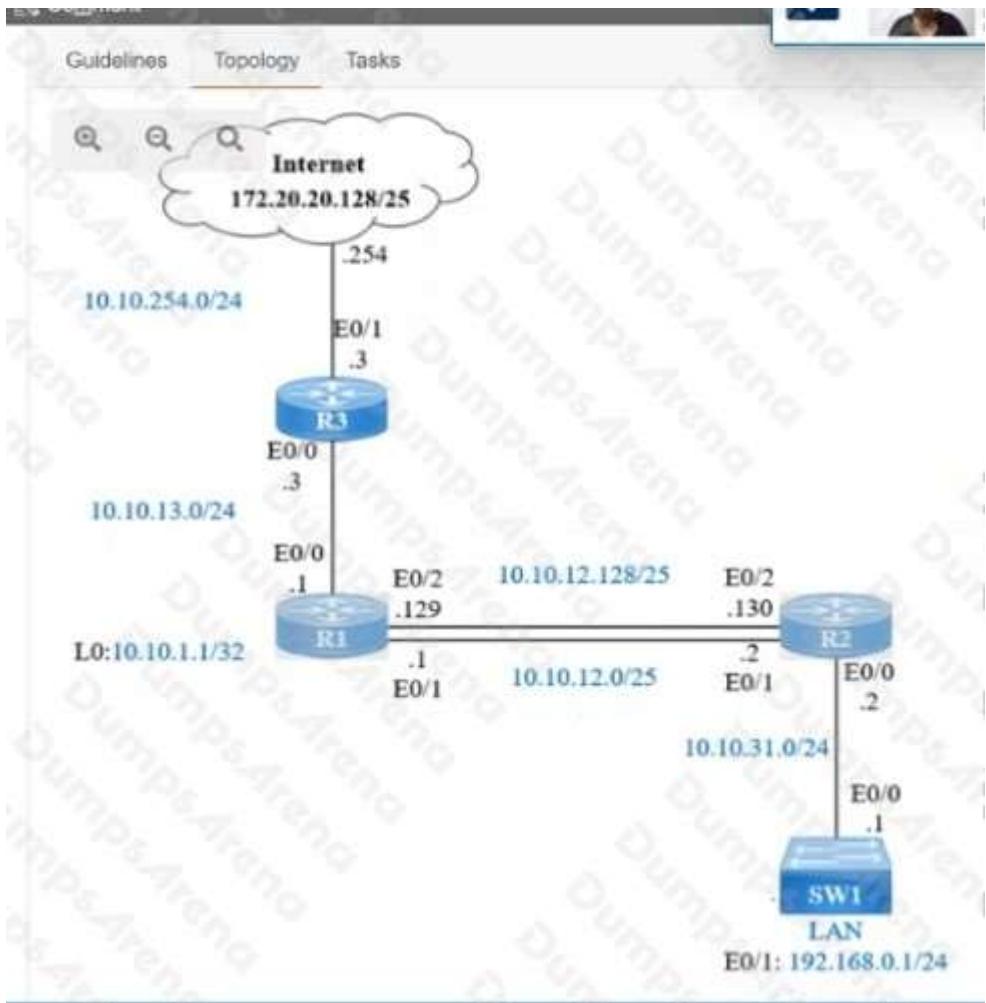
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IP connectivity and OSPF are preconfigured on all devices where necessary. Do not make any changes to the IP addressing or OSPF. The company policy uses connected interfaces and next hops when configuring static routes except for load balancing or redundancy without floating static. Connectivity must be established between subnet 172.20.20.128/25 on the Internet and the LAN at 192.168.0.0/24 connected to SW1:

1. Configure reachability to the switch SW1 LAN subnet in router R2.
2. Configure default reachability to the Internet subnet in router R1.
3. Configure a single static route in router R2 to reach to the Internet subnet considering both redundant links between routers R1 and R2. A default route is NOT allowed in router R2.
4. Configure a static route in router R1 toward the switch SW1 LAN subnet where the primary link must be through Ethernet0/1, and the backup link must be through Ethernet0/2 using a floating route. Use the minimal administrative distance value when required.
  - A.
  - B.
  - C.
  - D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See the below.

Explanation:

Answer as below configuration:

On R2:

Enable

Conf t

Ip route 192.168.1.0 255.255.255.0 10.10.31.1

On R1:

Enable

Conf t

Ip route 0.0.0.0 0.0.0.0 10.10.13.3

On R2

Ip route 172.20.20.128 255.255.255.128 e0/2

Ip route 172.20.20.128 255.255.255.128 e0/1

On R1

Ip route 192.168.0.0 255.255.255.0 e0/1

Ip route 192.168.0.0 255.255.255.0 10.10.12.2 3

Save all configurations after every router from anyone of these command

Do wr

Or

Copy run start

Topic 2, Mix Questions

**QUESTION 405**

- (Topic 2)

When a WPA2-PSK WLAN is configured in the wireless LAN Controller, what is the minimum number of

characters that in ASCII format?

- A. 6
- B. 8
- C. 12
- D. 18

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 406**

- (Topic 2)

A network administrator must to configure SSH for remote access to router R1. The requirement is to use a public and private key pair to encrypt management traffic to and from the connecting client.

Which configuration, when applied, meets the requirements?

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 2048
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate rsa modulus 1024
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 1024
```

```
R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key encrypt rsa name myKey
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 407**

- (Topic 2)

What is a function of TFTP in network operations?

- A. transfers a backup configuration file from a server to a switch using a username and password
- B. transfers files between file systems on a router
- C. transfers a configuration files from a server to a router on a congested link
- D. transfers IOS images from a server to a router for firmware upgrades

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

TFTP is mostly used (Firmware upgrade) whereby the admin have the IOS image on one device and uses TFTP to load the image to all other devices quickly.

**QUESTION 408**

- (Topic 2)

Why does a switch flood a frame to all ports?

- A. The frame has zero destination MAC addresses.
- B. The source MAC address of the frame is unknown
- C. The source and destination MAC addresses of the frame are the same
- D. The destination MAC address of the frame is unknown.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 409**

- (Topic 2)

What are two benefits of network automation? (Choose two)

- A. reduced operational costs
- B. reduced hardware footprint
- C. faster changes with more reliable results
- D. fewer network failures
- E. increased network security

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 410**

- (Topic 2)

What are two recommendations for protecting network ports from being exploited when located in an office space outside of an IT closer? (Choose two.)

- A. enable the PortFast feature on ports
- B. implement port-based authentication
- C. configure static ARP entries
- D. configure ports to a fixed speed
- E. shut down unused ports

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 411**

- (Topic 2)

Which protocol does an access point use to draw power from a connected switch?

- A. Internet Group Management Protocol
- B. Adaptive Wireless Path Protocol
- C. Cisco Discovery Protocol
- D. Neighbor Discovery Protocol

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 412**

- (Topic 2)

Refer to the exhibit.

Which route does R1 select for traffic that is destined to 192.168.16.2?

- A. 192.168.16.0/21
- B. 192.168.16.0/24
- C. 192.168.26.0/26
- D. 192.168.16.0/27

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The destination IP addresses match all four entries in the routing table but the 192.168.16.0/27 has the longest prefix so it will be chosen. This is called the "longest prefix match" rule.

**QUESTION 413**

- (Topic 2)

What is the purpose of an SSID?

- A. It provides network security
- B. It differentiates traffic entering access points
- C. It identifies an individual access point on a WLAN
- D. It identifies a WLAN

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

"In IEEE 802.11 wireless local area networking standards (including Wi-Fi), a service set is a group of wireless network devices which share a service set identifier (SSID)... A service set forms a logical network of nodes operating with shared link-layer networking parameters; they form one logical network segment."

**QUESTION 414**

- (Topic 2)

An engineer must configure an OSPF neighbor relationship between router R1 and R3. The authentication configuration has been configured and the connecting interfaces are in the same 192.168.1.0/30 subnet. What are the next two steps to complete the configuration? (Choose two.)

- A. configure the hello and dead timers to match on both sides
- B. configure the same process ID for the router OSPF process
- C. configure the same router ID on both routing processes
- D. Configure the interfaces as OSPF active on both sides.
- E. configure both interfaces with the same area ID

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 415**

- (Topic 2)

Which action does the router take as it forwards a packet through the network?

- A. The router replaces the source and destination labels with the sending router interface label as a source and the next hop router label as a destination
- B. The router encapsulates the source and destination IP addresses with the sending router IP address as the source and the neighbor IP address as the destination
- C. The router replaces the original source and destination MAC addresses with the sending router MAC address as the source and neighbor MAC address as the destination
- D. The router encapsulates the original packet and then includes a tag that identifies the source router MAC address and transmit transparently to the destination

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 416**

- (Topic 2)

An engineer must configure traffic for a VLAN that is untagged by the switch as it crosses a trunk link. Which command should be used?

- A. switchport trunk allowed vlan 10
- B. switchport trunk native vlan 10
- C. switchport mode trunk
- D. switchport trunk encapsulation dot1q

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 417**

- (Topic 2)

Which IPv6 address type provides communication between subnets and is unable to route on the Internet?

- A. global unicast

- B. unique local
- C. link-local
- D. multicast

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 418**

- (Topic 2)

Which condition must be met before an NMS handles an SNMP trap from an agent?

- A. The NMS software must be loaded with the MIB associated with the trap.
- B. The NMS must be configured on the same router as the SNMP agent
- C. The NMS must receive a trap and an inform message from the SNMP agent within a configured interval
- D. The NMS must receive the same trap from two different SNMP agents to verify that it is reliable.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 419**

- (Topic 2)

Refer to the exhibit.

| R1#show ip interface brief |              |     |        |                       |          |
|----------------------------|--------------|-----|--------|-----------------------|----------|
| Interface                  | IP-Address   | OK? | Method | Status                | Protocol |
| FastEthernet0/0            | unassigned   | YES | NVRAM  | administratively down | down     |
| GigabitEthernet1/0         | 192.168.0.1  | YES | NVRAM  | up                    | up       |
| GigabitEthernet2/0         | 10.10.1.10   | YES | manual | up                    | up       |
| GigabitEthernet3/0         | 10.10.10.20  | YES | manual | up                    | up       |
| GigabitEthernet4/0         | unassigned   | YES | NVRAM  | administratively down | down     |
| Loopback0                  | 172.16.15.10 | YES | manual |                       |          |

What does router R1 use as its OSPF router-ID?

- A. 10.10.1.10
- B. 10.10.10.20
- C. 172.16.15.10
- D. 192.168.0.1

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

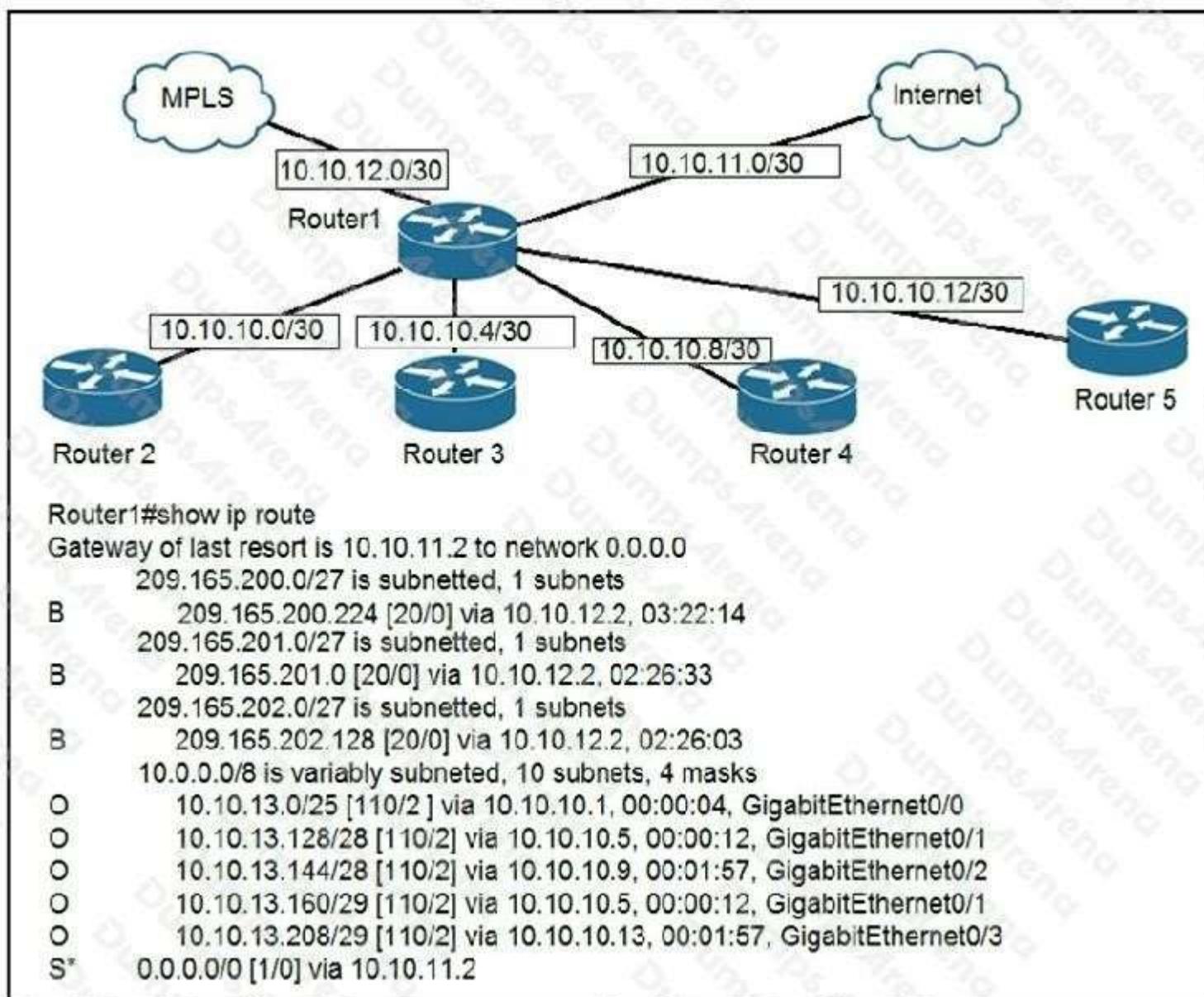
Explanation:

OSPF uses the following criteria to select the router ID:  
1. Manual configuration of the router ID (via the "router-id x.x.x.x" command under OSPF router configuration mode).  
2. Highest IP address on a loopback interface.  
3. Highest IP address on a non-loopback and active (no shutdown) interface.

**QUESTION 420**

- (Topic 2)

Refer to the exhibit.



To which device does Router1 send packets that are destined to host 10.10.13.165?

- A. Router2
- B. Router3
- C. Router4
- D. Router5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 421**

- (DRAG DROP) - (Topic 2)

Refer to the exhibit.

```
C:\>ipconfig/all
Windows IP Configuration

Host Name . . . . . : Inspiron15
Primary Dns Suffix . . . . . :
Node Type . . . . . : Mixed
IP Routing Enabled . . . . . : No
WINS Proxy Enabled . . . . . : No

Wireless LAN adapter Local Area Connection* 12:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . :
  Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
  Physical Address . . . . . : 18-76-3F-7C-57-DF
  DHCP Enabled . . . . . : Yes
  Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wi-Fi:
  Connection-specific DNS Suffix . . . . . :
  Description . . . . . : Dell Wireless 1703 802.11b/g/n (2.4GHz)
  Physical Address . . . . . : B8-76-3F-7C-57-DF
  DHCP Enabled . . . . . : No
  Autoconfiguration Enabled . . . . . : Yes
  Link-local IPv6 Address . . . . . :
    fe80::e09f:9839%6<Preferred>
    192.168.1.20<Preferred>
    255.255.255.0
    192.168.1.1
    263747135
  DHCPv6 IAID . . . . . : 00-01-00-01-18-E6-32-43-B8-76-3F-7C-57-DF
  DHCPv6 Client DUID . . . . . :
    192.168.1.15
    192.168.1.16
  NetBIOS over Tcpip . . . . . : Enabled
```

An engineer is tasked with verifying network configuration parameters on a client workstation to report back to the team lead. Drag and drop the node identifiers from the left onto the network parameters on the right.

|                   |                                          |
|-------------------|------------------------------------------|
| 192.168.1.1       | broadcast address                        |
| 192.168.1.20      | default gateway                          |
| 192.168.1.254     | host IP address                          |
| 192.168.1.255     | last assignable IP address in the subnet |
| BB-76-3F-7C-57-DF | MAC address                              |

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

**Correct Answer:**

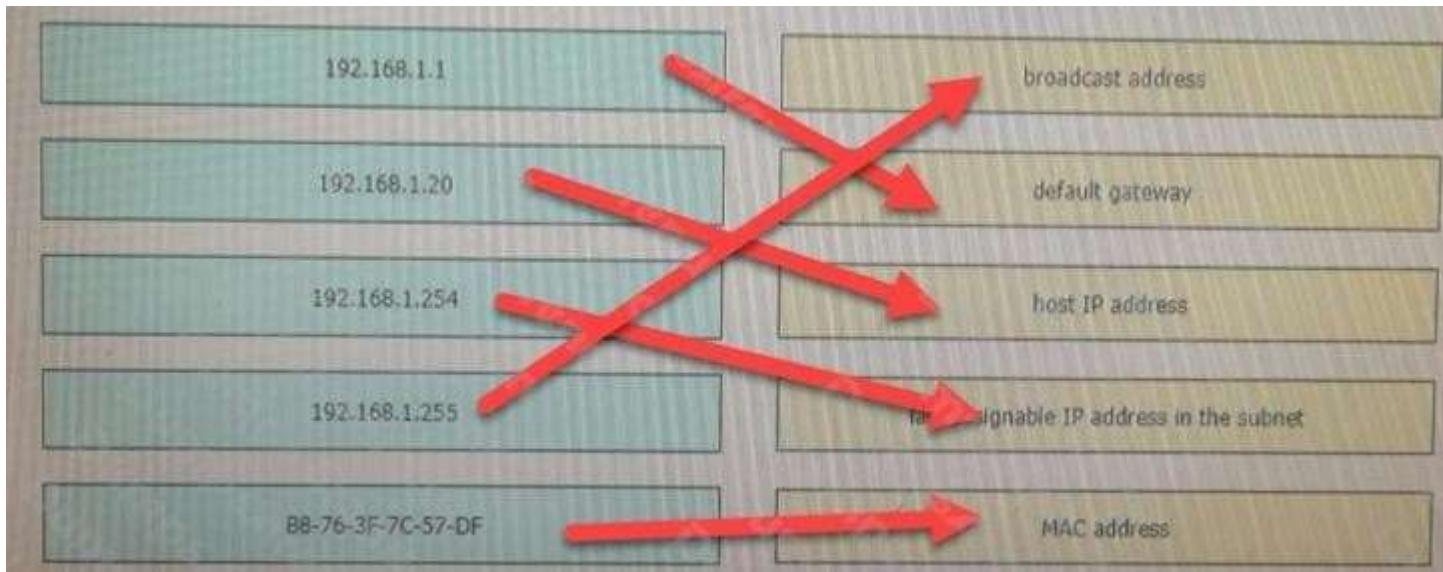
**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

|                   |
|-------------------|
| 192.168.1.255     |
| 192.168.1.1       |
| 192.168.1.20      |
| 192.168.1.254     |
| BB-76-3F-7C-57-DF |



```
R1# sh ip ospf int gig0/0
Gig0/0 is up, line protocol is up
  Internet Address 10.201.24.8/28, Area 1, Attached via Network Statement
  Process ID 100, Router ID 192.168.1.1, Network Type BROADCAST, Cost: 1
  Topology-MTID    Cost    Disabled    Shutdown    Topology Name
      0          1        no        no            Base
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 192.168.1.1, Interface address 10.201.24.8
  No backup designated router on this network
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    oob-resync timeout 40
    Hello due in 00:00:07

R2#sh ip ospf int gig0/0
gig0/0 is up, line protocol is up
  Internet Address 10.201.24.1/28, Area 1
  Process ID 100, Router ID 172.16.1.1, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DR, Priority 1
  Designated Router (ID) 172.16.1.1, Interface address 10.201.24.1
  No backup designated router on this network
  Timer intervals configured, Hello 20, Dead 80, Wait 80, Retransmit 5
```

**QUESTION 422**

- (Topic 2)

Refer to the exhibit.

What action establishes the OSPF neighbor relationship without forming an adjacency?

- A. modify hello interval
- B. modify process ID
- C. modify priority
- D. modify network type

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 423**

- (Topic 2)

What are two descriptions of three-tier network topologies? (Choose two)

- A. The core and distribution layers perform the same functions
- B. The access layer manages routing between devices in different domains
- C. The network core is designed to maintain continuous connectivity when devices fail.
- D. The core layer maintains wired connections for each host
- E. The distribution layer runs Layer 2 and Layer 3 technologies

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 424**

- (Topic 2)

Which set of actions satisfy the requirement for multifactor authentication?

- A. The user swipes a key fob, then clicks through an email link
- B. The user enters a user name and password, and then clicks a notification in an authentication app on a mobile device
- C. The user enters a PIN into an RSA token, and then enters the displayed RSA key on a login screen

- D. The user enters a user name and password and then re-enters the credentials on a second screen

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

This is an example of how two-factor authentication (2FA) works:  
1. The user logs in to the website or service with their username and password.  
2. The password is validated by an authentication server and, if correct, the user becomes eligible for the second factor.  
3. The authentication server sends a unique code to the user's second-factor method (such as a smartphone app).  
4. The user confirms their identity by providing the additional authentication for their second-factor method.

**QUESTION 425**

- (Topic 2)

Refer to the exhibit.

Designated Router (ID) 10.11.11.11, Interface address 10.10.10.1  
Backup Designated router (ID) 10.3.3.3, Interface address 10.10.10.3  
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5  
oob-resync timeout 40  
Hello due in 00:00:08  
Supports Link-local Signaling (LLS)  
Cisco NSF helper support enabled  
IETF NSF helper support enabled  
Index 1/1/1, flood queue length 0  
Next 0x0(0)/0x0(0)/0x0(0)  
Last flood scan length is 1, maximum is 6  
Last flood scan time is 0 msec, maximum is 1 msec  
Neighbor Count is 3, Adjacent neighbor count is 3  
Adjacent with neighbor 10.1.1.4  
Adjacent with neighbor 10.2.2.2  
Adjacent with neighbor 10.3.3.3 (Backup Designated Router)  
Suppress hello for 0 neighbor(s)

The show ip ospf interface command has been executed on R1 How is OSPF configured?

- A. The interface is not participating in OSPF
- B. A point-to-point network type is configured
- C. The default Hello and Dead timers are in use
- D. There are six OSPF neighbors on this interface

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/13689-17.html>

**QUESTION 426**

- (Topic 2)

Which two values or settings must be entered when configuring a new WLAN in the Cisco Wireless LAN Controller GUI? (Choose two)

- A. management interface settings
- B. QoS settings
- C. Ip address of one or more access points
- D. SSID
- E. Profile name

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 427**

- (Topic 2)

Which two outcomes are predictable behaviors for HSRP? (Choose two)

- A. The two routers share a virtual IP address that is used as the default gateway for devices on the LAN.
- B. The two routers negotiate one router as the active router and the other as the standby router
- C. Each router has a different IP address both routers act as the default gateway on the LAN, and traffic is load balanced between them.
- D. The two routers synchronize configurations to provide consistent packet forwarding
- D. The two routers share the same IP address, and default gateway traffic is load-balanced between them

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 428**

- (Topic 2)

A user configured OSPF and advertised the Gigabit Ethernet interface in OSPF By default, which type of OSPF network does this interface belong to?

- A. point-to-multipoint
- B. point-to-point
- C. broadcast
- D. nonbroadcast

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

<https://www.oreilly.com/library/view/cisco-ios-cookbook/0596527225/ch08s15.html>

The Broadcast network type is the default for an OSPF enabled ethernet interface (while Point-toPoint is the default OSPF network type for Serial interface with HDLC and PPP encapsulation).

**QUESTION 429**

- (Topic 2)

Which goal is achieved by the implementation of private IPv4 addressing on a network?

- A. provides an added level of protection against Internet exposure
- B. provides a reduction in size of the forwarding table on network routers
- C. allows communication across the Internet to other private networks
- D. allows servers and workstations to communicate across public network boundaries

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 430**

- (Topic 2)

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/0/0
    is directly connected, Serial0/0/0
    172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
S   172.16.0.0/24 [1/0] via 207.165.200.250, Serial0/0/0
O   172.16.0.128/25 [110/38443] via 207.165.200.254, 00:00:23, Serial0/0/1
D   172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:25, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C   209.165.200.248/30 is directly connected, Serial0/0/0
L   209.165.200.249/32 is directly connected, Serial0/0/0
C   209.165.200.252/30 is directly connected, Serial0/0/1
L   209.165.200.253/32 is directly connected, Serial0/0/1
```

With which metric was the route to host 172.16.0.202 learned?

- A. 0
- B. 110
- C. 38443
- D. 3184439

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Both the line "O 172.16.0.128/25" and "S 172.16.0.0/24" cover the host 172.16.0.202 but with the "longest (prefix) match" rule the router will choose the first route.

## QUESTION 431

- (Topic 2)

How does WPA3 improve security?

- A. It uses SAE for authentication.
- B. It uses a 4-way handshake for authentication.
- C. It uses RC4 for encryption.
- D. It uses TKIP for encryption.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 432**

- (Topic 2)

Which 802.11 frame type is indicated by a probe response after a client sends a probe request?

- A. action
- B. management
- C. control
- D. data

**Correct Answer:** B**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 433**

- (Topic 2)

An engineer is configuring NAT to translate the source subnet of 10.10.0.0/24 to any of three addresses 192.168.30.1, 192.168.3.2, 192.168.3.3 Which configuration should be used?

Ⓐ **enable**  
**configure terminal**  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
route-map permit 10.10.0.0 255.255.255.0  
ip nat outside destination list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside

Ⓑ **enable**  
**configure terminal**  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30  
access-list 1 permit 10.10.0.0 0.0.0.255  
ip nat inside source list 1 pool mypool  
interface g1/1  
ip nat inside  
interface g1/2  
ip nat outside

```
enable
configure terminal
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30
access-list 1 permit 10.10.0.0 0.0.0.255
ip nat outside destination list 1 pool mypool
interface g1/1
ip nat inside
interface g1/2
ip nat outside

enable
configure terminal
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30
access-list 1 permit 10.10.0.0 0.0.0.254
ip nat inside source list 1 pool mypool
interface g1/1
ip nat inside
interface g1/2
ip nat outside
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 434**

- (Topic 2)

What is the effect when loopback interfaces and the configured router ID are absent during the OSPF Process configuration?

- A. No router ID is set, and the OSPF protocol does not run.
- B. The highest up/up physical interface IP address is selected as the router ID.
- C. The lowest IP address is incremented by 1 and selected as the router ID.
- D. The router ID 0.0.0.0 is selected and placed in the OSPF process.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 435**

- (Topic 2)

What is the benefit of configuring PortFast on an interface?

- A. After the cable is connected, the interface uses the fastest speed setting available for that cable type
- B. After the cable is connected, the interface is available faster to send and receive user data
- C. The frames entering the interface are marked with higher priority and then processed faster by a switch.
- D. Real-time voice and video frames entering the interface are processed faster

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 436**

- (Topic 2)

Refer to the exhibit.

Which two prefixes are included in this routing table entry? (Choose two.)

- A. 192.168.1.17
- B. 192.168.1.61
- C. 192.168.1.64
- D. 192.168.1.127
- E. 192.168.1.254

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 437**

- (Topic 2)

Which networking function occurs on the data plane?

- A. forwarding remote client/server traffic
- B. facilitates spanning-tree elections
- C. processing inbound SSH management traffic
- D. sending and receiving OSPF Hello packets

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 438**

- (Topic 2)

Which mode must be set for APs to communicate to a Wireless LAN Controller using the Control and Provisioning of Wireless Access Points (CAPWAP) protocol?

- A. bridge
- B. route
- C. autonomous
- D. lightweight

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 439**

- (Topic 2)

Refer to the exhibit.

```
Switch#show etherchannel summary  
[output omitted]
```

| Group | Port-channel | Protocol | Ports               |
|-------|--------------|----------|---------------------|
| 10    | Po10 (SU)    | LACP     | Gi0/0 (P) Gi0/1 (P) |
| 20    | Po20 (SU)    | LACP     | Gi0/2 (P) Gi0/3 (P) |

Which two commands were used to create port channel 10? (Choose two )

- int range g0/0-1  
channel-group 10 mode active
- int range g0/0-1  
channel-group 10 mode desirable
- int range g0/0-1  
channel-group 10 mode passive
- int range g0/0-1  
channel-group 10 mode auto
- int range g0/0-1  
channel-group 10 mode on

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

**Correct Answer:** AC

**Section:** (none)

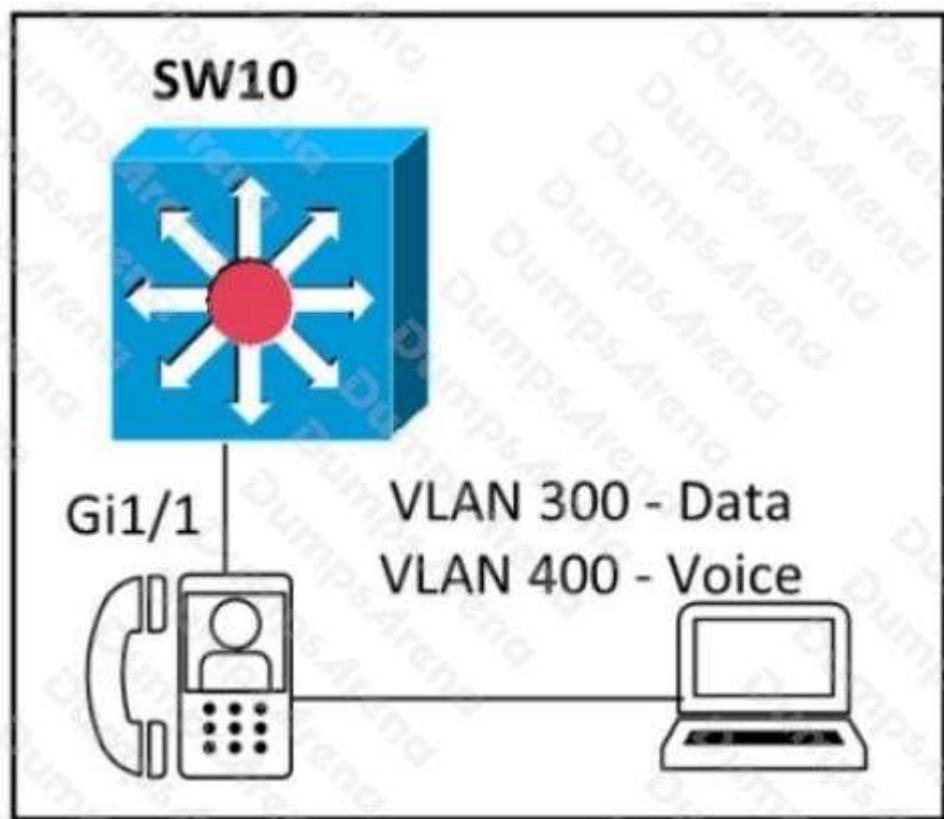
**Explanation**

**Explanation/Reference:**

**QUESTION 440**

- (Topic 2)

Refer to the exhibit.



An engineer must configure GigabitEthernet1/1 to accommodate voice and data traffic. Which configuration accomplishes this task?

```
interface gigabitethernet1/1
switchport mode access
switchport access vlan 300
switchport voice vlan 400
```

```
interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport voice vlan 400
```

```
interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport trunk vlan 400
```

```
interface gigabitethernet1/1
switchport mode access
switchport voice vlan 300
switchport access vlan 400
```

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 441**

- (Topic 2)

Refer to the exhibit.

Which configuration issue is preventing the OSPF neighbor relationship from being established between the two routers?

- A. R2 is using the passive-interface default command
- B. R1 has an incorrect network command for interface Gi1/0
- C. R2 should have its network command in area 1
- D. R1 interface Gi1/0 has a larger MTU size

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 442**

- (Topic 2)

Refer to the exhibit.

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
    S 172.16.3.0/24 [1/0] via 209.165.200.250, Serial0/0/0
    O 172.16.3.0/28 [110/1] via 209.165.200.254, 00:00:28, Serial0/0/1
        209.165.200.0/24 is variably subnetted, 6 subnets, 2 masks
        C 209.165.200.244/30 is directly connected, Serial0/1/0
        L 209.165.200.245/32 is directly connected, Serial0/1/0
        C 209.165.200.248/30 is directly connected, Serial0/0/0
        L 209.165.200.249/32 is directly connected, Serial0/0/0
        C 209.165.200.252/30 is directly connected, Serial0/0/1
        L 209.165.200.253/32 is directly connected, Serial0/0/1
```

A packet is being sent across router R1 to host 172.16.0.14. What is the destination route for the packet?

- A. 209.165.200.254 via Serial0/0/1
- B. 209.165.200.254 via Serial0/0/0
- C. 209.165.200.246 via Serial0/1/0
- D. 209.165.200.250 via Serial0/0/0

**Correct Answer:** A

**Section:** (none)

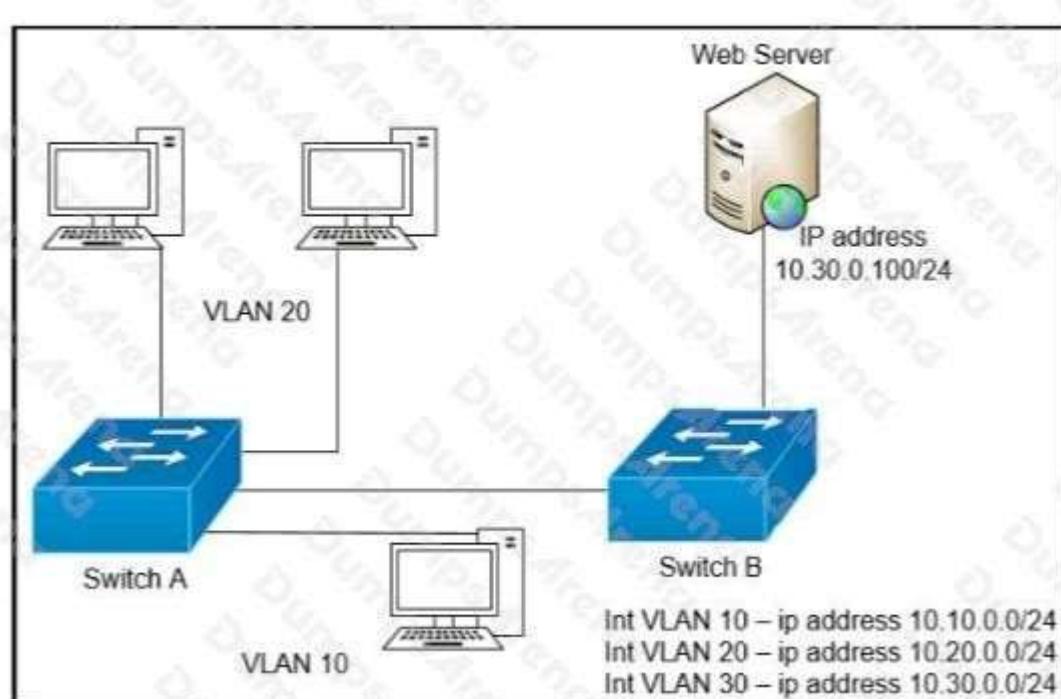
**Explanation**

**Explanation/Reference:**

**QUESTION 443**

- (Topic 2)

Refer to the exhibit.



A network engineer must block access for all computers on VLAN 20 to the web server via HTTP. All other computers must be able to access the web server. Which configuration, when applied to switch A, accomplishes this task?

```
config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80
int vlan 10
ip access-group wwwblock in
```

```
config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80
permit ip any any
int vlan 20
ip access-group wwwblock in
```

```
config t
ip access-list extended wwwblock
permit ip any any
deny tcp any host 10.30.0.100 eq 80
int vlan 30
ip access-group wwwblock in
```

```
config t
ip access-list extended wwwblock
permit ip any any
deny tcp any host 10.30.0.100 eq 80
int vlan 20
ip access-group wwwblock in
```

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 444**

- (Topic 2)

Refer to the exhibit.

An engineer booted a new switch and applied this configuration via the console port. Which additional configuration must be applied to allow administrators to authenticate directly to enable privilege mode via Telnet using a local username and password?

- R1(config)#username admin privilege 15 secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local
- R1(config)#username admin secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local  
R1(config)#enable secret p@ss1234
- R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234  
R1(config-line)#transport input telnet
- R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 445**

- (Topic 2)

An engineer needs to configure LLDP to send the port description time length value (TLV). What command sequence must be implemented?

- A. switch(config-line)#lldp port-description
- B. switch(config)#lldp port-description
- C. switch(config-if)#lldp port-description
- D. switch#lldp port-description

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 446**

- (Topic 2)

Which protocol requires authentication to transfer a backup configuration file from a router to a remote server?

- A. DTP
- B. FTP
- C. SMTP
- D. TFTP

**Correct Answer:** B

**Section:** (none)

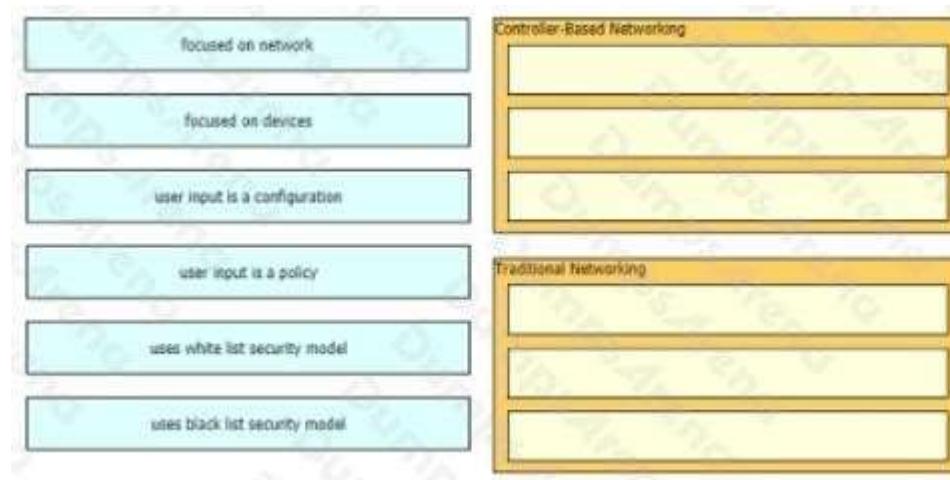
**Explanation**

**Explanation/Reference:**

**QUESTION 447**

- (DRAG DROP) - (Topic 2)

Drag and drop to the characteristics of networking from the left onto the correct networking types on the right.



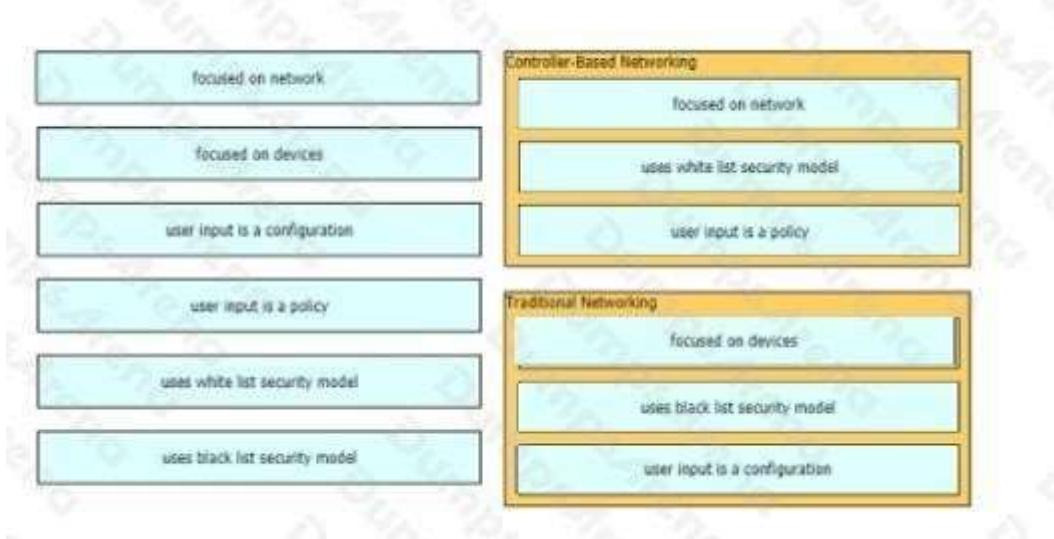
- A.
- B.
- C.
- D.

**Correct Answer:**

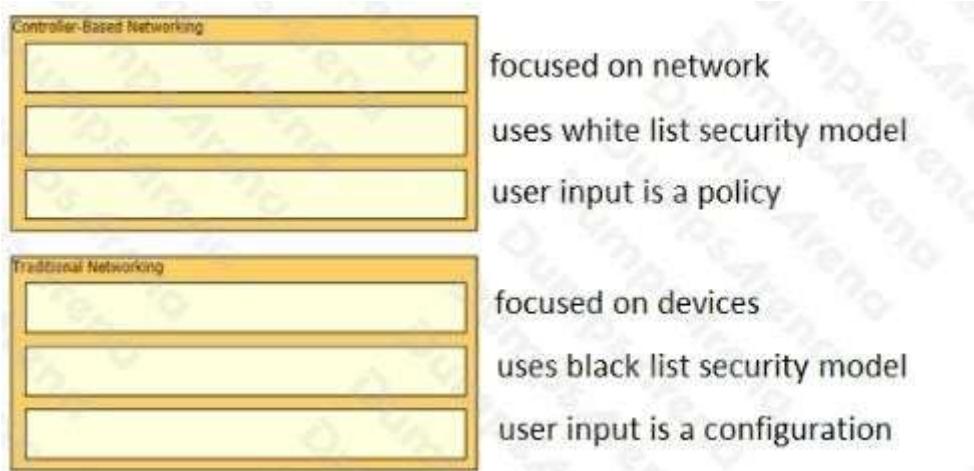
**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:



#### QUESTION 448

- (Topic 2)

Which type of traffic is sent with pure IPsec?

- A. broadcast packets from a switch that is attempting to locate a MAC address at one of several remote sites
- B. multicast traffic from a server at one site to hosts at another location
- C. spanning-tree updates between switches that are at two different sites
- D. unicast messages from a host at a remote site to a server at headquarters

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

"The original poster makes a correct observation that EIGRP does not work in a pure IPSEC environment. IPSEC was designed to process unicast traffic.

**QUESTION 449**

- (Topic 2)

What is the function of a server?

- A. It transmits packets between hosts in the same broadcast domain.
- B. It provides shared applications to end users.
- C. It routes traffic between Layer 3 devices.
- D. It Creates security zones between trusted and untrusted networks

**Correct Answer:** B

**Section:** (none)

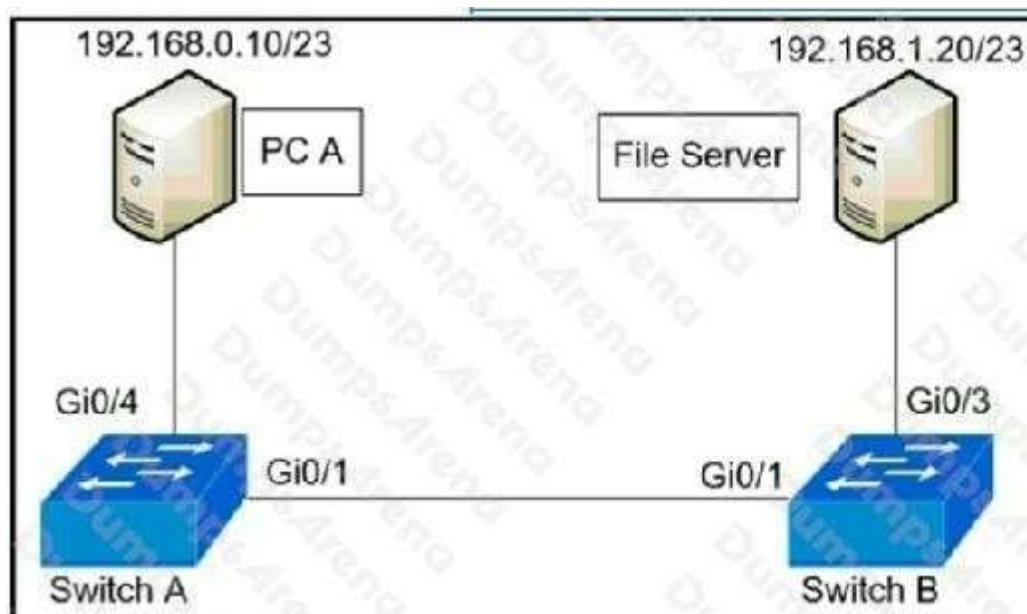
**Explanation**

**Explanation/Reference:**

**QUESTION 450**

- (Topic 2)

Refer to the exhibit.



|                                                                                                                                                                                                                            |                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Switch A</b></p> <pre>Vlan 10,11,12,13  interface GigabitEthernet0/1 switchport mode trunk switchport trunk allowed vlan 10-12 ! interface GigabitEthernet0/4 switchport access vlan 13 switchport mode access</pre> | <p><b>Switch B</b></p> <pre>Vlan 10,11,12,13  interface GigabitEthernet0/1 switchport mode trunk ! interface GigabitEthernet0/3 switchport access vlan 13 switchport mode access</pre> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

A network administrator assumes a task to complete the connectivity between PC A and the File Server. Switch A and Switch B have been partially configured with VLAN 10, 11, 12, and 13. What is the next step in the configuration?

- A. Add PC A to VLAN 10 and the File Server to VLAN 11 for VLAN segmentation
- B. Add VLAN 13 to the trunk links on Switch A and Switch B for VLAN propagation
- C. Add a router on a stick between Switch A and Switch B allowing for Inter-VLAN routing.
- D. Add PC A to the same subnet as the File Server allowing for intra-VLAN communication.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 451**

- (Topic 2)

Which two primary drivers support the need for network automation? (Choose two.)

- A. Eliminating training needs
- B. Increasing reliance on self-diagnostic and self-healing
- C. Policy-derived provisioning of resources
- D. Providing a single entry point for resource provisioning
- E. Reducing hardware footprint

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 452**

- (Topic 2)

Which network plane is centralized and manages routing decisions?

- A. policy plane
- B. management plane
- C. control plane
- D. data plane

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 453**

- (Topic 2)

An implementer is preparing hardware for virtualization to create virtual machines on a host. What is needed to provide communication between hardware and virtual machines?

- A. hypervisor
- B. router
- C. straight cable
- D. switch

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 454**

- (Topic 2)

What does an SDN controller use as a communication protocol to relay forwarding changes to a southbound API?

- A. OpenFlow
- B. Java
- C. REST
- D. XML

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 455**

- (Topic 2)

Refer to the exhibit.

The New York router is configured with static routes pointing to the Atlanta and Washington sites. Which two tasks must be performed so that the Serial0/0/0 interfaces on the Atlanta and Washington routers can reach one another?

(Choose two.)

- A. Configure the ipv6 route 2012::126 2023::1 command on the Washington router.
- B. Configure the ipv6 route 2023::126 2012::1 command on the Atlanta router.
- C. Configure the Lpv6 route 2012::126 s0/0/0 command on the Atlanta router.
- D. Configure the ipv6 route 2023::126 2012::2 command on the Atlanta router.
- E. Configure the ipv6 route 2012::126 2023::2 command on the Washington router.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The short syntax of static IPv6 route is:ipv6 route {next-hop-IPv6-address | exit-interface}

**QUESTION 456**

- (Topic 2)

What are two differences between optical-fiber cabling and copper cabling? (Choose two)

- A. Light is transmitted through the core of the fiber
- B. A BNC connector is used for fiber connections
- C. The glass core component is encased in a cladding
- D. Fiber connects to physical interfaces using Rj-45 connections
- E. The data can pass through the cladding

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 457**

- (Topic 2)

Which QoS tool is used to optimize voice traffic on a network that is primarily intended for data traffic?

- A. FIFO

- B. WFQ
- C. PQ
- D. WRED

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 458**

- (Topic 2)

Refer to the exhibit.

|                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                |                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>Switch1#show etherchannel summary Flags: D - down      P - in port-channel I - stand-alone  s - suspended H - Hot-standby (LACP only) R - Layer3       S - Layer2 U - in use        f - failed to allocate aggregator u - unsuitable for bundling w - waiting to be aggregated d - default port</pre> | <pre>Number of channel-groups in use: 1 Number of aggregators:          1 Group  Port-channel  Protocol    Ports -----+-----+-----+ 1      Po1 (SD)       LACP      Fa0/2 (I)  Fa0/1 (I)</pre> | <pre>Switch2#show run Building configuration... interface Port-channel1 ! interface FastEthernet0/1   channel-group 1 mode passive ! interface FastEthernet0/2   channel-group 1 mode passive</pre> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Which change to the configuration on Switch?

allows the two switches to establish an EtherChannel?

- A. Change the protocol to EtherChannel mode on.
- B. Change the LACP mode to active
- C. Change the LACP mode to desirable

- D. Change the protocol to PAqP and use auto mode

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 459**

- (Topic 2)

What is the same for both copper and fiber interfaces when using SFP modules?

- A. They support an inline optical attenuator to enhance signal strength
- B. They provide minimal interruption to services by being hot-swappable
- C. They offer reliable bandwidth up to 100 Mbps in half duplex mode
- D. They accommodate single-mode and multi-mode in a single module

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 460**

- (Topic 2)

Refer to Exhibit.

```
SW2
vtp domain cisco
vtp mode transparent
vtp password ciscotest
interface fastethernet0/1
  description connection to sw1
  switchport mode trunk
  switchport trunk encapsulation dot1q
```

How does SW2 interact with other switches in this VTP domain?

- A. It processes VTP updates from any VTP clients on the network on its access ports.
- B. It receives updates from all VTP servers and forwards all locally configured VLANs out all trunk ports
- C. It forwards only the VTP advertisements that it receives on its trunk ports.
- D. It transmits and processes VTP updates from any VTP Clients on the network on its trunk ports

**Correct Answer:** C

**Section: (none)****Explanation****Explanation/Reference:****QUESTION 461**

- (Topic 2)

Refer to the exhibit.

The ntp server 192.168.0.3 command has been configured on router 1 to make it an NTP client of router 2. Which command must be configured on router 2 so that it operates in server-only mode and relies only on its internal clock?

- A. Router2(config)#ntp passive
- B. Router2(config)#ntp server 172.17.0.1
- C. Router2(config)#ntp master 4
- D. Router2(config)#ntp server 192.168.0.2

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

Explanation:

- To use internal clock of this router, use any configured IP address in any interface of this router.

10.0.0.0/24 is subnetted, 1 subnets

- C 10.0.0.0 is directly connected, FastEthernet0/1
- C 172.160.0/16 is directly connected, FastEthernet0/0
- D 192.168.0.0/24 [90/30720] via 172.16.0.2, 00:00:03, FastEthernet0/0

**QUESTION 462**

- (Topic 2)

Refer to the exhibit.

Which route type does the routing protocol Code D represent in the output?

- A. internal BGP route
- B. /24 route of a locally configured IP
- C. statically assigned route
- D. route learned through EIGRP

**Correct Answer: D**

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 463**

- (Topic 2)

A device detects two stations transmitting frames at the same time. This condition occurs after the first 64 bytes of the frame is received interface counter increments?

- A. collision
- B. CRC
- C. runt
- D. late collision

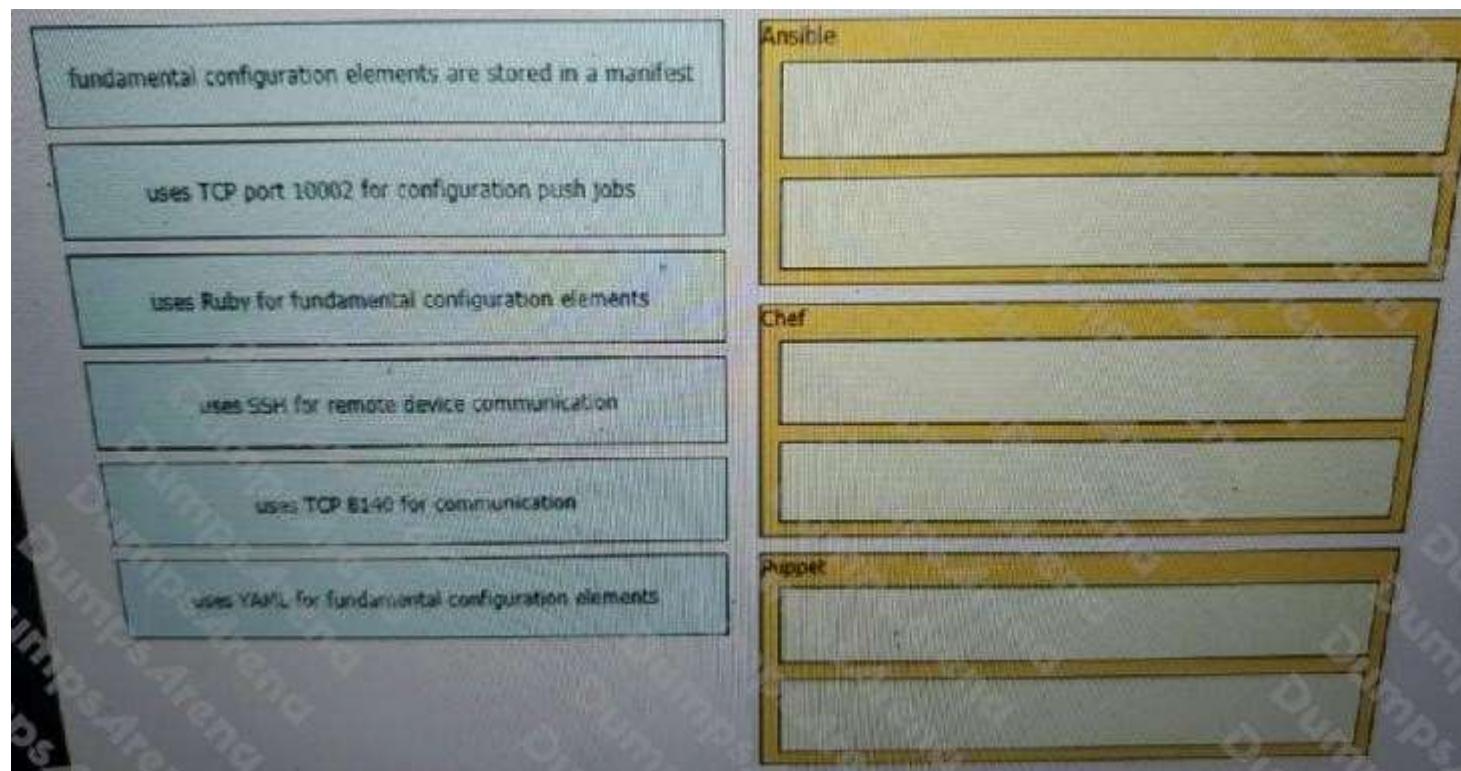
**Correct Answer: D**

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

Explanation:

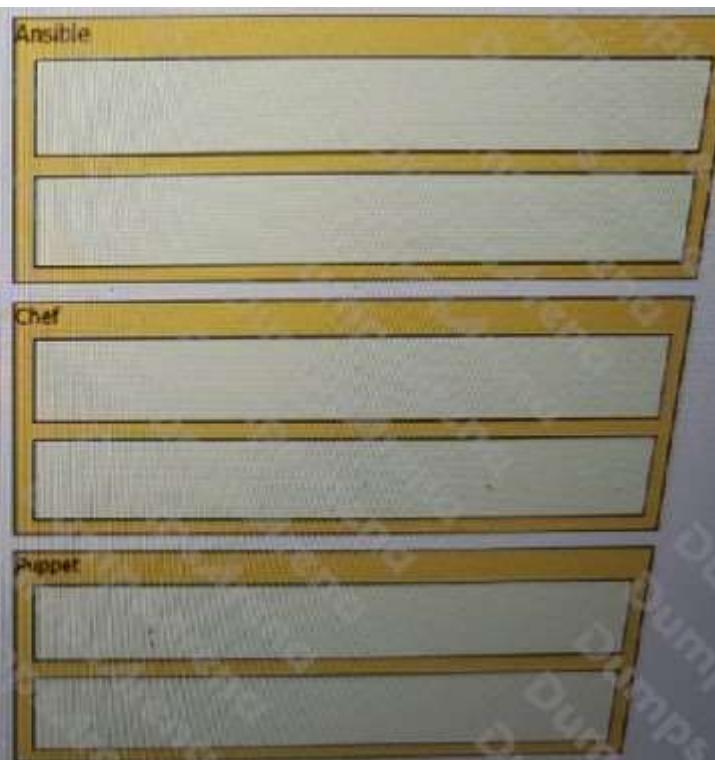
<https://www.cisco.com/c/en/us/support/docs/interfaces-modules/port-adapters/12768-eth-collisions.html>



**QUESTION 464**

- (DRAG DROP) - (Topic 2)

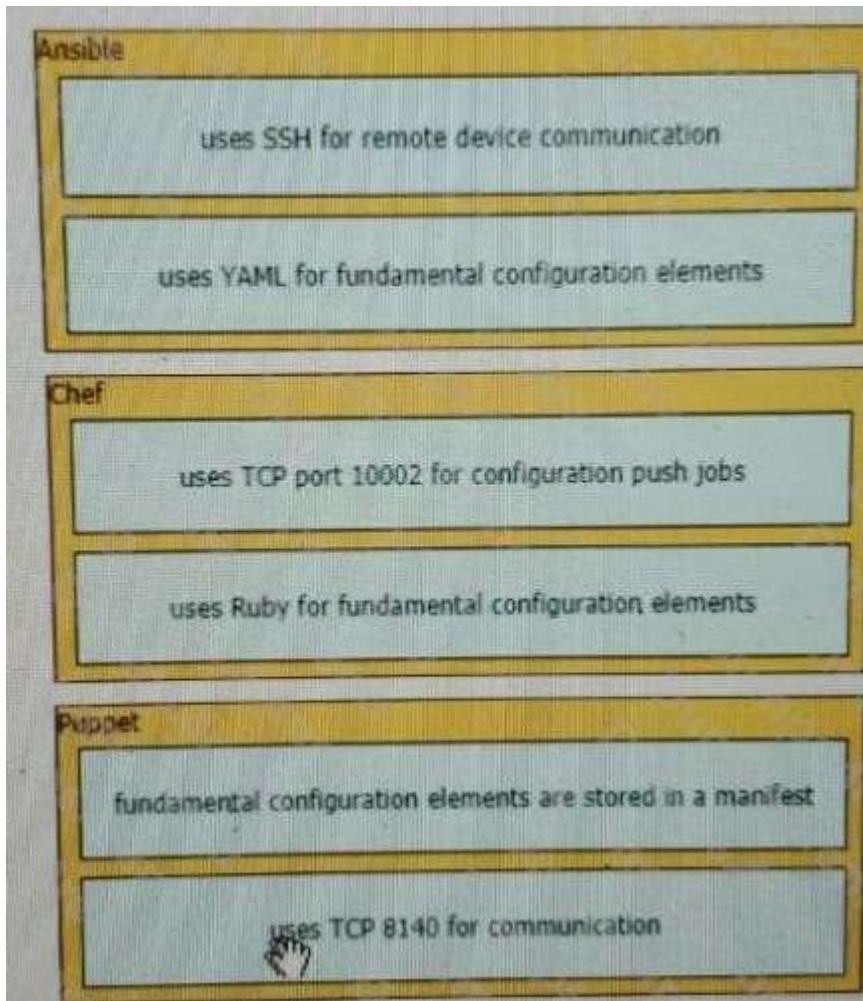
- fundamental configuration elements are stored in a manifest
- uses TCP port 10002 for configuration push jobs
- uses Ruby for fundamental configuration elements
- uses SSH for remote device communication
- uses TCP 8140 for communication
- uses YAML for fundamental configuration elements



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

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

Explanation:



Ansible:- uses SSH for remote device communication  
 uses YAML for fundamental configuration elements  
 Chef:- uses TCP port 10002 for configuration push jobs  
 uses Ruby for fundamental configuration elements  
 Puppet:- fundamental configuration elements are stored in a manifest  
 uses TCP 8140 for communication

The focus of Ansible is to be streamlined and fast, and to require no node agent installation. Thus, Ansible performs all functions over SSH. Ansible is built on Python, in contrast to the Ruby foundation of Puppet and Chef. TCP port 10002 is the command port. It may be configured in the Chef Push Jobs configuration file . This port allows Chef Push Jobs clients to communicate with the Chef Push Jobs server. Puppet is an open-source configuration management solution, which is built with Ruby and offers custom Domain Specific Language (DSL) and Embedded Ruby (ERB) templates to create custom Puppet language files, offering a

declarative-paradigm programming approach. A Puppet piece of code is called a manifest, and is a file with .pp extension.

#### **QUESTION 465**

- (Topic 2)

Which command must be entered when a device is configured as an NTP server?

- A. ntp authenticate
- B. ntp server

- C. ntp peer
- D. ntp master

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

To configure a Cisco device as an Authoritative NTP Server, use the ntp master [stratum] command. To configure a Cisco device as a NTP client, use the command ntp server . For example: Router(config)#ntp server 192.168.1.1. This command will instruct the router to query 192.168.1.1 for the time.

**QUESTION 466**

- (Topic 2)

Which unified access point mode continues to serve wireless clients after losing connectivity to the Cisco Wireless LAN Controller?

- A. sniffer
- B. mesh
- C. flexconnect
- D. local

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 467**

- (Topic 2)

When a client and server are not on the same physical network, which device is used to forward requests and replies between client and server for DHCP?

- A. DHCP relay agent
- B. DHCP server
- C. DHCPDISCOVER
- D. DHCPOFFER

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 468**

- (Topic 2)

Refer to the exhibit.

```
R1# show ip route  
D      192.168.10.0/24  [90/2679326]  via 192.168.1.1  
R      192.168.10.0/27  [120/3]    via 192.168.1.2  
O      192.168.10.0/23  [110/2]    via 192.168.1.3  
i L1   192.168.10.0/13 [115/30]   via 192.168.1.4
```

How does router R1 handle traffic to 192.168.10.16?

- A. It selects the IS-IS route because it has the shortest prefix inclusive of the destination address.
- B. It selects the EIGRP route because it has the lowest administrative distance.
- C. It selects the OSPF route because it has the lowest cost.
- D. It selects the RIP route because it has the longest prefix inclusive of the destination address.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 469**

- (Topic 2)

Which plane is centralized by an SDN controller?

- A. management-plane
- B. control-plane
- C. data-plane
- D. services-plane

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 470**

- (Topic 2)

What are two reasons for an engineer to configure a floating state route? (Choose two)

- A. to automatically route traffic on a secondary path when the primary path goes down
- B. to route traffic differently based on the source IP of the packet

- C. to enable fallback static routing when the dynamic routing protocol fails
- D. to support load balancing via static routing
- E. to control the return path of traffic that is sent from the router

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 471**

- (Topic 2)

What is a role of access points in an enterprise network?

- A. connect wireless devices to a wired network
- B. support secure user logins to devices or the network
- C. integrate with SNMP in preventing DDoS attacks
- D. serve as a first line of defense in an enterprise network

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 472**

- (Topic 2)

A user configured OSPF in a single area between two routers A serial interface connecting R1 and R2 is running encapsulation PPP By default which OSPF network type is seen on this interface when the user types show ip ospf interface on R1 or R2?

- A. port-to-multipoint
- B. broadcast
- C. point-to-point
- D. nonbroadcast

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

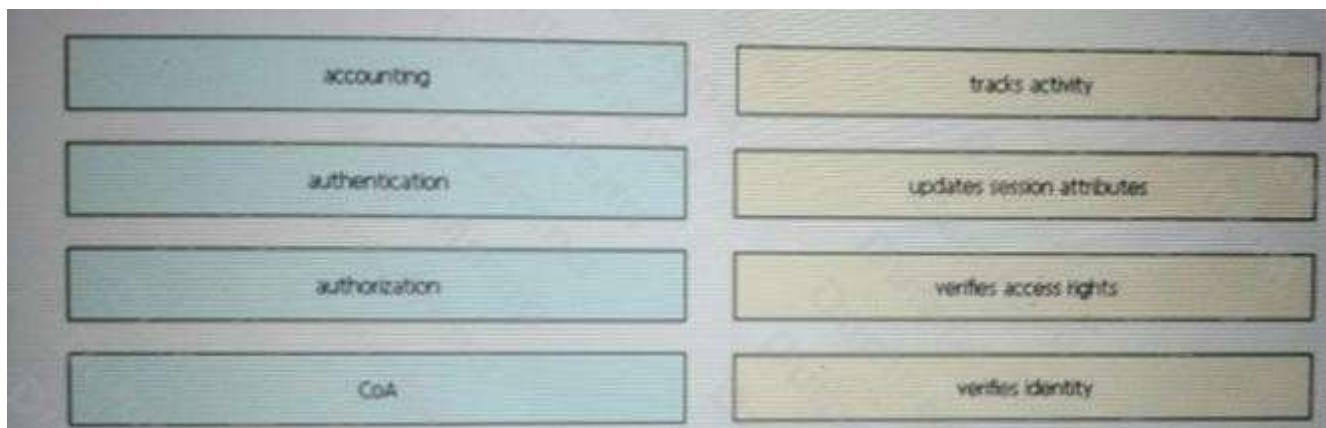
The default OSPF network type for HDLC and PPP on Serial link is point-to-point (while the default OSPF

network type for Ethernet link is Broadcast).

**QUESTION 473**

- (DRAG DROP) - (Topic 2)

Drag and drop the AAA terms from the left onto the description on the right.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**Explanation:**

1-1, 2-4, 3-3, 4-2

**QUESTION 474**

- (Topic 2)

What are two reasons that cause late collisions to increment on an Ethernet interface? (Choose two)

- A. when the sending device waits 15 seconds before sending the frame again
- B. when the cable length limits are exceeded
- C. when one side of the connection is configured for half-duplex
- D. when Carrier Sense Multiple Access/Collision Detection is used
- E. when a collision occurs after the 32nd byte of a frame has been transmitted

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The usual possible causes are full-duplex/half-duplex mismatch, exceeded Ethernet cable length limits, or

defective hardware such as incorrect cabling, non-compliant number of hubs in the network, or a bad NIC.

**QUESTION 475**

- (Topic 2)

which type of IPv6 address is publicly routable in the same way as IPv4 public address?

- A. global unicast
- B. link-local
- C. unique local
- D. multicast

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 476**

- (Topic 2)

When OSPF learns multiple paths to a network, how does it select a route?

- A. It multiplies the active K value by 256 to calculate the route with the lowest metric.
- B. For each existing interface, it adds the metric from the source router to the destination to calculate the route with the lowest bandwidth.
- C. It divides a reference bandwidth of 100 Mbps by the actual bandwidth of the existing interface to calculate the router with the lowest cost.
- D. It counts the number of hops between the source router and the destination to determine the router with the

lowest metric

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 477**

- (Topic 2)

Which command must be entered to configure a DHCP relay?

- A. ip helper-address
- B. ip address dhcp
- C. ip dhcp pool
- D. ip dhcp relay

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 478**

- (Topic 2)

What makes Cisco DNA Center different from traditional network management applications and their management of networks?

- A. It omits supports auto-discovery of network elements in a greenfield deployment.
- B. Its modular design allows someone to implement different versions to meet the specific needs of an organization
- C. It abstracts policy from the actual device configuration
- D. It does not support high availability of management functions when operating in cluster mode

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 479**

- (Topic 2)

A wireless administrator has configured a WLAN; however, the clients need access to a less congested 5-GHz

network for their voice quality. What action must be taken to meet the requirement?

- A. enable AAA override
- B. enable RX-SOP
- C. enable DTIM
- D. enable Band Select

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 480**

- (Topic 2)

What are two characteristics of a controller-based network? (Choose two)

- A. The administrator can make configuration updates from the CLI
- B. It uses northbound and southbound APIs to communicate between architectural layers
- C. It moves the control plane to a central point.
- D. It decentralizes the control plane, which allows each device to make its own forwarding decisions
- E. It uses Telnet to report system issues.

**Correct Answer:** BC

**Section:** (none)

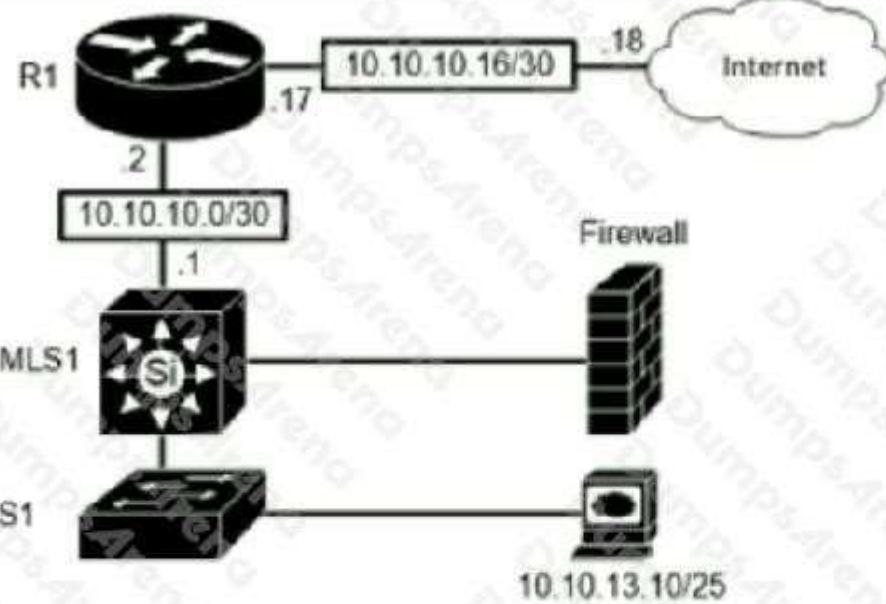
**Explanation**

**Explanation/Reference:**

**QUESTION 481**

- (Topic 2)

Refer to the exhibit.



```
R1#sh ip ro
Gateway of last resort is 10.10.10.18 to network 0.0.0.0

    10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
C      10.10.10.0/30 is directly connected, FastEthernet0/1
O      10.10.13.0/25 [110/6576] via 10.10.10.1, 06:58:21, FastEthernet0/1
C      10.10.10.16/30 is directly connected, FastEthernet0/24
O      10.10.13.144/28 [110/1101] via 10.10.10.1, 06:58:21, FastEthernet0/1
B*     0.0.0.0/0 [20/0] via 10.10.10.18, 01:17:59
```

Which route type is configured to reach the internet?

- A. host route
- B. default route
- C. floating static route
- D. network route

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 482

- (Topic 2)

Refer to the exhibit.

An engineer is configuring an EtherChannel using LACP between Switches 1 and 2. Which configuration must be applied so that only Switch 1 sends LACP initiation packets?

- A. Switch 1 (config-if)#channel-group 1 mode on Swrtch2(config-if)#channel-group 1 mode passive
- B. Switch1(config-if)#channel-group 1 mode passive Switch2(config-if)#channel-group 1 mode active
- C. Switch1{config-if}#channel-group 1 mode active Switch2(config-if)#channel-group 1 mode passive
- D. Switch1(config-if)#channel-group 1 mode on Switch2(config-if)#channel-group 1 mode active

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 483**

- (Topic 2)

A Cisco engineer is configuring a factory-default router with these three passwords:

- The user EXEC password for console access is p4ssw0rd1
- The user EXEC password for Telnet access is s3cr3t2
- The password for privileged EXEC mode is pnv4t3p4ss Which command sequence must the engineer configured

A. `enable secret priv4t3p4ss`

```
!
line con 0
password login p4ssw0rd1
!
line vty 0 15
password login s3cr3t2
login
```

B.

```
enable secret privilege 15 priv4t3p4ss
!
line con 0
password p4ssw0rd1
login
!
line vty 0 15
password s3cr3t2
login
```

```
enable secret priv4t3p4ss
!
line con 0
password p4ssw0rd1
login
!
line vty 0 15
password s3cr3t2
login
```

C. **enable secret priv4t3p4ss**  
!

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 484**

- (Topic 2)

Which two components comprise part of a PKI? (Choose two.)

- A. preshared key that authenticates connections
- B. RSA token
- C. CA that grants certificates
  
- D. clear-text password that authenticates connections
- E. one or more CRLs

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 485**

- (Topic 2)

Refer to the exhibit.

Router R1 currently is configured to use R3 as the primary route to the Internet, and the route uses the default administrative distance settings. A network engineer must configure R1 so that it uses R2 as a backup, but only if R3 goes down. Which command must the engineer configure on R1 so that it correctly uses R2 as a backup route, without changing the administrative distance configuration on the link to R3?

- A. ip route 0.0.0.0 0.0.0.0 g0/1 1
- B. ip route 0.0.0.0 0.0.0.0 209.165.201.5 10

- C. ip route 0.0.0.0 0.0.0.0 209.165.200.226 1
- D. ip route 0.0.0.0 0.0.0.0 g0/1 6

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 486**

- (Topic 2)

R1 as an NTP server must have:

- NTP authentication enabled
- NTP packets sourced from Interface loopback 0
- NTP stratum 2
- NTP packets only permitted to client IP 209.165 200 225 How should R1 be configured?

A.

```
ntp authenticate
ntp authentication-key 2 md5 CISCO123
ntp source Loopback0
nntp access-group server-only 10
ntp master 2
!
access-list 10 permit 209.165.200.225
```

B.

```
ntp authenticate
ntp authentication-key 2 md5 CISCO123
ntp source Loopback0
ntp access-group server-only 10
ntp stratum 2
!
access-list 10 permit udp host 209.165.200.225 any eq 123
```

C.

```
ntp authenticate
ntp authentication-key 2 sha1 CISCO123
ntp source Loopback0
ntp access-group server-only 10
ntp master 2
!
access-list 10 permit udp host 209.165.200.225 any eq 123
```

- D. `ntp authenticate  
ntp authentication-key 2 md5 CISCO123  
ntp interface Loopback0  
ntp access-group server-only 10`

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 487**

- (Topic 2)

Refer to the exhibit.

An engineer has started to configure replacement switch SW1. To verify part of the configuration, the engineer issued the commands as shown and noticed that the entry for PC2 is missing. Which change must be applied to SW1 so that PC1 and PC2 communicate normally?

- A. `SW1(config)#interface fa0/2  
SW1(config-if)#no switchport mode trunk  
SW1(config-if)#no switchport trunk allowed vlan 3  
SW1(config-if)#switchport mode access`
- B.
- `SW1(config)#interface fa0/1  
SW1(config-if)#no switchport access vlan 2  
SW1(config-if)#switchport trunk native vlan 2  
SW1(config-if)#switchport trunk allowed vlan 3`
- C. `SW1(config)#interface fa0/1  
SW1(config-if)#no switchport access vlan 2  
SW1(config-if)#switchport access vlan 3  
SW1(config-if)#switchport trunk allowed vlan 2`
- D.

`SW1(config)#interface fa0/2  
SW1(config-if)#no switchport access vlan 2  
SW1(config-if)#no switchport trunk allowed vlan 3  
SW1(config-if)#switchport trunk allowed vlan 2`

**Correct Answer:** A

**Section:** (none)

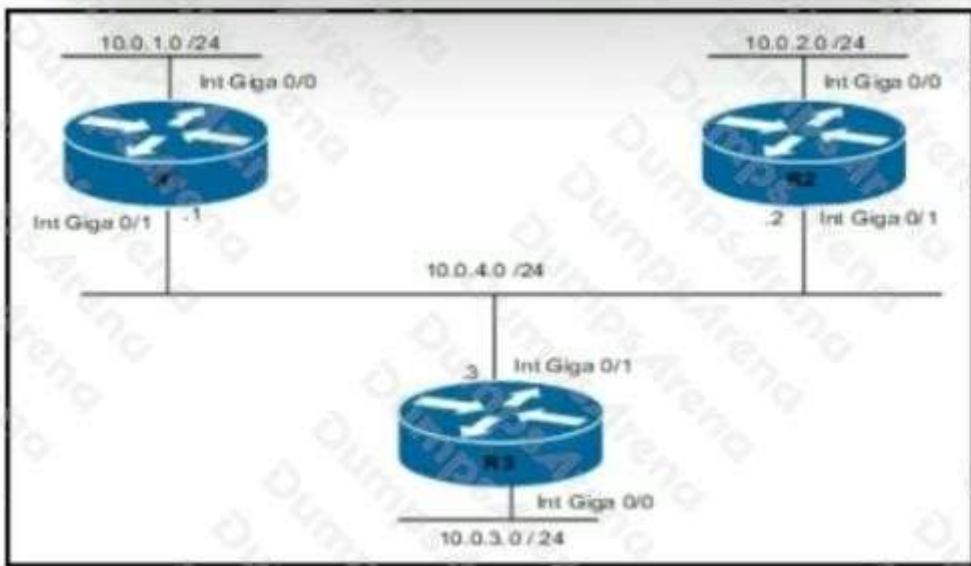
**Explanation**

**Explanation/Reference:**

**QUESTION 488**

- (Topic 2)

Refer to the exhibit.



Routers R1 and R3 have the default configuration. The router R2 priority is set to 99. Which command on R3 configures it as the DR in the 10.0.4.0/24 network?

- A. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 100
- B. R3(config)#interface Gig0/0 R3(config-if)#ip ospf priority 100
- C. R3(config)#interface Gig0/0 R3(config-if)i=ip ospf priority 1
- D. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 0

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 489

- (SIMULATION) - (Topic 2)

Drag and drop the REST API call methods for HTTP from the left onto the actions they perform on the right. Not all methods are used.

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation Below For Answer

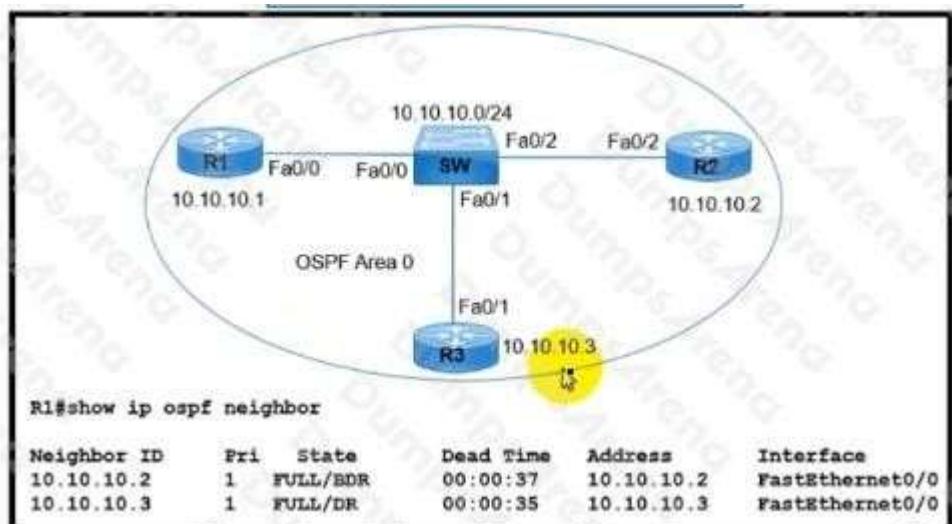
Explanation:

Chart, bar chart Description automatically generated



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# DUMPS ARENA



## QUESTION 490

- (Topic 2)

Refer to the exhibit.

R1 has taken the DROTHER role in the OSPF DR/BDR election process. Which configuration must an engineer implement so that R1 is elected as the DR?

- R1(config)#interface FastEthernet 0/0  
R1(config-if)#ip ospf priority 1  
R1#clear ip ospf process
- R1(config)#interface FastEthernet 0/0  
R1(config-if)#ip ospf priority 200  
R1#clear ip ospf process
- R3(config)#interface FastEthernet 0/1  
R3(config-if)#ip ospf priority 200  
R3#clear ip ospf process
- R2(config)#interface FastEthernet 0/2  
R2(config-if)#ip ospf priority 1  
R2#clear ip ospf process

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 491

- (Topic 2)

Refer to the exhibit.

Packets received by the router from BGP enter via a serial interface at 209.165.201.10. Each route is present within the routing table. Which interface is used to forward traffic with a destination IP of 10.10.10.24?

- A. F0/10  
B. F0/11  
C. F0/12  
D. F0/13

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 492**

- (Topic 2)

Which action is taken by the data plane within a network device?

- A. forwards traffic to the next hop
- B. constructs a routing table based on a routing protocol
- C. provides CLI access to the network device
- D. looks up an egress interface in the forwarding information base

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 493**

- (DRAG DROP) - (Topic 2)

Refer to Exhibit.

Reroute to the exhibit. The IP address configurations must be completed on the DC-1 and HQ-1 routers based on these requirements:

DC-1 Gi1/0 must be the last usable address on a /30 DC-1 Gi1/1 must be the first usable address on a /29 DC-1 Gi1/2 must be the last usable address on a /28 HQ-1 Gi1/3 must be the last usable address on a /29

Drag and drop the commands from the left onto the destination interfaces on the right. Not all commands are used



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**Explanation:**

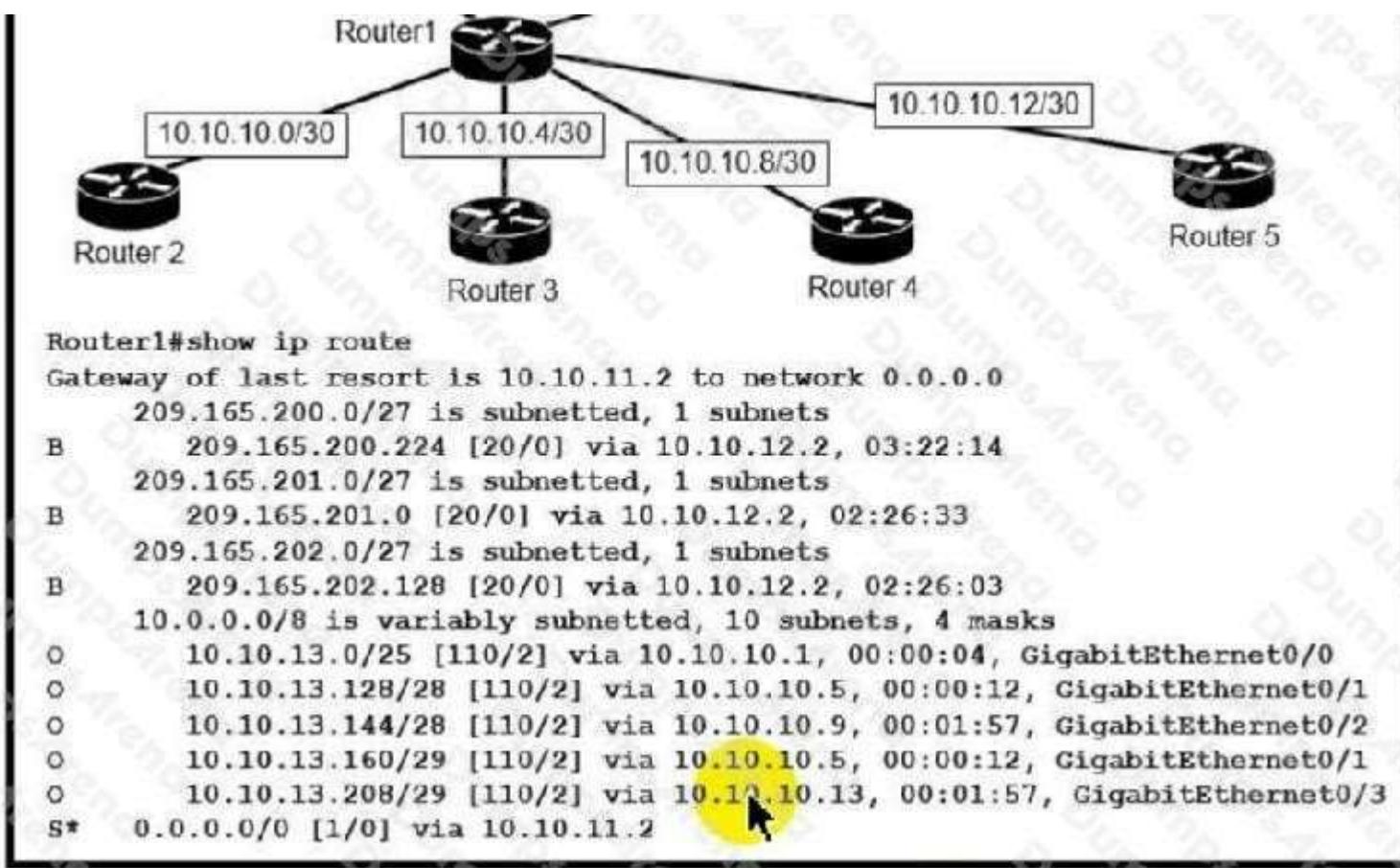
Graphical user interface, application Description automatically generated

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|                                            |
|--------------------------------------------|
| DC-1                                       |
| ip address 209.165.202.130 255.255.255.252 |
| ip address 192.168.4.9 255.255.255.248     |
| ip address 192.168.3.14 255.255.255.240    |

|                                         |
|-----------------------------------------|
| HQ-1                                    |
| ip address 192.168.3.14 255.255.255.248 |



#### QUESTION 494

- (Topic 2)

Refer to the exhibit.

Which next-hop IP address does Routed use for packets destined to host 10.10.13.158?

- A. 10.10.10.5
- B. 10.10.11.2
- C. 10.10.12.2
- D. 10.10.10.9

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 495**

- (Topic 2)

Refer to the exhibit.

Packets received by the router from BGP enter via a serial interface at 209.165.201.1. Each route is present within the routing table. Which interface is used to forward traffic with a destination IP of 10.1.1.19?

- A. F0/4
- B. F0/0
- C. F0/1
- D. F0/3

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 496**

- (Topic 2)

An engineer is configuring router R1 with an IPv6 static route for prefix 2019:C15C:0CAF:E001::/64. The next hop must be 2019:C15C:0CAF:E002::1. The route must be reachable via the R1 Gigabit 0/0 interface. Which command configures the designated route?

- A. R1(config)#ipv6 route 2019:C15C:0CAF:E001::/64 2019:C15C:0CAF:E002::1
- B. R1(config-if)#ipv6 route 2019:C15C:0CAF:E001::/64 2019:C15C:0CAF:E002::1
- C. R1(config-if)#ip route 2019:C15C:0CAF:E001::/64 GigabitEthernet0/0
- D. R1(config)#ip route 2019:C15C:0CAF:E001::/64 GigabitEthernet0/0

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 497**

- (Topic 2)

Which characteristic differentiates the concept of authentication from authorization and accounting?

- A. user-activity logging
- B. service limitations
- C. consumption-based billing
- D. identity verification

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 498**

- (Topic 2)

What is a function performed by a web server?

- A. provide an application that is transmitted over HTTP
- B. send and retrieve email from client devices
- C. authenticate and authorize a user's identity
- D. securely store files for FTP access

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 499**

- (Topic 2)

Refer to the exhibit.

How many JSON objects are represented?

- A. 1
- B. 2
- C. 3

D. 4

**Correct Answer:** D

**Section:** (none)

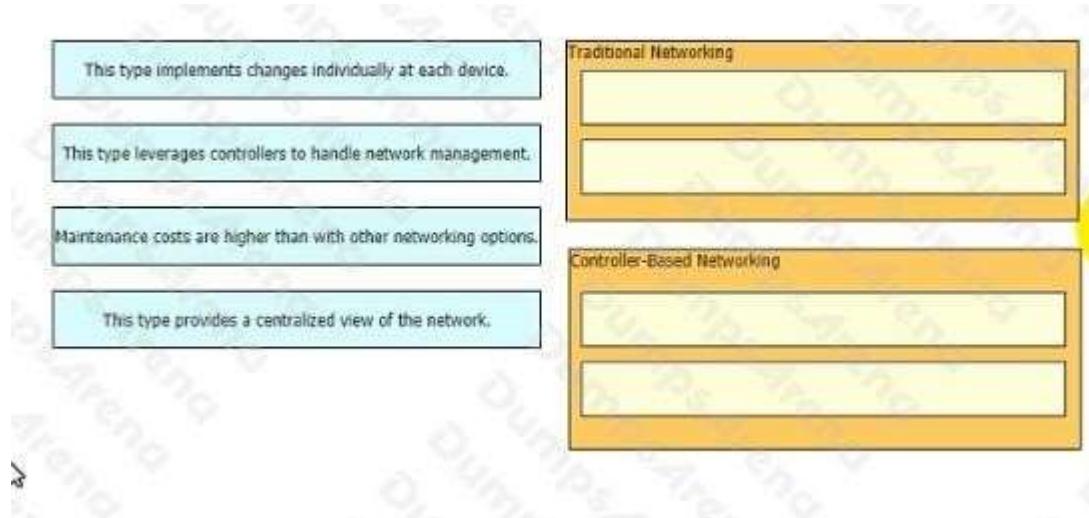
**Explanation**

**Explanation/Reference:**

**QUESTION 500**

- (DRAG DROP) - (Topic 2)

Drag and drop the statements about networking from the left onto the corresponding networking types on the right



A.

B.

C.

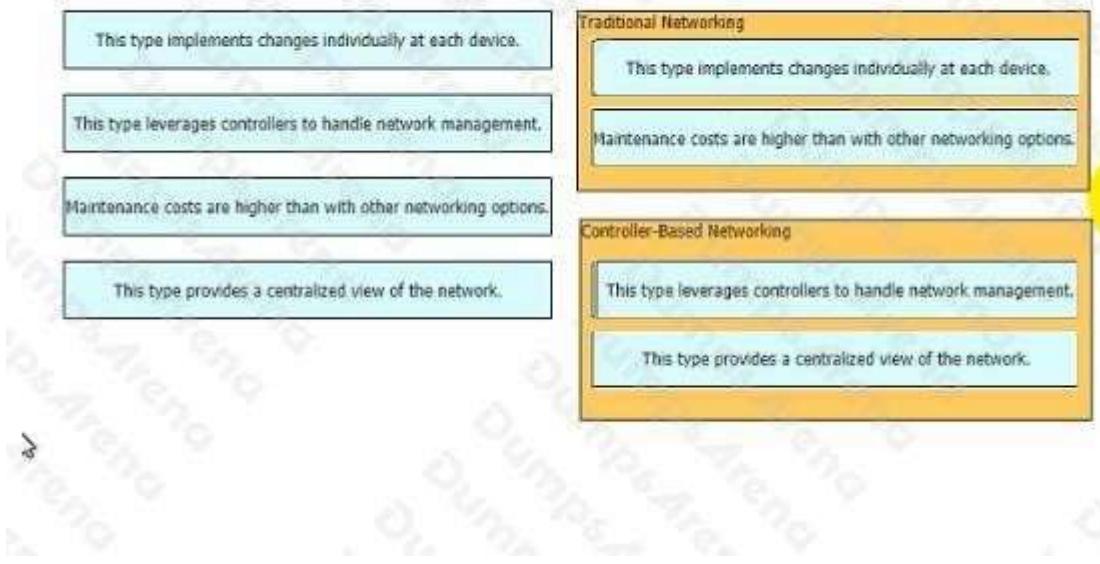
D.

**Correct Answer:**

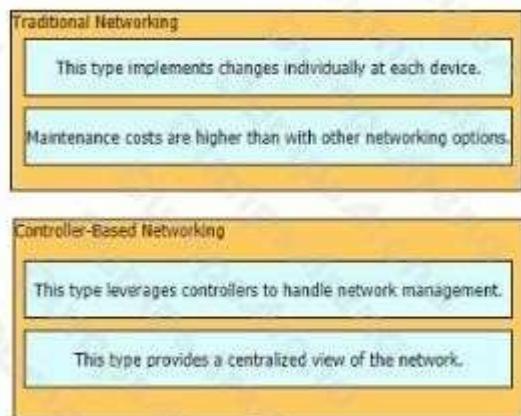
**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:



### QUESTION 501 - (Topic 2)

What is the purpose of the ip address dhcp command?

- A. to configure an Interface as a DHCP server
- B. to configure an interface as a DHCP helper
- C. to configure an interface as a DHCP relay
- D. to configure an interface as a DHCP client

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 502**

- (Topic 2)

Refer to the exhibit.

The router has been configured with a supernet to accommodate the requirement for 380 users on a subnet. The requirement already considers 30% future growth. Which configuration verifies the IP subnet on router R4?

- A. Subnet: 10.7.54.0  
Subnet mask: 255.255.254.0  
Broadcast address: 10.7.55.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254
  - B. Subnet: 10.7.54.0  
Subnet mask: 255.255.254.0  
Broadcast address: 10.7.55.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254
  - C. Subnet: 10.7.54.0  
Subnet mask: 255.255.128.0  
Broadcast address: 10.7.55.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254
  - D. Subnet: 10.7.54.0  
Subnet mask: 255.255.255.0  
Broadcast address: 10.7.54.255  
Usable IP address range: 10.7.54.1 - 10.7.55.254
- A. Option A
  - B. Option B
  - C. Option C
  - D. Option D

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 503**

- (Topic 2)

Refer to the exhibit.

```
R1# show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set
  10.0.0.0/24 is subnetted, 5 subnets
D  10.1.2.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0
D  10.1.3.0/24 [90/2170112] via 10.165.20.226, 00:01:30, Serial0/0
D  10.1.2.0/25 [90/2170112] via 10.165.20.126, 00:01:30, Serial0/0
D  10.1.3.0/25 [90/2170112] via 10.165.20.146, 00:01:30, Serial0/0
D  10.1.4.0/25 [90/2170112] via 10.165.20.156, 00:01:30, Serial0/0
  192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C  192.168.10.0/24 is directly connected, GigabitEthernet0/0
  192.168.21.0/24 is variably subnetted, 2 subnets, 2 masks
C  192.168.11.0/24 is directly connected, GigabitEthernet0/1
  10.165.20.0/24 is variably subnetted, 2 subnets, 2 masks
C  10.165.20.224/24 is directly connected, Serial0/0
S  10.1.2.112/28 {1/0} via 10.165.20.166
```

What is the next hop for traffic entering R1 with a destination of 10.1.2.126?

- A. 10.165.20.126
- B. 10.165.20.146
- C. 10.165.20.166
- D. 10.165.20.226

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 504**

- (Topic 2)

What is one reason to implement LAG on a Cisco WLC?

- A. to increase security and encrypt management frames
- B. to provide link redundancy and load balancing
- C. to allow for stateful and link-state failover
- D. to enable connected switch ports to failover and use different VLANs

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 505**

- (Topic 2)

Refer to the exhibit.



Which two commands must be configured on router R1 to enable the router to accept secure remote-access connections? (Choose two )

- A. transport input telnet
- B. crypto key generate rsa
- C. ip ssh pubkey-chain
- D. login console
- E. username cisco password 0 Cisco

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 506**

- (Topic 2)

Which QoS traffic handling technique retains excess packets in a queue and reschedules these packets for later transmission when the configured maximum bandwidth has been surpassed?

- A. weighted random early detection
- B. traffic policing
- C. traffic shaping
- D. traffic prioritization

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 507**

- (Topic 2)

Refer to the exhibit.

A network engineer configures the Cisco WLC to authenticate local wireless clients against a RADIUS server. Which task must be performed to complete the process?

- A. Change the Server Status to Disabled
- B. Select Enable next to Management
- C. Select Enable next to Network User
- D. Change the Support for CoA to Enabled.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 508**

- (Topic 2)

A Cisco engineer must configure a single switch interface to meet these requirements

- accept untagged frames and place them in VLAN 20
- accept tagged frames in VLAN 30 when CDP detects a Cisco IP phone. Which command set must the engineer apply?

- A. **switchport mode dynamic desirable  
switchport access vlan 20  
switchport trunk allowed vlan 30  
switchport voice vlan 30**
- B. **switchport mode dynamic auto  
switchport trunk native vlan 20  
switchport trunk allowed vlan 30  
switchport voice vlan 30**

C. **switchport mode access  
switchport access vlan 20  
switchport voice vlan 30**

D. **switchport mode trunk  
switchport access vlan 20  
switchport voice vlan 30**

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

- D. Option D

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 509**

- (Topic 2)

Refer to the exhibit.

An engineer assumes a configuration task from a peer Router A must establish an OSPF neighbor relationship with neighbor 172.1.1.1. The output displays the status of the adjacency after 2 hours. What is the next step in the configuration process for the routers to establish an adjacency?

- A. Configure router A to use the same MTU size as router B.
- B. Set the router B OSPF ID to a nonhost address.
- C. Configure a point-to-point link between router A and router B.
- D. Set the router B OSPF ID to the same value as its IP address

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 510**

- (Topic 2)

Refer to the exhibit.

Which network prefix was learned via EIGRP?

- A. 172.16.0.0/16
- B. 192.168.2.0/24
- C. 207.165.200.0/24
- D. 192.168.1.0/24

**Correct Answer:** B

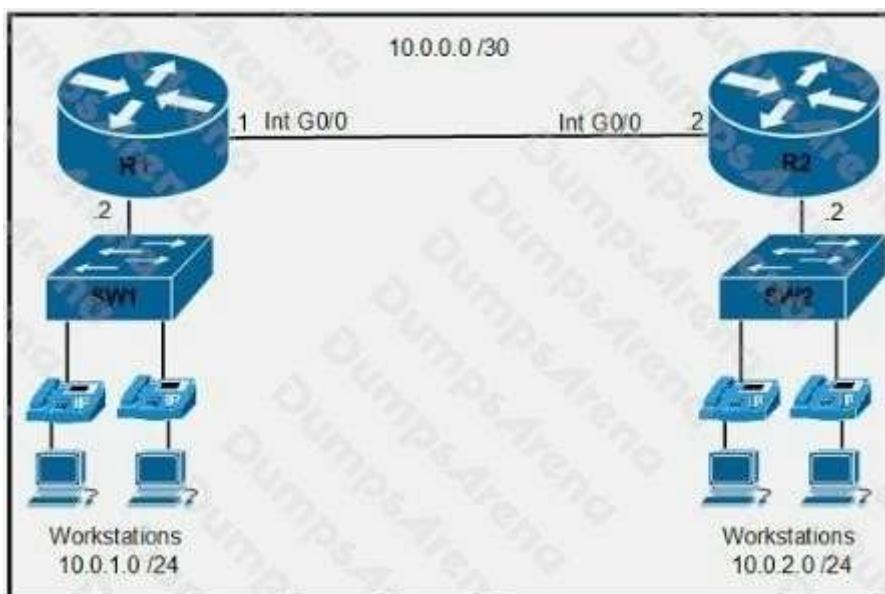
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 511

- (Topic 2)



Refer to the exhibit. An engineer is asked to configure router R1 so that it forms an OSPF single-area neighbor relationship with R2. Which command sequence must be implemented to configure the router?

- router ospf 10  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.2.0 0.0.0.255 area 0
- router ospf 10  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.1.0 0.0.0.255 area 0
- router ospf 100  
network 10.0.0.0 0.0.0.3 area 0  
network 10.0.2.0 255.255.255.0 area 0
- router ospf 100  
network 10.0.0.0 0.0.0.252 area 0  
network 10.0.1.0 0.0.0.255 area 0

- A. Option A

- B. Option B
  - C. Option C
  - D. Option D
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**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 512**

- (Topic 2)

A network engineer is installing an IPv6-only capable device. The client has requested that the device IP address be reachable only from the internal network. Which type of IPv6 address must the engineer assign?

- A. unique local address
- B. link-local address
- C. aggregatable global address
- D. IPv4-compatible IPv6 address

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 513**

- (Topic 2)

Refer to the exhibit.

```
| R1(config)#router ospf 1  
R1(config-router)#router-id 192.168.100.1
```

Which two configurations must the engineer apply on this network so that R1 becomes the DR? (Choose two.)

A)

```
R1(config)#interface fastethernet 0/0  
R1(config-if)#ip ospf priority 200
```

B)

C)

```
R3(config)#interface fastethernet 0/0  
R3(config-if)#ip ospf priority 0
```

D)

```
R1(config)#interface fastethernet 0/0  
R1(config-if)#ip ospf priority 0
```

E)

```
R3(config)#interface fastethernet 0/0  
R3(config-if)#ip ospf priority 200
```

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

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 514**

- (Topic 2)

Refer to the exhibit.

What are two conclusions about this configuration? {Choose two.}

- A. The spanning-tree mode is Rapid PVST+.
- B. This is a root bridge.
- C. The root port is FastEthernet 2/1.
- D. The designated port is FastEthernet 2/1.
- E. The spanning-tree mode is PVST+.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 515**

- (Topic 2)

Refer to the exhibit.

The DHCP server and clients are connected to the same switch. What is the next step to complete the DHCP configuration to allow clients on VLAN 1 to receive addresses from the DHCP server?

- A. Configure the ip dhcp snooping trust command on the interface that is connected to the DHCP client.
- B. Configure the ip dhcp relay information option command on the interface that is connected to the DHCP client.
- C. Configure the ip dhcp snooping trust command on the interface that is connected to the DHCP server.
- D. Configure the ip dhcp relay information option command on the interface that is connected to the DHCP server.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 516

- (SIMULATION) - (Topic 2)

Refer to the exhibit.

- ~ 209.165.201.0/27 is subnetted, 1 subnets
- B 209.165.201.0 [20/0] via 10.10.12.2, 02:26:33
- 209.165.202.0/27 is subnetted, 1 subnets
- B 209.165.202.128 [20/0] via 10.10.12.2, 02:26:03
- 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks
- C 10.10.10.0/28 is directly connected, GigabitEthernet0/0
- C 10.10.11.0/30 is directly connected, FastEthernet2/0
- C 10.10.12.0/30 is directly connected, GigabitEthernet0/1
- O 10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.128/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.144/28 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.160/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- O 10.10.13.208/29 [110/2] via 10.10.10.1, 00:00:04, GigabitEthernet0/0
- S\* 0.0.0.0/0 [1/0] via 10.10.11.2

Drag and drop the prefix lengths from the left onto the corresponding prefixes on the right Not all prefixes are used

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation Below For Answer

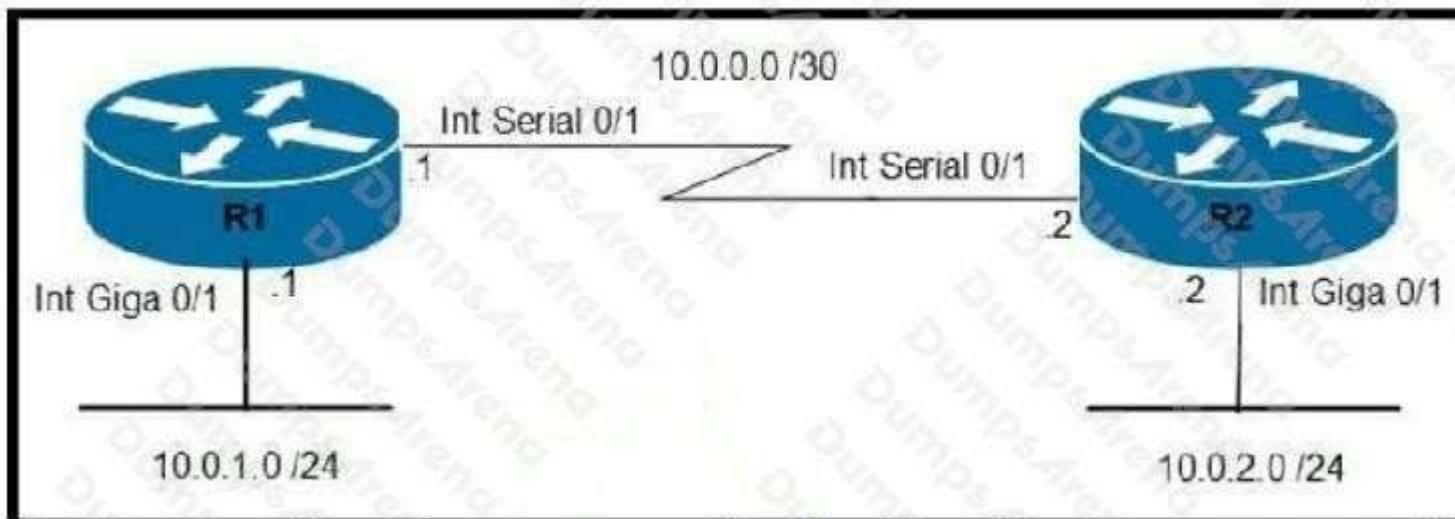
Explanation:

Diagram Description automatically generated with low confidence

**QUESTION 517**

- (Topic 2)

Refer to the exhibit.



Which command configures OSPF on the point-to-point link between routers R1 and R2?

- A. router-id 10.0.0.15

- B. neighbor 10.1.2.0 cost 180
- C. ip ospf priority 100
- D. network 10.0.0.0 0.0.0.255 area 0

**Correct Answer:** D

**Section:** (none)

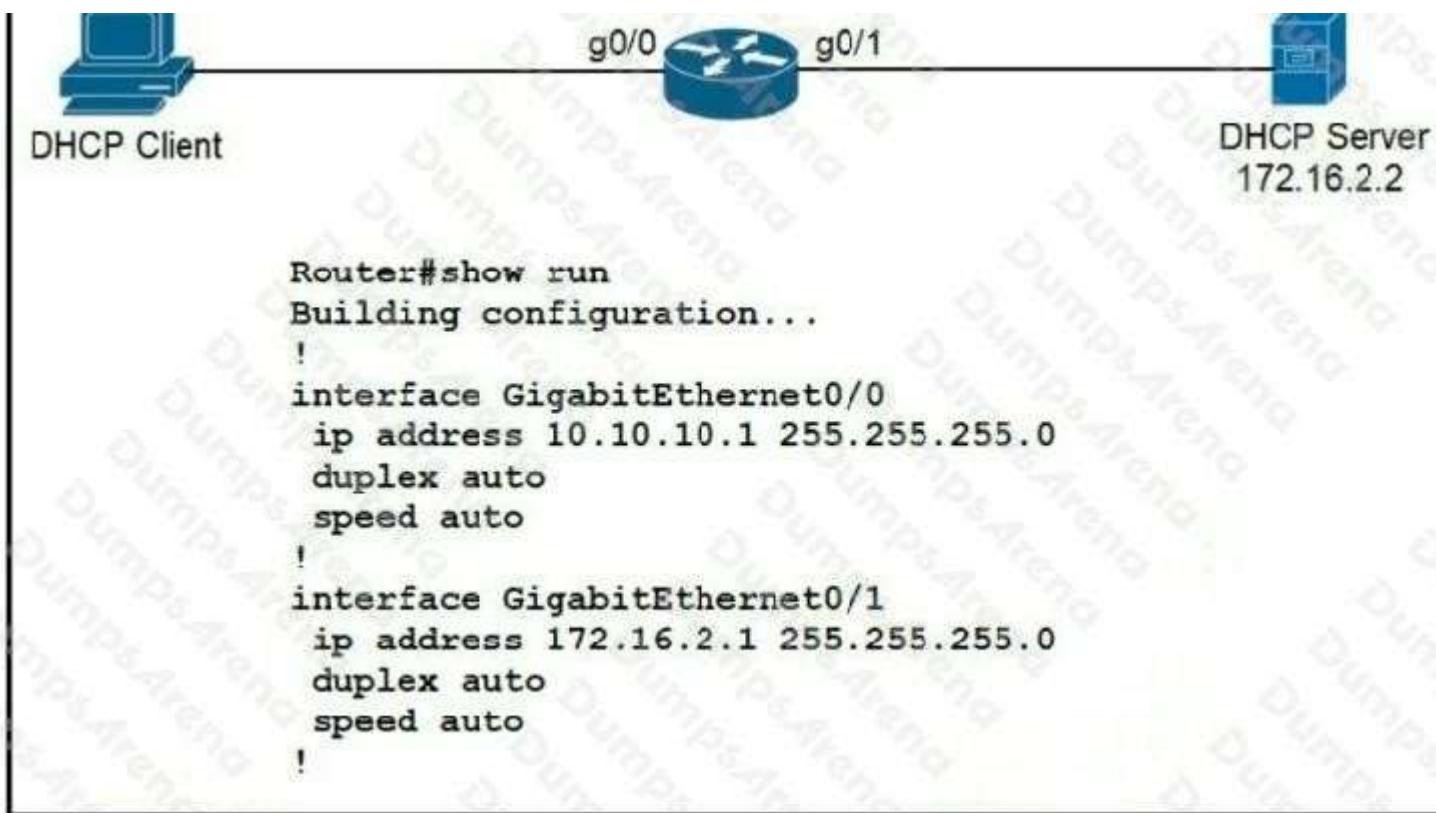
**Explanation**

**Explanation/Reference:**

**QUESTION 518**

- (Topic 2)

Refer to the exhibit.



An engineer is configuring a new router on the network and applied this configuration. Which additional configuration allows the PC to obtain its IP address from a DHCP server?

- A. Configure the ip dhcp relay information command under interface Gi0/1.
- B. Configure the ip dhcp smart-relay command globally on the router
- C. Configure the ip helper-address 172.16.2.2 command under interface Gi0/0
- D. Configure the ip address dhcp command under interface Gi0/0

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 519**

- (Topic 2)

Which QoS queuing method discards or marks packets that exceed the desired bit rate of traffic flow?

- A. shaping
- B. policing
- C. CBWFQ
- D. LLQ

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 520**

- (Topic 2)

Which type of IPv6 address is similar to a unicast address but is assigned to multiple devices on the same network at the

same time?

- A. global unicast address
- B. anycast address
- C. multicast address
- D. link-local address

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 521**

- (Topic 2)

Refer to the exhibit.

An engineer built a new L2 LACP EtherChannel between SW1 and SW2 and executed these show commands to verify the work. Which additional task allows the two switches to establish an LACP port channel?

- A. Change the channel-group mode on SW2 to auto
- B. Change the channel-group mode on SW1 to desirable.

- C. Configure the interface port-channel 1 command on both switches.
- D. Change the channel-group mode on SW1 to active or passive.

**Correct Answer:** D

**Section:** (none)

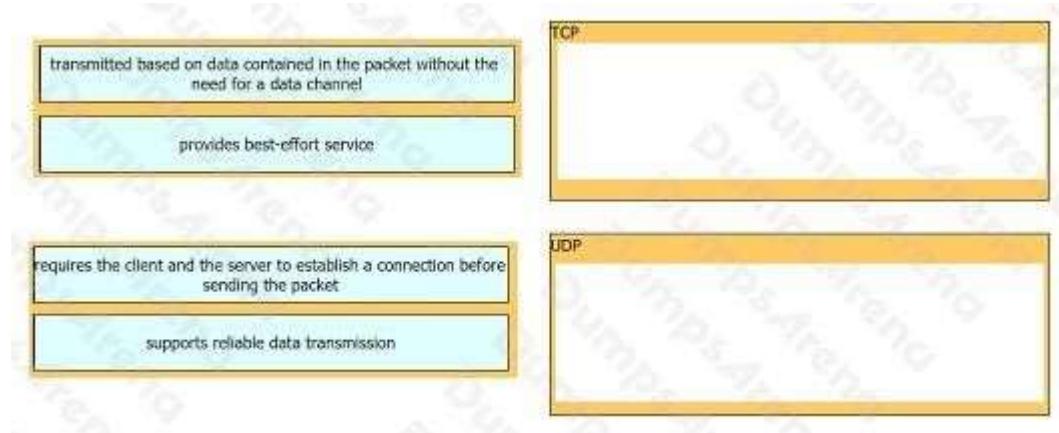
**Explanation**

**Explanation/Reference:**

**QUESTION 522**

- (DRAG DROP) - (Topic 2)

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.



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

**Correct Answer:**

**Section:** (none)

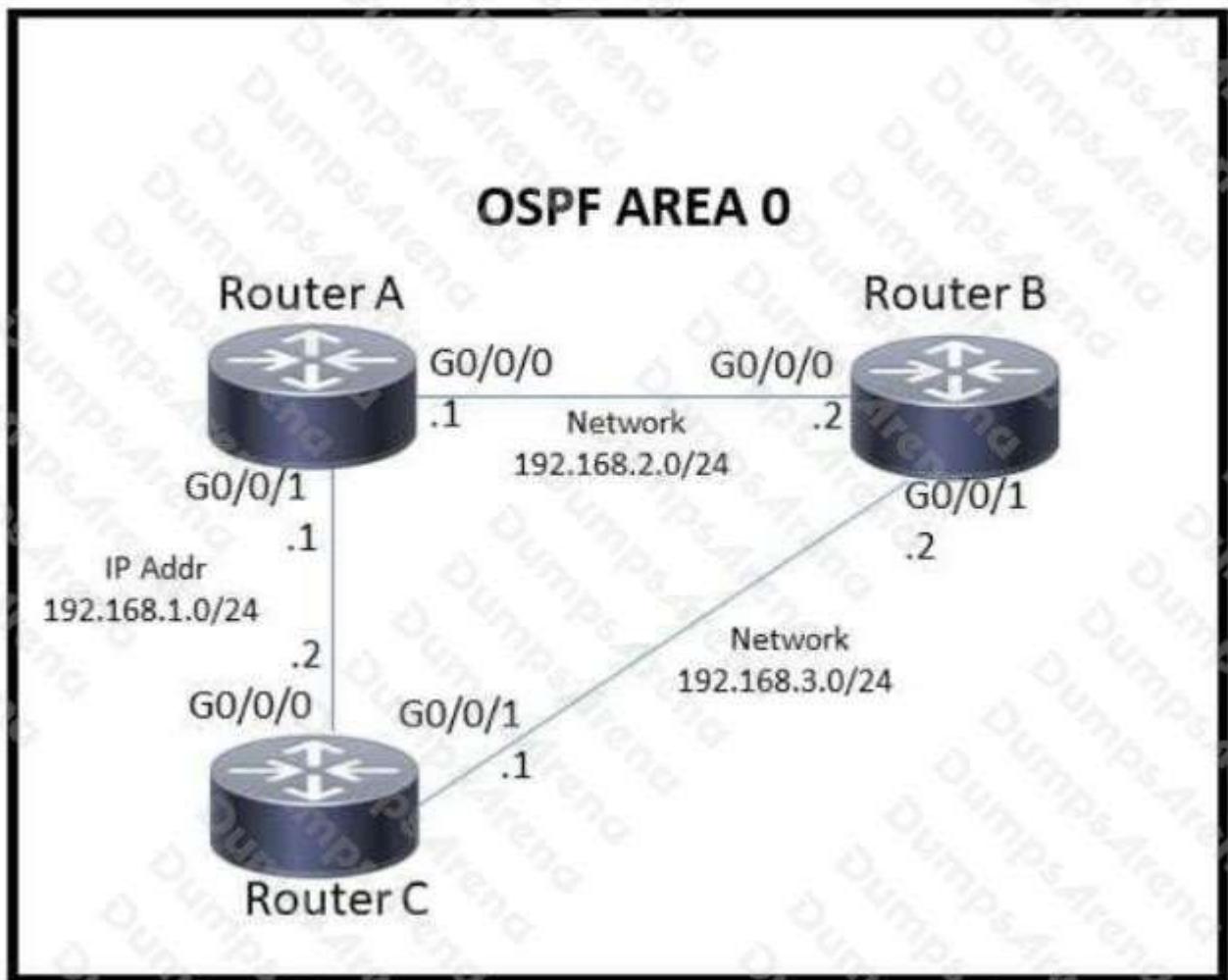
**Explanation**

**Explanation/Reference:**

|                                                                                        |     |                                                                                        |
|----------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------|
| transmitted based on data contained in the packet without the need for a data channel  | TCP | requires the client and the server to establish a connection before sending the packet |
| provides best-effort service                                                           |     | supports reliable data transmission                                                    |
| requires the client and the server to establish a connection before sending the packet | UDP | transmitted based on data contained in the packet without the need for a data channel. |
| supports reliable data transmission                                                    |     | provides best-effort service                                                           |

Explanation:

|     |                                                                                        |
|-----|----------------------------------------------------------------------------------------|
| TCP | requires the client and the server to establish a connection before sending the packet |
|     | supports reliable data transmission                                                    |
| UDP | transmitted based on data contained in the packet without the need for a data channel  |
|     | provides best-effort service                                                           |



#### QUESTION 523

- (Topic 2)

Refer to the exhibit.

Which action must be taken to ensure that router A is elected as the DR for OSPF area 0?

- A. Configure the OSPF priority on router A with the lowest value between the three routers.
- B. Configure router B and router C as OSPF neighbors of router A.
- C. Configure the router A interfaces with the highest OSPF priority value within the area.
- D. Configure router A with a fixed OSPF router ID

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 524**

- (Topic 2)

Which QoS per-hop behavior changes the value of the ToS field in the IPv4 packet header?

- A. shaping
- B. classification
- C. policing
- D. marking

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 525**

- (Topic 2)

Which two practices are recommended for an acceptable security posture in a network? (Choose two)

- A. Backup device configurations to encrypted USB drives for secure retrieval
- B. maintain network equipment in a secure location
- C. Use a cryptographic keychain to authenticate to network devices
- D. Place internal email and file servers in a designated DMZ
- E. Disable unused or unnecessary ports, interfaces and services

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 526**

- (DRAG DROP) - (Topic 2)

Drag and drop the functions of AAA supporting protocols from the left onto the protocols on the right.

- encrypts only the password when it sends an access request
- encrypts the entire body of the access-request packet
- separates all three AAA operations
- combines authentication and authorization
- uses TCP 
- uses UDP



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

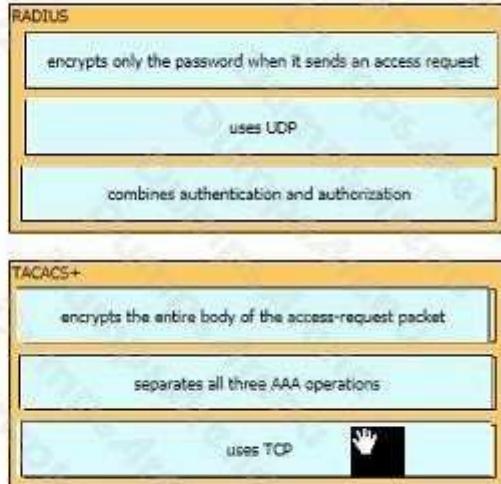
**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

- encrypts only the password when it sends an access request
- encrypts the entire body of the access-request packet
- separates all three AAA operations
- combines authentication and authorization
- uses TCP 
- uses UDP



Explanation:

A picture containing graphical user interface Description automatically generated

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### QUESTION 527

- (Topic 2)

A network administrator is setting up a new IPv6 network using the 64-bit address 2001 0EB8 00C1 2200:0001 0000 0000 0331/64 To simplify the configuration the administrator has decided to compress the address Which IP address must the administrator configure?

- A. ipv6 address 21:EB8:C1:2200:1::331/64
- B. ipv6 address 2001:EB8:C1:22:1::331/64
- C. ipv6 address 2001 :EB8:C 1:2200.1 ::331-64
- D. ipv6 address 2001:EB8:C1:2200:1:0000:331/64

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 528**

- (Topic 2)

Which action implements physical access control as part of the security program of an organization?

- A. configuring a password for the console port
- B. backing up syslogs at a remote location
- C. configuring enable passwords on network devices
- D. setting up IP cameras to monitor key infrastructure

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 529**

- (Topic 2)

An engineer is installing a new wireless printer with a static IP address on the Wi-Fi network. Which feature must be enabled and configured to prevent connection issues with the printer?

- A. client exclusion
- B. passive client
- C. DHCP address assignment
- D. static IP tunneling

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 530**

- (Topic 2)

A network engineer is replacing the switches that belong to a managed-services client with new Cisco Catalyst switches. The new switches will be configured for updated security standards, including replacing Telnet services with encrypted connections and doubling the modulus size from 1024. Which two commands must the engineer configure on the new switches? (Choose two.)

- A. crypto key generate rsa general-keys modulus 1024
- B. transport input all
- C. crypto key generate rsa usage-keys
- D. crypto key generate rsa modulus 2048
- E. transport Input ssh

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 531**

- (Topic 2)

Refer to the exhibit.

```
Router#show run
Building configuration...

Current configuration : 1530 bytes
!
! Last configuration change at 11:32:53 UTC Sat Oct 10 2020
upgrade fpd auto
version 15.2
service timestamps debug datetime msec
service timestamps log datetime msec
no service password-encryption
!
hostname Router
!
boot-start-marker
boot-end-marker
!
!
!
no aaa new-model
no ip icmp rate-limit unreachable
!
!
!
!--More--
```

```
Router(config)#hostname R15
R15(config)#crypto key generate rsa general-keys modulus 1024
R15(config-line)#line vty 0 15
R15(config-line)# transport input ssh
R15(config)#ip ssh source-interface Fa0/0
R15(config)#ip ssh stricthostkeycheck
```

Which minimum configuration items are needed to enable Secure Shell version 2 access to R15? A)

B)

```
Router(config)#crypto key generate rsa general-keys modulus 1024
Router(config)#ip ssh version 2
Router(config-line)#line vty 0 15
Router(config-line)# transport input ssh
Router(config)#ip ssh logging events
R15(config)#ip ssh stricthostkeycheck
```

C)

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```
Router(config)#ip domain-name cisco.com
Router(config)#crypto key generate rsa general-keys modulus 1024
Router(config)#ip ssh version 2
Router(config-line)#line vty 0 15
Router(config-line)# transport input all
Router(config)#ip ssh logging events
```

D)

```
Router(config)#hostname R15
R15(config)#ip domain-name cisco.com
R15(config)#crypto key generate rsa general-keys modulus 1024
R15(config)#ip ssh version 2
R15(config-line)#line vty 0 15
R15(config-line)# transport input ssh
```

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

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 532**

- (DRAG DROP) - (Topic 2)

Drag and drop the elements of a security program from the left onto the corresponding descriptions on the right

awareness

document that outlines an organization's security goals and practices and the roles and responsibilities of the organization's personnel

education

tactical document that sets out specific tasks and methods to maintain security

security policy

user-awareness learning level that focuses on learning about topics and practices beyond what is typically required by the user's job

security standard

user-awareness learning level that focuses on security practices that all employees must understand and enforce

training

user-awareness learning level that focuses on teaching employees how to perform tasks specifically required by their jobs

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

**Correct Answer:**

**Section: (none)**

## Explanation

### Explanation/Reference:

Explanation:

Diagram Description automatically generated

|                   |                                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| awareness         | document that outlines an organization's security goals and practices and the roles and responsibilities of the organization's personnel |
| education         | tactical document that sets out specific tasks and methods to maintain security                                                          |
| security policy   | user-awareness learning level that focuses on learning about topics and practices beyond what is typically required by the user's job    |
| security standard | user-awareness learning level that focuses on security practices that all employees must understand and enforce                          |
| training          | user-awareness learning level that focuses on teaching employees how to perform tasks specifically required by their jobs                |

*Security Standards*  
*Security Policy*  
*Education*  
*Awareness*  
*Training*

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<https://www.ciscopress.com/articles/article.asp?p=1998559&seqNum=3>

### QUESTION 533

- (DRAG DROP) - (Topic 2)

Drag and drop the QoS terms from the left onto the descriptions on the right.

|                                   |                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------|
| class-based weighted fair queuing | categorizes packets based on the value of a traffic descriptor                          |
| classification                    | guarantees minimum bandwidth to specific traffic classes when an interface is congested |
| congestion                        | prevents congestion by reducing the flow of outbound traffic                            |
| policing                          | outcome of overutilization                                                              |
| shaping                           | uses defined criteria to limit the transmission of one or more classes of traffic       |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| class-based weighted fair queuing | classification                    |
| classification                    | shaping                           |
| congestion                        | policing                          |
| policing                          | congestion                        |
| shaping                           | class-based weighted fair queuing |

**Explanation:**

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# DUMPS ARENA



Table Description automatically generated

**QUESTION 534**

- (Topic 2)

Refer to the exhibit.

The screenshot shows the 'Layer 3' tab selected under the 'Security' section of a Cisco device's configuration interface. The 'WPA+WPA2 Parameters' section is visible, with 'WPA2 Policy' checked and 'CCMP128(AES)' selected as the encryption method. Other options like TKIP, CCMP256, GCMP128, and GCMP256 are also listed. The 'Fast Transition' section shows 'Fast Transition' set to 'Disable'. In the 'Protected Management Frame' section, 'PMF' is set to 'Disabled'. Under 'Authentication Key Management', '802.1X-SHA1' is checked and set to 'Enable'. The top navigation bar includes tabs for General, Security, QoS, Policy-Mapping, Advanced, Layer 2, Layer 3, and AAA Servers.

What must be configured to enable 802.11w on the WLAN?

- A. Set PMF to Required.
- B. Enable MAC Filtering.
- C. Enable WPA Policy.
- D. Set Fast Transition to Enabled

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 535

- (Topic 2)

What is a function of Cisco Advanced Malware Protection for a Next-Generation IPS?

- A. authorizing potentially compromised wireless traffic
- B. inspecting specific files and file types for malware

- C. authenticating end users
- D. URL filtering

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AMP gives you real-time blocking of malware and advanced sandboxing, that is backed up by world class global threat intelligence, to provide rapid detection, containment and removal of advanced malware

<https://www.cisco.com/c/en/us/products/security/amp-appliances/index.html>

**QUESTION 536**

- (Topic 2)

Why would VRRP be implemented when configuring a new subnet in a multivendor environment?

- A. when a gateway protocol is required that support more than two Cisco devices for redundancy
- B. to enable normal operations to continue after a member failure without requiring a change In a host ARP cache
- C. to ensure that the spanning-tree forwarding path to the gateway is loop-free
- D. to interoperate normally with all vendors and provide additional security features for Cisco devices

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 537**

- (Topic 2)

Refer to the exhibit.



```

Router1(config)#interface GigabitEthernet0/0
Router1(config-if)#ip address 209.165.200.225 255.255.255.224
Router1(config-if)#ip nat outside
Router1(config)#interface GigabitEthernet0/1
Router1(config-if)#ip nat inside
Router1(config)#interface GigabitEthernet0/1.100
Router1(config-if)#encapsulation dot1Q 100
Router1(config-if)#ip address 10.10.10.1 255.255.255.0
Router1(config)#interface GigabitEthernet0/1.200
Router1(config-if)#encapsulation dot1Q 200
Router1(config-if)#ip address 10.10.20.1 255.255.255.0
Router1(config)#ip access-list standard NAT_INSIDE_RANGES
Router1(config-std-nacl)#permit 10.10.10.0 0.0.0.255
Router1(config)#ip nat inside source list NAT_INSIDE_RANGES interface GigabitEthernet0/0 overload

```

Users on existing VLAN 100 can reach sites on the Internet. Which action must the administrator take to establish connectivity to the Internet for users in VLAN 200?

- A. Define a NAT pool on the router.
- B. Configure static NAT translations for VLAN 200.
- C. Configure the ip nat outside command on another interface for VLAN 200.
- D. Update the NAT INSIDF RANGFS ACL

**Correct Answer:** B

**Section:** (none)

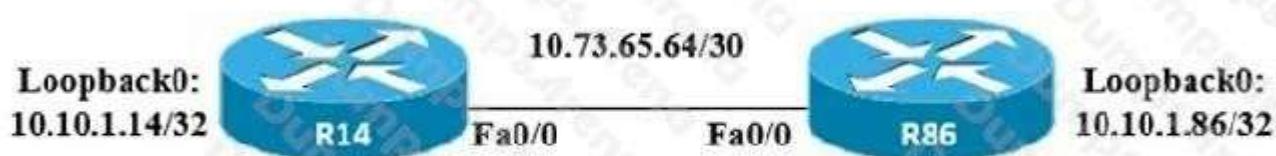
**Explanation**

**Explanation/Reference:**

#### QUESTION 538

- (Topic 2)

Refer to the exhibit.



All interfaces are configured with duplex auto and ip ospf network broadcast. Which configuration allows routers R14 and R86 to form an OSPFv2 adjacency and act as a central point for exchanging OSPF information between routers?

- R14#  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf priority 0  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0
- R86#  
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.86  
network 10.10.1.86 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0

④ R14#  
interface Loopback0  
ip ospf 10 area 0

interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf priority 255  
ip ospf 10 area 0  
ip mtu 1500

router ospf 10  
router-id 10.10.1.14

R86#  
interface Loopback0  
ip ospf 10 area 0

interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf 10 area 0  
ip mtu 1500

router ospf 10  
router-id 10.10.1.86

R14#  
**interface FastEthernet0/0**  
ip address 10.73.65.65 255.255.255.252  
ip ospf priority 255  
ip mtu 1500

router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0  
R86#  
**interface FastEthernet0/0**  
ip address 10.73.65.66 255.255.255.252  
ip mtu 1400

router ospf 10  
router-id 10.10.1.86  
network 10.10.1.86 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0

R14#  
**interface Loopback0**  
ip ospf 10 area 0  
  
**interface FastEthernet0/0**  
ip address 10.73.65.65 255.255.255.252  
ip ospf 10 area 0  
ip mtu 1500

router ospf 10  
ip ospf priority 255  
router-id 10.10.1.14  
R86#  
**interface Loopback0**  
ip ospf 10 area 0

**interface FastEthernet0/0**  
ip address 10.73.65.66 255.255.255.252  
ip ospf 10 area 0  
ip mtu 1500

router ospf 10  
router-id 10.10.1.86

---

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 539**

- (Topic 2)

Which Layer 2 switch function encapsulates packets for different VLANs so that the packets traverse the same port and maintain traffic separation between the VLANs?

- A. VLAN numbering
- B. VLAN DSCP
- C. VLAN tagging
- D. VLAN marking

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 540**

- (Topic 2)

Which WAN topology has the highest degree of reliability?

- A. full mesh
- B. Point-to-point
- C. hub-and-spoke
- D. router-on-a-stick

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 541**

- (Topic 2)

Refer to the exhibit.

Web traffic is coming in from the WAN interface. Which route takes precedence when the router is processing traffic destined for the LAN network at 10.0.10.0/24?

- A. via next-hop 10.0.1.5
- B. via next-hop 10.0.1.4
- C. via next-hop 10.0.1.50
- D. via next-hop 10.0.1.100

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 542**

- (SIMULATION) - (Topic 2)

Drag and drop the functions of SNMP fault-management from the left onto the definitions on the right.

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation Below For Answer

Explanation:

Table Description automatically generated

event correlation and aggregation

fault detection

fault diagnosis and isolation

problem resolution

restoration of service

**QUESTION 543**  
- (Topic 2)

After a recent security breach and a RADIUS failure, an engineer must secure the console port of each enterprise router with a local username and password. Which configuration must the engineer apply to accomplish this task?

```
● aaa new-model
  line con 0
  password plaintextpassword
  privilege level 15

● username localuser secret plaintextpassword
  line con 0
  login authentication default
  privilege level 15

● username localuser secret plaintextpassword
  line con 0
  no login local
  privilege level 15

● aaa new-model
  aaa authorization exec default local
  aaa authentication login default radius
  username localuser privilege 15 secret plaintextpassword
```

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

**Correct Answer:** B

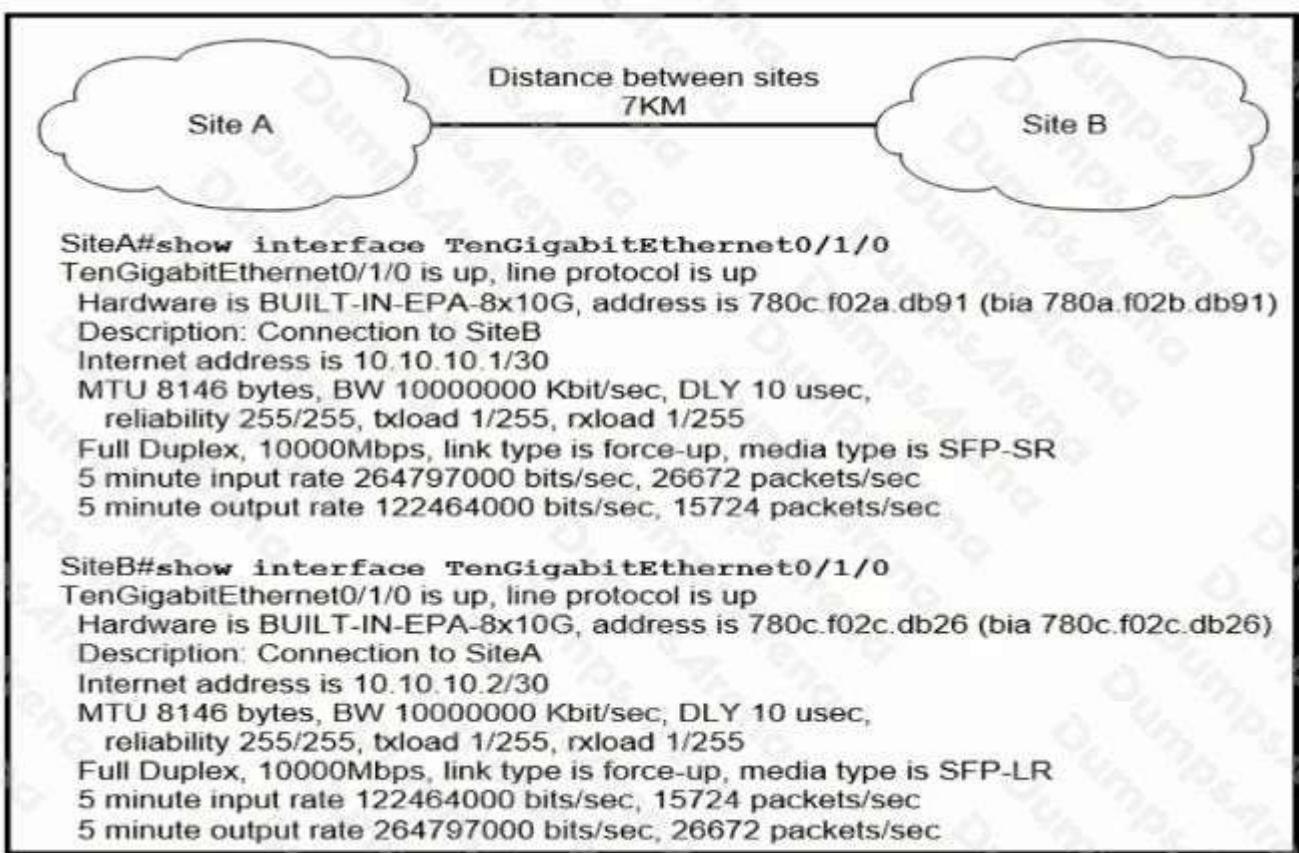
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 544**  
- (Topic 2)

Refer to the exhibit.



Site A was recently connected to site B over a new single-mode fiber path. Users at site A report Intermittent connectivity Issues with applications hosted at site B. What is the reason for the problem?

- A. Heavy usage is causing high latency.
- B. An incorrect type of transceiver has been inserted into a device on the link.
- C. physical network errors are being transmitted between the two sites.
- D. The wrong cable type was used to make the connection.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 545

- (DRAG DROP) - (Topic 2)

Drag and drop the HTTP methods used with REST-Based APIs from the left onto the descriptions on the right.

|        |                                                                                          |
|--------|------------------------------------------------------------------------------------------|
| DELETE | creates a resource and returns its URI in the response header                            |
| GET    | creates or replaces a previously modified resource using information in the request body |
| POST   | removes a resource                                                                       |
| PATCH  | retrieves a list of a resource's URIs.                                                   |
| PUT    | updates a resource using instructions included in the request body                       |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|        |        |
|--------|--------|
| DELETE | POST   |
| GET    | DELETE |
| POST   | PATCH  |
| PATCH  | PUT    |
| PUT    | GET    |

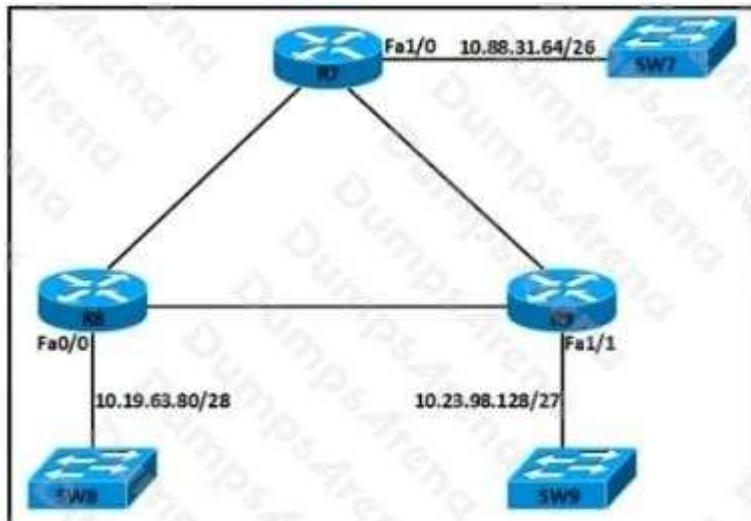
**Explanation:**

# DUMPS ARENA



Table Description automatically generated

**QUESTION 546**  
- (Topic 2)



Refer to the exhibit. Each router must be configured with the last usable IP address in the subnet. Which configuration fulfills this requirement?

```
R7#  
interface FastEthernet1/0  
ip address 10.88.31.126 255.255.255.240  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.94 255.255.255.192  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.158 255.255.255.248  
  
R7#  
interface FastEthernet1/0  
ip address 10.88.31.127 255.255.255.240  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.95 255.255.255.192  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.159 255.255.255.248  
  
R7#  
interface FastEthernet1/0  
ip address 10.88.31.126 255.255.255.192  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.94 255.255.255.240  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.158 255.255.255.224  
  
R7#  
interface FastEthernet1/0  
ip address 10.88.31.127 255.255.255.192  
  
R8#  
interface FastEthernet0/0  
ip address 10.19.63.95 255.255.255.240  
  
R9#  
interface FastEthernet1/1  
ip address 10.23.98.159 255.255.255.224
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 547**

- (Topic 2)

Which command do you enter so that a switch configured with Rapid PVST + listens and learns for a specific time period?

- A. switch(config)#spanning-tree vlan 1 max-age 6
- B. switch(config)#spanning-tree vlan 1 hello-time 10
- C. switch(config)#spanning-tree vlan 1 priority 4096

D. switch(config)#spanning-tree vlan 1 forward-time 20

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Forward time : Determines how long each of the listening and learning states last before the port begins forwarding.

Switch(config)# [ no ] spanning-tree vlan vlan\_ID forward-time forward\_timeConfigures the forward time of a VLAN. The forward\_time value can be from 4 to 30 seconds.

[https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/15-02SG/configuration/guide/config\\_spantree.html#56177](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/15-02SG/configuration/guide/config_spantree.html#56177)

**QUESTION 548**

- (Topic 2)

What is a feature of WPA?

- A. 802.1x authentication
- B. preshared key
- C. TKIP/MIC encryption
- D. small Wi-Fi application

**Correct Answer:** A

**Section:** (none)

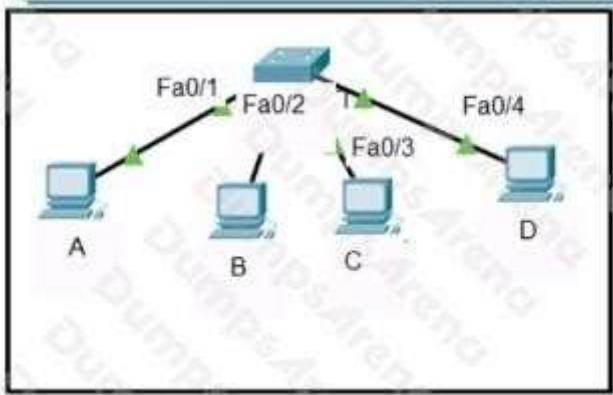
**Explanation**

**Explanation/Reference:**

**QUESTION 549**

- (Topic 2)

Refer to the exhibit.



Host A sent a data frame destined for host D

```
SwitchA#show mac-address table
Mac Address Table
```

| Vlan | Mac Address    | Type    | Ports |
|------|----------------|---------|-------|
| 2    | 000c.859c.bb7b | DYNAMIC | Fa0/1 |
| 2    | 0010.11dc.3e91 | DYNAMIC | Fa0/2 |
| 2    | 0041.45d7.c451 | DYNAMIC | Fa0/3 |

SwitchA#

What does the switch do when it receives the frame from host A?

- A. It drops the frame from the switch CAM table.
- B. It floods the frame out of all ports except port Fa0/1.
- C. It shuts down the port Fa0/1 and places it in err-disable mode.
- D. It experiences a broadcast storm.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 550

- (Topic 2)

What is the function of "off-the-shell" switches in a controller-based network?

- A. providing a central view of the deployed network
- B. forwarding packets
- C. making routing decisions
- D. setting packet-handling policies

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 551**

- (Topic 2)

What is a function of an endpoint on a network?

- A. forwards traffic between VLANs on a network
- B. connects server and client devices to a network
- C. allows users to record data and transmit to a tile server
- D. provides wireless services to users in a building

**Correct Answer: C**

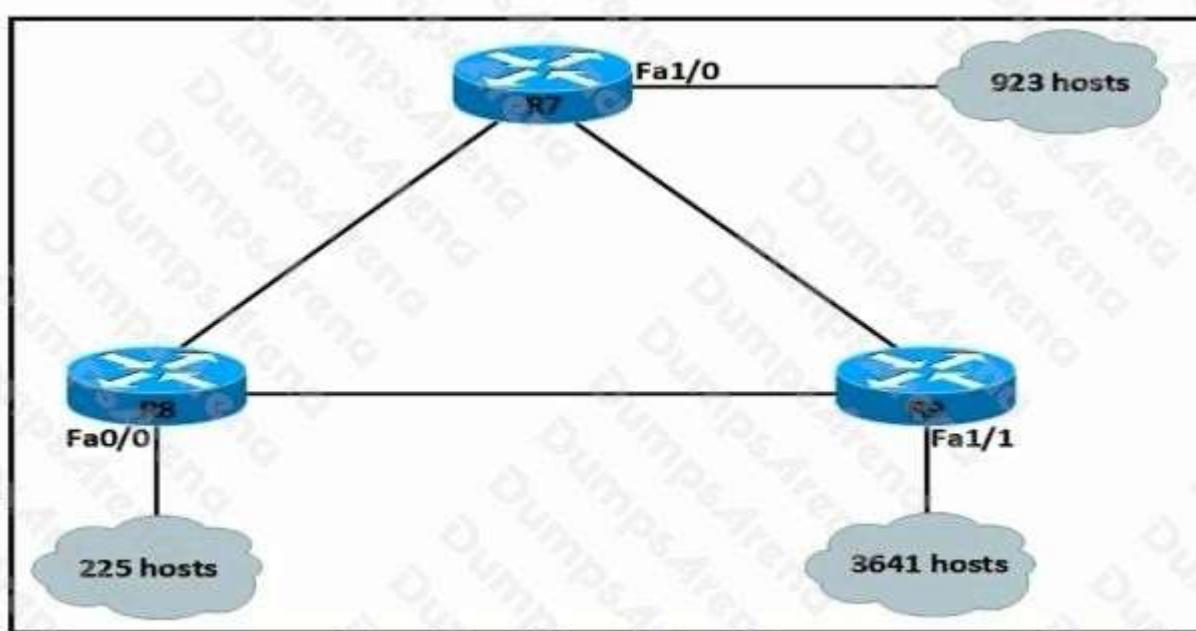
**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

An endpoint is a host that acts as the source or destination of data traffic flowing through a network. When you are at your PC, editing your CV and uploading it to a file server, you are sitting at an endpoint.



**QUESTION 552**

- (Topic 2)

Refer to the exhibit.

An IP subnet must be configured on each router that provides enough addresses for the number of assigned hosts and anticipates no more than 10% growth for new hosts. Which configuration script must be used?

A.

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.252.0
no shutdown

R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.255.0
no shutdown

R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.240.0
no shutdown
```

B.

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.248.0
no shutdown

R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.254.0
no shutdown

R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.248.0
no shutdown
```

C.

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.240.0
no shutdown

R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.224.0
no shutdown

R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.192.0
no shutdown
```

D.

```
R7#
configure terminal
interface Fa1/0
ip address 10.1.56.1 255.255.192.0
no shutdown

R8#
configure terminal
interface Fa0/0
ip address 10.9.32.1 255.255.224.0
no shutdown

R9#
configure terminal
interface Fa1/1
ip address 10.23.96.1 255.255.128.0
no shutdown
```

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 553

- (DRAG DROP) - (Topic 2)



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

**Correct Answer:**

**Section:** (none)

**Explanation**

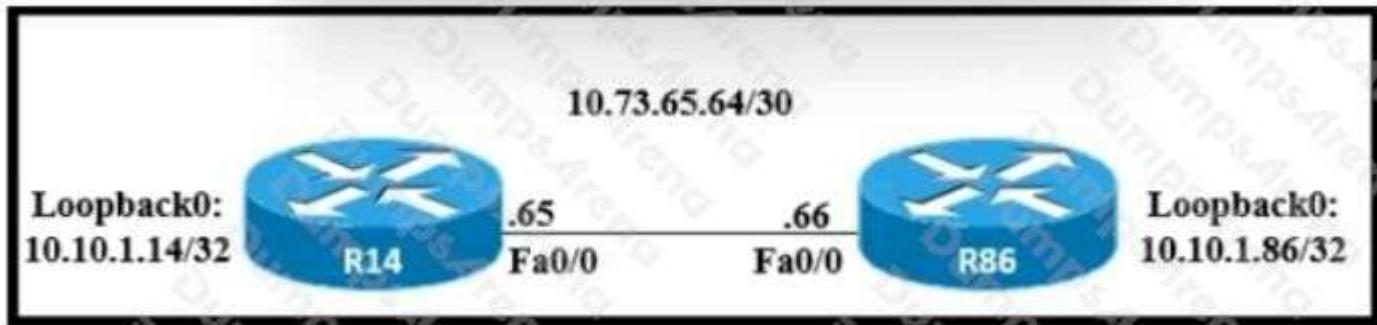
**Explanation/Reference:**



Explanation:



Graphical user interface Description automatically generated



**QUESTION 554**

- (Topic 2)

Refer to the exhibit.

A static route must be configured on R14 to forward traffic for the 172.21.34.0/25 network that resides on R86

Which command must be used to fulfill the request?

- A. ip route 172.21.34.0 255.255.255.192 10.73.65.65
- B. ip route 172.21.34.0 255.255.255.0 10.73.65.65
- C. ip route 172.21.34.0 255.255.128.0 10.73.65.64
- D. ip route 172.21.34.0 255.255.255.128 10.73.65.66

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 555**

- (Topic 2)

What is the collapsed layer in collapsed core architectures?

- A. core and WAN
- B. access and WAN
- C. distribution and access
- D. core and distribution

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 556**

- (Topic 2)

An engineer is configuring remote access to a router from IP subnet 10.139.58.0/28. The domain name, crypto keys, and SSH have been configured. Which configuration enables the traffic on the destination router?

- A. 

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.240
    access-group 120 in

    ip access-list extended 120
        permit tcp 10.139.58.0 255.255.255.248 any eq 22
```
- B. 

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.252
    ip access-group 110 in

    ip access-list extended 110
        permit tcp 10.139.58.0 0.0.0.15 host 10.122.49.1 eq 22
```
- C. 

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.248
    ip access-group 10 in

    ip access-list standard 10
        permit udp 10.139.58.0 0.0.0.7 host 10.122.49.1 eq 22
```
- D. 

```
interface FastEthernet0/0
    ip address 10.122.49.1 255.255.255.252
    ip access-group 105 in

    ip access-list standard 105
        permit tcp 10.139.58.0 0.0.0.7 eq 22 host 10.122.49.1
```

**Correct Answer:** B**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 557**

- (Topic 2)

Which REST method updates an object in the Cisco DNA Center Intent API?

- A. CHANGE
- B. UPDATE
- C. POST
- D. PUT

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

PUT is most-often utilized for \*\*update\*\* capabilities, PUT-ing to a known resource URI with the request body containing the newly-updated representation of the original resource. However, PUT can also be used to create a resource in the case where the resource ID is chosen by the client instead of by the server. In other words, if the PUT is to a URI that contains the value of a non-existent resource ID. Again, the request body contains a resource representation. Many feel this is convoluted and confusing. Consequently, this method of creation should be used sparingly, if at all. Alternatively, use POST to create new resources and provide the client-defined ID in the body representation--presumably to a URI that doesn't include the ID of the resource (see POST below). On successful update, return 200 (or 204 if not returning any content in the body) from a PUT. If using PUT for create, return HTTP status 201 on successful creation. A body in the response is optional--providing one consumes more bandwidth. It is not necessary to return a link via a Location header in the creation case since the client already set the resource ID. PUT is not a safe operation, in that it modifies (or creates) state on the server, but it is idempotent. In other words, if you create or update a resource using PUT and then make that same call again, the resource is still there and still has the same state as it did with the first call. If, for instance, calling PUT on a resource increments a

counter within the resource, the call is no longer idempotent. Sometimes that happens and it may be enough to document that the call is not idempotent. However, it's recommended to keep PUT requests idempotent. It is strongly recommended to use POST for non-idempotent requests. Examples:

<https://www.restapitutorial.com/lessons/httpmethods.html>

**QUESTION 558**

- (DRAG DROP) - (Topic 2)

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

This type allows better control over how networks work and how networks are configured.

This type enables networks to integrate with applications through APIs.

New devices are configured using the physical infrastructure.

This type provisions resources from a centralized location.

This type requires a distributed control plane.

#### Traditional Networking



#### Controller-Based Networking



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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

|                                                                                         |                                                                                         |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| This type allows better control over how networks work and how networks are configured. |                                                                                         |
| This type enables networks to integrate with applications through APIs.                 |                                                                                         |
| New devices are configured using the physical infrastructure.                           |                                                                                         |
| This type provisions resources from a centralized location.                             |                                                                                         |
|                                                                                         | <b>Traditional Networking</b>                                                           |
|                                                                                         | New devices are configured using the physical infrastructure.                           |
|                                                                                         | This type provisions resources from a centralized location.                             |
|                                                                                         |                                                                                         |
|                                                                                         | <b>Controller-Based Networking</b>                                                      |
|                                                                                         | This type requires a distributed control plane.                                         |
|                                                                                         | This type enables networks to integrate with applications through APIs.                 |
|                                                                                         | This type allows better control over how networks work and how networks are configured. |

Explanation:

A picture containing table Description automatically generated

### Traditional Networking

New devices are configured using the physical infrastructure.

This type provisions resources from a centralized location.

### Controller-Based Networking

This type requires a distributed control plane.

This type enables networks to integrate with applications through APIs.

This type allows better control over how networks work and how networks are configured.

#### QUESTION 559

- (Topic 2)

Refer to the exhibit.



```

interface GigabitEthernet0/0
 ip address 172.16.0.5 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 209.165.202.130 255.255.255.224
 duplex auto
 speed auto
!
ip nat inside source list 1 interface GigabitEthernet0/1 overload
!
access-list 1 permit 172.16.0.1
access-list 1 permit 172.16.0.2

```

How should the configuration be updated to allow PC1 and PC2 access to the Internet?

- A. Modify the configured number of the second access list.
- B. Add either the ip nat {inside|outside} command under both interfaces.
- C. Remove the overload keyword from the ip nat inside source command.
- D. Change the ip nat inside source command to use interface GigabitEthernet0/0.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 560

- (Topic 2)

Refer to the exhibit.

```
TenGigabitEthernet0/0/0 is up, line protocol is up
  Hardware is BUILT-IN-2T+6X1GE, address is 74a0.2f7a.0123 (bia 74a0.2f7a.0123)
  Description: Uplink
  Internet address is 10.1.1.1/24
  MTU 1500 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  Full Duplex, 10000Mbps, link type is force-up, media type is unknown media type
  output flow-control is on, input flow-control is on
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:05:40, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/375/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 6160000 bits/sec, 1113 packets/sec
  5 minute output rate 11213000 bits/sec, 1553 packets/sec
    12662416065 packets input, 12607032232894 bytes, 0 no buffer
    Received 14117163 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 26271385 multicast, 0 pause input
    7907779058 packets output, 5073750426832 bytes, 0 underruns
    0 output errors, 8662416065 collisions, 1 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out
    1 carrier transitions
```

Traffic that is flowing over interface TenGigabitEthernet0/0 experiences slow transfer speeds. What is the reason for the issue?

- A. heavy traffic congestion
- B. a duplex incompatibility
- C. a speed conflict
- D. queuing drops

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 561

- (Topic 2)

An administrator must use the password complexity not manufacturer-name command to prevent users from adding "cisco" as a password. Which command must be issued before this command?

- A. Password complexity enable
- B. confreg 0x2142
- C. Login authentication my-auth-list
- D. service password-encryption

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 562**

- (Topic 2)

Which two spanning-tree states are bypassed on an interface running PortFast? (Choose two.)

- A. disabled
- B. listening
- C. forwarding
- D. learning
- E. blocking

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 563**

- (Topic 2)

Which set of 2.4 GHz nonoverlapping wireless channels is standard in the United States?

- A. channels 2, 7, 9, and 11
- B. channels 1, 6, 11, and 14
- C. channels 2, 7, and 11
- D. channels 1, 6, and 11

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**Explanation:**

In the United States, while channels 1-13 can be used for 2.4 GHz WiFi, only three channels are considered non-overlapping (channels 12 and 13 are allowed under low powered conditions, but for most cases are not used). For best results, it is highly recommended to keep the 2.4 GHz channels to 1, 6, and 11, as these channel settings will allow for virtually no overlap in the WiFi signal. Shown below is a channel graph from WiFi Scanner showing three access points configured for channels 1, 6, and 11. As you can see, the center of each signal is at 1, 6, and 11 with the actual signal extending over several channels to the left and right.

**QUESTION 564**

- (Topic 2)

What is the MAC address used with VRRP as a virtual address?

- A. 00-00-0C-07-AD-89
- B. 00-00-5E-00-01-0a

- C. 00-07-C0-70-AB-01
- D. 00-C6-41-93-90-91

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 565**

- (Topic 2)

Refer to the exhibit.

Which configuration allows routers R14 and R86 to form an OSPFv2 adjacency while acting as a central point for exchanging OSPF information between routers?

A.

```
R14#
interface Loopback0
ip ospf 10 area 0

interface FastEthernet0/0
ip address 10.73.65.65 255.255.255.252
ip ospf network broadcast
ip ospf 10 area 0
ip mtu 1500

router ospf 10
ip ospf priority 255
router-id 10.10.1.14

R86#
interface Loopback0
ip ospf 10 area 0

interface FastEthernet0/0
ip address 10.73.65.66 255.255.255.252
ip ospf network broadcast
ip ospf 10 area 0
ip mtu 1500
```

B.

```
R14#  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf network broadcast  
ip ospf priority 255  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0  
R86#  
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf network broadcast  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.86  
network 10.10.1.86 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0
```

C.

```
R14#  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf network broadcast  
ip ospf priority 0  
ip mtu 1400  
  
router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0  
R86#  
interface Loopback0  
ip address 10.10.1.86 255.255.255.255
```

D.

```
R14#  
interface FastEthernet0/0  
ip address 10.73.65.65 255.255.255.252  
ip ospf network broadcast  
ip ospf priority 255  
ip mtu 1500  
  
router ospf 10  
router-id 10.10.1.14  
network 10.10.1.14 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0  
R86#  
interface FastEthernet0/0  
ip address 10.73.65.66 255.255.255.252  
ip ospf network broadcast  
ip mtu 1400  
  
router ospf 10  
router-id 10.10.1.86  
network 10.10.1.86 0.0.0.0 area 0  
network 10.73.65.64 0.0.0.3 area 0
```

Correct Answer: D

**Section: (none)****Explanation****Explanation/Reference:****QUESTION 566**

- (Topic 2)

Refer to the exhibit.

The network administrator must prevent the switch Cat9K-2 IP address from being visible in LLDP without disabling the protocol. Which action must be taken must be taken to complete the task?

- A. Configure the no lldp tlv-select-management-address command globally on Cat9K-2
- B. Configure the no lldp transmit command on interface G1/0/21 in Cat9K-1
- C. Configure the no lldp receive command on interface G1/0/21 on Cat9K-1
- D. Configure the no lldp mac-phy-cfg command globally on Cat9K-2

**Correct Answer: A****Section: (none)****Explanation****Explanation/Reference:****QUESTION 567**

- (Topic 2)

Refer to the exhibit.

An engineer is updating the R1 configuration to connect a new server to the management network. The PCs on the management network must be blocked from pinging the default gateway of the new server. Which command must be configured on R1 to complete the task?

- A. R1(config)#ip route 172.16.2.2 255.255.255.248 gi0/1
- B. R1(config)#jp route 172.16.2.2 255.255.255.255 gi0/0
- C. R1(config>#ip route 172.16.2.0 255.255.255.0 192.168.1.15
- D. R1(config)#ip route 172.16.2.0 255.255.255.0 192.168.1.5

**Correct Answer: C****Section: (none)****Explanation****Explanation/Reference:****QUESTION 568**

- (Topic 2)

Refer to the exhibit.

Router R1 must be configured to reach the 10.0.3.0/24 network from the 10.0.1.0/24 segment. Which command must be used to configure the route?

- A. ip route 10.0.3.0 0.255.255.255 10.0.4.2
- B. route add 10.0.3.0 mask 255.255.255.0 10.0.4.3
- C. Ip route 10.0.3.0 255.255.255.0 10.0.4.3
- D. route add 10.0.3.0 0.255.255.255 10.0.4.2

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 569**

- (Topic 2)

An engineer must configure neighbor discovery between the company router and an ISP

What is the next step to complete the configuration if the ISP uses a third-party router?

- A. Enable LLDP globally.
- B. Disable CDP on gi0/0.
- C. Enable LLDP TLVs on the ISP router.
- D. Disable auto-negotiation.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 570**

- (Topic 2)

Refer to the exhibit.

Switch A is newly configured. All VLANs are present in the VLAN database. The IP phone and PC A on Gi0/1 must be configured for the appropriate VLANs to establish connectivity between the PCs. Which command set fulfills the requirement?

- A. 

```
SwitchA(config-if)#switchport mode access
SwitchA(config-if)#switchport access vlan 50
SwitchA(config-if)#switchport voice vlan 51
```
- B. 

```
SwitchA(config-if)#switchport mode access
SwitchA(config-if)#switchport access vlan 50
SwitchA(config-if)#switchport voice vlan untagged
```
- C. 

```
SwitchA(config-if)#switchport mode trunk
SwitchA(config-if)#switchport trunk allowed vlan add 50, 51
SwitchA(config-if)#switchport voice vlan dot1p
```

D. SwitchA(config-if)#switchport mode trunk  
SwitchA(config-if)#switchport trunk allowed vlan 50, 51  
SwitchA(config-if)#mls qos trust cos

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 571**

- (Topic 2)

How does Rapid PVST+ create a fast loop-free network topology?

- A. It requires multiple links between core switches
- B. It generates one spanning-tree instance for each VLAN
- C. It maps multiple VLANs into the same spanning-tree instance
- D. It uses multiple active paths between end stations.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 572**

- (Topic 2)

What causes a port to be placed in the err-disabled state?

- A. nothing plugged into the port
- B. link flapping
- C. shutdown command issued on the port
- D. latency

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 573**

- (Topic 2)

Which protocol is used for secure remote CLI access?

- A. HTTPS
- B. HTTP

- C. Telnet
- D. SSH

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 574**

- (DRAG DROP) - (Topic 2)

Drag and drop the Cisco IOS attack mitigation features from the left onto the types of network attack they mitigate on the right.

|                        |                                           |
|------------------------|-------------------------------------------|
| DHCP snooping          | rogue server that spoofs IP configuration |
| Dynamic ARP Inspection | cache poisoning                           |
| IP Source Guard        | flood attacks                             |
| storm control          | rogue clients on the network              |

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

|                        |                        |
|------------------------|------------------------|
| DHCP snooping          | IP Source Guard        |
| Dynamic ARP Inspection | Dynamic ARP Inspection |
| IP Source Guard        | storm control          |
| storm control          | DHCP snooping          |

Explanation:

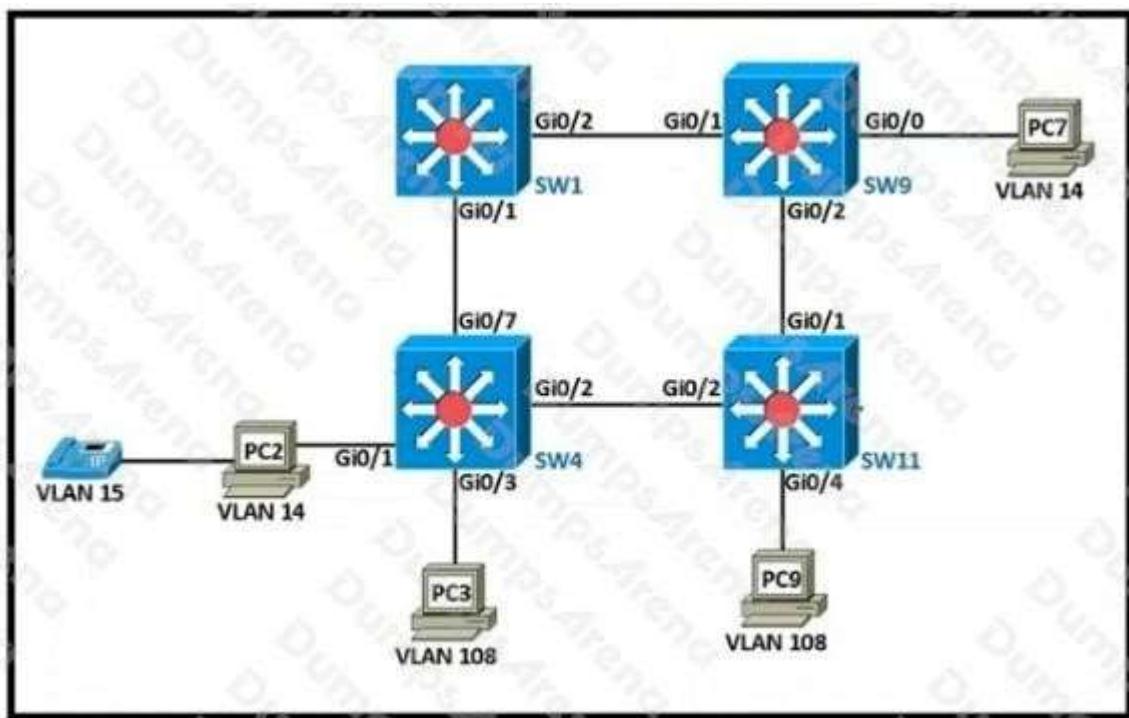
Application Description automatically generated with medium confidence

IP Source Guard

Dynamic ARP Inspection

storm control

DHCP snooping



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# DUMPS ARENA

**QUESTION 575**

- (Topic 2)

Refer to the exhibit.

The following must be considered:

- SW1 is fully configured for all traffic
- The SW4 and SW9 links to SW1 have been configured
- The SW4 interface Gi0/1 and Gi0/0 on SW9 have been configured
- The remaining switches have had all VLANs added to their VLAN database

Which configuration establishes a successful ping from PC2 to PC7 without interruption to traffic flow between other PCs?

A.  SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14

SW11#  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14

SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 108

B.  SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14

SW11#  
interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14

SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 108

C.

SW4#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14,108

SW11#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14,108

!

interface Gi0/1  
switchport mode trunk  
switchport trunk allowed vlan 14,108

SW9#  
interface Gi0/2  
switchport mode trunk  
switchport trunk allowed vlan 14

D.

```
SW4#
interface Gi0/2
switchport mode access
switchport access vlan 14

SW11#
interface Gi0/2
switchport mode access
switchport access vlan 14
!
interface Gi0/0
switchport mode access
switchport access vlan 14
!
interface Gi0/1
switchport mode trunk

SW9#
interface Gi0/2
switchport mode access
switchport access vlan 14
```

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 576**

- (Topic 2)

Refer to the exhibit.

A network engineer must update the configuration on Switch2 so that it sends LLDP packets every minute and the information sent via LLDP is refreshed every 3 minutes Which configuration must the engineer apply?

- A. **Switch2(config)#lldp timer 60**  
**Switch2(config)#lldp holdtime 180**
- B. **Switch2(config)#lldp timer 60**  
**Switch2(config)#lldp tlv-select 180**
- C.

```
Switch2(config)#lldp timer 1
Switch2(config)#lldp holdtime 3
```

- D. Switch2(config)#lldp timer 1  
Switch2(config)#lldp tlv-select 3

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 577**

- (Topic 2)

What is a requirement for nonoverlapping Wi-Fi channels?

- A. different security settings
- B. discontinuous frequency ranges
- C. different transmission speeds
- D. unique SSIDs

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 578**

- (Topic 2)

What provides centralized control of authentication and roaming In an enterprise network?

- A. a lightweight access point
- B. a firewall
- C. a wireless LAN controller
- D. a LAN switch

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 579**

- (Topic 2)

An engineer must configure R1 for a new user account. The account must meet these requirements:

- \* It must be configured in the local database.
- \* The username is engineer.

\* It must use the strongest password configurable. Which command must the engineer configure on the router?

- A. R1 (config)# username engineer2 algorithm-type scrypt secret test2021
- B. R1(config)# username engineer2 secret 5 .password S1\$b1Ju\$kZbBS1Pyh4QzwXyZ
- C. R1(config)# username engineer2 privilege 1 password 7 test2021
- D. R1(config)# username englneer2 secret 4 S1Sb1Ju\$kZbBS1Pyh4QzwXyZ

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 580**

- (Topic 2)

What is an expected outcome when network management automation is deployed?

- A. A distributed management plane must be used.
- B. Software upgrades are performed from a central controller
- C. Complexity increases when new device configurations are added
- D. Custom applications are needed to configure network devices

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 581**

- (DRAG DROP) - (Topic 2)

Drag and drop the Rapid PVST+ forwarding slate actions from the left to the right. Not all actions are used.

|                                                                           |        |
|---------------------------------------------------------------------------|--------|
| BPDUs received are forwarded to the system module.                        | action |
| BPDUs received from the system module are processed and transmitted.      | action |
| Frames received from the attached segment are discarded.                  | action |
| Frames received from the attached segment are processed.                  | action |
| Switched frames received from other ports are advanced.                   |        |
| The port in the forwarding state responds to network management messages. |        |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

BPDU received are forwarded to the system module.

BPDU received from the system module are processed and transmitted.

Frames received from the attached segment are discarded.

The port in the forwarding state responds to network management messages.

#### **QUESTION 582**

- (Topic 2)

What is a requirement when configuring or removing LAG on a WLC?

- A. The Incoming and outgoing ports for traffic flow must be specified If LAG Is enabled.
- B. The controller must be rebooted after enabling or reconfiguring LAG.
- C. The management interface must be reassigned if LAG disabled.
- D. Multiple untagged interfaces on the same port must be supported.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 583**

- (Topic 2)

Which interface mode must be configured to connect the lightweight APs in a centralized architecture?

- A. WLAN dynamic
- B. management
- C. trunk

D. access

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 584**

- (DRAG DROP) - (Topic 2)

An engineer is tasked to configure a switch with port security to ensure devices that forward unicasts multicasts and broadcasts are unable to flood the port. The port must be configured to permit only two random MAC addresses at a time. Drag and drop the required configuration commands from the left onto the sequence on the right. Not all commands are used.

- switchport mode access
- switchport port-security
- switchport port-security mac-address 0060.3EDD.77AB
- switchport port-security mac-address 00D0.D3ED.622A
- switchport port-security mac-address sticky
- switchport port-security maximum 2
- switchport port-security violation shutdown

- 1
- 2
- 3
- 4

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

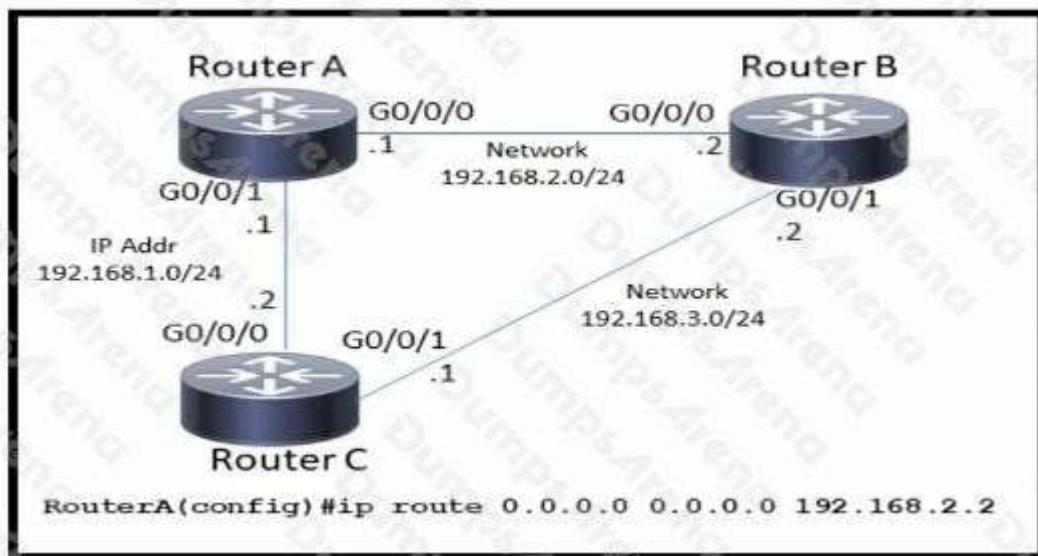
Diagram Description automatically generated



#### QUESTION 585

- (Topic 2)

Refer to the exhibit.



Which command must be issued to enable a floating static default route on router A?

- A. ip route 0.0.0.0 0.0.0.0 192.168.1.2
- B. ip default-gateway 192.168.2.1
- C. ip route 0.0.0.0 0.0.0.0 192.168.2.1 10
- D. ip route 0.0.0.0 0.0.0.0 192.168.1.2 10

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 586

- (DRAG DROP) - (Topic 2)

Drag and drop the characteristics of networking from the left onto the networking types on the right.

|                                |                             |
|--------------------------------|-----------------------------|
| focused on network             | Controller-Based Networking |
| focused on devices             |                             |
| user input is a configuration  |                             |
| user input is a policy         | Traditional Networking      |
| uses allow list security model |                             |
| uses block list security model |                             |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

|                                |
|--------------------------------|
| Controller-Based Networking    |
| focused on network             |
| uses allow list security model |
| user input is a policy         |
| Traditional Networking         |
| focused on devices             |
| uses block list security model |
| user input is a configuration  |

**QUESTION 587**

- (Topic 2)

What is the function of the controller in a software-defined network?

- A. multicast replication at the hardware level
- B. fragmenting and reassembling packets
- C. making routing decisions
- D. forwarding packets

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 588**

- (Topic 2)

What are two benefits of FHRPs? (Choose two.)

- A. They enable automatic failover of the default gateway.
- B. They allow multiple devices to serve as a single virtual gateway for clients in the network.
- C. They are able to bundle multiple ports to increase bandwidth.
- D. They prevent loops in the Layer 2 network.
- E. They allow encrypted traffic.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 589**

- (Topic 2)

What is the difference between IPv6 unicast and anycast addressing?

- A. IPv6 anycast nodes must be explicitly configured to recognize the anycast address, but IPv6 unicast nodes require no special configuration
- B. IPv6 unicast nodes must be explicitly configured to recognize the unicast address, but IPv6 anycast nodes require no special configuration
- C. An individual IPv6 unicast address is supported on a single interface on one node but an IPv6 anycast address is assigned to a group of interfaces on multiple nodes.
- D. Unlike an IPv6 anycast address, an IPv6 unicast address is assigned to a group of interfaces on multiple nodes

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 590**

- (DRAG DROP) - (Topic 2)

Drag and drop the IPv6 addresses from the left onto the corresponding address types on the right.



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

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



Explanation:



Graphical user interface Description automatically generated

### **QUESTION 591**

- (Topic 2)

Refer to the exhibit.

```
R1#show run
!
router ospf 1
auto-cost reference-bandwidth 100000
!
interface GigabitEthernet0/0
bandwidth 10000000
!
interface GigabitEthernet0/1
bandwidth 100000000
!
interface GigabitEthernet0/2
ip ospf cost 100
!
interface GigabitEthernet0/3
ip ospf cost 1000
end
```

Router R1 resides in OSPF Area 0. After updating the R1 configuration to influence the paths that it will use to direct traffic, an engineer verified that each of the four Gigabit interfaces has the same route to 10.10.0.0/16.

Which interface will R1 choose to send traffic to reach the route?

- A. GigabitEthernet0/0
- B. GigabitEthernet0/1
- C. GigabitEthernet0/2
- D. GigabitEthernet0/3

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 592**

- (Topic 2)

An engineer is configuring SSH version 2 exclusively on the R1 router. What is the minimum configuration required to permit remote management using the cryptographic protocol?

```
hostname R1
ip domain name cisco
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input ssh
login local

hostname R1
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input all
login local

hostname R1
service password-encryption
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input ssh
login local

hostname R1
ip domain name cisco
crypto key generate rsa general-keys modulus 1024
username cisco privilege 15 password 0 cisco123
ip ssh version 2
line vty 0 15
transport input all
login local
```

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 593**

- (Topic 2)

A network engineer is configuring a switch so that it is remotely reachable via SSH. The engineer has already

configured the host name on the router. Which additional command must the engineer configure before entering the command to generate the RSA key?

- A. password password
- B. crypto key generate rsa modulus 1024
- C. ip domain-name domain
- D. ip ssh authentication-retries 2

**Correct Answer:** C**Section:** (none)**Explanation****Explanation/Reference:**

Explanation:

<https://www.cisco.com/c/en/us/solutions/small-business/resource-center/networking/how-to-setup-network-swit>

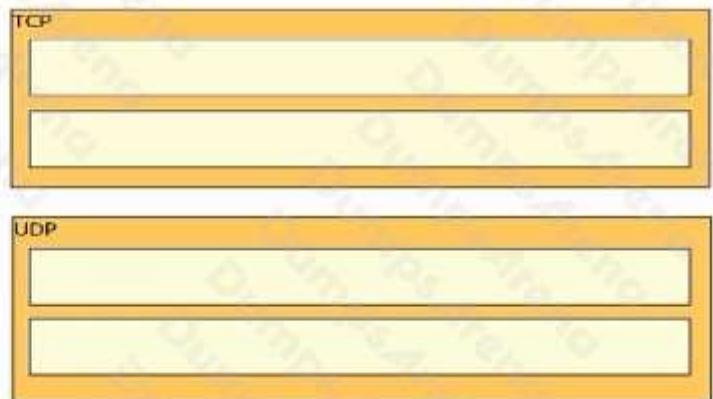
- transmitted based on data contained in the packet without the need for a data channel
- requires the client and the server to establish a connection before sending the packet
- used to reliably share files between devices
- appropriate for streaming operations with minimal latency

**QUESTION 594**

- (DRAG DROP) - (Topic 2)

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

- transmitted based on data contained in the packet without the need for a data channel
- requires the client and the server to establish a connection before sending the packet
- used to reliably share files between devices
- appropriate for streaming operations with minimal latency



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

- |     |                                                                                        |
|-----|----------------------------------------------------------------------------------------|
| TCP | requires the client and the server to establish a connection before sending the packet |
| TCP | used to reliably share files between devices                                           |
| UDP | transmitted based on data contained in the packet without the need for a data channel  |
| UDP | appropriate for streaming operations with minimal latency                              |

### QUESTION 595

- (Topic 2)

An engineer has configured the domain name, user name, and password on the local router. What is the next step to complete the configuration for a Secure Shell access RSA key?

- A. crypto key import rsa pem
- B. crypto key pubkey-chain rsa

- C. crypto key generate rsa
- D. crypto key zeroize rsa

**Correct Answer:** C

**Section:** (none)

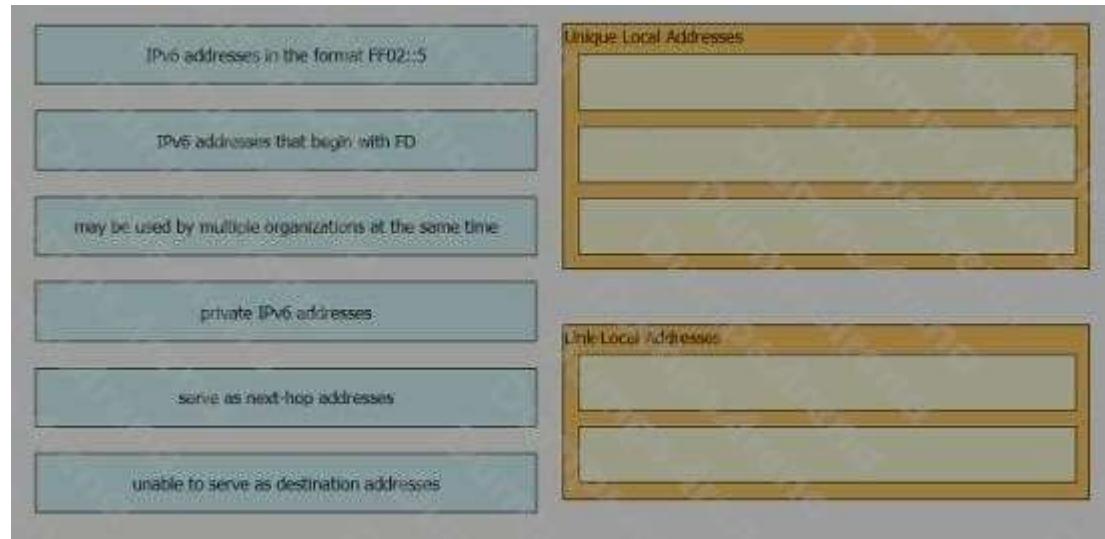
**Explanation**

**Explanation/Reference:**

**QUESTION 596**

- (DRAG DROP) - (Topic 2)

Drag and drop the IPv6 address description from the left onto the IPv6 address types on the right. Not all options are used.



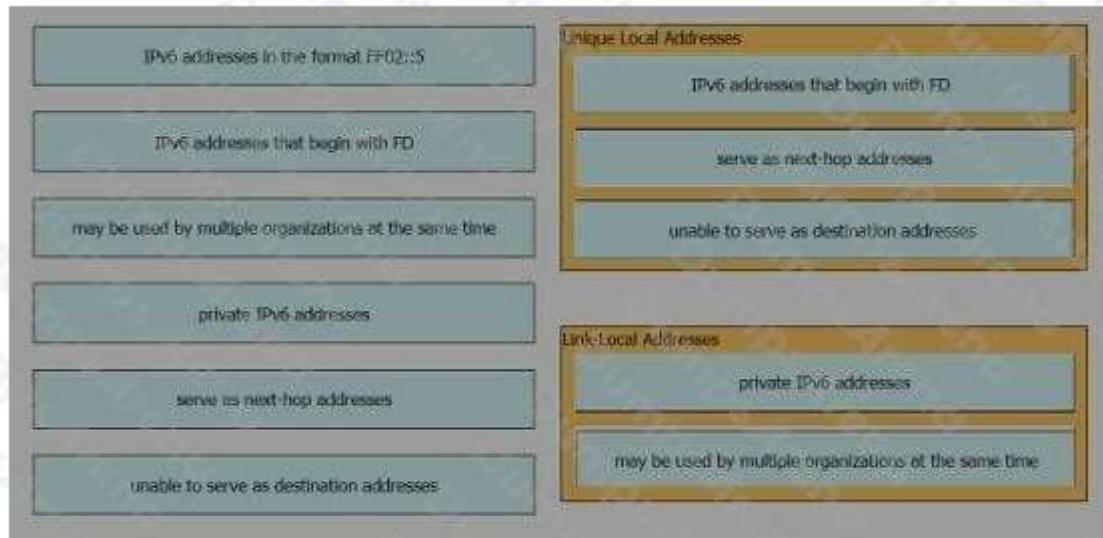
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

Graphical user interface, application Description automatically generated



### QUESTION 597

- (Topic 2)

What is a function of Opportunistic Wireless Encryption in an environment?

- A. offer compression
- B. increase security by using a WEP connection
- C. provide authentication
- D. protect traffic on open networks

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 598**

- (DRAG DROP) - (Topic 2)

Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.



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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

Graphical user interface, text, application, email Description automatically generated

configure a VLAN access control list

configure the dynamic ARP inspection feature

configure the root guard feature

configure the BPDU guard feature

### QUESTION 599

- (Topic 2)

Which WLC management connection type is vulnerable to man-in-the-middle attacks?

- A. SSH
- B. HTTPS
- C. Telnet
- D. console

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 600

- (Topic 2)

Which two network actions occur within the data plane? (Choose two.)

- A. Add or remove an 802.1Q trunking header.
- B. Make a configuration change from an incoming NETCONF RPC.
- C. Run routing protocols.
- D. Match the destination MAC address to the MAC address table.
- E. Reply to an incoming ICMP echo request.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 601

- (Topic 2)

Refer to the exhibit.

The exhibit shows a configuration interface for a wireless network. It includes sections for 'Fast Transition' (disabled), 'Protected Management Frame' (PMF disabled), 'WPA+WPA2 Parameters' (WPA Policy checked, WPA2 Policy checked, WPA2 Encryption AES checked, TKIP, CCMP256, GCMP128, GCMP256), and 'Authentication Key Management' (802.1X, CCKM, PSK checked, FT 802.1X, FT PSK).

| Parameter                     | Setting                                                                                                                                                                                                                                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fast Transition               | Disable                                                                                                                                                                                                                                                                                                          |
| Protected Management Frame    | PMF: Disabled                                                                                                                                                                                                                                                                                                    |
| WPA+WPA2 Parameters           | WPA Policy: <input checked="" type="checkbox"/><br>WPA2 Policy: <input checked="" type="checkbox"/><br>WPA2 Encryption: AES <input checked="" type="checkbox"/> TKIP <input type="checkbox"/> CCMP256 <input type="checkbox"/> GCMP128 <input type="checkbox"/> GCMP256<br>OSEN Policy: <input type="checkbox"/> |
| Authentication Key Management | 802.1X: Enable<br>CCKM: Enable<br>PSK: <input checked="" type="checkbox"/> Enable<br>FT 802.1X: <input type="checkbox"/> Enable<br>FT PSK: <input type="checkbox"/> Enable                                                                                                                                       |

Users need to connect to the wireless network with IEEE 802.11r-compatible devices. The connection must be maintained as users travel between floors or to other areas in the building. What must be the configuration of the connection?

- A. Select the WPA Policy option with the CCKM option.
- B. Disable AES encryption.
- C. Enable Fast Transition and select the FT 802.1x option.
- D. Enable Fast Transition and select the FT PSK option.

**Correct Answer:** C

**Section:** (none)

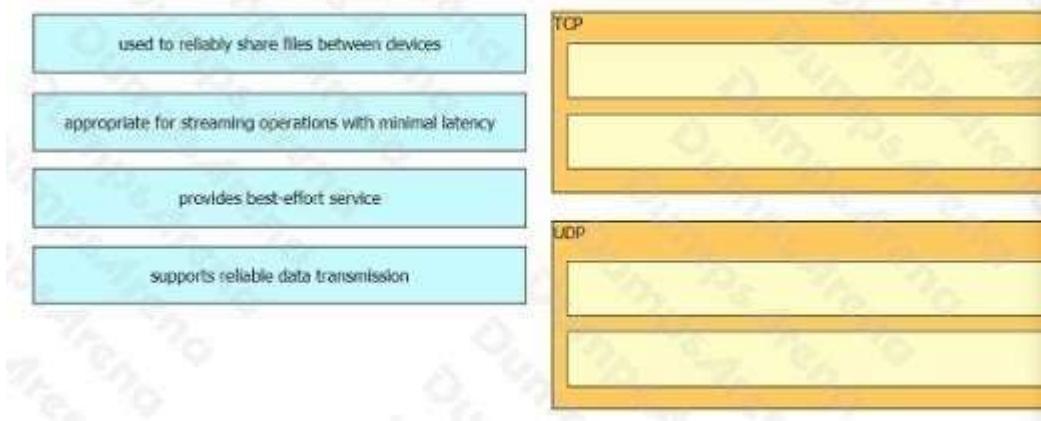
**Explanation**

**Explanation/Reference:**

#### QUESTION 602

- (DRAG DROP) - (Topic 2)

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.



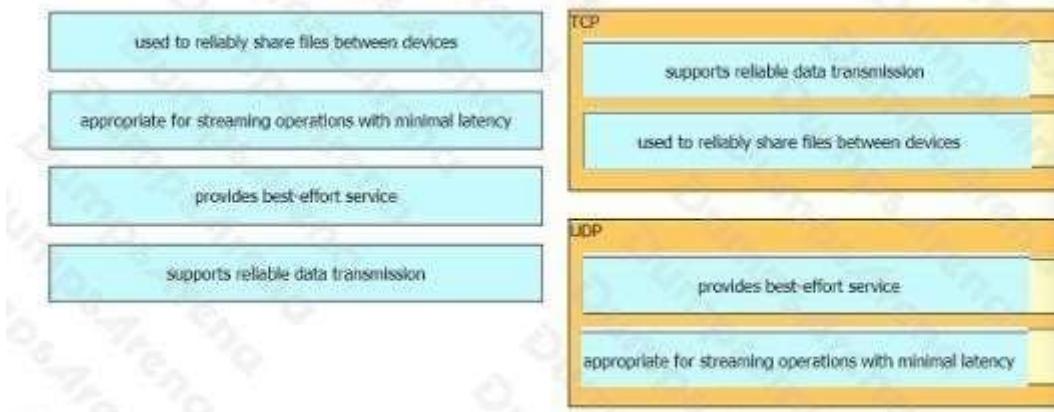
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

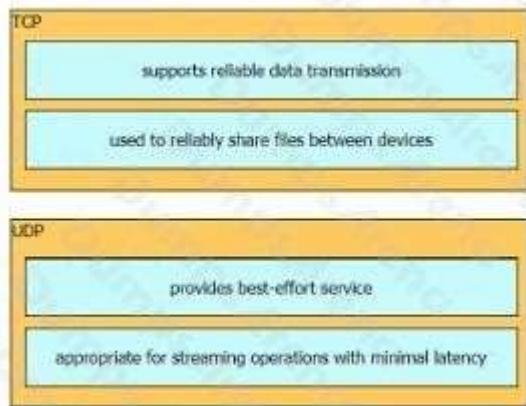
**Explanation**

**Explanation/Reference:**



**Explanation:**

Graphical user interface, application Description automatically generated



### QUESTION 603

- (Topic 2)

A network engineer must configure two new subnets using the address block 10 70 128 0/19 to meet these requirements:

- The first subnet must support 24 hosts
- The second subnet must support 472 hosts
- Both subnets must use the longest subnet mask possible from the address block

Which two configurations must be used to configure the new subnets and meet a requirement to use the first available address in each subnet for the router interfaces? (Choose two )

- A. interface vlan 1234  
ip address 10.70.159.1 255.255.254.0
- B. interface vlan 1148  
ip address 10.70.148.1 255.255.254.0
- C. interface vlan 4722  
ip address 10.70.133.17 255.255.255.192
- D. interface vlan 3002  
ip address 10.70.147.17 255.255.255.224
- E. interface vlan 155  
ip address 10.70.155.65 255.255.255.224

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 604

- (DRAG DROP) - (Topic 2)

Drag and drop the facts about wireless architectures from the left onto the types of access point on the right.

Not all options are used.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



**Explanation:**

Diagram Description automatically generated

managed from a web-based dashboard

**Autonomous Access Point**

accessible for management via Telnet, SSH, or a web GUI

configured and managed by a WLC

**Cloud-Based Access Point**

requires a management IP address

supports automatic deployment

**QUESTION 605**

- (Topic 2)

A network engineer must implement an IPv6 configuration on the vlan 2000 interface to create a routable locally-unique unicast address that is blocked from being advertised to the internet. Which configuration must the engineer apply?

- A. interface vlan 2000  
    ipv6 address ffc0:0000:aaaa::1234:2343/64
- B. interface vlan 2000  
    Ipv6 address fc00:0000:aaaa:a15d:1234:2343:8aca/64
- C. interface vlan 2000  
    ipv6 address fe80:0000:aaaa::1234:2343/64
- D. interface vlan 2000  
    ipv6 address fd00::1234:2343/64

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 606**

- (Topic 2)

Refer to the exhibit.

A company is configuring a failover plan and must implement the default routes in such a way that a floating static route will assume traffic forwarding when the primary link goes down. Which primary route configuration must be used?

- A. ip route 0.0.0.0 0.0.0.0 192.168.0.2 GigabitEthernet1/0
- B. ip route 0.0.0.0 0.0.0.0 192.168.0.2 tracked
- C. ip route 0.0.0.0 0.0.0.0 192.168.0.2 floating
- D. ip route 0.0.0.0 0.0.0.0 192.168.0.2

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 607**

- (Topic 2)

Refer to the exhibit.

What is a reason for poor performance on the network interface?

- A. The interface is receiving excessive broadcast traffic.
- B. The cable connection between the two devices is faulty.
- C. The interface is operating at a different speed than the connected device.
- D. The bandwidth setting of the interface is misconfigured

**Correct Answer:** A

**Section:** (none)

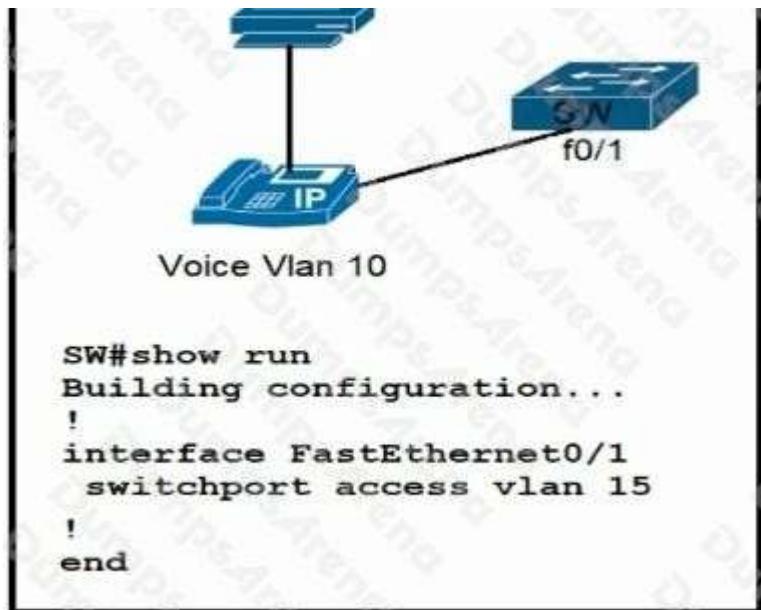
**Explanation**

**Explanation/Reference:**

#### **QUESTION 608**

- (Topic 2)

Refer to the exhibit.



All VLANs are present in the VLAN database. Which command sequence must be applied to complete the configuration?

- A. Interface FastEthernet0/1 switchport trunk native vlan 10 switchport trunk allowed vlan 10,15
- B. Interface FastEthernet0/1 switchport mode trunk switchport trunk allowed vlan 10,15
- C. interface FastEthernet0/1 switchport mode access switchport voice vlan 10
- D. Interface FastEthernet0/1 switchport trunk allowed vlan add 10 vlan 10 private-vlan isolated

**Correct Answer:** C

**Section:** (none)

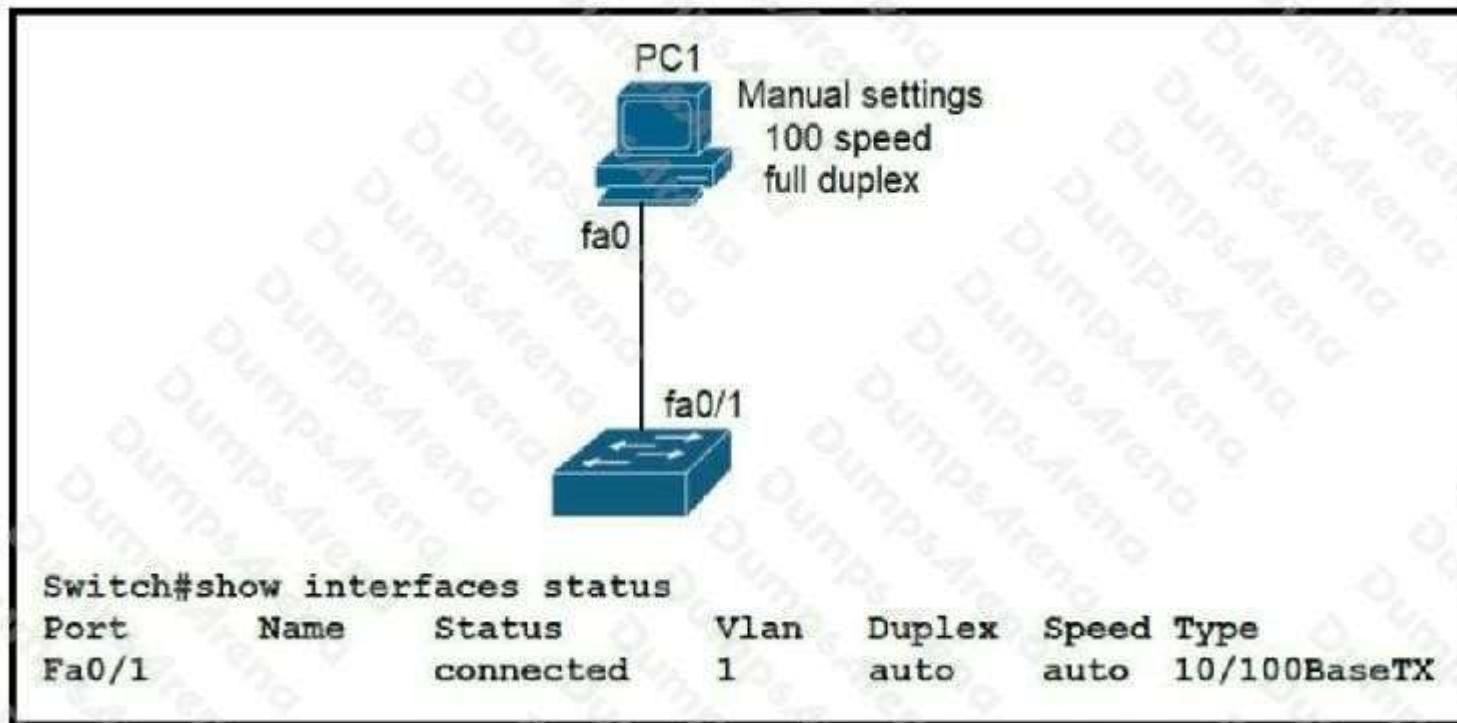
**Explanation**

**Explanation/Reference:**

**QUESTION 609**

- (Topic 2)

Refer to the exhibit.



The link between PC1 and the switch is up, but it is performing poorly. Which interface condition is causing the performance problem?

- A. There is a duplex mismatch on the interface
- B. There is an issue with the fiber on the switch interface.
- C. There is a speed mismatch on the interface.
- D. There is an interface type mismatch

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 610

- (Topic 2)

Which wireless security protocol relies on Perfect Forward Secrecy?

- A. WPA3
- B. WPA
- C. WEP
- D. WPA2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 611**

- (Topic 2)

Which field within the access-request packet is encrypted by RADIUS?

- A. authorized services
- B. authenticator
- C. username
- D. password

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 612**

- (Topic 2)

Refer to the exhibit.

All traffic enters the CPE router from interface Serial0/3 with an IP address of 192.168.50.1 Web traffic from the WAN is destined for a LAN network where servers are load-balanced An IP packet with a destination address of the HTTP virtual IP of 192.168.1.250 must be forwarded Which routing table entry does the router use?

- A. 192.168.1.0/24 via 192.168.12.2
- B. 192.168.1.128/25 via 192.168.13.3
- C. 192.168.1.192/26 via 192.168.14.4
- D. 192.168.1.224/27 via 192.168.15.5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 613**

- (Topic 2)

Which type of network attack overwhelms the target server by sending multiple packets to a port until the half-open TCP resources of the target are exhausted?

- A. SYN flood
- B. reflection
- C. teardrop
- D. amplification

**Correct Answer:** A

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 614**

- (Topic 2)

Refer to the exhibit.

R1 learns all routes via OSPF Which command configures a backup static route on R1 to reach the 192.168.20.0/24 network via R3?

- A. R1(config)#ip route 192.168.20.0 255.255.0.0 192.168.30.2
- B. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 90
- C. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2 111
- D. R1(config)#ip route 192.168.20.0 255.255.255.0 192.168.30.2

**Correct Answer: C**

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 615**

- (Topic 2)

Refer to the exhibit.

The given Windows PC is requesting the IP address of the host at www.cisco.com. To which IP address is the request sent?

- A. 192.168.1.226
- B. 192.168.1.100
- C. 192.168.1.254
- D. 192.168.1.253

**Correct Answer: D**

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 616**

- (Topic 2)

Refer to the exhibit.

```
ip domain-name CNAC.com
!
interface GigabitEthernet0/0/0
  ip address 192.168.1.10 255.255.255.0
  duplex auto
  speed auto
!
line vty 0 15
  login local

R1#show crypto key mypubkey rsa

R1#show ssh
%No SSHv2 server connections running.
%No SSHv1 server connections running.
```

Which two commands must be added to update the configuration of router R1 so that it accepts only encrypted connections? (Choose two )

- A. username CNAC secret R!41!4319115@
- B. ip ssh version 2
- C. line vty 0 4
- D. crypto key generate rsa 1024
- E. transport input ssh

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 617**

- (Topic 2)

Refer to the exhibit.

```

R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C   172.16.0.0/16 is directly connected, Loopback0
    172.16.0/16 is variably subnetted, 4 subnets, 2 masks
O     172.16.1.3/24 [110/100] via 192.168.7.40, 00:39:08, serial0
C     172.16.1.0/24 is directly connected, Serial0
O     172.16.1.184/29 [110/5] via 192.168.7.35, 00:39:08, Serial0
O     172.16.3.0/24 [110/10] via 192.168.7.4, 00:39:08, Gigabit Ethernet 0/0
D     172.16.1.0/28 [90/10]  via 192.168.7.7, 00:39:08, Gigabit Ethernet 0/0

```

Load-balanced traffic is coming in from the WAN destined to a host at 172.16.1.190. Which next-hop is used by the router to forward the request?

- A. 192.168.7.4
- B. 192.168.7.7
- C. 192.168.7.35
- D. 192.168.7.40

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 618

- (Topic 2)

Which PoE mode enables powered-device detection and guarantees power when the device is detected?

- A. dynamic
- B. static
- C. active
- D. auto

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 619

- (Topic 2)

Which value is the unique identifier that an access point uses to establish and maintain wireless connectivity to wireless network devices?

- A. VLANID
- B. SSID
- C. RFID
- D. WLANID

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 620**

- (Topic 2)

Refer to the exhibit.

An engineer is configuring the HO router. Which IPv6 address configuration must be applied to the router fa0'1 interface for the router to assign a unique 64-bit IPv6 address to itself?

- A. ipv6 address 2001:DB8:0:1:C601:42FF:FE0F:7/64
- B. ipv6 address 2001:DB8:0:1:C601:42FE:800F:7/64
- C. ipv6 address 2001 :DB8:0:1:FFFF:C601:420F:7/64
- D. iov6 address 2001 :DB8:0:1:FE80:C601:420F:7/64

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 621**

- (Topic 2)

Which protocol uses the SSL?

- A. HTTP
- B. SSH
- C. HTTPS
- D. Telnet

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 622**

- (Topic 2)

What is a function of a Next-Generation IPS?

- A. makes forwarding decisions based on learned MAC addresses
- B. serves as a controller within a controller-based network
- C. integrates with a RADIUS server to enforce Layer 2 device authentication rules
- D. correlates user activity with network events

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 623**

- (DRAG DROP) - (Topic 2)

Drag and drop each characteristic of device-management technologies from the left onto the deployment type on the right.

relies on per-device management

uses individual software management

orchestrates background device configuration

**Cisco DNA Center**

supports open APIs

provides greater flexibility for custom and non-standard configurations

supports centralized software management

**Traditional**

- A.
- B.

C.

D.

**Correct Answer:**

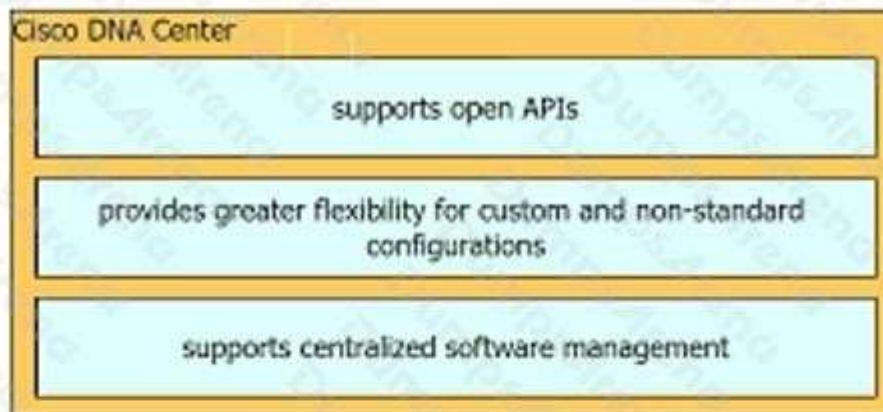
**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

A picture containing diagram Description automatically generated



```

R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate
default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C 192.168.3.5 is directly connected, Loopback0
      10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
O     10.0.1.3/32 [110/100] via 192.168.0.40, 00:39:08, Serial0
C     10.0.1.0/24 is directly connected, Serial0
O     10.0.1.190/32 [110/5] via 192.168.0.35, 00:39:08, Serial0
O     10.0.1.0/24 [110/10] via 192.168.0.4, 00:39:08, Gigabit Ethernet 0/0
D     10.0.1.0/28 [90/10]  via 192.168.0.7, 00:39:08, Gigabit Ethernet 0/0

```

### **QUESTION 624**

- (Topic 2)

Refer to the exhibit.

Traffic sourced from the loopback0 Interface is trying to connect via ssh to the host at 10.0.1.15. What Is the next hop to the destination address?

- A. 192.168.0.7
- B. 192.168.0.4
- C. 192.168.0.40
- D. 192.168.3.5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 625**

- (Topic 2)

Refer to the exhibit.

What are the two steps an engineer must take to provide the highest encryption and authentication using domain credentials from LDAP?

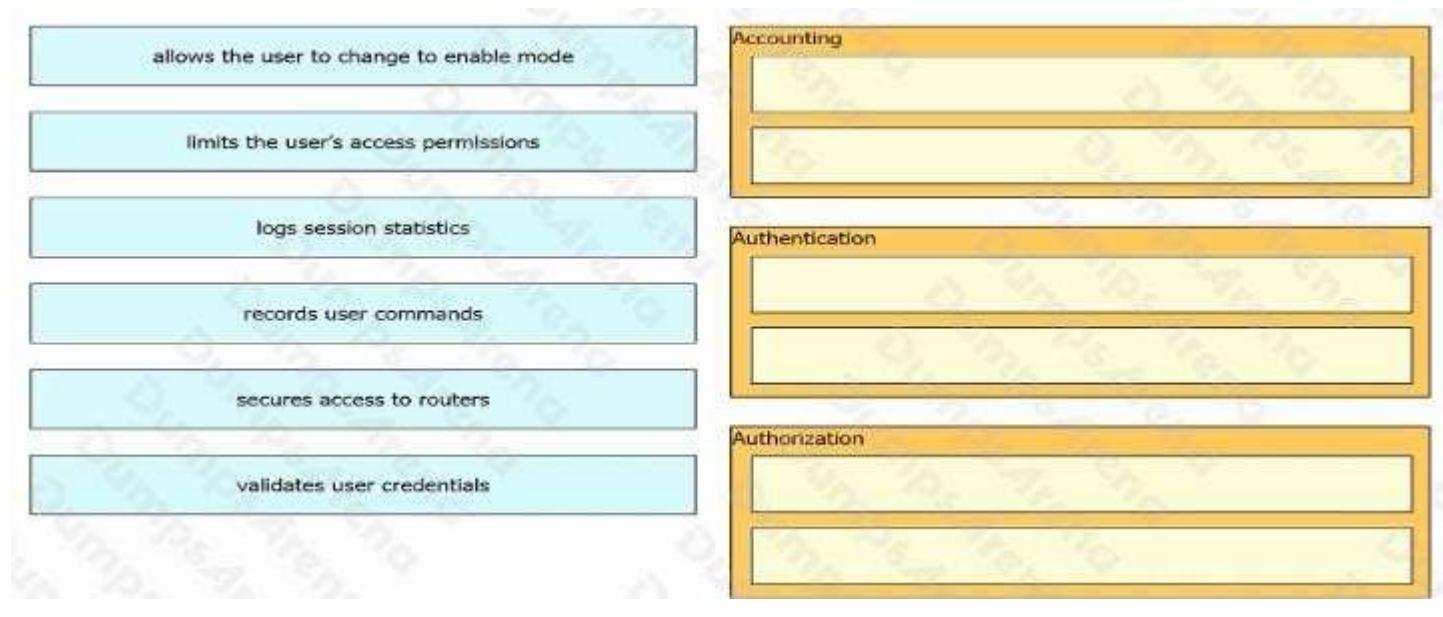
- A. Select PSK under Authentication Key Management
- B. Select WPA+WPA2 on Layer 2 Security
- C. Select Static-WEP + 802.1X on Layer 2 Security
- D. Select WPA Policy with TKIP Encryption
- E. Select 802.1X from under Authentication Key Management

**Correct Answer:** BE

**Section: (none)****Explanation****Explanation/Reference:****QUESTION 626**

- (DRAG DROP) - (Topic 2)

Drag and drop the descriptions of AAA services from the left onto the corresponding services on the right.



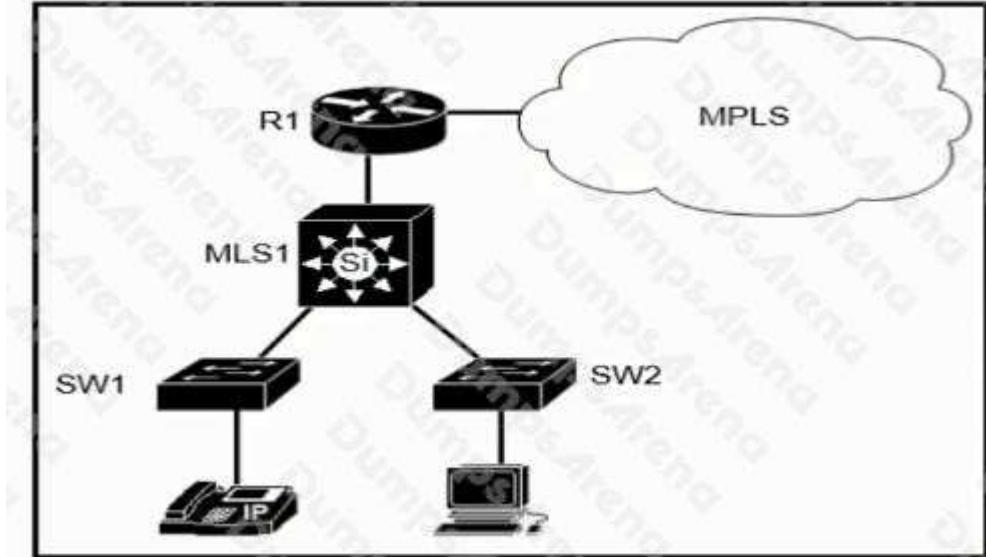
- A.
- B.
- C.
- D.

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



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# DUMPS<sup>Q</sup> ARENA



**QUESTION 627**  
 - (Topic 2)

Refer to the exhibit.

Which plan must be implemented to ensure optimal QoS marking practices on this network?

- A. As traffic traverses MLS1 remark the traffic, but trust all markings at the access layer.
- B. Trust the IP phone markings on SW1 and mark traffic entering SW2 at SW2.
- C. Remark traffic as it traverses R1 and trust all markings at the access layer.
- D. As traffic enters from the access layer on SW1 and SW2, trust all traffic markings.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 628**

- (Topic 2)

OSPF must be configured between routers R1 and R2. Which OSPF configuration must be applied to router R1 to avoid a DR/BDR election?

- A. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0 interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf network broadcast
- B. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0 interface e1/1

ip address 192.168.1.1 255.255.255.252  
ip ospf network point-to-point

- C. router ospf 1  
network 192.168.1.1 0.0.0.0 area 0 interface e1/1  
ip address 192.168.1.1 255.255.255.252  
ip ospf cost 0
- D. router ospf 1

network 192.168.1.1 0.0.0.0 area 0  
hello interval 15 interface e1/1  
ip address 192.168.1.1 255.255.255.252

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 629**

- (Topic 2)

Refer to the exhibit.

```

service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
!
hostname R4
!
boot-start-marker
boot-end-marker
!
ip cef
!
interface FastEthernet0/0
description WAN_INTERFACE
ip address 10.0.1.2 255.255.255.252
ip access-group 100 in
!
interface FastEthernet0/1
description LAN_INTERFACE
ip address 10.148.2.1 255.255.255.0
duplex auto
speed auto
!
ip forward-protocol nd
!
access-list 100 permit eigrp any any
access-list 100 permit icmp any any
access-list 100 permit tcp 10.149.3.0 0.0.0.255 host 10.0.1.2 eq 22
access-list 100 permit tcp any any eq 80
access-list 100 permit tcp any any eq 443
access-list 100 deny ip any any log

```

Which configuration enables DHCP addressing for hosts connected to interface FastEthernet0/1 on router R4?

- A. interface FastEthernet0/0 ip helper-address 10.0.1.1 i  
access-list 100 permit udp host 10.0.1.1 eq bootps host 10.148.2.1
- B. interface FastEthernet0/1 ip helper-address 10.0.1.1  
!  
access-list 100 permit tcp host 10.0.1.1 eq 67 host 10.148.2.1
- C. interface FastEthernet0/0 ip helper-address 10.0.1.1 i  
access-list 100 permit host 10.0.1.1 host 10.148.2.1 eq bootps
- D. interface FastEthernet0/1 ip helper-address 10.0.1.1  
!  
access-list 100 permit udp host 10.0.1.1 eq bootps host 10.148.2.1

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 630

- (Topic 2)

What is a zero-day exploit?

- A. It is when a new network vulnerability is discovered before a fix is available
- B. It is when the perpetrator inserts itself in a conversation between two parties and captures or alters data.
- C. It is when the network is saturated with malicious traffic that overloads resources and bandwidth
- D. It is when an attacker inserts malicious code into a SQL server.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

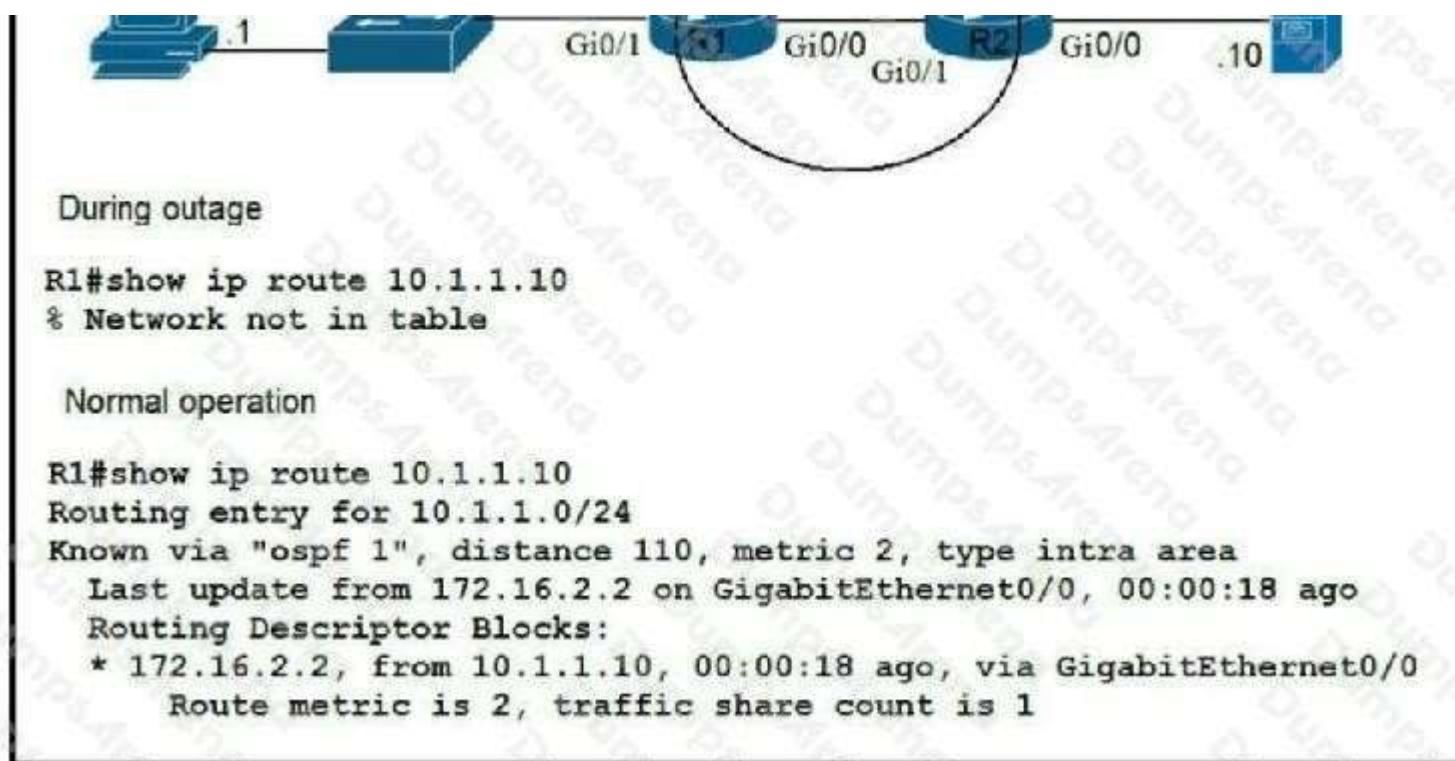
Explanation:

<https://www.kaspersky.com/resource-center/definitions/zero-day-exploit>

**QUESTION 631**

- (Topic 2)

Refer to the exhibit.



Which route must be configured on R1 so that OSPF routing is used when OSPF is up, but the server is still reachable when OSPF goes down?

- A. ip route 10.1.1.10 255.255.255.255 172.16.2.2 100
- B. ip route 10.1.1.0 255.255.255.0 gi0/1 125
- C. ip route 10.1.1.0 255.255.255.0 172.16.2.2 100
- D. ip route 10.1.1.10 255.255.255.255 gi0/0 125

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 632**

- (Topic 2)

Refer to the exhibit.

```
Switch#show etherchannel summary
```

```
[output omitted]
```

| Group | Port-channel | Protocol | Ports     |           |
|-------|--------------|----------|-----------|-----------|
| 10    | Po10 (SU)    | LACP     | Gi0/0 (P) | Gi0/1 (P) |
| 20    | Po20 (SU)    | LACP     | Gi0/2 (P) | Gi0/3 (P) |

Which two commands when used together create port channel 10? (Choose two.)

- A. int range g0/0-1  
channel-group 10 mode active
- B. int range g0/0-1 chanm.l-group 10 mode desirable
- C. int range g0/0-1  
channel-group 10 mode passive
- D. int range g0/0-1 channel-group 10 mode auto
- E. int range g0/0-1 channel-group 10 mode on

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 633**

- (Topic 2)

Refer to the exhibit.

An engineer is asked to insert the new VLAN into the existing trunk without modifying anything previously configured Which command accomplishes this task?

- A. switchport trunk allowed vlan 100-104
- B. switchport trunk allowed vlan add 104

- C. switchport trunk allowed vlan all
- D. switchport trunk allowed vlan 104

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 634**

- (Topic 2)

What is the role of disaggregation in controller-based networking?

- A. It divides the control-plane and data-plane functions.
- B. It summarizes the routes between the core and distribution layers of the network topology.
- C. It enables a network topology to quickly adjust from a ring network to a star network
- D. It streamlines traffic handling by assigning individual devices to perform either Layer 2 or Layer 3 functions.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 635**

- (DRAG DROP) - (Topic 2)

Drag and drop the IPv6 address details from the left onto the corresponding types on the right.

Identifies an interface on an IPv6 device

Includes link-local and loopback addresses

provides one-to-many communications

used exclusively by a non-host device

assigned to more than one interface

derived from the FF00::/8 address range

Anycast:

Multicast:

Unicast:

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Graphical user interface, diagram Description automatically generated

**Anycast**

provides one-to-many communications

used exclusively by a non-host device

**Multicast**

assigned to more than one interface

derived from the FF00::/8 address range

**Unicast**

identifies an interface on an IPv6 device

includes link-local and loopback addresses

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# DUMPS<sup>Q</sup>ARENA

Codes: C - Connected, L - Local, S - Static, U - Per-user Static route  
B - BGP, R - RIP, H - NHRP, I1 - ISIS L1  
I2 - ISIS L2, IA - ISIS interarea, IS - ISIS summary, D - EIGRP  
EX - EIGRP external, ND - ND Default, NDp - ND Prefix, DCE - Destination  
NDr - Redirect, O - OSPF Intra, OI - OSPF Inter, OE1 - OSPF ext 1  
OE2 - OSPF ext 2, ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2  
la - LISP alt, lr - LISP site-registrations, ld - LISP dyn-eid  
IA - LISP away, le - LISP extranet-policy, lp - LISP publications

ND ::/0 [2/0]  
via FE80::A8BB:CCFF:FE00:200, Ethernet0/0

NDp 2001:DB8:1234:1::/64 [2/0]  
via Ethernet0/0, directly connected

L 2001:DB8:1234:1:A8BB:CCFF:FE00:100/128 [0/0]  
via Ethernet0/0, receive

C 2001:DB8:1234:2::/64 [0/0]  
via Ethernet0/1, directly connected

L 2001:DB8:1234:2:A8BB:CCFF:FE00:110/128 [0/0]  
via Ethernet0/1, receive

L FF00::/8 [0/0]  
via Null0, receive

**QUESTION 636**

- (Topic 2)

Refer to the exhibit.

The administrator must configure a floating static default route that points to 2001:db8:1234:2::1 and replaces the current default route only if it fails. Which command must the engineer configure on the CPE?

- A. ipv6 route ::/0 2001:db8:1234:2::1 3
- B. ipv6 route ::/128 2001:db8:1234:2::1 3
- C. ipv6 route ::/0 2001:db8:1234:2::1 1
- D. ipv6 route ::/0 2001:db8:1234:2::1 2

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 637**

- (Topic 2)

Refer to the exhibit.

Which switch becomes the root of a spanning tree for VLAN 20 if all link speeds are of equal speed?

SW1 = 24596 0018.184e.3c00  
SW2 = 28692 004a.14e5.4077  
SW3 = 32788 0022.55cf.dd00  
SW4 = 64000 0041.454d.407f

- A. SW1
- B. SW2
- C. SW3
- D. SW4

**Correct Answer:** C

**Section:** (none)

**Explanation**

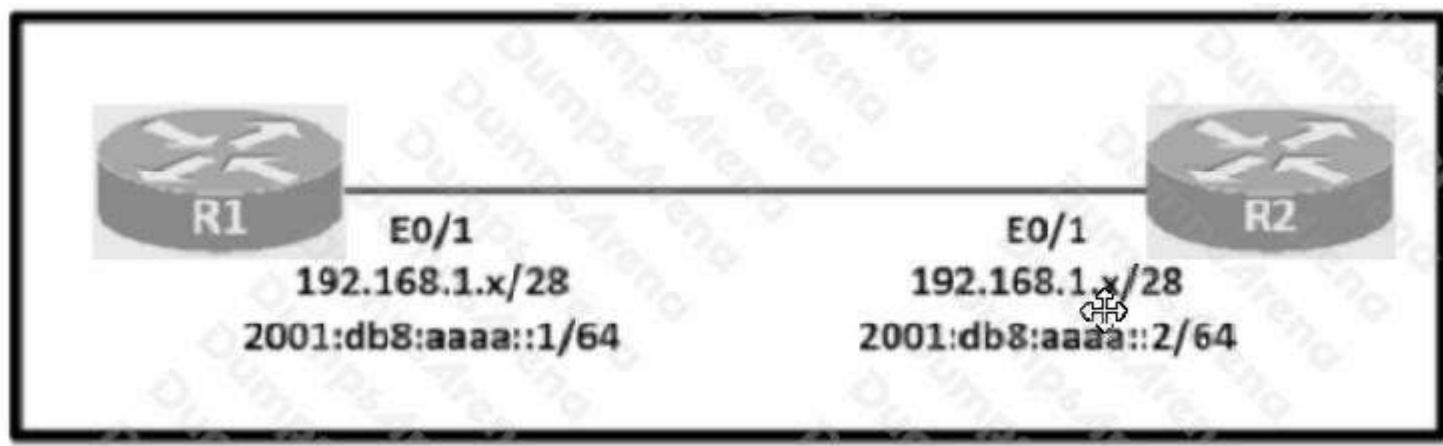
**Explanation/Reference:**

**QUESTION 638**

- (SIMULATION) - (Topic 2)

Configure IPv4 and IPv6 connectivity between two routers. For IPv4, use a /28 network from the 192.168.1.0/24 private range. For IPv6, use the first /64 subnet from the 2001:0db8:aaaa::/48 subnet.

1. Using Ethernet0/1 on routers R1 and R2, configure the next usable/28 from the 192.168.1.0/24 range. The network 192.168.1.0/28 is unavailable.
2. For the IPv4 /28 subnet, router R1 must be configured with the first usable host address.
3. For the IPv4 /28 subnet, router R2 must be configured with the last usable host address.
4. For the IPv6 /64 subnet, configure the routers with the IP addressing provided from the topology.
5. A ping must work between the routers on the IPv4 and IPv6 address ranges.



Guidelines Topology Tasks

## Guidelines

This is a lab item in which tasks will be performed on virtual devices.

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- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

A.

- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

on R1

```
config terminal ipv6 unicast-routing inter eth0/1
```

```
ip addre 192.168.1.1 255.255.255.240
```

```
ipv6 addre 2001:db8:aaaa::1/64 not shut
```

```
end
```

```
copy running start
```

on R2

```
config terminal ipv6 unicast-routing inter eth0/1
```

```
ip address 192.168.1.14 255.255.255.240
```

```
ipv6 address 2001:db8:aaaa::2/64 not shut
```

```
end
```

```
copy running start
```

```

C:\>ipconfig/all
Windows IP Configuration

 Host Name . . . . . : Inspiron15
 Primary Dns Suffix  . . . . . :
 Node Type . . . . . : Mixed
 IP Routing Enabled . . . . . : No
 WINS Proxy Enabled . . . . . : No

 Wireless LAN adapter Local Area Connection* 12:
 Media State . . . . . : Media disconnected
 Connection-specific DNS Suffix . . . . . :
 Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
 Physical Address . . . . . : 1A-76-3F-7C-57-DF
 DHCP Enabled . . . . . : Yes
 Autoconfiguration Enabled . . . . . : Yes

 Wireless LAN adapter Wi-Fi:
 Connection-specific DNS Suffix . . . . . :
 Description . . . . . : Dell Wireless 1703 802.11b/g/n (2.4GHz)
 Physical Address . . . . . : B8-76-3F-7C-57-DF
 DHCP Enabled . . . . . : No
 Autoconfiguration Enabled . . . . . : Yes
 Link-local IPv6 Address . . . . . :
   ::fe80::e09f:9839%6:86:f755x12(PREFERRED)
     192.168.1.20(PREFERRED)
     255.255.255.0
     192.168.1.1
     263747135
   00-01-00-01-18-E6-32-43-B8-76-3F-57-DF
   ::192.168.1.15
   ::192.168.1.16
   Enabled

 NetBIOS over Tcpip:

```

for test from R1

ping ipv6 2001:db8:aaaa::1 for test from R2

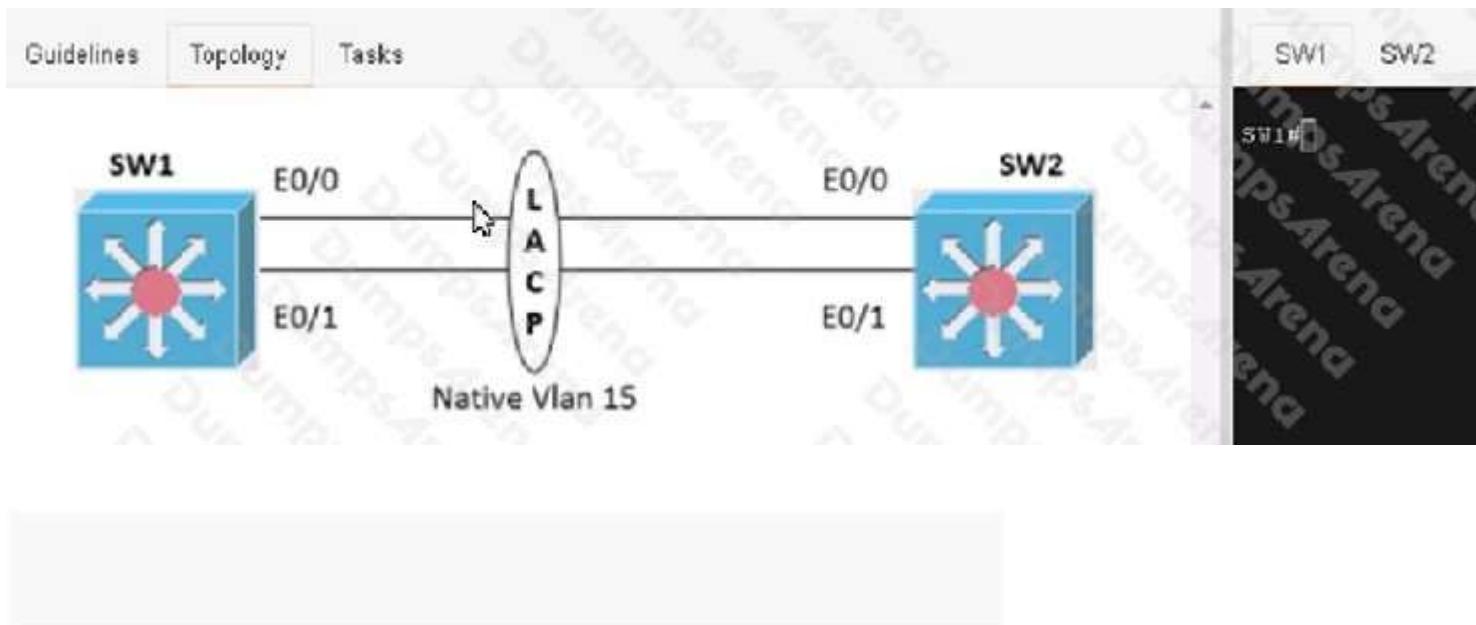
ping ipv6 2001:db8:aaaa::2

#### **QUESTION 639**

- (SIMULATION) - (Topic 2)

Physical connectivity is implemented between the two Layer 2 switches, and the network connectivity between them must be configured

1. Configure an LACP EtherChannel and number it as 1; configure it between switches SW1 and SVV2 using interfaces Ethernet0/0 and Ethernet0/1 on both sides. The LACP mode must match on both ends
2. Configure the EtherChannel as a trunk link.
3. Configure the trunk link with 802.1 q tags.
4. Configure the native VLAN of the EtherChannel as VLAN 15.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

On SW1:

```
conf terminal vlan 15
```

```
exit
```

```
interface range eth0/0 - 1 channel-group 1 mode active exit
```

```
interface port-channel 1
```

```
switchport trunk encapsulation dot1q switchport mode trunk
```

```
switchport trunk native vlan 15 end
```

```
copy run start
```

on SW2:

```
conf terminal vlan 15
```

```
exit
```

```
interface range eth0/0 - 1 channel-group 1 mode active exit
```

```
interface port-channel 1
```

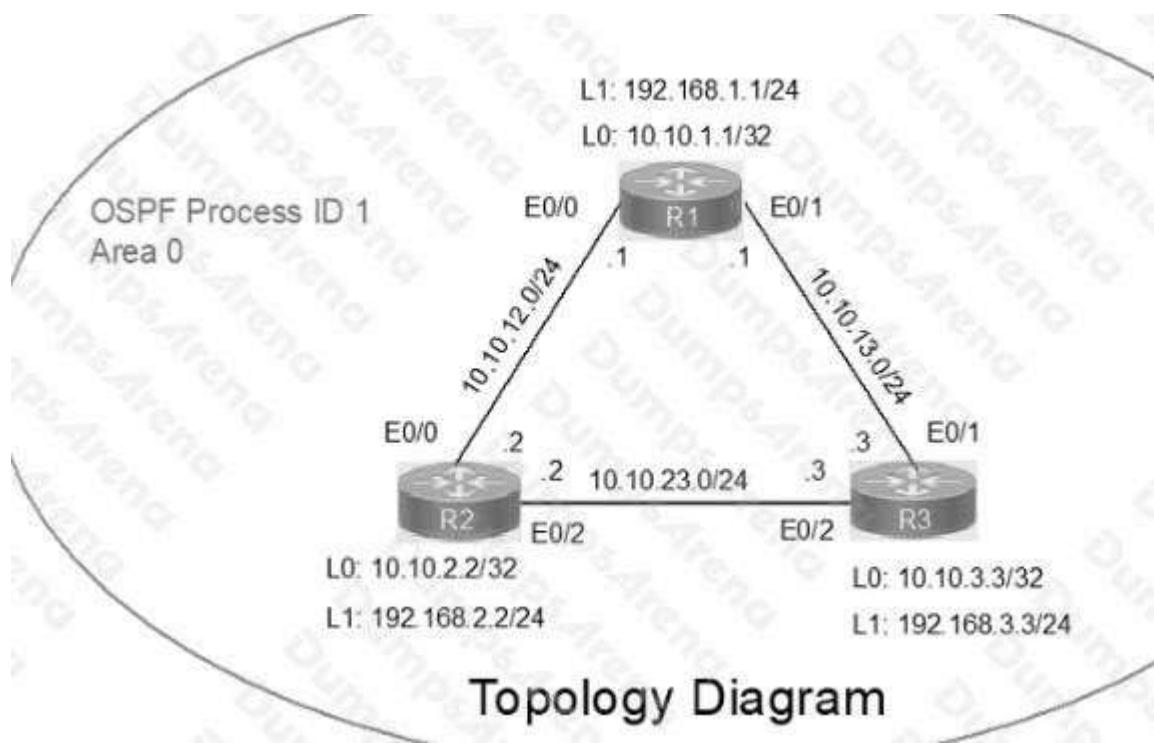
```
switchport trunk encapsulation dot1q switchport mode trunk
```

```
switchport trunk native vlan 15 end
```

```
copy run start
```

**QUESTION 640**

- (SIMULATION) - (Topic 2)



# Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
- Console access is available for all required devices by clicking the device icon or using the tab(s) above the console window.
- All necessary preconfigurations have been applied.
- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

IP connectivity between the three routers is configured. OSPF adjacencies must be established.

1. Configure R1 and R2 Router IDs using the interface IP addresses from the link that is shared between them.
2. Configure the R2 links with a max value facing R1 and R3. R2 must become the DR. R1 and R3 links facing R2 must remain with the default OSPF configuration for DR election. Verify the configuration after clearing the OSPF process.
3. Using a host wildcard mask, configure all three routers to advertise their respective Loopback1 networks.
4. Configure the link between R1 and R3 to disable their ability to add other OSPF routers.
  - A.
  - B.
  - C.
  - D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

on R1

conf terminal interface Loopback0

ip address 10.10.1.1 255.255.255.255

!

interface Loopback1

```
ip address 192.168.1.1 255.255.255.0
```

```
!
```

```
interface Ethernet0/0 no shut
```

```
ip address 10.10.12.1 255.255.255.0
```

```
ip ospf 1 area 0 duplex auto
```

```
!
```

```
interface Ethernet0/1 no shut
```

```
ip address 10.10.13.1 255.255.255.0
```

```
ip ospf 1 area 0 duplex auto
```

```
!
```

```
router ospf 1
```

```
router-id 10.10.12.1
```

```
network 10.10.1.1 0.0.0.0 area 0
```

```
network 192.168.1.0 0.0.0.255 area 0
```

```
!
```

```
copy run star
```

```
C:\>ipconfig/all
Windows IP Configuration

 Host Name . . . . . : Inspiron15
 Primary Dns Suffix  . . . . . :
 Node Type . . . . . : Mixed
 IP Routing Enabled . . . . . : No
 WINS Proxy Enabled . . . . . : No

Wireless LAN adapter Local Area Connection* 12:
 Media State . . . . . : Media disconnected
 Connection-specific DNS Suffix . . . . . :
 Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
 Physical Address . . . . . : 1A-76-3F-7C-57-DF
 DHCP Enabled . . . . . : Yes
 Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wi-Fi:
 Connection-specific DNS Suffix . . . . . :
 Description . . . . . : Dell Wireless 1703 802.11b/g/n (2.4GHz)
 Physical Address . . . . . : B8-76-3F-7C-57-DF
 DHCP Enabled . . . . . : No
 Autoconfiguration Enabled . . . . . : Yes
 Link-local IPv6 Address . . . . . :
   fe80::e09f:9839:6e86:f755%12(PREFERRED)
     192.168.1.20(PREFERRED)
     255.255.255.0
     192.168.1.1
     263747135
   00-01-00-01-18-E6-32-43-B8-76-3F-57-DF
 DHCPv6 IAID . . . . . : 192.168.1.15
 DHCPv6 Client DUID . . . . . : 192.168.1.16
 NetBIOS over Tcpip . . . . . : Enabled
```

On R2

```
conf terminal interface Loopback0
```

```
ip address 10.10.2.2 255.255.255.255
```

```
!
```

```
interface Loopback1
```

```
ip address 192.168.2.2 255.255.255.0
```

```
!
```

```
interface Ethernet0/0 no shut
```

```
ip address 10.10.12.2 255.255.255.0
```

```
ip ospf priority 255 ip ospf 1 area 0 duplex auto
```

```
!
```

```
interface Ethernet0/2 no shut  
ip address 10.10.23.2 255.255.255.0  
ip ospf priority 255 ip ospf 1 area 0  
duplex auto
```

```
!
```

```
router ospf 1  
network 10.10.2.2 0.0.0.0 area 0  
network 192.168.2.0 0.0.0.255 area 0  
!
```

```
copy runs start
```

```
C:\>ipconfig/all  
Windows IP Configuration  
  
Host Name . . . . . : Inspiron15  
Primary Dns Suffix . . . . .  
Node Type . . . . . : Mixed  
IP Routing Enabled . . . . . : No  
WINS Proxy Enabled . . . . . : No  
  
Wireless LAN adapter Local Area Connection* 12:  
Media State . . . . . : Media disconnected  
Connection-specific DNS Suffix . . . . .  
Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter  
Physical Address . . . . . : 1A-76-3F-7C-57-DF  
DHCP Enabled . . . . . : Yes  
Autoconfiguration Enabled . . . . . : Yes  
  
Wireless LAN adapter Wi-Fi:  
Connection-specific DNS Suffix . . . . .  
Description . . . . . : Dell Wireless 1703 802.11b/g/n (2.4GHz)  
Physical Address . . . . . : B8-76-3F-7C-57-DF  
DHCP Enabled . . . . . : No  
Autoconfiguration Enabled . . . . . : Yes  
Link-local IPv6 Address . . . . . : fe80::e09f:9839:6e86:f755x12(PREFERRED)  
                               192.168.1.20(PREFERRED)  
                               255.255.255.0  
                               192.168.1.1  
                               263747135  
DHCPv6 IAID . . . . . : 00-01-00-01-18-E6-32-43-B8-76-3F-57-DF  
DHCPv6 Client DUID . . . . .  
NetBIOS over Tcpip . . . . . : 192.168.1.15  
                             192.168.1.16  
                             Enabled
```

On R3

conf ter

interface Loopback0

ip address 10.10.3.3 255.255.255.255

!

interface Loopback1

ip address 192.168.3.3 255.255.255.0

!

interface Ethernet0/1 no shut

ip address 10.10.13.3 255.255.255.0

ip ospf 1 area 0 duplex auto

!

interface Ethernet0/2 no shut

ip address 10.10.23.3 255.255.255.0

ip ospf 1 area 0

duplex auto

!

router ospf 1

network 10.10.3.3 0.0.0.0 area 0

network 192.168.3.0 0.0.0.255 area 0

!

copy run start

!

#### **QUESTION 641**

- (SIMULATION) - (Topic 2)

# Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
- Refer to the **Topology** tab to access the device console(s) and perform the tasks.
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- Do not change the enable password or hostname for any device.
- Save your configurations to NVRAM before moving to the next item.**
- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

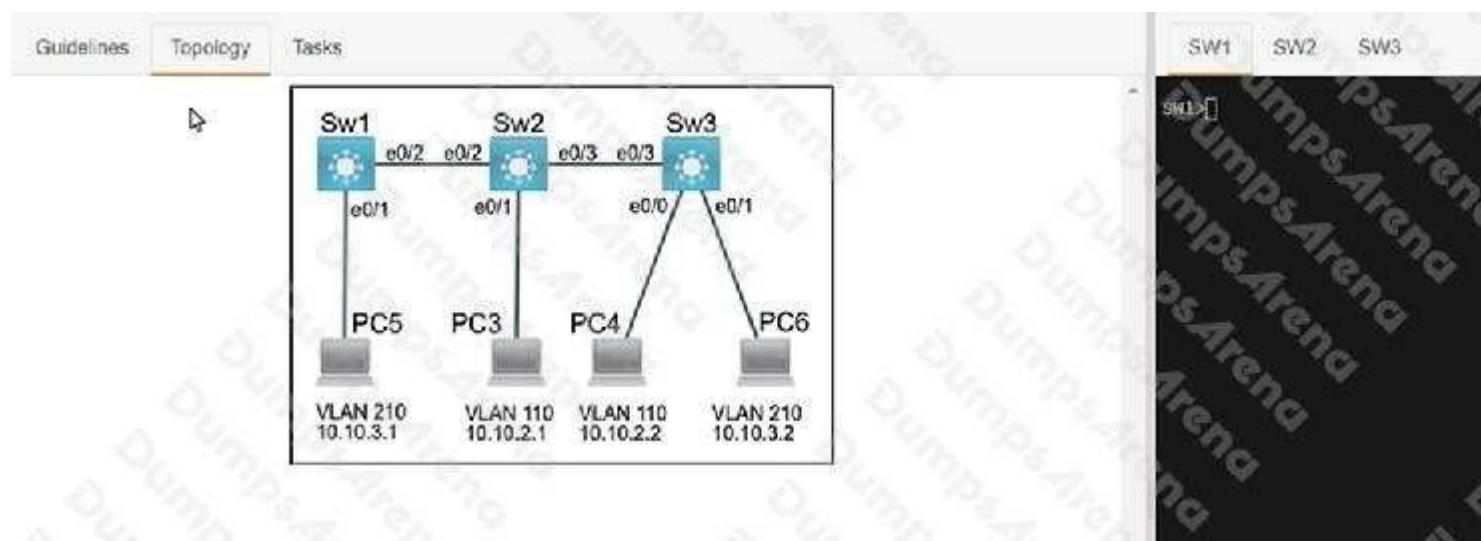
Three switches must be configured for Layer 2 connectivity. The company requires only the designated VLANs to be configured on their respective switches and permitted across any links between switches for security purposes. Do not modify or delete VTP configurations.

The network needs two user-defined VLANs configured:

VLAN 110: MARKETING

VLAN 210: FINANCE

- Configure the VLANs on the designated switches and assign them as access ports to the interfaces connected to the PCs.
- Configure the e0/2 interfaces on Sw1 and Sw2 as 802.1q trunks with only the required VLANs permitted.
- Configure the e0/3 interfaces on Sw2 and Sw3 as 802.1q trunks with only the required VLANs permitted.



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

Sw1 enable config t Vlan 210

Name FINANCE

Int e0/1

Switchport access vlan 210 do wr

Sw2

Enable config t Vlan 110

Name MARKETING

Int e0/1

Switchport access vlan 110 do wr

Sw3 Enable config t Vlan 110

Name MARKETING

Vlan 210

Name FINANCE

Int e0/0

Switchport access vlan 110 Int e0/1

Switchport access vlan 210

Sw1

Int e0/1

Switchport allowed vlan 210

Sw2

Int e0/2



Switchport trunk allowed vlan 210

Sw3

Int e0/3

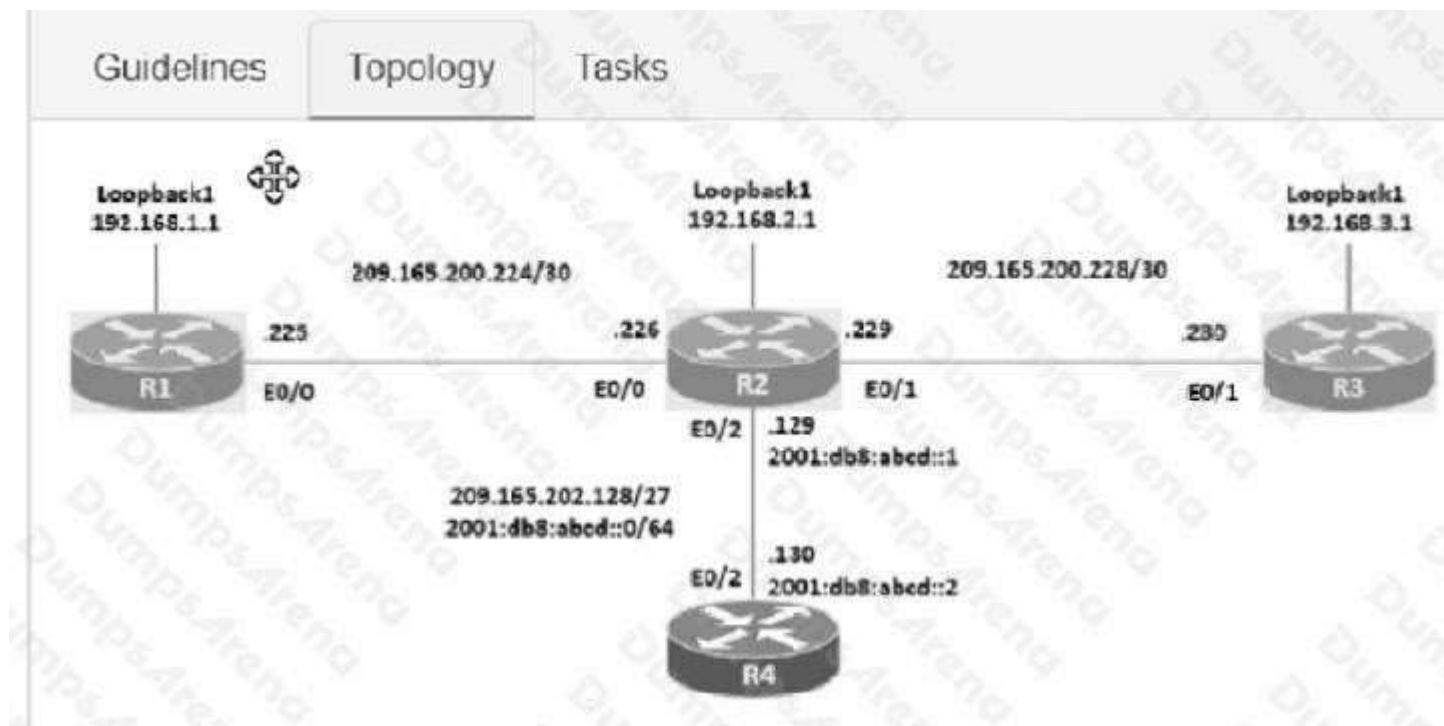
Switchport trunk allowed vlan 210 Switchport trunk allowed vlan 210,110

#### QUESTION 642

- (SIMULATION) - (Topic 2)

Connectivity between four routers has been established. IP connectivity must be configured in the order presented to complete the implementation. No dynamic routing protocols are included.

1. Configure static routing using host routes to establish connectivity from router R3 to the router R1 Loopback address using the source IP of 209.165.200.230.
2. Configure an IPv4 default route on router R2 destined for router R4.
3. Configure an IPv6 default router on router R2 destined for router R4.



Guidelines

Topology

Tasks

# Guidelines

This is a lab item in which tasks will be performed on virtual devices.

- Refer to the **Tasks** tab to view the tasks for this lab item.
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- Click **Next** at the bottom of the screen to submit this lab and move to the next question.
- When **Next** is clicked, the lab closes and cannot be reopened.

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

1.- on R3

```
config terminal  
ip route 192.168.1.1 255.255.255.255 209.165.200.229  
end  
copy running start  
2.- on R2  
config terminal  
ip route 0.0.0.0 0.0.0.0 209.165.202.130  
end  
copy running start  
3.- on R2
```

```
config terminal  
ipv6 route ::/0 2001:db8:abcd::2 end  
copy running start
```

**QUESTION 643**  
- (SIMULATION) - (Topic 2)

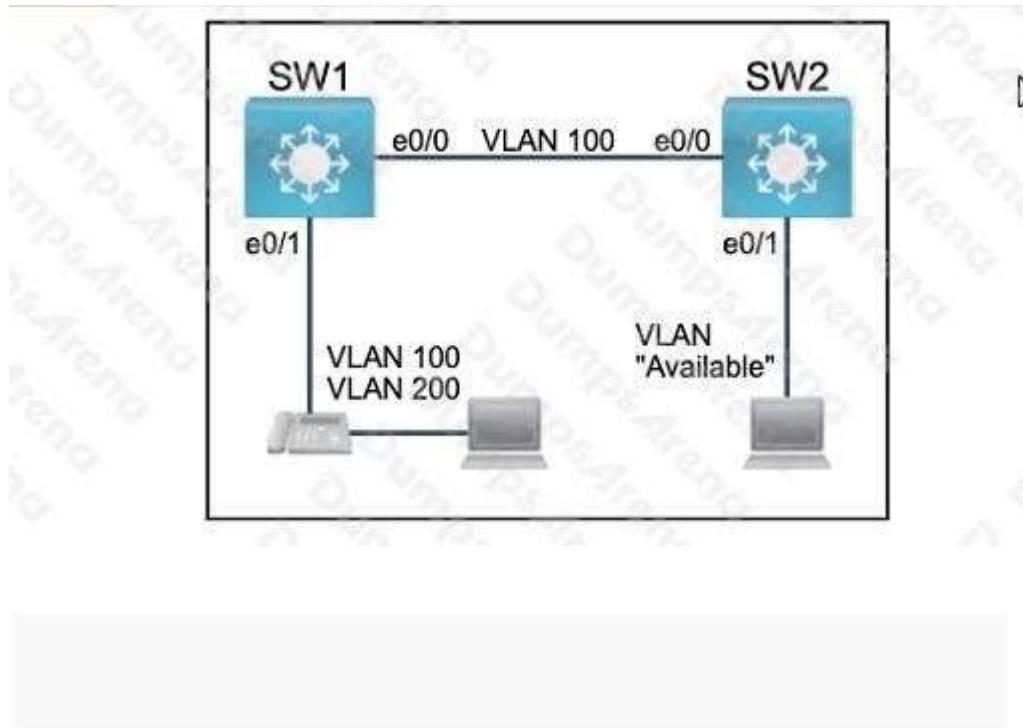
## Guidelines

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- Do not change the enable password or hostname for any device.
- **Save your configurations** to NVRAM before moving to the next item.
- Click **Next** at the bottom of the screen to submit this lab and move to the next question
- When **Next** is clicked, the lab closes and cannot be reopened.

All physical cabling between the two switches is installed. Configure the network connectivity between the switches using the designated VLANs and interfaces.

1. Configure VLAN 100 named Compute and VLAN 200 named Telephony where required for each task.
2. Configure Ethernet0/1 on SW2 to use the existing VLAN named Available.
3. Configure the connection between the switches using access ports.
4. Configure Ethernet0/1 on SW1 using data and voice VLANs.
5. Configure Ethernet0/1 on SW2 so that the Cisco proprietary neighbor discovery protocol is turned off for the designated interface only.



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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

```
on sw1 enable conf t vlan 100
```

```
name Compute vlan 200
```

```
name Telephony int e0/1
```

switchport voice vlan 200 switchport access vlan 100 int e0/0

switchport mode access do wr

on sw2

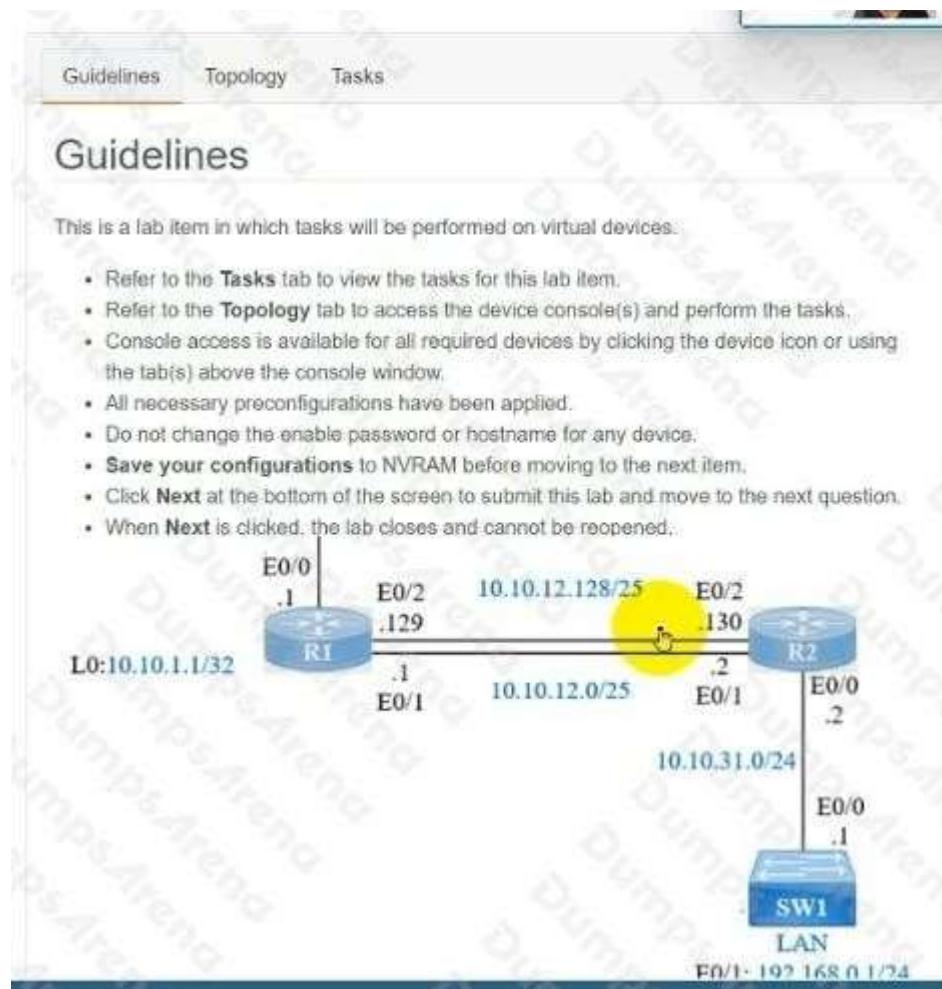
Vlan 99

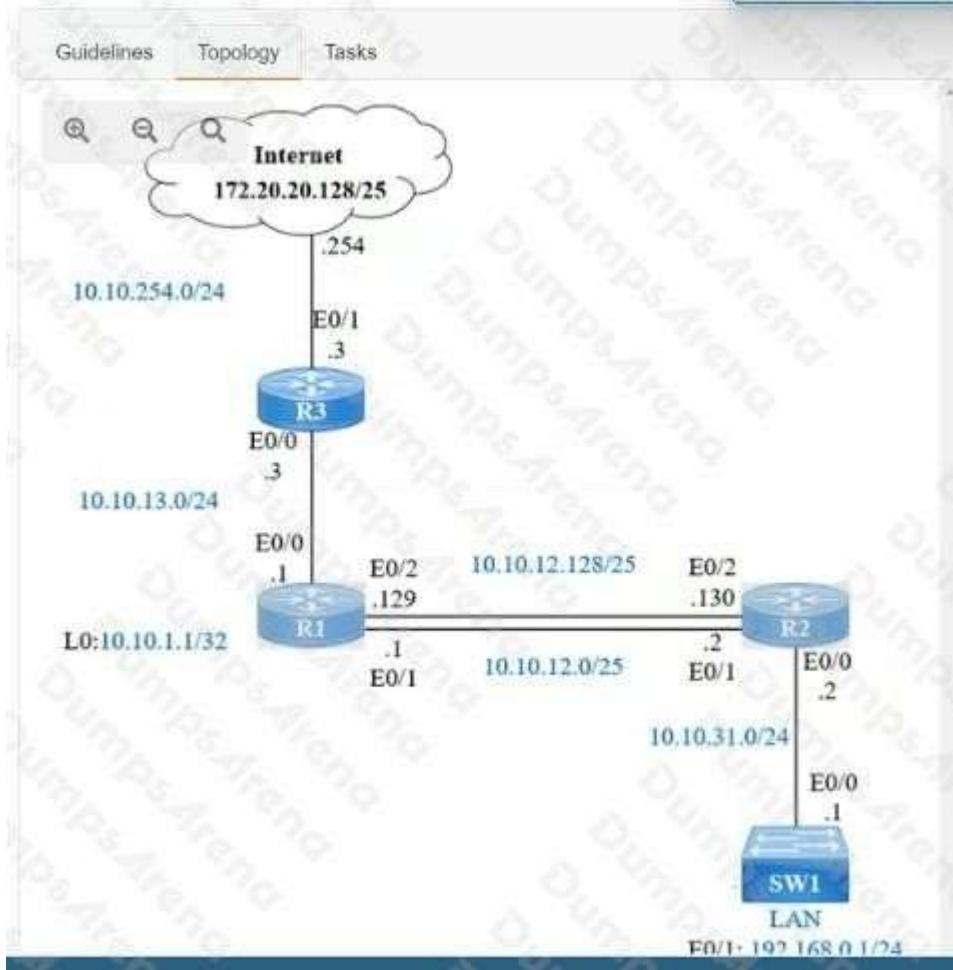
Name Available Int e0/1

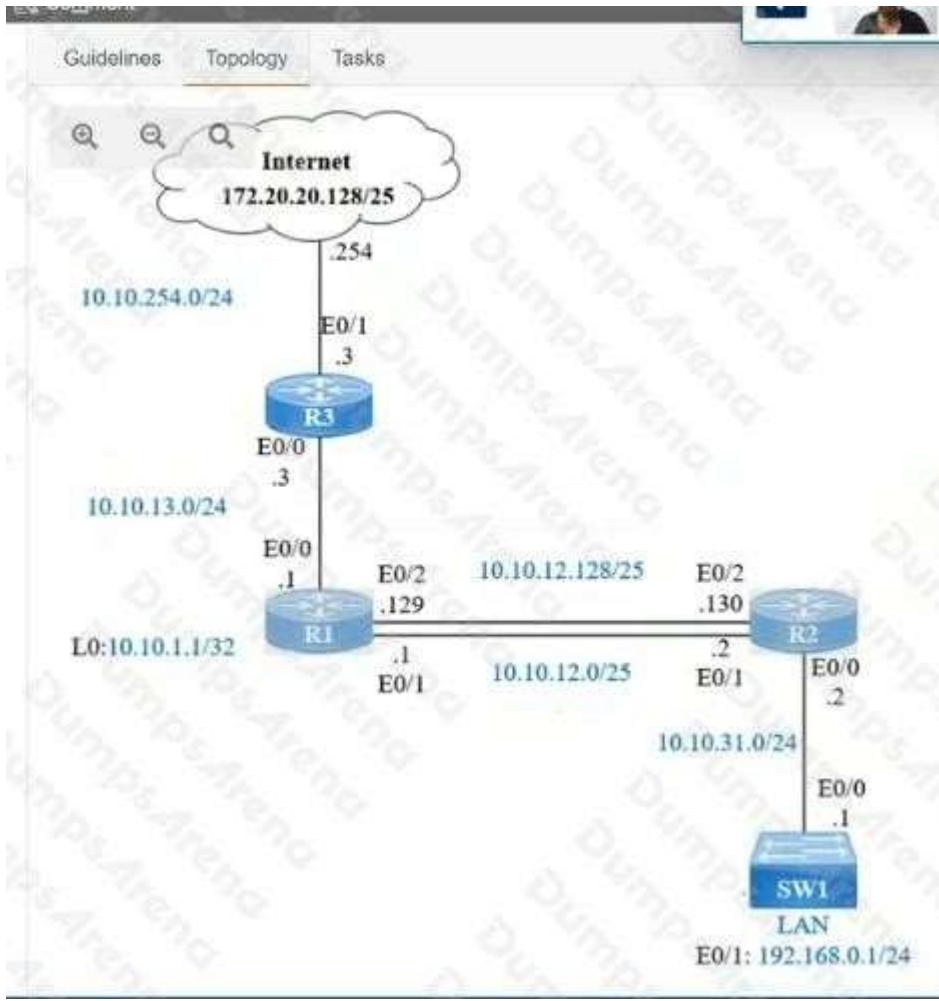
Switchport access vlan 99 do wr

#### QUESTION 644

- (SIMULATION) - (Topic 2)







IP connectivity and OSPF are preconfigured on all devices where necessary. Do not make any changes to the IP addressing or OSPF. The company policy uses connected interfaces and next hops when configuring static routes except for load balancing or redundancy without floating static. Connectivity must be established between subnet 172.20.20.128/25 on the Internet and the LAN at 192.168.0.0/24 connected to SW1:

1. Configure reachability to the switch SW1 LAN subnet in router R2.
  2. Configure default reachability to the Internet subnet in router R1.
  3. Configure a single static route in router R2 to reach to the Internet subnet considering both redundant links between routers R1 and R2. A default route is NOT allowed in router R2.
  4. Configure a static route in router R1 toward the switch SW1 LAN subnet where the primary link must be through Ethernet0/1. and the backup link must be through Ethernet0/2 using a floating route. Use the minimal administrative distance value when required.
- A.  
B.

C.  
D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

On R2:

Enable Conf t

Ip route 192.168.1.0 255.255.255.0 10.10.31.1

On R1:

Enable Conf t

Ip route 0.0.0.0 0.0.0.0 10.10.13.3

On R2

Ip route 172.20.20.128 255.255.255.128 e0/2

Ip route 172.20.20.128 255.255.255.128 e0/1

On R1

Ip route 192.168.0.0 255.255.255.0 e0/1

Ip route 192.168.0.0 255.255.255.0 10.10.12.2 3

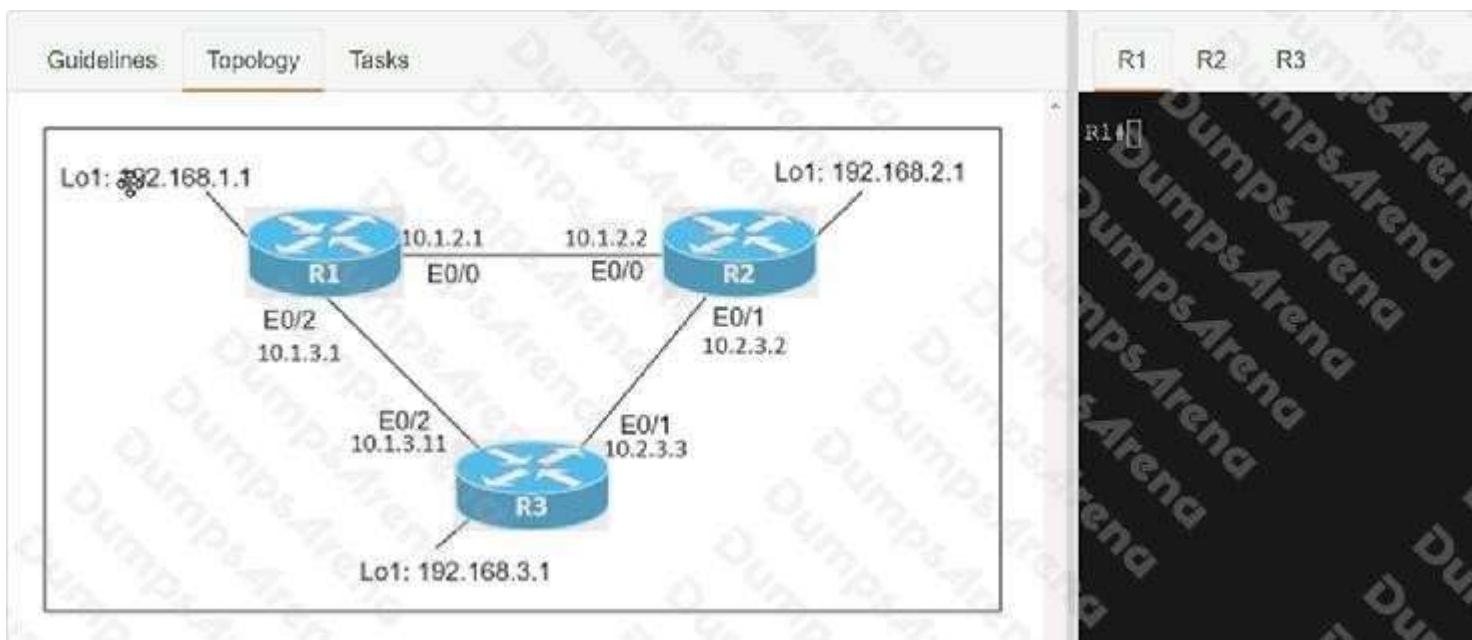
Save all configurations after every router from anyone of these command Do wr

Or

Copy run start

**QUESTION 645**

- (SIMULATION) - (Topic 2)



Connectivity between three routers has been established, and IP services must be configured in the order presented to complete the implementation. Tasks assigned include configuration of NAT, NTP, DHCP, and SSH services.

1. All traffic sent from R3 to the R1 Loopback address must be configured for NAT on R2. All source addresses must be translated from R3 to the IP address of Ethernet0/0 on R2, while using only a standard access list named NAT To verify, a ping must be successful to the R1 Loopback address sourced from R3. Do not use NVI NAT configuration.

2. Configure R1 as an NTP server and R2 as a client, not as a peer, using the IP address of the R1 Ethernet0/2 interface.

Set the clock on the NTP server for midnight on January 1, 2019.

3. Configure R1 as a DHCP server for the network 10.1.3.0/24 in a pool named TEST. Using a single command, exclude addresses 1-10 from the range. Interface Ethernet0/2 on R3 must be issued the IP address of 10.1.3.11 via DHCP.

4. Configure SSH connectivity from R1 to R3, while excluding access via other remote connection protocols. Access for user root and password Cisco must be set on router R3 using RSA and 1024 bits. Verify connectivity using an SSH session from router R1 using a destination address of 10.1.3.11. Do NOT modify console access or line numbers to accomplish this task.

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ANSWER: See Explanation for Details

Explanation:

conf t

R1(config)#ntp master 1

R2(config)#ntp server 10.1.2.1 Exit

Router#clock set 00:00:00 jan 1 2019 ip dhcp pool TEST

network 10.1.3.0 255.255.255.0

ip dhcp excluded-address 10.1.3.1 10.1.3.10 R3(config)#int e0/3

R3(config)#int e0/2 ip address dhcp

no shut

crypto key generate RSA 1024

Copy run start

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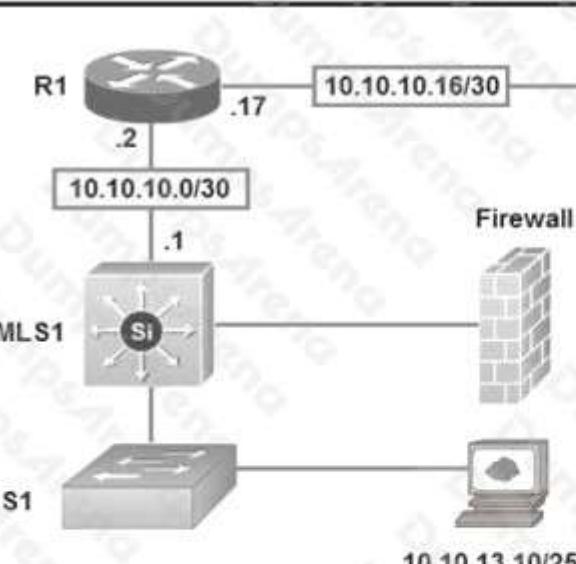
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Topic 3, Network Fundamentals

#### QUESTION 646

- (Topic 3)



```
R1#sh ip ro
```

```
Gateway of last resort is 10.10.10.18 to network 0.0.0.0
```

```
    10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
C      10.10.10.0/30 is directly connected, FastEthernet0/1
O      10.10.13.0/25 [110/6576] via 10.10.10.1, 06:58:21, FastEthernet0/1
C      10.10.10.16/30 is directly connected, FastEthernet0/24
O      10.10.13.144/28 [110/110] via 10.10.10.1, 06:58:21, FastEthernet0/1
B*     0.0.0.0/0 [20/0] via 10.10.10.18, 01:17:58
```

Refer to the exhibit. Which type of route does R1 use to reach host 10.10.13.10/32?

- A. default route
- B. network route
- C. host route
- D. floating static route

**Correct Answer:** B

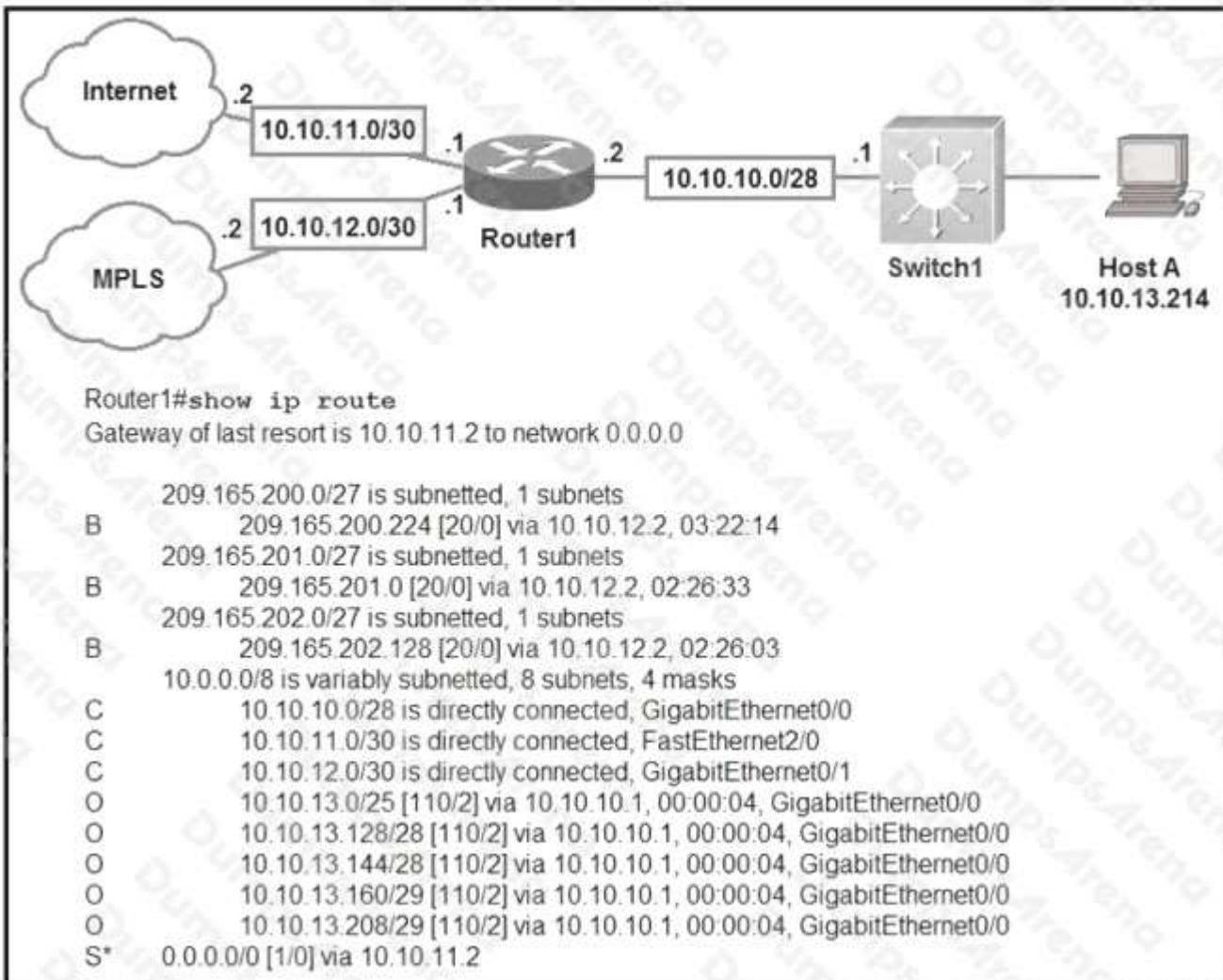
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 647**

- (Topic 3)



Refer to the exhibit. Which prefix does Router1 use for traffic to Host A?

- A. 10.10.10.0/28
- B. 10.10.13.0/25
- C. 10.10.13.144/28
- D. 10.10.13.208/29

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The prefix with "longest prefix" will be matched first, in this case is "/29".

**QUESTION 648**

- (DRAG DROP) - (Topic 3)

DRAG DROP

Drag and drop the descriptions of file-transfer protocols from the left onto the correct protocols on the right.

Select and Place:

**Answer Area**

provides reliability when loading an IOS image upon boot up

does not require user authentication

uses port 69

uses ports 20 and 21

uses TCP

uses UDP

**FTP**

|  |
|--|
|  |
|  |
|  |

**TFTP**

|  |
|--|
|  |
|  |
|  |

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

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

## Answer Area

|                                                             |      |
|-------------------------------------------------------------|------|
| provides reliability when loading an IOS image upon boot up | FTP  |
| does not require user authentication                        |      |
| uses port 69                                                |      |
| uses ports 20 and 21                                        |      |
| uses TCP                                                    |      |
| uses UDP                                                    |      |
| uses port 69                                                | TFTP |
| does not require user authentication                        |      |
| uses UDP                                                    |      |

Explanation:

### QUESTION 649

- (Topic 3)

A frame that enters a switch fails the Frame Check Sequence. Which two interface counters are incremented? (Choose two.)

- A. input errors
- B. frame
- C. giants
- D. CRC
- E. runts

**Correct Answer: AD**

Section: (none)

Explanation

### **Explanation/Reference:**

Explanation:

Whenever the physical transmission has problems, the receiving device might receive a frame whose bits have changed values. These frames do not pass the error detection logic as implemented in the FCS field in the Ethernet trailer. The receiving device discards the frame and counts it as some kind of input error. Cisco switches list this error as a CRC error. Cyclic redundancy check (CRC) is a term related to how the FCS math detects an error.

The "input errors" includes runts, giants, no buffer, CRC, frame, overrun, and ignored counts.

The output below show the interface counters with the "show interface s0/0/0" command:

```
66 Router#show interface s0/0/0
Serial0/0/0 is up, line protocol is up
  Hardware is M4T
  Description: Link to R2
  Internet address is 10.1.1.1/30
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
--output omitted--
  5 minute output rate 0 bits/sec, 0 packets/sec
    268 packets input, 24889 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    251 packets output, 23498 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
    0 carrier transitions      DCD=up  DSR=up  DTR=up  RTS=up  CTS=up
```

### **QUESTION 650**

- (DRAG DROP) - (Topic 3)

DRAG DROP

Drag and drop the IPv4 network subnets from the left onto the correct usable host ranges on the right.

Select and Place:

## Answer Area

|                   |                                 |
|-------------------|---------------------------------|
| 172.28.228.144/18 | 172.28.228.1 - 172.28.229.254   |
| 172.28.228.144/21 | 172.28.224.1 - 172.28.231.254   |
| 172.28.228.144/23 | 172.28.228.129 - 172.28.228.254 |
| 172.28.228.144/25 | 172.28.228.145 - 172.28.228.150 |
| 172.28.228.144/29 | 172.28.192.1 - 172.28.255.254   |

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Answer Area

|                   |                   |
|-------------------|-------------------|
| 172.28.228.144/18 | 172.28.228.144/23 |
| 172.28.228.144/21 | 172.28.228.144/21 |
| 172.28.228.144/23 | 172.28.228.144/25 |
| 172.28.228.144/25 | 172.28.228.144/29 |
| 172.28.228.144/29 | 172.28.228.144/18 |

Explanation:

This subnet question requires us to grasp how to subnet very well. To quickly find out the subnet range, we have to find out the increment and the network address of each subnet. Let's take an example with the subnet 172.28.228.144/18:

From the /18 (= 1100 0000 in the 3rd octet), we find out the increment is 64. Therefore the network address of this subnet must be the greatest multiple of the increment but not greater than the value in the 3rd octet (228). We can find out the 3rd octet of the network address is 192 (because  $192 = 64 * 3$  and  $192 < 228$ ) -> The network address is 172.28.192.0. So the first usable host should be 172.28.192.1 and it matches with the 5th answer on the right. In this case we don't need to calculate the broadcast address because we found the correct answer.

Let's take another example with subnet 172.28.228.144/23 -> The increment is 2 (as /23 = 1111 1110 in 3rd octet) -> The 3rd octet of the network address is 228 (because 228 is the multiply of 2 and equal to the 3rd octet) -> The network address is 172.28.228.0 -> The first usable host is 172.28.228.1. It is not necessary but if we want to find out the broadcast address of this subnet, we can find out the next network address, which is 172.28.(228 + the increment number).0 or 172.28.230.0 then reduce 1 bit -> 172.28.229.255 is the broadcast address of our subnet. Therefore the last usable host is 172.28.229.254.

### QUESTION 651

- (Topic 3)

How do TCP and UDP differ in the way that they establish a connection between two endpoints?

- A. TCP uses the three-way handshake, and UDP does not guarantee message delivery.
- B. TCP uses synchronization packets, and UDP uses acknowledgment packets.
- C. UDP provides reliable message transfer, and TCP is a connectionless protocol.
- D. UDP uses SYN, SYN ACK, and FIN bits in the frame header while TCP uses SYN, SYN ACK, and ACK bits.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 652**

- (Topic 3)

Which 802.11 frame type is Association Response?

- A. management
- B. protected frame
- C. action
- D. control

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

There are three main types of 802.11 frames: the Data Frame, the Management Frame and the Control Frame. Association Response belongs to Management Frame. Association response is sent in response to an association request.

Reference: [https://en.wikipedia.org/wiki/802.11\\_Frame\\_Types](https://en.wikipedia.org/wiki/802.11_Frame_Types)

**QUESTION 653**

- (Topic 3)

In which way does a spine-and-leaf architecture allow for scalability in a network when additional access ports are required?

- A. A spine switch and a leaf switch can be added with redundant connections between them.
- B. A spine switch can be added with at least 40 GB uplinks.
- C. A leaf switch can be added with connections to every spine switch.
- D. A leaf switch can be added with a single connection to a core spine switch.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Spine-leaf architecture is typically deployed as two layers: spines (such as an aggregation layer), and leaves (such as an access layer). Spine-leaf topologies provide high-bandwidth, low-latency, nonblocking server-to-server connectivity.

Leaf (aggregation) switches are what provide devices access to the fabric (the network of spine and leaf switches) and are typically deployed at the top of the rack. Generally, devices connect to the leaf switches.

Devices can include servers, Layer 4-7 services (firewalls and load balancers), and WAN or Internet routers. Leaf switches do not connect to other leaf switches. In spine-and-leaf architecture, every leaf should connect to every spine in a full mesh.

Spine (aggregation) switches are used to connect to all leaf switches and are typically deployed at the end or middle of the row. Spine switches do not connect to other spine switches.

Reference: <https://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/guide-c07-733228.html>

#### **QUESTION 654**

- (Topic 3)

What identifies the functionality of virtual machines?

- A. The hypervisor communicates on Layer 3 without the need for additional resources.
- B. Each hypervisor supports a single virtual machine and a single software switch.
- C. The hypervisor virtualizes physical components including CPU, memory, and storage.
- D. Virtualized servers run efficiently when physically connected to a switch that is separate from the hypervisor.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 655**

- (Topic 3)

Which command automatically generates an IPv6 address from a specified IPv6 prefix and MAC address of an interface?

- A. ipv6 address dhcp
- B. ipv6 address 2001:DB8:5:112::/64 eui-64
- C. ipv6 address autoconfig
- D. ipv6 address 2001:DB8:5:112::2/64 link-local

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The "ipv6 address autoconfig" command causes the device to perform IPv6 stateless address auto-configuration to discover prefixes on the link and then to add the EUI-64 based addresses to the interface. Addresses are configured depending on the prefixes received in Router Advertisement (RA) messages. The device will listen for RA messages which are transmitted periodically from the router (DHCP Server). This RA message allows a host to create a global IPv6 address from:

- Its interface identifier (EUI-64 address)
- Link Prefix (obtained via RA)

Note: Global address is the combination of Link Prefix and EUI-64 address

**QUESTION 656**

- (Topic 3)

When configuring IPv6 on an interface, which two IPv6 multicast groups are joined? (Choose two.)

- A. 2000::/3
- B. 2002::5
- C. FC00::/7
- D. FF02::1
- E. FF02::2

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

When an interface is configured with IPv6 address, it automatically joins the all nodes (FF02::1) and solicited-node (FF02::1:FFxx:xxxx) multicast groups. The all-node group is used to communicate with all interfaces on the local link, and the solicited-nodes multicast group is required for link-layer address resolution. Routers also join a third multicast group, the all-

routers group (FF02::2).

Reference:

<https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipv6/configuration/xe-3s/ipv6-xe-36s-book/ip6-multicast.html>

**QUESTION 657**

- (DRAG DROP) - (Topic 3)

DRAG DROP

```
[root@HostTest ~]# ip route
default via 192.168.1.193 dev eth1 proto static
192.168.1.0/26 dev eth1 proto kernel scope link src 192.168.1.200 metric 1

[root@HostTime ~]# ip addr show eth1
eth1: mtu 1500 qdisc pfifo_fast qlen 1000
    link/ether 00:0C:22:83:79:A3 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.200/26 brd 192.168.1.255 scope global eth1
        inet6 fe80::20c:29ff:fe89:79b3/64 scope link
            valid_lft forever preferred_lft forever
```

Refer to the exhibit. Drag and drop the networking parameters from the left onto the correct values on the right.

Select and Place:

## Answer Area

|                 |                   |
|-----------------|-------------------|
| default gateway | 00:0C:22          |
| host IP address | 00:0C:22:83:79:A3 |
| NIC MAC address | 192.168.1.193     |
| NIC vendor OUI  | 192.168.1.200     |
| subnet mask     | 255.255.255.192   |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## Answer Area

|                 |                 |
|-----------------|-----------------|
| default gateway | NIC vendor OUI  |
| host IP address | NIC MAC address |
| NIC MAC address | default gateway |
| NIC vendor OUI  | host IP address |
| subnet mask     | subnet mask     |

Explanation:

The "ip route" and "ip addr show eth1" are Linux commands.

- "ip route": display the routing table
- "ip addr show eth1": get depth information (only on eth1 interface) about your network interfaces like IP Address, MAC Address information

### QUESTION 658

- (Topic 3)

What is the default behavior of a Layer 2 switch when a frame with an unknown destination MAC address is received?

- A. The Layer 2 switch forwards the packet and adds the destination MAC address to its MAC address table.
- B. The Layer 2 switch sends a copy of a packet to CPU for destination MAC address learning.
- C. The Layer 2 switch floods packets to all ports except the receiving port in the given VLAN.
- D. The Layer 2 switch drops the received frame.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If the destination MAC address is not in the CAM table (unknown destination MAC address), the switch sends

the frame out all other ports that are in the same VLAN as the received frame. This is called flooding. It does not flood the frame out the same port on which the frame was received.

**QUESTION 659**

- (Topic 3)

An engineer must configure a /30 subnet between two routes. Which usable IP address and subnet mask combination meets this criteria?

- A. interface e0/0 description to XX-XXXX:XXXXXX ip address 10.2.1.3 255.255.255.252
- B. interface e0/0 description to XX-XXXX:XXXXXX ip address 192.168.1.1 255.255.255.248
- C. interface e0/0 description to XX-XXXX:XXXXXX ip address 172.16.1.4 255.255.255.248
- D. interface e0/0 description to XX-XXXX:XXXXXX ip address 209.165.201.2 225.255.255.252

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 660**

- (Topic 3)

Which network allows devices to communicate without the need to access the Internet?

- A. 172.9.0.0/16
- B. 172.28.0.0/16
- C. 192.0.0.0/8
- D. 209.165.201.0/24

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**Explanation:**

This question asks about the private ranges of IPv4 addresses. The private ranges of each class of IPv4 are listed below:

Class A private IP address ranges from 10.0.0.0 to 10.255.255.255

Class B private IP address ranges from 172.16.0.0 to 172.31.255.255

Class C private IP address ranges from 192.168.0.0 to 192.168.255.255

Only the network 172.28.0.0/16 belongs to the private IP address (of class B).

**QUESTION 661**

- (Topic 3)

```
Router(config)#interface GigabitEthernet 1/0/1
Router(config-if)#ip address 192.168.16.143 255.255.255.240
Bad mask /28 for address 192.168.16.143
```

Refer to the exhibit. Which statement explains the configuration error message that is received?

- A. It belongs to a private IP address range.
- B. The router does not support /28 mask.
- C. It is a network IP address.
- D. It is a broadcast IP address.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 662**

- (Topic 3)

Which IPv6 address type provides communication between subnets and cannot route on the Internet?

- A. link-local
- B. unique local
- C. multicast
- D. global unicast

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A IPv6 Unique Local Address is an IPv6 address in the block FC00::/7. It is the approximate IPv6 counterpart of the IPv4 private address. It is not routable on the global Internet.

Note: In the past, Site-local addresses (FEC0::/10) are equivalent to private IP addresses in IPv4 but now they are deprecated.

Link-local addresses only used for communications within the local subnet. It is usually created dynamically using a link-local prefix of FE80::/10 and a 64-bit interface identifier (based on 48-bit MAC address).

**QUESTION 663**

- (Topic 3)

Which IPv6 address block sends packets to a group address rather than a single address?

- A. 2000::/3

- B. FC00::/7
- C. FE80::/10
- D. FF00::/8

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

FF00::/8 is used for IPv6 multicast and this is the IPv6 type of address the question wants to ask.

FE80::/10 range is used for link-local addresses. Link-local addresses only used for communications within the local subnet (automatic address configuration, neighbor discovery, router discovery, and by many routing protocols). It is only valid on the current subnet. It is usually created dynamically using a link-local prefix of FE80::/10 and a 64-bit interface identifier (based on 48-bit MAC address).

#### **QUESTION 664**

- (Topic 3)

What are two reasons that cause late collisions to increment on an Ethernet interface? (Choose two.)

- A. when Carrier Sense Multiple Access/Collision Detection is used
- B. when one side of the connection is configured for half-duplex
- C. when the sending device waits 15 seconds before sending the frame again
- D. when a collision occurs after the 32nd byte of a frame has been transmitted
- E. when the cable length limits are exceeded

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A late collision is defined as any collision that occurs after the first 512 bits (or 64th byte) of the frame have been transmitted. The usual possible causes are full-duplex/half-duplex mismatch, exceeded Ethernet cable length limits, or defective hardware such as incorrect cabling, non-compliant number of hubs in the network, or a bad NIC.

Late collisions should never occur in a properly designed Ethernet network. They usually occur when Ethernet cables are too long or when there are too many repeaters in the network.

Reference: <https://www.cisco.com/en/US/docs/internetworking/troubleshooting/guide/tr1904.html>

#### **QUESTION 665**

- (Topic 3)

What is a benefit of using a Cisco Wireless LAN Controller?

- A. It eliminates the need to configure each access point individually.

- B. Central AP management requires more complex configurations.
- C. Unique SSIDs cannot use the same authentication method.
- D. It supports autonomous and lightweight APs.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 666**

- (Topic 3)

Which action is taken by switch port enabled for PoE power classification override?

- A. If a monitored port exceeds the maximum administrative value for power, the port is shutdown and error-disabled.
- B. When a powered device begins drawing power from a PoE switch port, a syslog message is generated.
- C. As power usage on a PoE switch port is checked, data flow to the connected device is temporarily paused.
- D. If a switch determines that a device is using less than the minimum configured power, it assumes the device has failed and disconnects it.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

PoE monitoring and policing compares the power consumption on ports with the administrative maximum value (either a configured maximum value or the port's default value). If the power consumption on a monitored port exceeds the administrative maximum value, the following actions occur:

- A syslog message is issued.
- The monitored port is shut down and error-disabled.
- The allocated power is freed.

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/ios/12-2SX/configuration/guide/book/power\\_over\\_ether.pdf](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/ios/12-2SX/configuration/guide/book/power_over_ether.pdf)

#### **QUESTION 667**

- (Topic 3)

What occurs to frames during the process of frame flooding?

- A. Frames are sent to all ports, including those that are assigned to other VLANs.
- B. Frames are sent to every port on the switch that has a matching entry in MAC address table.
- C. Frames are sent to every port on the switch in the same VLAN except from the originating port.
- D. Frames are sent to every port on the switch in the same VLAN.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 668**

- (Topic 3)

Which function does the range of private IPv4 addresses perform?

- A. allows multiple companies to each use the same addresses without conflicts
- B. provides a direct connection for hosts from outside of the enterprise network
- C. ensures that NAT is not required to reach the Internet with private range addressing
- D. enables secure communications to the Internet for all external hosts

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 669**

- (Topic 3)

Which action must be taken to assign a global unicast IPv6 address on an interface that is derived from the MAC address of that interface?

- A. explicitly assign a link-local address
- B. disable the EUI-64 bit process
- C. enable SLAAC on an interface
- D. configure a stateful DHCPv6 server on the network

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 670**

- (Topic 3)

Several new coverage cells are required to improve the Wi-Fi network of an organization. Which two standard designs are recommended? (Choose two.)

- A. 5GHz provides increased network capacity with up to 23 nonoverlapping channels.
- B. 5GHz channel selection requires an autonomous access point.
- C. Cells that overlap one another are configured to use nonoverlapping channels.
- D. Adjacent cells with overlapping channels use a repeater access point.

- E. For maximum throughput, the WLC is configured to dynamically set adjacent access points to the channel.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 671**

- (Topic 3)

How do TCP and UDP differ in the way they provide reliability for delivery of packets?

- A. TCP does not guarantee delivery or error checking to ensure that there is no corruption of data, UDP provides message acknowledgement and retransmits data if lost.
- B. TCP provides flow control to avoid overwhelming a receiver by sending too many packets at once, UDP sends packets to the receiver in a continuous stream without checking.
- C. TCP is a connectionless protocol that does not provide reliable delivery of data; UDP is a connection-oriented protocol that uses sequencing to provide reliable delivery.
- D. TCP uses windowing to deliver packets reliably; UDP provides reliable message transfer between hosts by establishing a three-way handshake.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 672**

- (Topic 3)

What are two differences between optical-fiber cabling and copper cabling? (Choose two.)

- A. A BNC connector is used for fiber connections
- B. The glass core component is encased in a cladding
- C. The data can pass through the cladding
- D. Light is transmitted through the core of the fiber
- E. Fiber connects to physical interfaces using RJ-45 connections

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 673**

- (Topic 3)

How does CAPWAP communicate between an access point in local mode and a WLC?

- A. The access point must not be connected to the wired network, as it would create a loop

- B. The access point must be connected to the same switch as the WLC
- C. The access point must directly connect to the WLC using a copper cable
- D. The access point has the ability to link to any switch in the network, assuming connectivity to the WLC

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 674**

- (Topic 3)

Which IPv6 address block forwards packets to a multicast address rather than a unicast address?

- A. 2000::/3
- B. FC00::/7
- C. FE80::/10
- D. FF00::/12

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 675**

- (Topic 3)

What is the difference regarding reliability and communication type between TCP and UDP?

- A. TCP is reliable and is a connectionless protocol; UDP is not reliable and is a connection-oriented protocol.
- B. TCP is not reliable and is a connectionless protocol; UDP is reliable and is a connection-oriented protocol.
- C. TCP is not reliable and is a connection-oriented protocol; UDP is reliable and is a connectionless protocol.
- D. TCP is reliable and is a connection-oriented protocol; UDP is not reliable and is a connectionless protocol.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 676**

- (Topic 3)

What are two descriptions of three-tier network topologies? (Choose two.)

- A. The distribution layer runs Layer 2 and Layer 3 technologies
- B. The network core is designed to maintain continuous connectivity when devices fail

- C. The access layer manages routing between devices in different domains
- D. The core layer maintains wired connections for each host
- E. The core and distribution layers perform the same functions

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 677**

- (Topic 3)

Which type of IPv6 address is publicly routable in the same way as IPv4 public addresses?

- A. multicast
- B. unique local
- C. link-local
- D. global unicast

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 678**

- (Topic 3)

What is the expected outcome when an EUI-64 address is generated?

- A. The interface ID is configured as a random 64-bit value
- B. The characters FE80 are inserted at the beginning of the MAC address of the interface
- C. The seventh bit of the original MAC address of the interface is inverted
- D. The MAC address of the interface is used as the interface ID without modification

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 679**

- (Topic 3)

A corporate office uses four floors in a building.

Floor 1 has 24 users.



Floor 2 has 29 users.

■

Floor 3 has 28 users. Floor 4 has 22 users.

■

Which subnet summarizes and gives the most efficient distribution of IP addresses for the router configuration?

- A. 192.168.0.0/24 as summary and 192.168.0.0/28 for each floor
- B. 192.168.0.0/23 as summary and 192.168.0.0/25 for each floor
- C. 192.168.0.0/25 as summary and 192.168.0.0/27 for each floor
- D. 192.168.0.0/26 as summary and 192.168.0.0/29 for each floor

**Correct Answer:** C

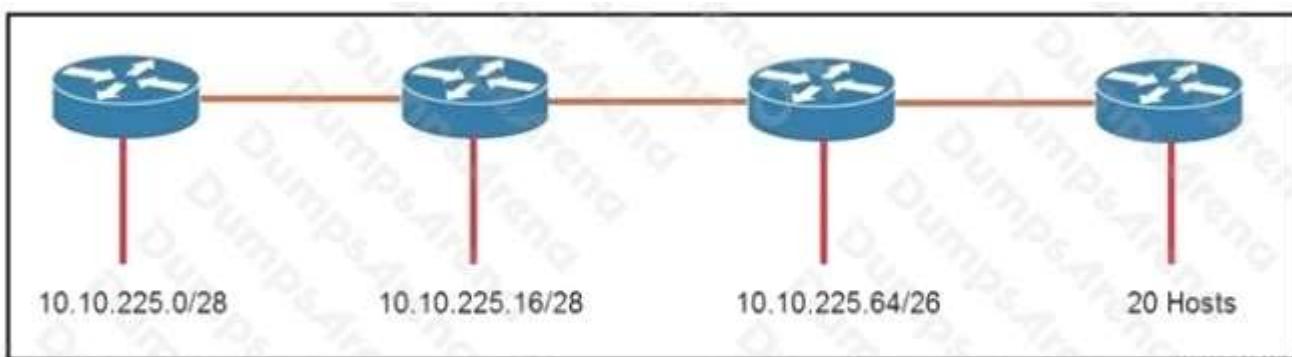
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 680**

- (Topic 3)



Refer to the exhibit. An engineer must add a subnet for a new office that will add 20 users to the network. Which IPv4 network and subnet mask combination does the engineer assign to minimize wasting addresses?

- A. 10.10.225.48 255.255.255.240
- B. 10.10.225.32 255.255.255.240
- C. 10.10.225.48 255.255.255.224
- D. 10.10.225.32 255.255.255.224

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 681**

- (Topic 3)

What is a characteristic of spine-and-leaf architecture?

- A. Each link between leaf switches allows for higher bandwidth.
- B. It provides greater predictability on STP blocked ports.
- C. It provides variable latency.
- D. Each device is separated by the same number of hops.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 682**

- (Topic 3)

An office has 8 floors with approximately 30-40 users per floor. One subnet must be used. Which command must be configured on the router Switched Virtual Interface to use address space efficiently?

- A. ip address 192.168.0.0 255.255.0.0
- B. ip address 192.168.0.0 255.255.254.0
- C. ip address 192.168.0.0 255.255.255.128
- D. ip address 192.168.0.0 255.255.255.224

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 683**

- (DRAG DROP) - (Topic 3)

DRAG DROP

Drag and drop the descriptions of IP protocol transmissions from the left onto the IP traffic types on the right.

Select and Place:

- sends transmissions in sequence
- transmissions include an 8-byte header
- transmits packets as a stream
- transmits packets individually
- uses a higher transmission rate to support latency-sensitive applications
- uses a lower transmission rate to ensure reliability



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                                                                           |     |
|---------------------------------------------------------------------------|-----|
| sends transmissions in sequence                                           | TCP |
| transmissions include an 8-byte header                                    |     |
| transmits packets as a stream                                             |     |
| transmits packets individually                                            |     |
| uses a higher transmission rate to support latency-sensitive applications |     |
| uses a lower transmission rate to ensure reliability                      |     |
|                                                                           | UDP |
|                                                                           |     |
|                                                                           |     |
|                                                                           |     |
|                                                                           |     |

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# DUMPS ARENA

Explanation:

**QUESTION 684**

- (Topic 3)

A device detects two stations transmitting frames at the same time. This condition occurs after the first 64 bytes of the frame is received. Which interface counter increments?

- A. runt
- B. collision
- C. late collision
- D. CRC

**Correct Answer: C**

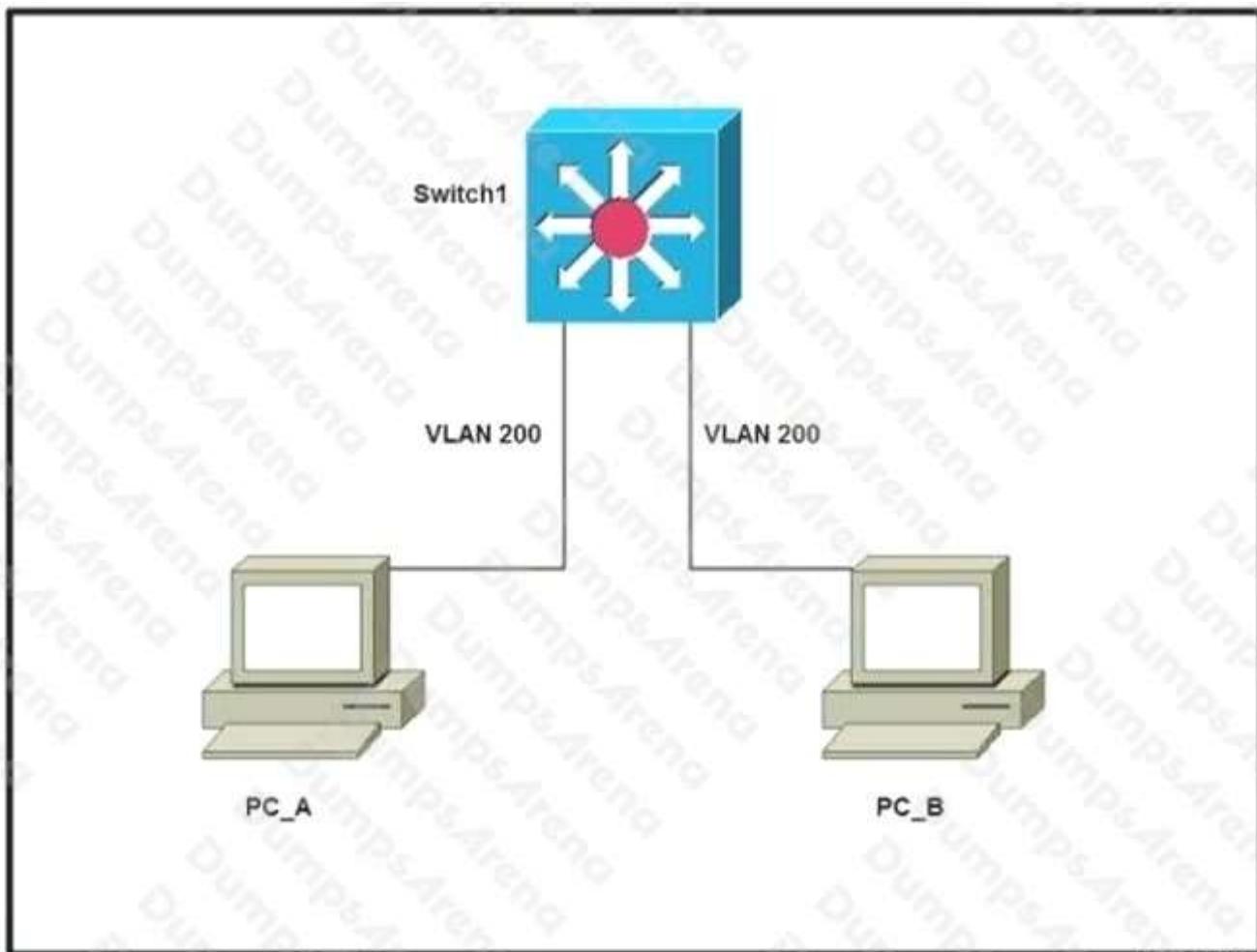
**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 685**

- (Topic 3)



Refer to the exhibit. Which outcome is expected when PC\_A sends data to PC\_B after their initial communication?

- A. The source MAC address is changed.
- B. The destination MAC address is replaced with ffff.ffff.ffff.
- C. The source and destination MAC addresses remain the same.
- D. The switch rewrites the source and destination MAC addresses with its own.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 686**

- (Topic 3)

Using direct sequence spread spectrum, which three 2.4-GHz channels are used to limit collisions?

- A. 5, 6, 7
- B. 1, 2, 3
- C. 1, 6, 11
- D. 1, 5, 10

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 687**

- (Topic 3)

How do TCP and UDP differ in the way they guarantee packet delivery?

- A. TCP uses retransmissions, acknowledgment, and parity checks, and UDP uses cyclic redundancy checks only
- B. TCP uses two-dimensional parity checks, checksums, and cyclic redundancy checks, and UDP uses retransmissions only
- C. TCP uses checksum, acknowledgements, and retransmissions, and UDP uses checksums only
- D. TCP uses checksum, parity checks, and retransmissions, and UDP uses acknowledgements only

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 688**

- (Topic 3)

A wireless administrator has configured a WLAN; however, the clients need access to a less congested 5-GHz network for their voice quality. Which action must be taken to meet the requirement?

- A. enable Band Select
- B. enable DTIM
- C. enable RX-SOP
- D. enable AAA override

**Correct Answer:** A

**Section:** (none)

## **Explanation**

**Explanation/Reference:**

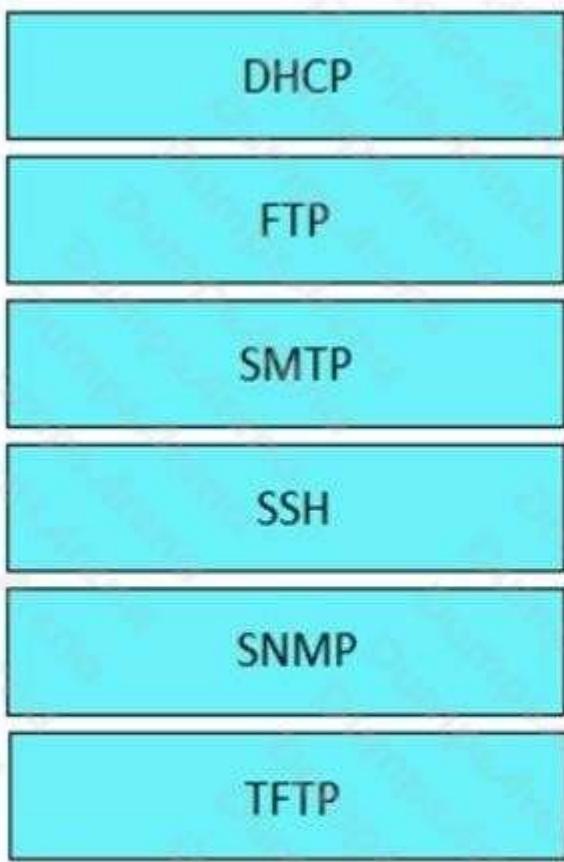
### **QUESTION 689**

- (DRAG DROP) - (Topic 3)

### **DRAG DROP**

Drag and drop the application protocols from the left onto the transport protocols that it uses on the right.

Select and Place:



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

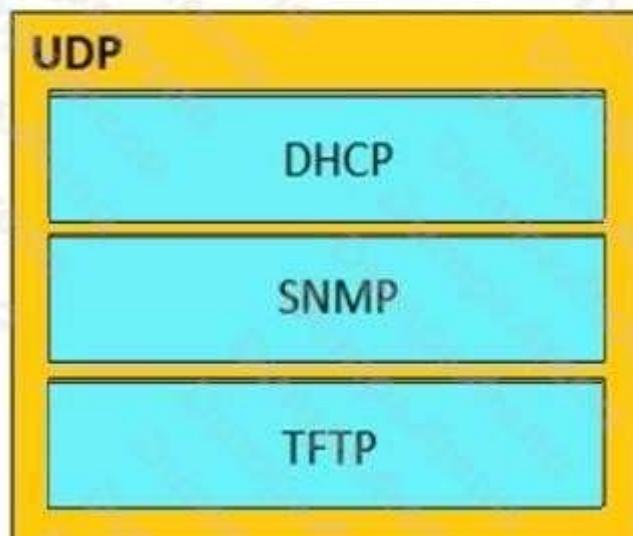
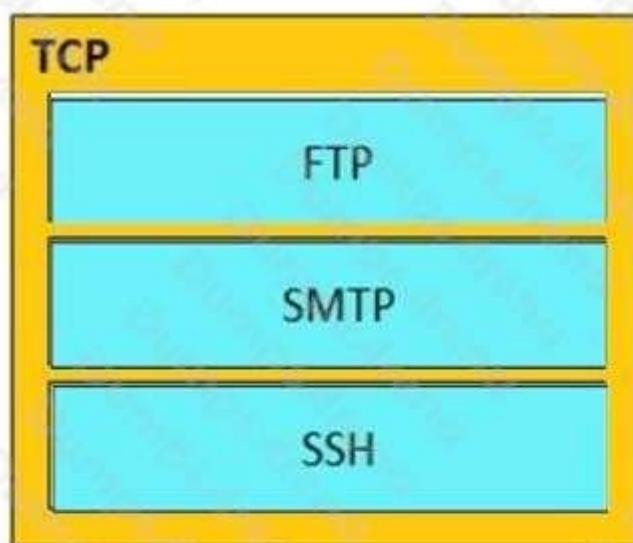
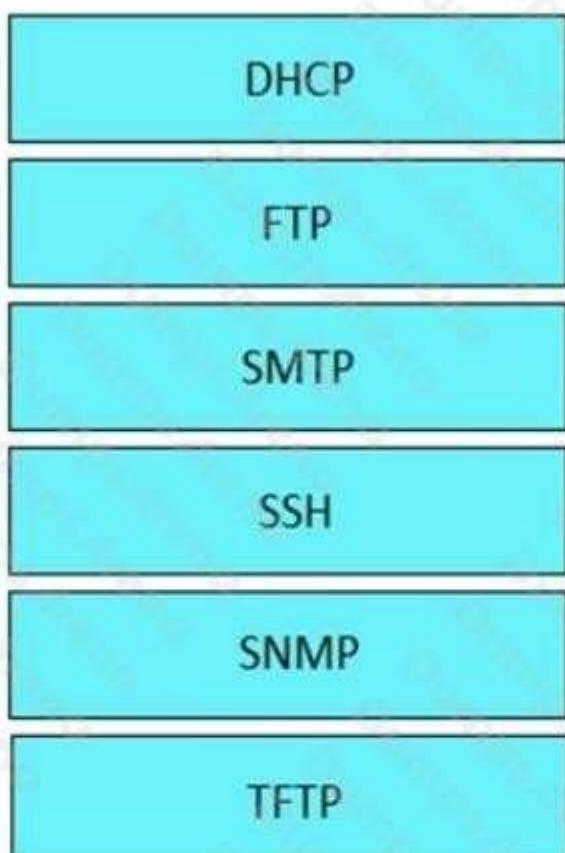
**Correct Answer:**

Section: (none)  
Explanation

**Explanation/Reference:**

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# DUMPS ARENA



Explanation:

**QUESTION 690**

- (Topic 3)

What is the destination MAC address of a broadcast frame?

- A. 00:00:0c:07:ac:01
- B. ff:ff:ff:ff:ff:ff
- C. 43:2e:08:00:00:0c
- D. 00:00:0c:43:2e:08
- E. 00:00:0c:ff:ff:ff

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 691**

- (Topic 3)

For what two purposes does the Ethernet protocol use physical addresses?

- A. to uniquely identify devices at Layer 2
- B. to allow communication with devices on a different network
- C. to differentiate a Layer 2 frame from a Layer 3 packet
  
- D. to establish a priority system to determine which device gets to transmit first
- E. to allow communication between different devices on the same network
- F. to allow detection of a remote device when its physical address is unknown

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 692**

- (DRAG DROP) - (Topic 3)

DRAG DROP

Drag and drop the networking parameters from the left on to the correct values on the right.

Select and Place:



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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

SSH uses TCP port 22 while SNMP uses UDP port 161 and 162.

**QUESTION 693**

- (Topic 3)

Which component of an Ethernet frame is used to notify a host that traffic is coming?

- A. start of frame delimiter
- B. Type field
- C. preamble
- D. Data field

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Preamble is a 7 Byte field in the Ethernet frame which helps to receiver to know that it is an actual data (Ethernet Frame) and not some random noise in the transmission medium. It acts like a doorbell telling about the incoming data.

**QUESTION 694**

- (Topic 3)

You are configuring your edge routers interface with a public IP address for Internet connectivity. The router needs to obtain the IP address from the service provider dynamically. Which command is needed on interface FastEthernet 0/0 to accomplish this?

- A. ip default-gateway
- B. ip route
- C. ip default-network
- D. ip address dhcp
- E. ip address dynamic

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 695**

- (Topic 3)

Which two statements about the purpose of the OSI model are accurate? (Choose two.)

- A. Defines the network functions that occur at each layer
- B. Facilitates an understanding of how information travels throughout a network
- C. Changes in one layer do not impact other layer
- D. Ensures reliable data delivery through its layered approach

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 696**

- (Topic 3)

Which three statements about MAC addresses are correct? (Choose three.)

- A. To communicate with other devices on a network, a network device must have a unique MAC address
- B. The MAC address is also referred to as the IP address
- C. The MAC address of a device must be configured in the Cisco IOS CLI by a user with administrative privileges
- D. A MAC address contains two main components, the first of which identifies the manufacturer of the hardware and the second of which uniquely identifies the hardware
- E. An example of a MAC address is 0A:26:B8:D6:65:90
- F. A MAC address contains two main components, the first of which identifies the network on which the host resides and the second of which uniquely identifies the host on the network

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 697**

- (Topic 3)

Which technique can you use to route IPv6 traffic over an IPv4 infrastructure?

- A. NAT
- B. 6 to 4 tunneling
- C. L2TPv3
- D. dual-stack

**Correct Answer:** B

**Section:** (none)

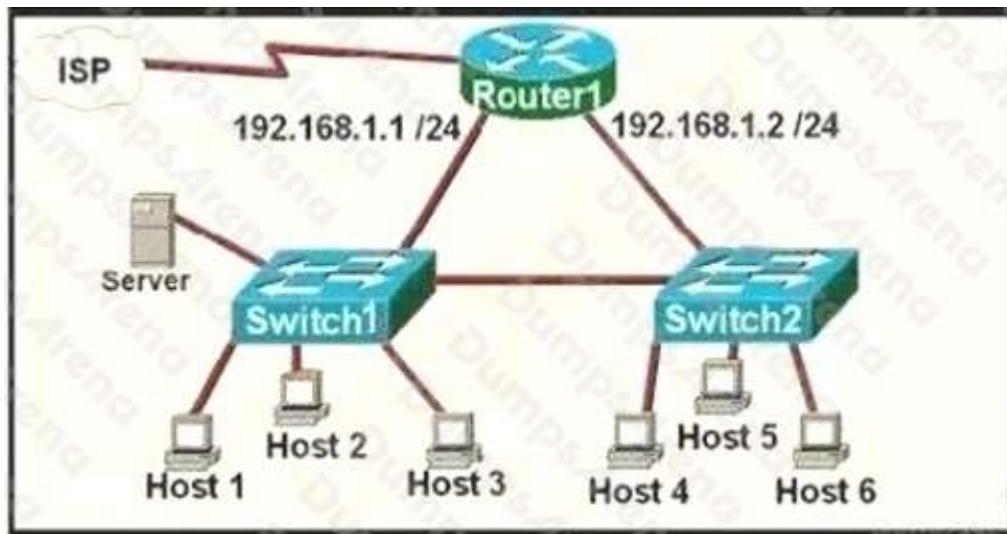
**Explanation**

**Explanation/Reference:**

**QUESTION 698**

- (Topic 3)

Refer to the exhibit. A network technician is asked to design a small network with redundancy. The exhibit represents this design, with all hosts configured in the same VLAN. What conclusions can be made about this design?



- A. This design will function as intended.
- B. Spanning-tree will need to be used.
- C. The router will not accept the addressing scheme.
- D. The connection between switches should be a trunk.
- E. The router interfaces must be encapsulated with the 802.1Q protocol.

**Correct Answer:** C**Section:** (none)**Explanation****Explanation/Reference:**

Explanation:

Each interface on a router must be in a different network. If two interfaces are in the same network, the router will not accept it and show error when the administrator assigns it.

**QUESTION 699**

- (Topic 3)

Which two statements are true about the command ip route 172.16.3.0 255.255.255.0 192.168.2.4? (Choose two.)

- A. It establishes a static route to the 172.16.3.0 network.
- B. It establishes a static route to the 192.168.2.0 network.
- C. It configures the router to send any traffic for an unknown destination to the 172.16.3.0 network.

- D. It configures the router to send any traffic for an unknown destination out the interface with the address 192.168.2.4.
- E. It uses the default administrative distance.
- F. It is a route that would be used last if other routes to the same destination exist.

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 700**

- (Topic 3)

What are two benefits of private IPv4 IP addresses? (Choose two.)

- A. They are routed the same as public IP addresses.
- B. They are less costly than public IP addresses.
- C. They can be assigned to devices without Internet connections.
- D. They eliminate the necessity for NAT policies.
- E. They eliminate duplicate IP conflicts.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 701**

- (Topic 3)

What are two benefits that the UDP protocol provide for application traffic? (Choose two.)

- A. UDP traffic has lower overhead than TCP traffic
- B. UDP provides a built-in recovery mechanism to retransmit lost packets
- C. The CTL field in the UDP packet header enables a three-way handshake to establish the connection
- D. UDP maintains the connection state to provide more stable connections than TCP
- E. The application can use checksums to verify the integrity of application data

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 702**

- (Topic 3)

Which two goals reasons to implement private IPv4 addressing on your network? (Choose two.)

- A. Comply with PCI regulations

- B. Conserve IPv4 address
- C. Reduce the size of the forwarding table on network routers
- D. Reduce the risk of a network security breach
- E. Comply with local law

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 703**

- (Topic 3)

Which WAN access technology is preferred for a small office / home office architecture?

- A. broadband cable access
- B. frame-relay packet switching
- C. dedicated point-to-point leased line
- D. Integrated Services Digital Network switching

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 704**

- (Topic 3)

Which two WAN architecture options help a business scalability and reliability for the network? (Choose two.)

- A. asynchronous routing
- B. single-homed branches
- C. dual-homed branches
- D. static routing
- E. dynamic routing

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 705**

- (Topic 3)

What is the binary pattern of unique ipv6 unique local address?

- A. 00000000

- B. 11111100
- C. 11111111
- D. 11111101

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A IPv6 Unique Local Address is an IPv6 address in the block FC00::/7, which means that IPv6 Unique Local addresses begin with 7 bits with exact binary pattern as 1111 110 -> Answer B is correct. Note: IPv6 Unique Local Address is the approximate IPv6 counterpart of the IPv4 private address. It is not routable on the global Internet.

**QUESTION 706**

- (Topic 3)

Which two options are the best reasons to use an IPV4 private IP space? (Choose two.)

- A. to enable intra-enterprise communication
- B. to implement NAT
- C. to connect applications
- D. to conserve global address space
- E. to manage routing overhead

**Correct Answer:** AD

**Section:** (none)

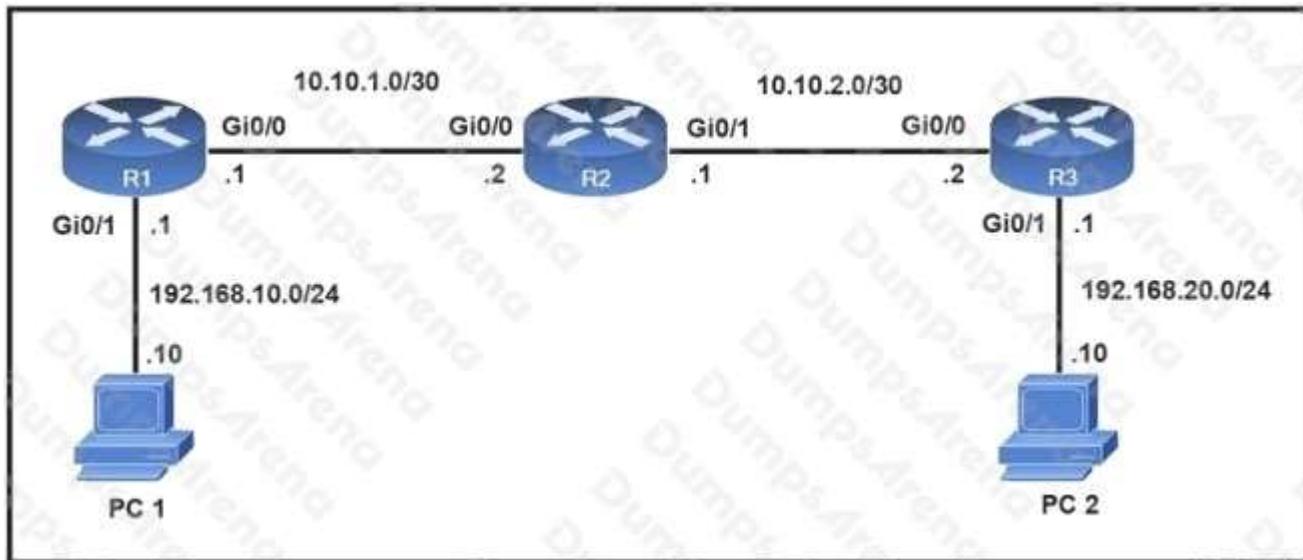
**Explanation**

**Explanation/Reference:**

**QUESTION 707**

- (Topic 3)

Refer to the exhibit. When PC1 sends a packet to PC2, the packet has which source and destination IP address when it arrives at interface Gi0/0 on router R2?



- A. source 192.168.10.10 and destination 10.10.2.2
- B. source 192.168.20.10 and destination 192.168.20.1
- C. source 192.168.10.10 and destination 192.168.20.10
- D. source 10.10.1.1 and destination 10.10.2.2

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The source and destination IP addresses of the packets are unchanged on all the way. Only source and destination MAC addresses are changed.

#### **QUESTION 708**

- (Topic 3)

What is the same for both copper and fiber interfaces when using SFP modules?

- A. They support an inline optical attenuator to enhance signal strength
- B. They accommodate single-mode and multi-mode in a single module
- C. They provide minimal interruption to services by being hot-swappable
- D. They offer reliable bandwidth up to 100 Mbps in half duplex mode

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 709**

- (Topic 3)

What are two functions of a server on a network? (Choose two.)

- A. handles requests from multiple workstations at the same time
- B. achieves redundancy by exclusively using virtual server clustering
- C. housed solely in a data center that is dedicated to a single client
- D. runs the same operating system in order to communicate with other servers
- E. runs applications that send and retrieve data for workstations that make requests

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 710**

- (Topic 3)

Which function is performed by the collapsed core layer in a two-tier architecture?

- A. enforcing routing policies
- B. marking interesting traffic for data policies
- C. applying security policies
- D. attaching users to the edge of the network

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 711**

- (Topic 3)

What is the primary function of a Layer 3 device?

- A. to transmit wireless traffic between hosts
- B. to analyze traffic and drop unauthorized traffic from the Internet
- C. to forward traffic within the same broadcast domain
- D. to pass traffic between different networks

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 712**

- (Topic 3)

Which two functions are performed by the core layer in a three-tier architecture? (Choose two.)

- A. Provide uninterrupted forwarding service
- B. Inspect packets for malicious activity
- C. Ensure timely data transfer between layers
- D. Provide direct connectivity for end user devices
- E. Police traffic that is sent to the edge of the network

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: [https://www.mcmcse.com/cisco/guides/hierarchical\\_model.shtml](https://www.mcmcse.com/cisco/guides/hierarchical_model.shtml)

**QUESTION 713**

- (Topic 3)

What is a recommended approach to avoid co-channel congestion while installing access points that use the 2.4 GHz frequency?

- A. different nonoverlapping channels
- B. one overlapping channel
- C. one nonoverlapping channel
- D. different overlapping channels

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 714**

- (Topic 3)

A manager asks a network engineer to advise which cloud service models are used so employees do not have to waste their time installing, managing, and updating software that is only used occasionally. Which cloud service model does the engineer recommend?

- A. infrastructure-as-a-service
- B. platform-as-a-service

- C. business process as service to support different types of service
- D. software-as-a-service

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 715**

- (Topic 3)

What are two functions of a Layer 2 switch? (Choose two.)

- A. acts as a central point for association and authentication servers
- B. selects the best route between networks on a WAN
- C. moves packets within a VLAN
- D. moves packets between different VLANs
- E. makes forwarding decisions based on the MAC address of a packet

**Correct Answer:** CE

**Section:** (none)

**Explanation**

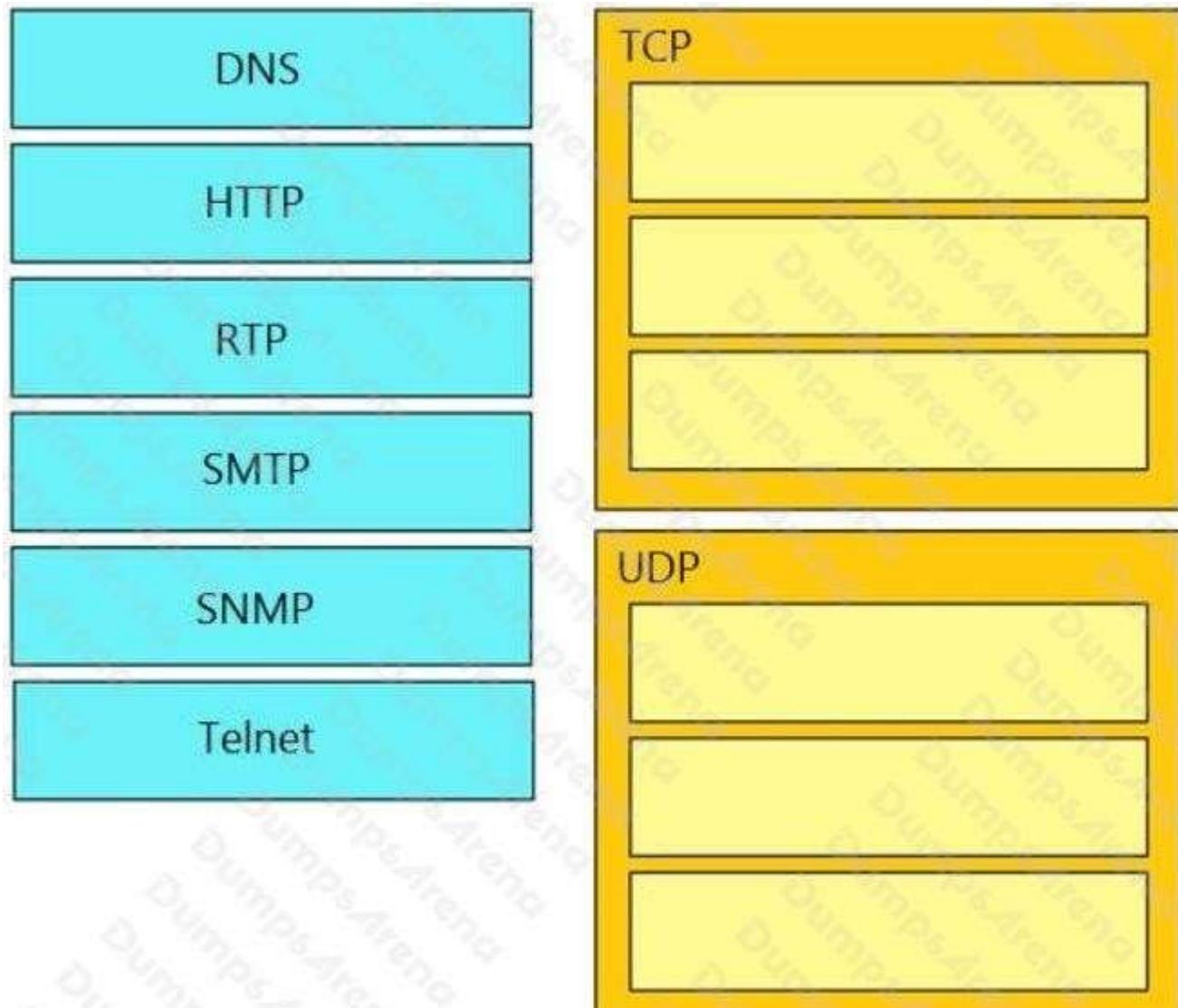
**Explanation/Reference:**

**QUESTION 716**

- (DRAG DROP) - (Topic 3)

Drag and drop the TCP/IP protocols from the left onto their primary transmission protocols on the right.

Select and Place:



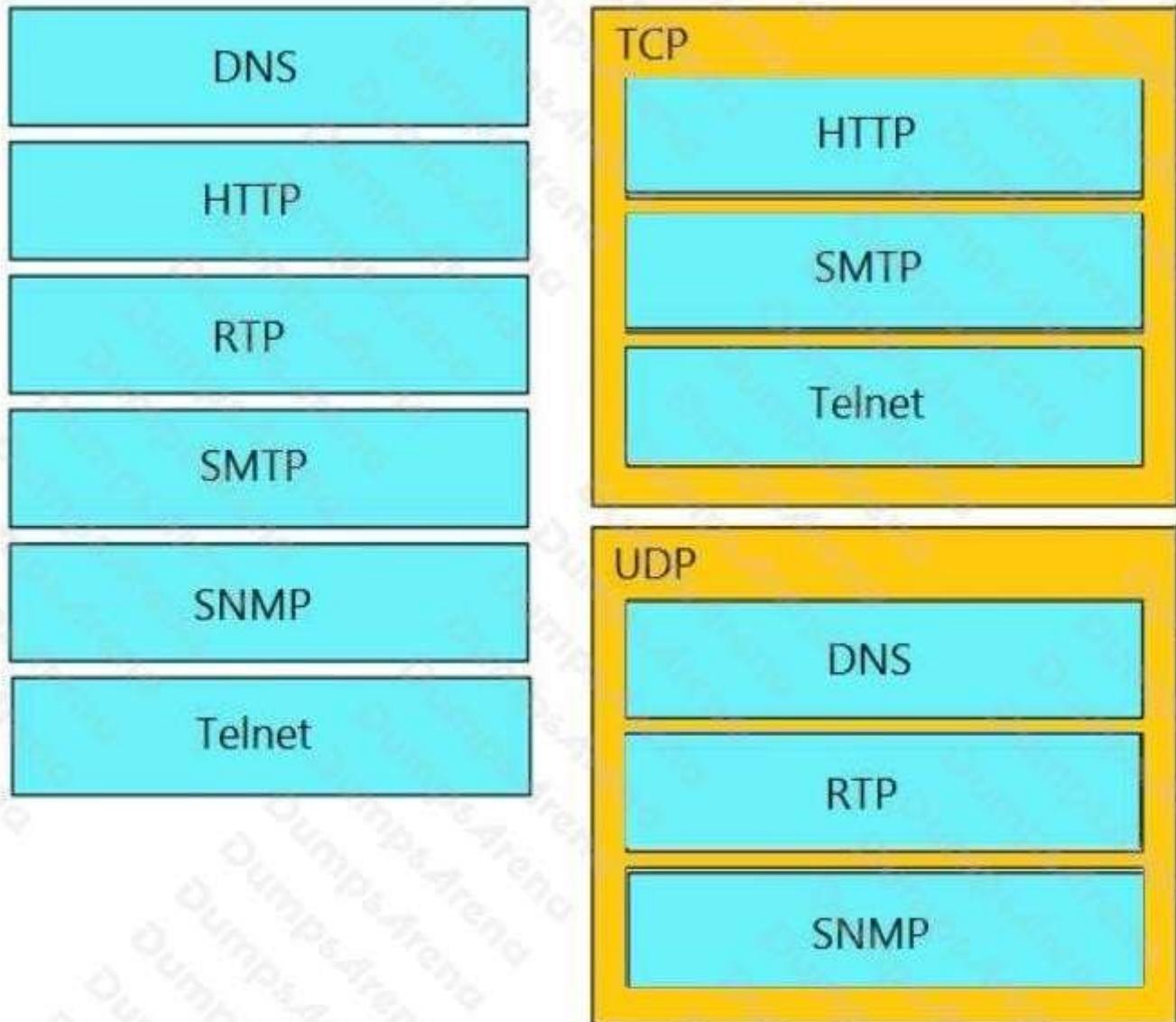
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



Explanation:

**QUESTION 717**  
- (Topic 3)

An engineer observes high usage on the 2.4GHz channels and lower usage on the 5GHz channels. What must be configured to allow clients to preferentially use 5GHz access points?

- A. Client Band Select

- B. Re-Anchor Roamed Clients
- C. OEAP Spilt Tunnel
- D. 11ac MU-MIMO

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 718**

- (Topic 3)

Which networking function occurs on the data plane?

- A. processing inbound SSH management traffic
- B. sending and receiving OSPF Hello packets
- C. facilitates spanning-tree elections
- D. forwarding remote client/server traffic

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 719**

- (Topic 3)

Under which condition is TCP preferred over UDP?

- A. UDP is used when low latency is optimal, and TCP is used when latency is tolerable.
- B. TCP is used when dropped data is more acceptable, and UDP is used when data is accepted out-of-order.
- C. TCP is used when data reliability is critical, and UDP is used when missing packets are acceptable.
- D. UDP is used when data is highly interactive, and TCP is used when data is time-sensitive.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 720**

- (Topic 3)

```
SiteA#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02a.db91 (bia 780a.f02b.db91)
  Description: Connection to SiteB
  Internet address is 10.10.10.1/30
  MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 166/255, txload 1/255, rxload 1/255
  Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
  5 minute input rate 264797000 bits/sec, 26672 packets/sec
  5 minute output rate 122464000 bits/sec, 15724 packets/sec

SiteB#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02c.db26 (bia 780c.f02c.db26)
  Description: Connection to SiteA
  Internet address is 10.10.10.2/30
  MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
  5 minute input rate 122464000 bits/sec, 15724 packets/sec
  5 minute output rate 264797000 bits/sec, 26672 packets/sec
```

Refer to the exhibit. Shortly after SiteA was connected to SiteB over a new single-mode fiber path, users at SiteA report intermittent connectivity issues with applications hosted at SiteB. What is the cause of the intermittent connectivity issue?

- A. Interface errors are incrementing.
- B. High usage is causing high latency.
- C. An incorrect SFP media type was used at SiteA.
- D. The sites were connected with the wrong cable type.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 721**

- (Topic 3)

A network engineer must configure the router R1 GigabitEthernet1/1 interface to connect to the router R2 GigabitEthernet1/1 interface. For the configuration to be applied, the engineer must compress the address 2001:0db8:0000:0000:0500:000a:400F:583B. Which command must be issued on the interface?

- A. ipv6 address 2001::db8:0000::500:a:400F:583B
- B. ipv6 address 2001:db8:0::500:a:4F:583B
- C. ipv6 address 2001:db8::500:a:400F:583B
- D. ipv6 address 2001:0db8::5:a:4F:583B

**Correct Answer:** C

**Section: (none)****Explanation****Explanation/Reference:****QUESTION 722****- (Topic 3)**

What is a network appliance that checks the state of a packet to determine whether the packet is legitimate?

- A. Layer 2 switch
- B. LAN controller
- C. load balancer
- D. firewall

**Correct Answer: D****Section: (none)****Explanation****Explanation/Reference:****QUESTION 723****- (Topic 3)**

What is a role of access points in an enterprise network?

- A. integrate with SNMP in preventing DDoS attacks
- B. serve as a first line of defense in an enterprise network
- C. connect wireless devices to a wired network
- D. support secure user logins to devices on the network

**Correct Answer: C****Section: (none)****Explanation****Explanation/Reference:****QUESTION 724****- (Topic 3)**

An implementer is preparing hardware for virtualization to create virtual machines on a host. What is needed to provide communication between hardware and virtual machines?

- A. router
- B. hypervisor
- C. switch
- D. straight cable

**Correct Answer: B****Section: (none)****Explanation**

**Explanation/Reference:**

**QUESTION 725**

- (Topic 3)

How does a Cisco Unified Wireless Network respond to Wi-Fi channel overlap?

- A. It allows the administrator to assign the channels on a per-device or per-interface basis.
- B. It segregates devices from different manufacturers onto different channels.
- C. It analyzes client load and background noise and dynamically assigns a channel.
- D. It alternates automatically between 2.4 GHz and 5 GHz on adjacent access points.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 726**

- (Topic 3)

In which situation is private IPv4 addressing appropriate for a new subnet on the network of an organization?

- A. The network has multiple endpoint listeners, and it is desired to limit the number of broadcasts.
- B. The ISP requires the new subnet to be advertised to the Internet for web services.
- C. There is limited unique address space, and traffic on the new subnet will stay local within the organization.
- D. Traffic on the subnet must traverse a site-to-site VPN to an outside organization.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

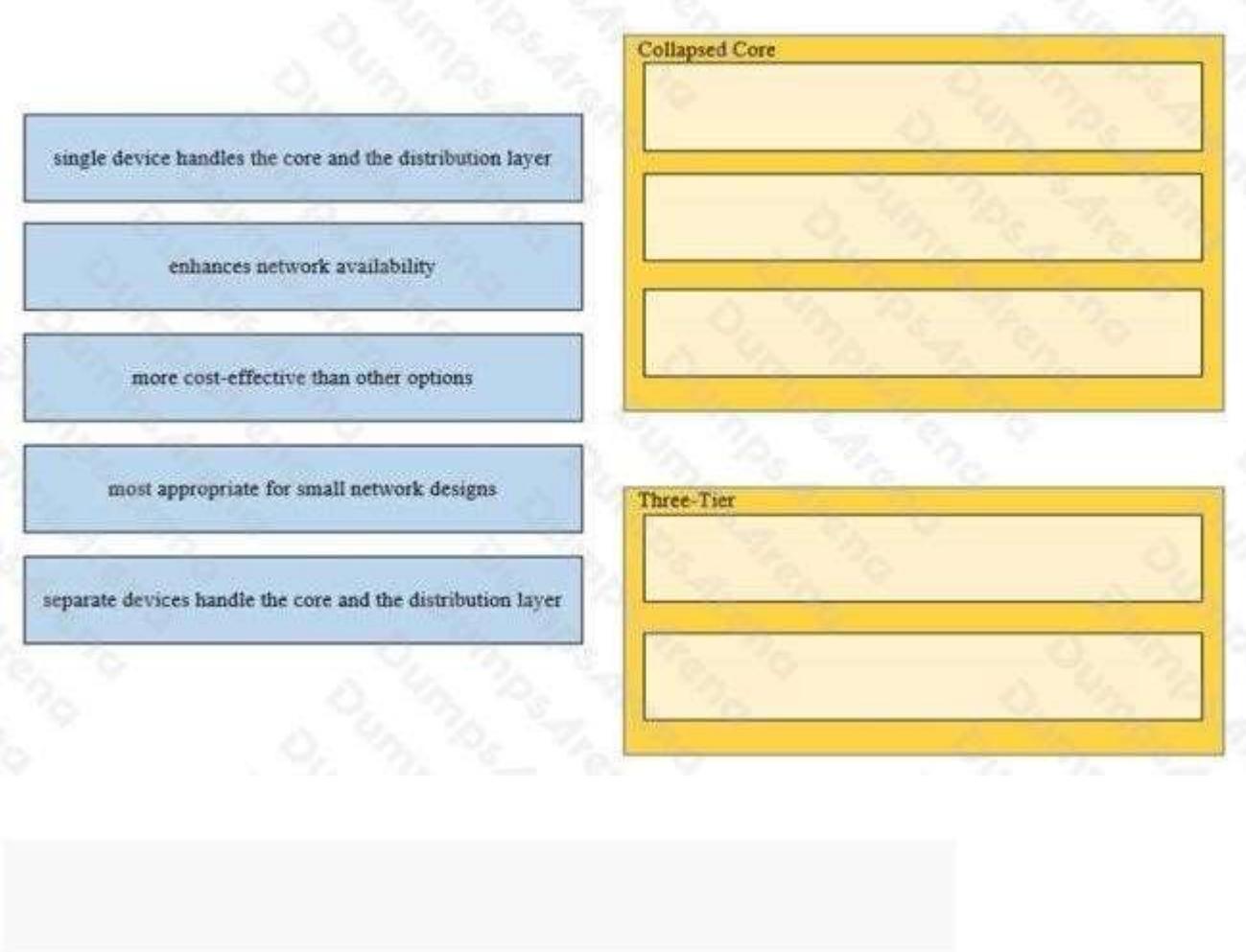
**QUESTION 727**

- (DRAG DROP) - (Topic 3)

DRAG DROP

Drag and drop the characteristics of network architectures from the left onto the type of architecture on the right.

Select and Place:



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

**Correct Answer:**

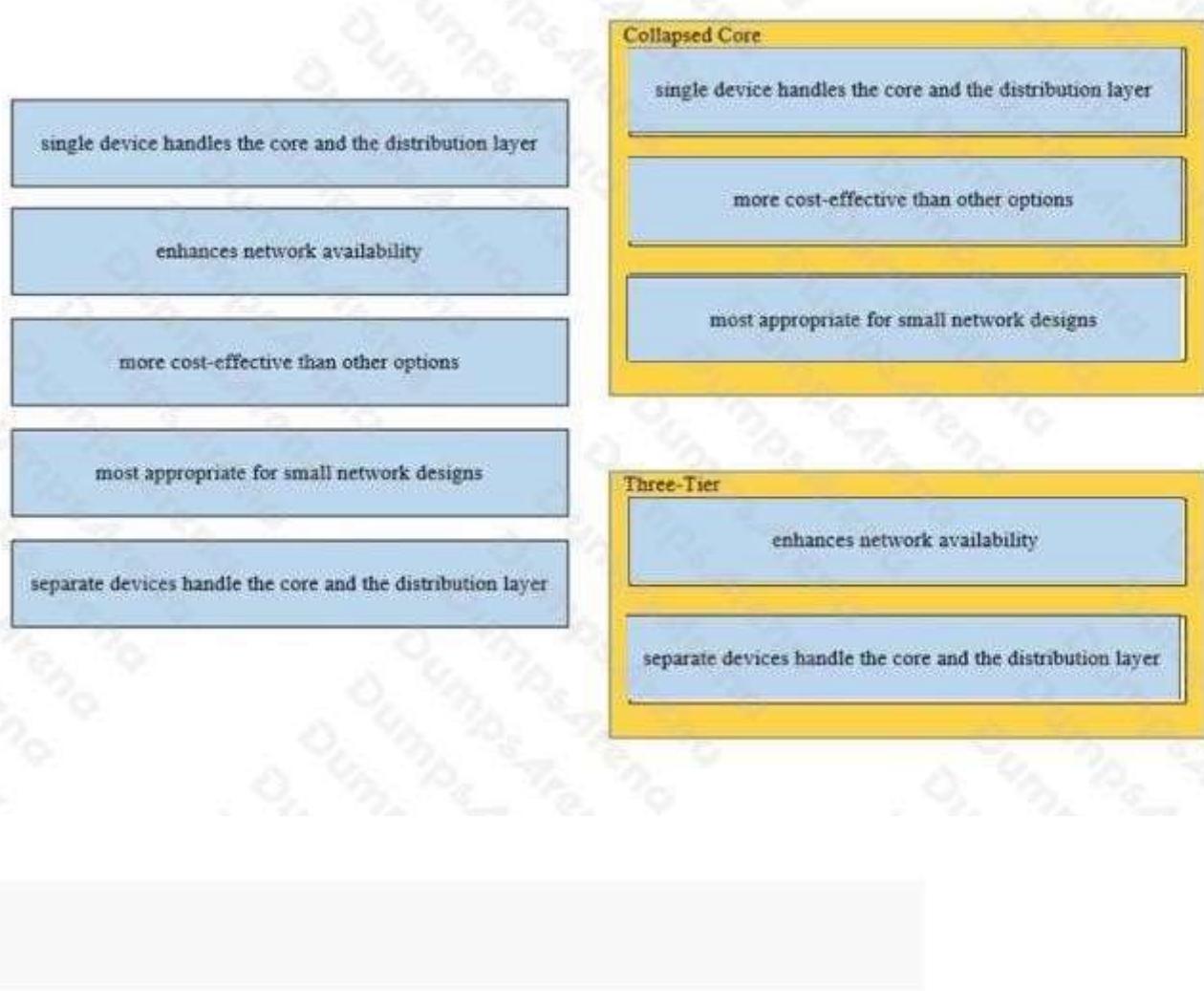
**Section: (none)**

**Explanation**

**Explanation/Reference:**

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# DUMPS<sup>Q</sup> ARENA



Explanation:

**QUESTION 728**  
- (Topic 3)

Which 802.11 frame type is indicated by a probe response after a client sends a probe request?

- A. data
- B. management
- C. control
- D. action

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 729**

- (Topic 3)

What is the difference in data transmission delivery and reliability between TCP and UDP?

- A. TCP transmits data at a higher rate and ensures packet delivery. UDP retransmits lost data to ensure applications receive the data on the remote end.
- B. TCP requires the connection to be established before transmitting data. UDP transmits data at a higher rate without ensuring packet delivery.
- C. UDP sets up a connection between both devices before transmitting data. TCP uses the three-way handshake to transmit data with a reliable connection.
- D. UDP is used for multicast and broadcast communication. TCP is used for unicast communication and transmits data at a higher rate with error checking.

**Correct Answer:** B

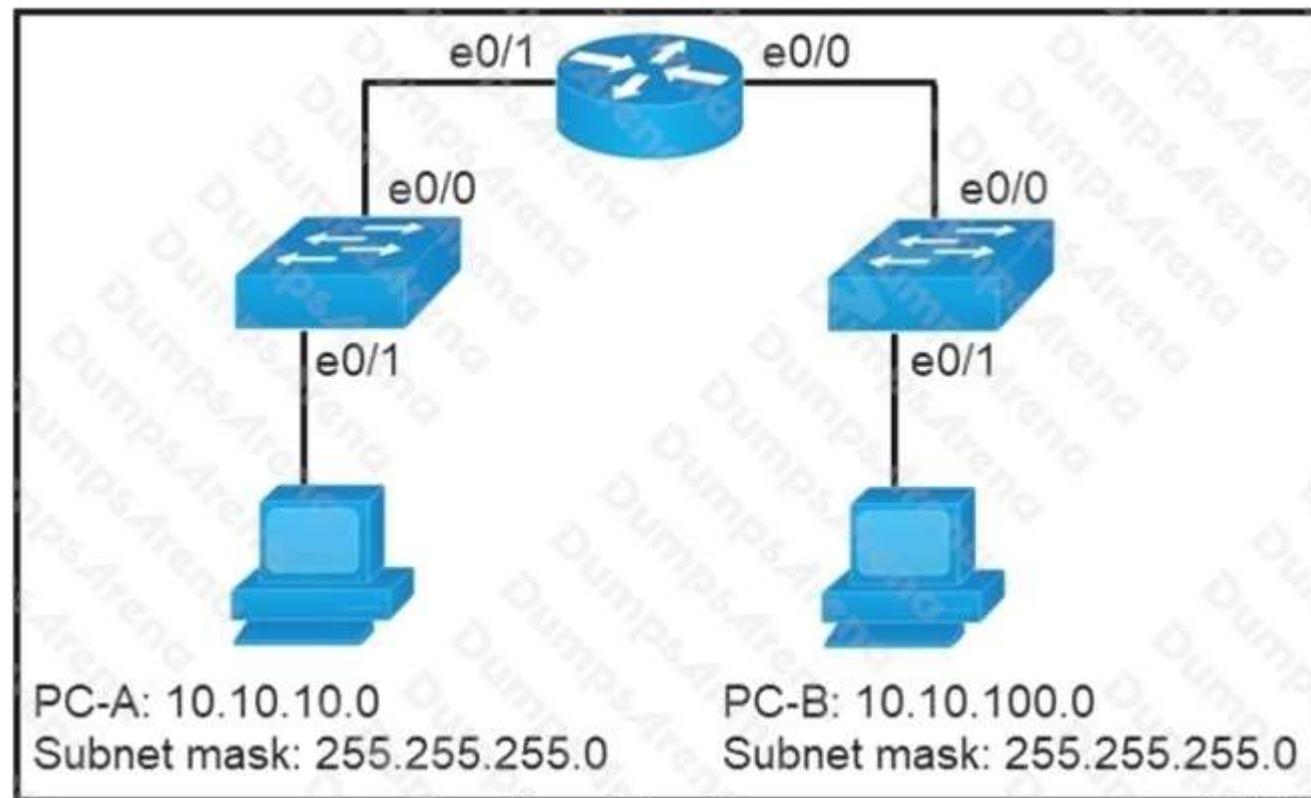
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 730

- (Topic 3)



Refer to the exhibit. When PC-A sends traffic to PC-B, which network component is in charge of receiving the packet from PC-A, verifying the IP addresses, and forwarding the packet to PC-B?

- A. router
- B. Layer 2 switch
- C. load balancer
- D. firewall

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 731**

- (Topic 3)

What is the maximum bandwidth of a T1 point-to-point connection?

- A. 1.544 Mbps
- B. 2.048 Mbps
- C. 34.368 Mbps
- D. 43.7 Mbps

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 732**

- (Topic 3)

What are two similarities between UTP Cat 5e and Cat 6a cabling? (Choose two.)

- A. Both support speeds up to 10 Gigabit.
- B. Both support speeds of at least 1 Gigabit.
- C. Both support runs of up to 55 meters.
- D. Both support runs of up to 100 meters.
- E. Both operate at a frequency of 500 MHz.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 733**

- (Topic 3)

What is a characteristic of cloud-based network topology?

- A. onsite network services are provided with physical Layer 2 and Layer 3 components

- B. wireless connections provide the sole access method to services
- C. physical workstations are configured to share resources
- D. services are provided by a public, private, or hybrid deployment

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 734**

- (Topic 3)

Which network action occurs within the data plane?

- A. reply to an incoming ICMP echo request
- B. make a configuration change from an incoming NETCONF RPC
- C. run routing protocols (OSPF, EIGRP, RIP, BGP)
- D. compare the destination IP address to the IP routing table

**Correct Answer:** D

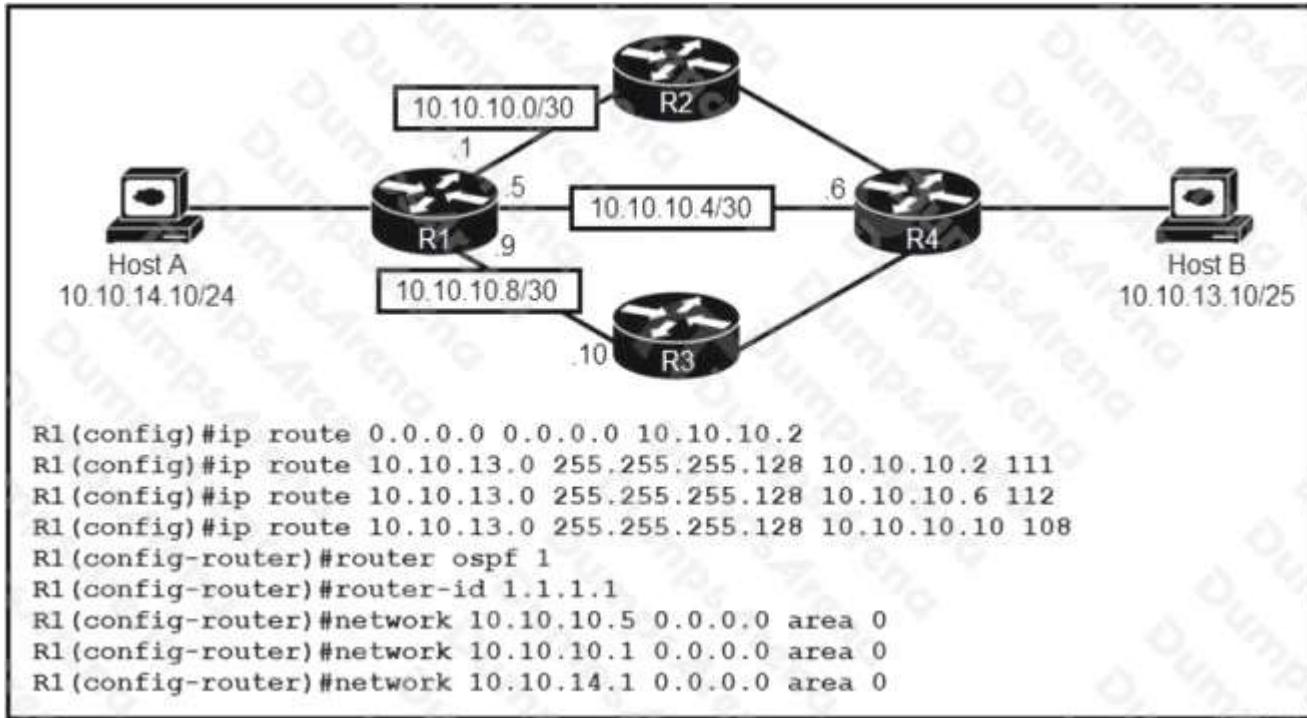
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 735**

- (Topic 3)



Refer to the exhibit. R1 has just received a packet from host A that is destined to host

- A. Which route in the routing table is used by R1 to reach host B?
- B. 10.10.13.0/25 [1/0] via 10.10.10.2
- C. Which route in the routing table is used by R1 to reach host B?  
10.10.13.0/25 [108/0] via 10.10.10.10
- D. 10.10.13.0/25 [110/2] via 10.10.10.6
- E. 10.10.13.0/25 [110/2] via 10.10.10.2

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 736

- (Topic 3)

Which two network actions occur within the data plane? (Choose two.)

- A. Run routing protocols.
- B. Make a configuration change from an incoming NETCONF RPC.
- C. Add or remove an 802.1Q trunking header.
- D. Match the destination MAC address to the MAC address table.
- E. Reply to an incoming ICMP echo request.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 737**

- (Topic 3)

What are network endpoints?

- A. support inter-VLAN connectivity
- B. a threat to the network if they are compromised
- C. act as routers to connect a user to the service provider network
- D. enforce policies for campus-wide traffic going to the Internet

**Correct Answer:** B

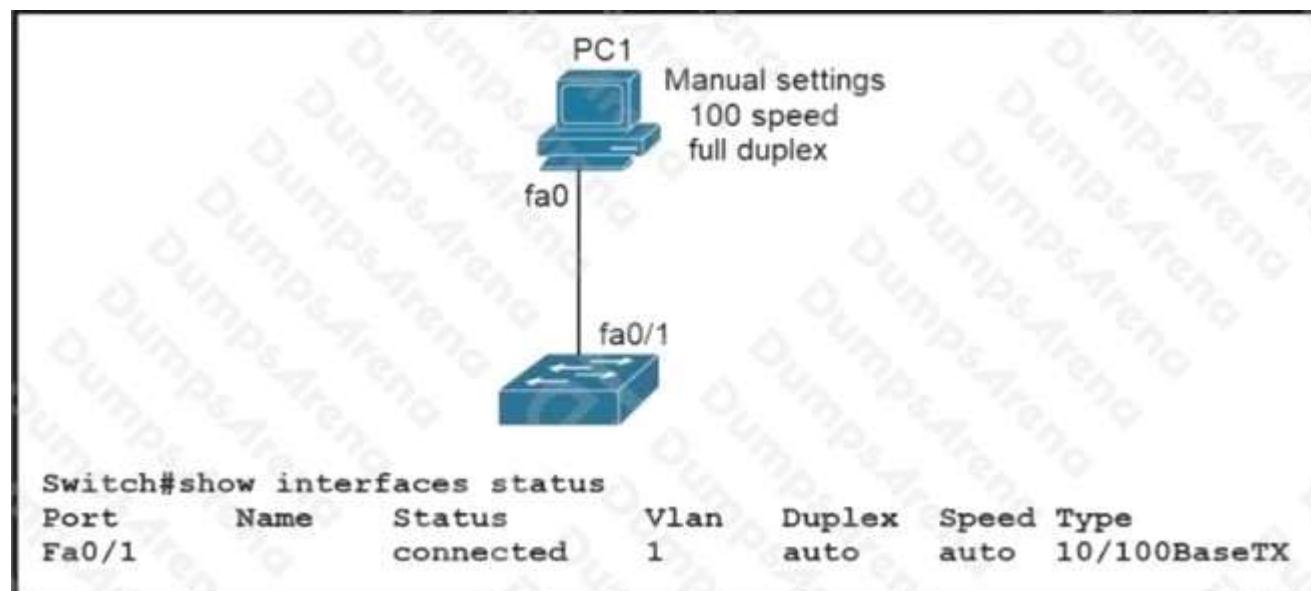
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 738**

- (Topic 3)



Refer to the exhibit. The link between PC1 and the switch is up, but it is performing poorly. Which interface condition is causing the performance problem?

- A. There is an issue with the fiber on the switch interface.

- B. There is a duplex mismatch on the interface.
- C. There is an interface type mismatch.
- D. There is a speed mismatch on the interface.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 739**

- (Topic 3)

Why was the RFC 1918 address space defined?

- A. conserve public IPv4 addressing
- B. support the NAT protocol
- C. preserve public IPv6 address space
- D. reduce instances of overlapping IP addresses

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 740**

- (DRAG DROP) - (Topic 3)

DRAG DROP

Drag and drop the TCP or UDP details from the left onto their corresponding protocols on the right.

Select and Place:

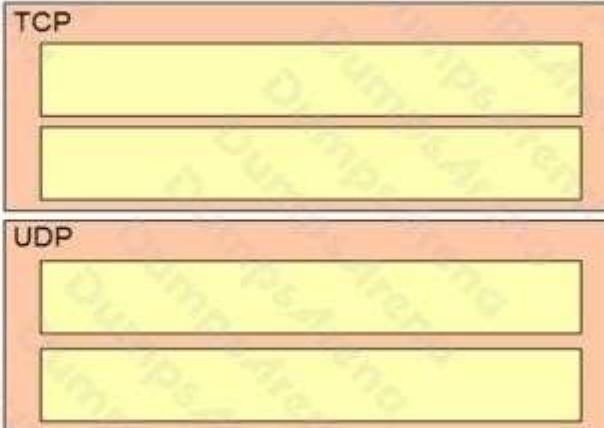
**Answer Area**

transmitted based on data contained in the packet without the need for a data channel

requires the client and the server to establish a connection before sending the packet

provides best-effort service

supports reliable data transmission



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

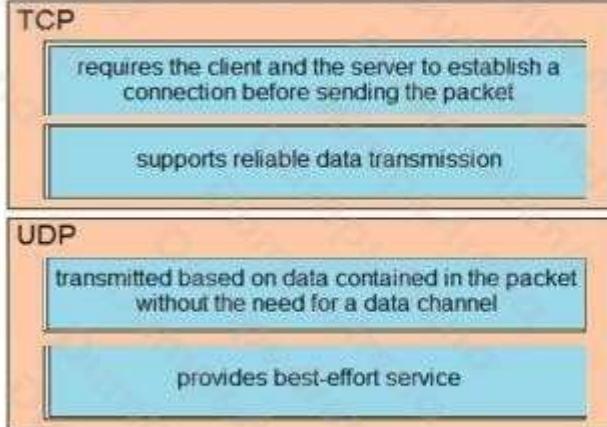
**Correct Answer:**

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

#### Answer Area

- transmitted based on data contained in the packet without the need for a data channel
- requires the client and the server to establish a connection before sending the packet
- provides best-effort service
- supports reliable data transmission



**Explanation:**

**QUESTION 741**  
- (DRAG DROP) - (Topic 3)

DRAG DROP

Drag and drop the IPv6 addresses from the left onto the corresponding address types on the right.

Select and Place:

**Answer Area**

2001:db8:600d:cafe::123

fcba:926a:e8e:7a25:b1:c6d2:1a76:8fdc

fd6d:c83b:5cef:b6b2::1

3ffe:e54d:620:a87a::f00d

Global Unicast

Unique Local

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Answer Area

2001:db8:600d:cafe::123  
fcba:926a:e8e:7a25:b1:c6d2:1a76:8fdc  
fd6d:c83b:5cef:b6b2::1  
3ffe:e54d:620:a87a::f00d

### Global Unicast

2001:db8:600d:cafe::123

3ffe:e54d:620:a87a::f00d

### Unique Local

fcba:926a:e8e:7a25:b1:c6d2:1a76:8fdc

fd6d:c83b:5cef:b6b2::1

Explanation:

Reference: <https://learningnetwork.cisco.com/s/question/0D53i00000Kt6kl/ipv6-unique-local-addresses>

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# DUMPS<sup>Q</sup>ARENA

## QUESTION 742

- (Topic 3)

Which type of organization should use a collapsed-core architecture?

- A. small and needs to reduce networking costs
- B. large and must minimize downtime when hardware fails
- C. large and requires a flexible, scalable network design
- D. currently small but is expected to grow dramatically in the near future

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 743

- (Topic 3)

A network administrator is setting up a new IPv6 network using the 64-bit address 2001:0EB8:00C1:2200:0001:0000:0000:0331/64. To simplify the configuration, the administrator has decided to compress the address. Which IP address must the administrator configure?

- A. ipv6 address 2001:EB8:C1:22:1::331/64
- B. ipv6 address 21:EB8:C1:2200:1::331/64
- C. ipv6 address 2001:EB8:C1:2200:1:0000:331/64
- D. ipv6 address 2001:EB8:C1:2200:1::331/64

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Topic 4, Network Access

**QUESTION 744**

- (Topic 4)

What is the primary effect of the spanning-tree portfast command?

- A. It immediately enables the port in the listening state.
- B. It immediately puts the port into the forwarding state when the switch is reloaded.
- C. It enables BPDU messages.
- D. It minimizes spanning-tree convergence time.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2\\_55\\_se/configuration/guide/3560\\_scg/swstptopt.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2_55_se/configuration/guide/3560_scg/swstptopt.html)

**QUESTION 745**

- (Topic 4)

What occurs when PortFast is enabled on an interface that is connected to another switch?

- A. Root port choice and spanning-tree recalculation are accelerated when a switch link goes down.
- B. After spanning-tree converges, PortFast shuts down any port that receives BPDUs.
- C. VTP is allowed to propagate VLAN configuration information from switch to switch automatically.
- D. Spanning-tree fails to detect a switching loop increasing the likelihood of broadcast storms.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Enabling the PortFast feature causes a switch or a trunk port to enter the STP forwarding-state immediately or upon a linkup event, thus bypassing the listening and learning states.

Note: To enable portfast on a trunk port you need the trunk keyword "spanning-tree portfast trunk"

#### QUESTION 746

- (Topic 4)

Which QoS Profile is selected in the GUI when configuring a voice over WLAN deployment?

- A. Platinum
- B. Bronze
- C. Gold
- D. Silver

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

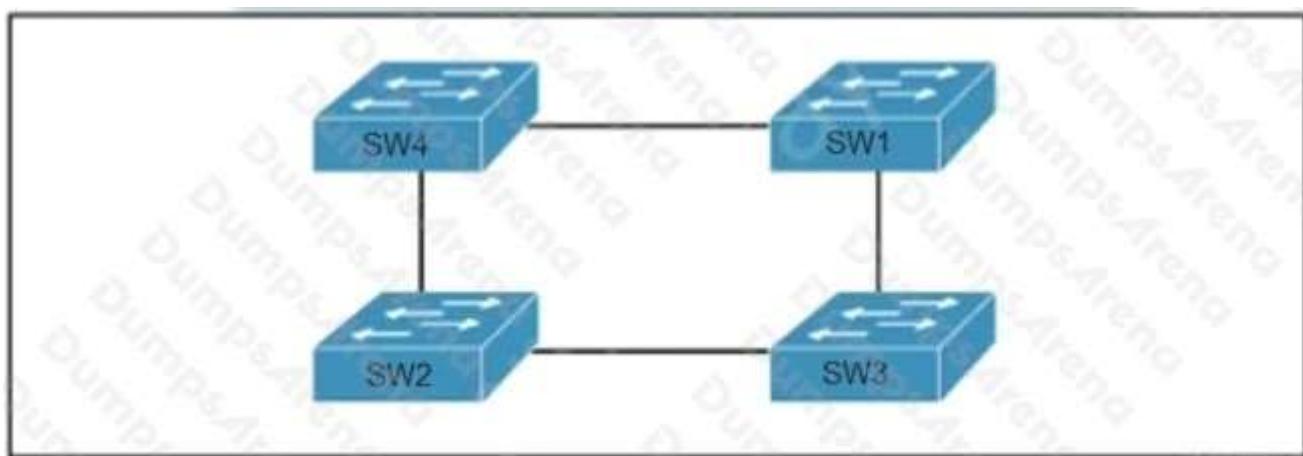
Explanation:

Cisco Unified Wireless Network solution WLANs support four levels of QoS: Platinum/Voice, Gold/Video, Silver/Best Effort (default), and Bronze/Background.

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b\\_cg74\\_CONSOLIDATED/b\\_cg74\\_CONSOLIDATED\\_chapter\\_01010111.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_01010111.html)

#### QUESTION 747

- (Topic 4)



Refer to the exhibit. Which switch in this configuration will be elected as the root bridge?

SW1: 0C:E0:38:41:86:07

SW2: 0C:0E:15:22:05:97

SW3: 0C:0E:15:1A:3C:9D

SW4: 0C:E0:18:A1:B3:19

- A. SW1
- B. SW2
- C. SW3
- D. SW4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 748

- (DRAG DROP) - (Topic 4)

DRAG DROP

```
C:\>ipconfig/all
Windows IP Configuration

Host Name . . . . . : Inspiron15
Primary Dns Suffix . . . . . :
Node Type . . . . . : Mixed
IP Routing Enabled . . . . . : No
WINS Proxy Enabled . . . . . : No

Wireless LAN adapter Local Area Connection* 12:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
Physical Address . . . . . : 1A-76-3F-7C-57-DF
DHCP Enabled . . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Dell Wireless 1703 802.11b/g/n <2.4GHz>
Physical Address . . . . . : B8-76-3F-7C-57-DF
DHCP Enabled . . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::e09f:9839:6e86:f755%12<Preferred>
   : 192.168.1.20<Preferred>
   : 255.255.255.0
   : 192.168.1.1
   : 263747135
DHCPv6 IAID . . . . . : 00-01-00-01-18-E6-32-43-B8-76-3F-7C-57-DF
DHCPv6 Client DUID . . . . . :
   : 192.168.1.15
   : 192.168.1.16
NetBIOS over Tcpip . . . . . : Enabled
```

Refer to the exhibit. An engineer is required to verify that the network parameters are valid for the users' wireless LAN connectivity on a /24 subnet. Drag and drop the values from the left onto the network parameters on the right. Not all values are used.

Select and Place:

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|                   |                                          |
|-------------------|------------------------------------------|
| 192.168.1.1       | broadcast address                        |
| 192.168.1.20      | default gateway                          |
| 192.168.1.254     | host IP address                          |
| 192.168.1.255     | last assignable IP address in the subnet |
| B8-76-3F-7C-57-DF | MAC address                              |
| 1A-76-3F-7C-57-DF | Network address                          |
| 192.168.1.0       |                                          |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                   |                   |
|-------------------|-------------------|
| 192.168.1.1       | 192.168.1.255     |
| 192.168.1.20      | 192.168.1.1       |
| 192.168.1.254     | 192.168.1.20      |
| 192.168.1.255     | 192.168.1.254     |
| B8-76-3F-7C-57-DF | B8-76-3F-7C-57-DF |
| 1A-76-3F-7C-57-DF | 192.168.1.0       |
| 192.168.1.0       |                   |

Explanation:

**QUESTION 749**

- (Topic 4)

An engineer needs to configure LLDP to send the port description type length value (TLV). Which command sequence must be implemented?

- A. switch(config-if)#lldp port-description
- B. switch#lldp port-description
- C. switch(config-line)#lldp port-description
- D. switch(config)#lldp port-description

**Correct Answer:** D

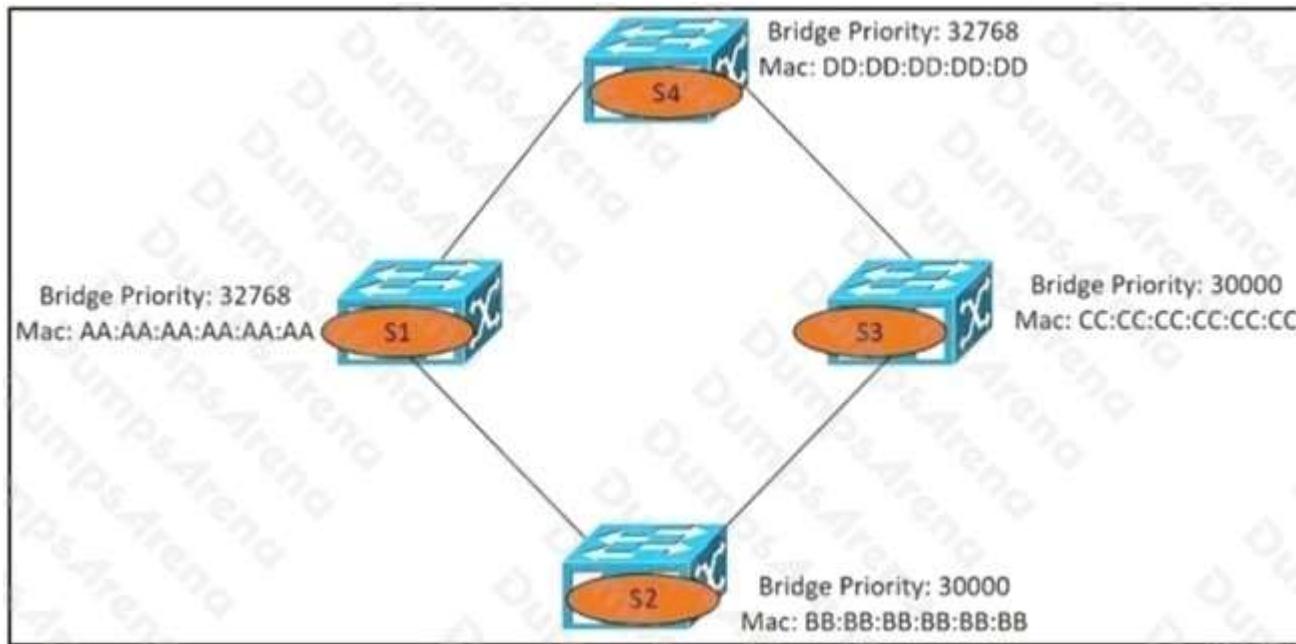
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 750**

- (Topic 4)



Refer to the exhibit. Which switch becomes the root bridge?

- A. S1
- B. S2
- C. S3
- D. S4

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 751

- (Topic 4)

Which configuration ensures that the switch is always the root for VLAN 750?

- A. Switch(config)#spanning-tree vlan 750 priority 38418607
- B. Switch(config)#spanning-tree vlan 750 priority 0
- C. Switch(config)#spanning-tree vlan 750 root primary
- D. Switch(config)#spanning-tree vlan 750 priority 614440

**Correct Answer:** C

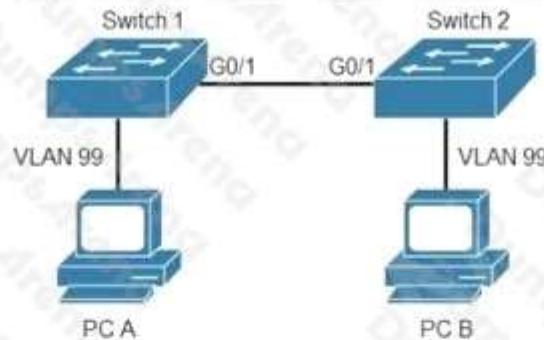
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 752**

- (Topic 4)



| <u>Switch 1:</u>                             | <u>Switch 2:</u>                             |
|----------------------------------------------|----------------------------------------------|
| Name: Gi0/1                                  | Name: Gi0/1                                  |
| Switchport: Enabled                          | Switchport: Enabled                          |
| Administrative Mode: trunk                   | Administrative Mode: trunk                   |
| Operational Mode: trunk                      | Operational Mode: trunk                      |
| Administrative Trunking Encapsulation: dot1q | Administrative Trunking Encapsulation: dot1q |
| Operational Trunking Encapsulation: dot1q    | Operational Trunking Encapsulation: dot1q    |
| Negotiation of Trunking: Off                 | Negotiation of Trunking: Off                 |
| Access Mode VLAN: 1 (default)                | Access Mode VLAN: 1 (default)                |
| Trunking Native Mode VLAN: 1 (default)       | Trunking Native Mode VLAN: 99 (VLAN099)      |
| Administrative Native VLAN tagging: enabled  | Administrative Native VLAN tagging: enabled  |
| Voice VLAN: none                             | Voice VLAN: none                             |
| [output omitted]                             | [output omitted]                             |
| Trunking VLANs Enabled: 50-100               | Trunking VLANs Enabled: 50-100               |
| Pruning VLANs Enabled: 2-1001                | Pruning VLANs Enabled: 2-1001                |
| Capture Mode Disabled                        | Capture Mode Disabled                        |
| Capture VLANs Allowed: ALL                   | Capture VLANs Allowed: ALL                   |

Refer to the exhibit. After the switch configuration, the ping test fails between PC A and PC

- A. Based on the output for switch 1, which error must be corrected?
- B. The PCs are in the incorrect VLAN.
- C. Based on the output for switch 1, which error must be corrected?  
All VLANs are not enabled on the trunk.
- D. Access mode is configured on the switch ports.
- E. There is a native VLAN mismatch.

**Correct Answer: D****Section: (none)****Explanation****Explanation/Reference:****QUESTION 753**

- (DRAG DROP) - (Topic 4)

## DRAG DROP

Drag and drop the WLAN components from the left onto the correct descriptions on the right.

Select and Place:

### Answer Area

|                         |                                                                         |
|-------------------------|-------------------------------------------------------------------------|
| access point            | device that manages access points                                       |
| virtual interface       | device that provides Wi-Fi devices with a connection to a wired network |
| dynamic interface       | used for out of band management of a WLC                                |
| service port            | used to support mobility management of the WLC                          |
| wireless LAN controller | applied to the WLAN for wireless client communication                   |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## Answer Area

|                         |                         |
|-------------------------|-------------------------|
| access point            | wireless LAN controller |
| virtual interface       | access point            |
| dynamic interface       | service port            |
| service port            | virtual interface       |
| wireless LAN controller | dynamic interface       |

### Explanation:

The service port can be used management purposes, primarily for out-of-band management. However, AP management traffic is not possible across the service port. In most cases, the service port is used as a "last resort" means of accessing the controller GUI for management purposes. For example, in the case where the system distribution ports on the controller are down or their communication to the wired network is otherwise degraded.

A dynamic interface with the Dynamic AP Management option enabled is used as the tunnel source for packets from the controller to the access point and as the destination for CAPWAP packets from the access point to the controller.

The virtual interface is used to support mobility management, Dynamic Host Configuration Protocol (DHCP) relay, and embedded Layer 3 security such as guest web authentication. It also maintains the DNS gateway host name used by Layer 3 security and mobility managers to verify the source of certificates when Layer 3 web authorization is enabled.

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-5/config-guide/b\\_cg85/ports\\_and\\_interfaces.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-5/config-guide/b_cg85/ports_and_interfaces.html)

### QUESTION 754

- (Topic 4)

Which unified access point mode continues to serve wireless clients after losing connectivity to the Cisco Wireless LAN Controller?

- A. local
- B. mesh
- C. flexconnect
- D. sniffer

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

In previous releases, whenever a FlexConnect access point disassociates from a controller, it moves to the standalone mode. The clients that are centrally switched are disassociated. However, the FlexConnect access point continues to serve locally switched clients. When the FlexConnect access point rejoins the controller (or a standby controller), all clients are disconnected and are authenticated again. This functionality has been enhanced and the connection between the clients and the FlexConnect access points are maintained intact and the clients experience seamless connectivity. When both the access point and the controller have the same configuration, the connection between the clients and APs is maintained.

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b\\_cg74\\_CONSOLIDATED/b\\_cg74\\_CONSOLIDATED\\_chapter\\_010001101.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_010001101.html)

#### **QUESTION 755**

- (Topic 4)

**Router#**

**Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S -Switch, H - Host, I - IGMP, r - Repeater, P - Phone,  
D - Remote, C - CVTA, M - Two-port Mac Relay**

| Device ID | Local Interface | Holdtime | Capability | Platform | Port ID   |
|-----------|-----------------|----------|------------|----------|-----------|
| 10.1.1.2  | Gig 37/3        | 176      | R I        | CPT 600  | Gig 36/41 |
| 10.1.1.2  | Gig 37/1        | 174      | R I        | CPT 600  | Gig 36/43 |
| 10.1.1.2  | Gig 36/41       | 134      | R I        | CPT 600  | Gig 37/3  |
| 10.1.1.2  | Gig 36/43       | 134      | R I        | CPT 600  | Gig 37/1  |
| 10.1.1.2  | Ten 3/2         | 132      | R I        | CPT 600  | Ten 4/2   |
| 10.1.1.2  | Ten 4/2         | 174      | R I        | CPT 600  | Ten 3/2   |

Refer to the exhibit. Which command provides this output?

- A. show ip route
- B. show cdp neighbor
- C. show ip interface
- D. show interface

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 756**

- (Topic 4)

Which mode must be used to configure EtherChannel between two switches without using a negotiation protocol?

- A. active
- B. on
- C. auto
- D. desirable

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Static Persistence (or "on" mode) bundles the links unconditionally and no negotiation protocol is used. In this mode, neither PAgP nor LACP packets are sent or received.

**QUESTION 757**

- (Topic 4)

Which mode allows access points to be managed by Cisco Wireless LAN Controllers?

- A. bridge
- B. lightweight
- C. mobility express
- D. autonomous

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A Lightweight Access Point (LAP) is an AP that is designed to be connected to a wireless LAN (WLAN) controller (WLC). APs are "lightweight," which means that they cannot act independently of a wireless LAN controller (WLC). The WLC manages the AP configurations and firmware. The APs are "zero touch" deployed, and individual configuration of APs is not necessary.

**QUESTION 758**

- (Topic 4)

Which two values or settings must be entered when configuring a new WLAN in the Cisco Wireless LAN Controller GUI? (Choose two.)

- A. QoS settings
- B. IP address of one or more access points
- C. SSID
- D. profile name
- E. management interface settings

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 759**

- (Topic 4)

Which command is used to specify the delay time in seconds for LLDP to initialize on any interface?

- A. lldp timer
- B. lldp tlv-select
- C. lldp reinit
- D. lldp holdtime

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**Explanation:**

- lldp holdtime seconds: Specify the amount of time a receiving device should hold the information from your device before discarding it
- lldp reinit delay: Specify the delay time in seconds for LLDP to initialize on an interface
- lldp timer rate: Set the sending frequency of LLDP updates in seconds

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2\\_55\\_se/configuration/guide/3560\\_scg/swlldp.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2_55_se/configuration/guide/3560_scg/swlldp.html)

**QUESTION 760**

- (Topic 4)

```

SW2
vtp domain cisco
vtp mode transparent
vtp password ciscotest
interface fastethernet0/1
  description connection to sw1
  switchport mode trunk
  switchport trunk encapsulation dot1q

```

Refer to the exhibit. How does SW2 interact with other switches in this VTP domain?

- A. It transmits and processes VTP updates from any VTP clients on the network on its trunk ports.
- B. It processes VTP updates from any VTP clients on the network on its access ports.
- C. It receives updates from all VTP servers and forwards all locally configured VLANs out all trunk ports.
- D. It forwards only the VTP advertisements that it receives on its trunk ports.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The VTP mode of SW2 is transparent so it only forwards the VTP updates it receives to its trunk links without processing them.

Reference: <https://www.cisco.com/c/en/us/support/docs/lan-switching/vtp/10558-21.html>

#### **QUESTION 761**

- (Topic 4)

```

SW1#sh lacp neighbor
Flags:  S - Device is requesting Slow LACPDU
        F - Device is requesting Fast LACPDU
        A - Device is in Active mode      P - Device is in Passive mode

Channel group 35 neighbors

Partner's information:

          LACP port           Admin Oper  Port   Port
Port  Flags Priority  Dev ID    Age  key   Key  Number State
Et1/0 SP     32768    aabb.cc80.7000 8s  0x0   0x23 0x101 0x3C
Et1/1 SP     32768    aabb.cc80.7000 8s  0x0   0x23 0x102 0x3C

```

Refer to the exhibit. Based on the LACP neighbor status, in which mode is the SW1 port channel configured?

- A. mode on
- B. active
- C. passive
- D. auto

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From the neighbor status, we notice the "Flags" are SP. "P" here means the neighbor is in Passive mode. In order to create an Etherchannel interface, the (local) SW1 ports should be in Active mode. Moreover, the "Port State" in the exhibit is "0x3c" (which equals to "00111100 in binary format). Bit 3 is "1" which means the ports are synchronizing -> the ports are working so the local ports should be in Active mode.

### **QUESTION 762**

- (Topic 4)

Two switches are connected and using Cisco Dynamic Trunking Protocol. SW1 is set to Dynamic Auto and SW2 is set to Dynamic Desirable. What is the result of this configuration?

- A. The link becomes an access port.
- B. The link is in an error disabled state.
- C. The link is in a down state.
- D. The link becomes a trunk port.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 763**

- (Topic 4)

A Cisco IP phone receives untagged data traffic from an attached PC. Which action is taken by the phone?

- A. It drops the traffic.
- B. It allows the traffic to pass through unchanged.
- C. It tags the traffic with the native VLAN.
- D. It tags the traffic with the default VLAN.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Untagged traffic from the device attached to the Cisco IP Phone passes through the phone unchanged, regardless of the trust state of the access port on the phone.

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960/software/release/12-2\\_40\\_se/configuration/guide/scg/swvoip.pdf](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst2960/software/release/12-2_40_se/configuration/guide/scg/swvoip.pdf)

**QUESTION 764**

- (Topic 4)

Which design element is a best practice when deploying an 802.11b wireless infrastructure?

- A. allocating nonoverlapping channels to access points that are in close physical proximity to one another
- B. disabling TCP so that access points can negotiate signal levels with their attached wireless devices
- C. configuring access points to provide clients with a maximum of 5 Mbps
- D. setting the maximum data rate to 54 Mbps on the Cisco Wireless LAN Controller

**Correct Answer:** A

**Section:** (none)

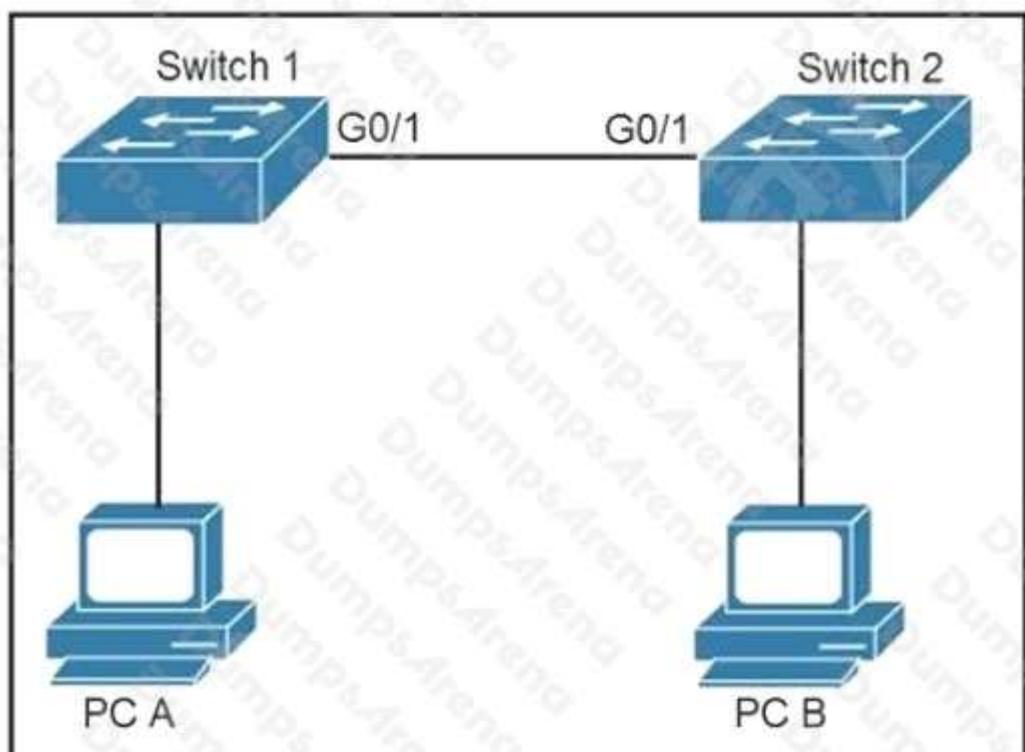
**Explanation**

**Explanation/Reference:**

**QUESTION 765**

- (Topic 4)

Refer to the exhibit. The network administrator wants VLAN 67 traffic to be untagged between Switch 1 and Switch 2, while all other VLANs are to remain tagged. Which command accomplishes this task?



- A. switchport access vlan 67
- B. switchport trunk allowed vlan 67
- C. switchport private-vlan association host 67
- D. switchport trunk native vlan 67

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 766**

- (Topic 4)

Which two command sequences must be configured on a switch to establish a Layer 3 EtherChannel with an open-standard protocol? (Choose two.)

- A. interface GigabitEthernet0/0/1 channel-group 10 mode auto
- B. interface GigabitEthernet0/0/1 channel-group 10 mode on
- C. interface port-channel 10 no switchport  
ip address 172.16.0.1 255.255.255.0
- D. interface GigabitEthernet0/0/1 channel-group 10 mode active
- E. interface port-channel 10 switchport switchport mode trunk

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 767**

- (Topic 4)

Refer to the exhibit. Which two commands when used together create port channel 10? (Choose two.)

| Switch#show etherchannel summary<br>[output omitted] |              |          |          |          |
|------------------------------------------------------|--------------|----------|----------|----------|
| Group                                                | Port-channel | Protocol | Ports    |          |
| 10                                                   | Po10(SU)     | LACP     | Gi0/0(P) | Gi0/1(P) |
| 20                                                   | Po20(SU)     | LACP     | Gi0/2(P) | Gi0/3(P) |

- A. int range g0/0-1 channel-group 10 mode active
- B. int range g0/0-1 channel-group 10 mode desirable
- C. int range g0/0-1 channel-group 10 mode passive
- D. int range g0/0-1 channel-group 10 mode auto
- E. int range g0/0-1 channel-group 10 mode on

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 768**

- (Topic 4)

Refer to the exhibit. An administrator is tasked with configuring a voice VLAN. What is the expected outcome when a Cisco phone is connected to the GigabitEthernet 3/1/4 port on a switch?

```
interface GigabitEthernet3/1/4
    switchport voice vlan 50
```

!

- A. The phone and a workstation that is connected to the phone do not have VLAN connectivity.
- B. The phone sends and receives data in VLAN 50, but a workstation connected to the phone sends and receives data in VLAN 1.
- C. The phone sends and receives data in VLAN 50, but a workstation connected to the phone has no VLAN connectivity.
- D. The phone and a workstation that is connected to the phone send and receive data in VLAN 50.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 769**

- (Topic 4)

Refer to the exhibit. Which action is expected from SW1 when the untagged frame is received on the GigabitEthernet0/1 interface?

```
SW1#show run int gig 0/1
interface GigabitEthernet0/1
switchport access vlan 11
switchport trunk allowed vlan 1-10
switchport trunk encapsulation dot1q
switchport trunk native vlan 5
switchport mode trunk
speed 1000
duplex full
```

- A. The frame is processed in VLAN 1
- B. The frame is processed in VLAN 11
- C. The frame is processed in VLAN 5
- D. The frame is dropped

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 770**

- (Topic 4)

Which command is used to enable LLDP globally on a Cisco IOS ISR?

- A. llpd run
- B. llpd enable
- C. llpd transmit
- D. cdp run
- E. cdp enable

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**Explanation:**

Link Layer Discovery Protocol (LLDP) is an industry standard protocol that allows devices to advertise, and discover connected devices, and their capabilities (same as CDP of Cisco). To enable it on Cisco devices, we have to use this command under global configuration mode: Sw(config)# llpd run

**QUESTION 771**

- (Topic 4)

Which command should you enter to configure an LLDP delay time of 5 seconds?

- A. lldp timer 5000
- B. lldp holdtime 5
- C. lldp reinit 5000
- D. lldp reinit 5

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

lldp holdtime seconds: Specify the amount of time a receiving device should hold the information from your device before



discarding it lldp reinit delay: Specify the delay time in seconds for LLDP to initialize on an interface lldp timer rate: Set



the sending frequency of LLDP updates in seconds

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2\\_55\\_se/configuration/guide/3560\\_scg/swlldp.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst3560/software/release/12-2_55_se/configuration/guide/3560_scg/swlldp.html)

**QUESTION 772**

- (Topic 4)

In a CDP environment, what happens when the CDP interface on an adjacent device is configured without an IP address?

- A. CDP becomes inoperable on that neighbor
- B. CDP uses the IP address of another interface for that neighbor
- C. CDP operates normally, but it cannot provide IP address information for that neighbor
- D. CDP operates normally, but it cannot provide any information for that neighbor

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Although CDP is a Layer 2 protocol but we can check the neighbor IP address with the "show cdp neighbor detail" command. If the neighbor does not have an IP address then CDP still operates without any problem. But the IP address of that neighbor is not provided.

**QUESTION 773**

- (DRAG DROP) - (Topic 4)

## DRAG DROP

Drag and drop the benefits of a Cisco Wireless Lan Controller from the left onto the correct examples on the right.

Select and Place:

|                            |                                                               |
|----------------------------|---------------------------------------------------------------|
| Dynamic RF Feature         | Controller provides centralized management of users and VLANs |
| Easy Deployment Process    | Access points auto adjust signal strength                     |
| Optimized user performance | Controller image auto deployed to access Points               |
| Easy upgrade process       | Controller uses loadbalancing to maximize throughput          |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                            |                            |
|----------------------------|----------------------------|
| Dynamic RF Feature         | Easy Deployment Process    |
| Easy Deployment Process    | Dynamic RF Feature         |
| Optimized user performance | Easy upgrade process       |
| Easy upgrade process       | Optimized user performance |

**Explanation:**

### QUESTION 774 - (Topic 4)

When configuring an EtherChannel bundle, which mode enables LACP only if a LACP device is detected?

- A. Passive
- B. Desirable

- C. On
- D. Auto
- E. Active

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The LACP is Link Aggregation Control Protocol. LACP is an open protocol, published under the 802.3ad.

The modes of LACP are active, passive or on. The side configured as "passive" will wait for the other side that should be Active for the Etherchannel to be established. PAgP is Port-Aggregation Protocol. It is Cisco's proprietary protocol. The modes are On, Desirable or Auto. Desirable or Auto will establish an EtherChannel.

An example of how to configure an Etherchannel:

```
SwitchFormula1>enable
```

```
SwitchFormula1#configure terminal
```

```
SwitchFormula1(config)# interface range f0/5 -14
```

```
SwitchFormula1(config-if-range)# channel-group 13 mode ? active
```

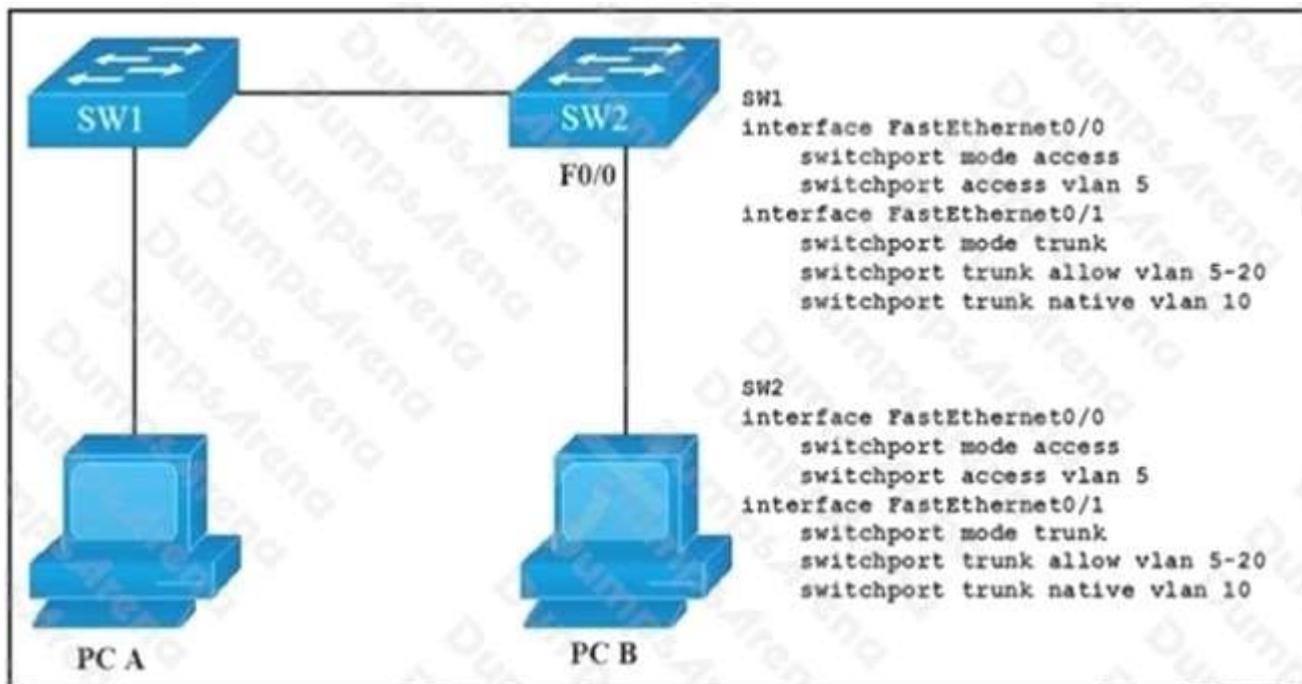
Enable LACP unconditionally  
auto Enable PAgP only if a PAgP device is detected  
desirable Enable PAgP unconditionally on Enable Etherchannel only

passive Enable LACP only if a LACP device is detected

**QUESTION 775**

- (Topic 4)

Refer to the exhibit. Which VLAN ID is associated with the default VLAN in the given environment?



- A. VLAN 1
- B. VLAN 5
- C. VLAN 10
- D. VLAN 20

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 776

- (Topic 4)

Which two VLAN IDs indicate a default VLAN? (Choose two.)

- A. 0
- B. 1
- C. 1005
- D. 1006
- E. 4096

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

VLAN 1 is a system default VLAN, you can use this VLAN but you cannot delete it. By default VLAN 1 is used for every port on the switch.

Standard VLAN range from 1002-1005 it's Cisco default for FDDI and Token Ring. You cannot delete VLANs 1002-1005.

Mostly we don't use VLAN in this range.

**QUESTION 777**

- (Topic 4)

Which two pieces of information about a Cisco device can Cisco Discovery Protocol communicate? (Choose two.)

- A. the native VLAN
- B. the trunking protocol
- C. the VTP domain
- D. the spanning-tree priority
- E. the spanning-tree protocol

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 778**

- (Topic 4)

After you deploy a new WLAN controller on your network, which two additional tasks should you consider? (Choose two.)

- A. deploy load balancers
- B. configure additional vlans
- C. configure multiple VRRP groups
- D. deploy POE switches
- E. configure additional security policies

**Correct Answer:** AE

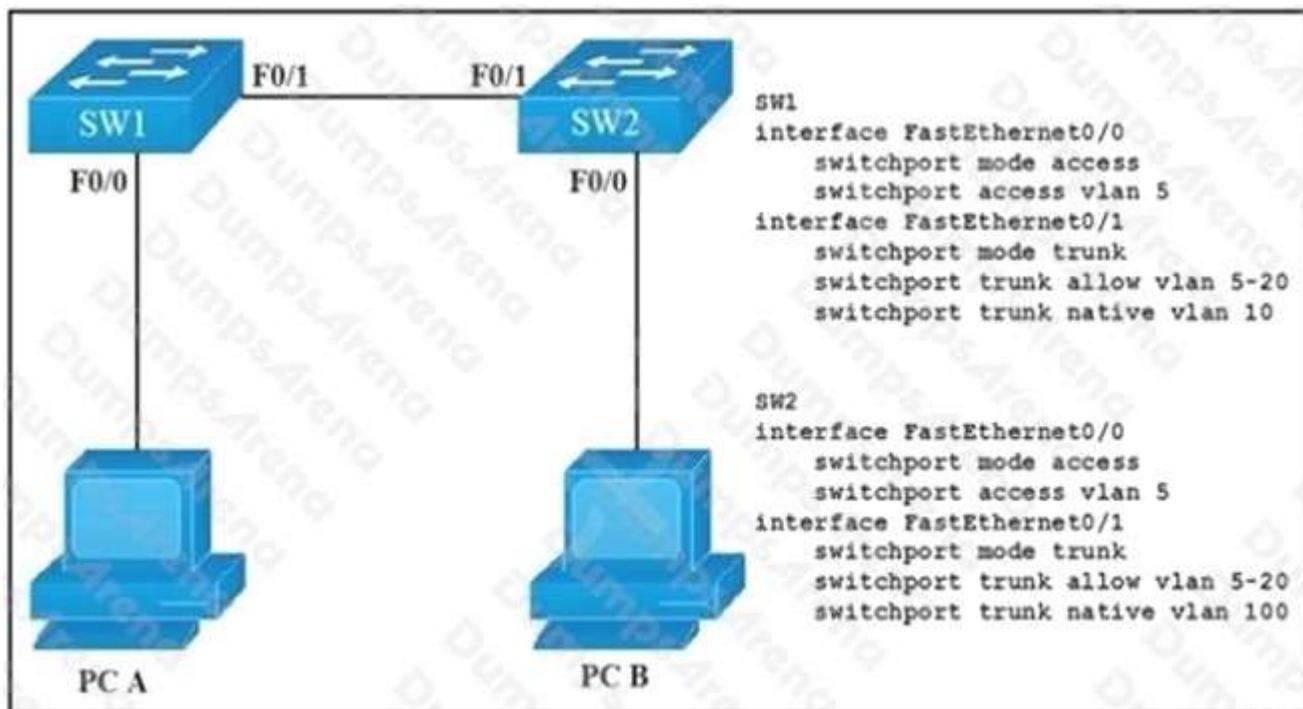
**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 779**

- (Topic 4)

Refer to the exhibit. How will switch SW2 handle traffic from VLAN 10 on SW1?



- A. It sends the traffic to VLAN 10.
- B. It sends the traffic to VLAN 100.
- C. It drops the traffic.
- D. It sends the traffic to VLAN 1.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Since SW-1 is configured native VLAN is VLAN10, so traffic coming out of VLAN-10 is untagged, & goes directly to SW-2 Native VLAN: VLAN100, due to VLAN mismatch.

#### QUESTION 780

- (Topic 4)

Which two commands can you use to configure an actively negotiate EtherChannel? (Choose two.)

- A. channel-group 10 mode on
- B. channel-group 10 mode auto
- C. channel-group 10 mode passive

- D. channel-group 10 mode desirable
- E. channel-group 10 mode active

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 781**

- (Topic 4)

How does STP prevent forwarding loops at OSI Layer 2?

- A. TTL
- B. MAC address forwarding
- C. Collision avoidance
  
- D. Port blocking

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 782**

- (Topic 4)

Which two statements about VTP are true? (Choose two.)

- A. All switches must be configured with the same VTP domain name
- B. All switches must be configured to perform trunk negotiation
- C. All switches must be configured with a unique VTP domain name
- D. The VTP server must have the highest revision number in the domain
- E. All switches must use the same VTP version

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 783**

- (Topic 4)

Which type does a port become when it receives the best BPDU on a bridge?

- A. The designated port
- B. The backup port
- C. The alternate port

D. The root port

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 784**

- (Topic 4)

Which value can you modify to configure a specific interface as the preferred forwarding interface?

- A. The interface number
- B. The port priority
- C. The VLAN priority
- D. The hello time

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 785**

- (Topic 4)

Which statement about Cisco Discovery Protocol is true?

- A. It is a Cisco-proprietary protocol.
- B. It runs on the network layer.
- C. It can discover information from routers, firewalls, and switches.
- D. It runs on the physical layer and the data link layer.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 786**

- (Topic 4)

What are two reasons a network administrator would use CDP? (Choose two.)

- A. to verify the type of cable interconnecting two devices
- B. to determine the status of network services on a remote device
- C. to obtain VLAN information from directly connected switches
- D. to verify Layer 2 connectivity between two devices when Layer 3 fails
- E. to obtain the IP address of a connected device in order to telnet to the device

F. to determine the status of the routing protocols between directly connected routers

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 787**

- (Topic 4)

What are two benefits of using VTP in a switching environment? (Choose two.)

- A. It allows switches to read frame tags.
- B. It allows ports to be assigned to VLANs automatically.
- C. It maintains VLAN consistency across a switched network.
- D. It allows frames from multiple VLANs to use a single interface.
- E. It allows VLAN information to be automatically propagated throughout the switching environment.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 788**

- (Topic 4)

Which three statements are typical characteristics of VLAN arrangements? (Choose three.)

- A. A new switch has no VLANs configured.
- B. Connectivity between VLANs requires a Layer 3 device.
- C. VLANs typically decrease the number of collision domains.
- D. Each VLAN uses a separate address space.
- E. A switch maintains a separate bridging table for each VLAN.
- F. VLANs cannot span multiple switches.

**Correct Answer:** BDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 789**

- (Topic 4)

On a corporate network, hosts on the same VLAN can communicate with each other, but they are unable to communicate with hosts on different VLANs. What is needed to allow communication between the VLANs?

- A. a router with subinterfaces configured on the physical interface that is connected to the switch
- B. a router with an IP address on the physical interface connected to the switch

- C. a switch with an access link that is configured between the switches
- D. a switch with a trunk link that is configured between the switches

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Different VLANs can't communicate with each other, they can communicate with the help of Layer3 router. Hence, it is needed to connect a router to a switch, then make the sub-interface on the router to connect to the switch, establishing Trunking links to achieve communications of devices which belong to different VLANs.

**QUESTION 790**

- (Topic 4)

Which statement about LLDP is true?

- A. It is a Cisco proprietary protocol.
- B. It is configured in global configuration mode.
- C. The LLDP update frequency is a fixed value.
- D. It runs over the transport layer.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 791**

- (Topic 4)

What is a function of Wireless LAN Controller?

- A. register with a single access point that controls traffic between wired and wireless endpoints
- B. use SSIDs to distinguish between wireless clients
- C. send LWAPP packets to access points
- D. monitor activity on wireless and wired LANs

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 792**

- (Topic 4)

Which technology is used to improve web traffic performance by proxy caching?

- A. WSA
- B. Firepower
- C. ASA
- D. FireSIGHT

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 793**

- (Topic 4)

What criteria is used first during the root port selection process?

- A. local port ID
- B. lowest path cost to the root bridge
- C. lowest neighbor's bridge ID
  
- D. lowest neighbor's port ID

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 794**

- (Topic 4)

Which statement about VLAN configuration is true?

- A. The switch must be in VTP server or transparent mode before you can configure a VLAN. The switch must be in config-vlan mode before you configure an extended VLAN. Dynamic inter-VLAN routing is supported on VLAN2 through VLAN 4094. A switch in VTP transparent mode saves the VLAN databases to the running configuration only.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 795**

- (Topic 4)

Refer to the exhibit. What two conclusions should be made about this configuration? (Choose two.)

```
SW1#show spanning-tree vlan 30
```

VLAN0030

Spanning tree enabled protocol rstp

|         |               |                      |
|---------|---------------|----------------------|
| Root ID | Priority      | 32798                |
|         | Address       | 0025.63e9.c800       |
|         | Cost          | 19                   |
|         | Port          | 1 (FastEthernet 2/1) |
|         | Hello Time    | 2 sec                |
|         | Max Age       | 30 sec               |
|         | Forward Delay | 20 sec               |

[Output suppressed]

- A. The root port is FastEthernet 2/1
- B. The designated port is FastEthernet 2/1
- C. The spanning-tree mode is PVST+
- D. This is a root bridge
- E. The spanning-tree mode is Rapid PVST+

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 796

- (Topic 4)

A network engineer must create a diagram of a multivendor network. Which command must be configured on the Cisco devices so that the topology of the network is allowed to be mapped?

- A. Device(config)#lldp run
- B. Device(config)#cdp run
- C. Device(config-if)#cdp enable
- D. Device(config)#flow-sampler-map topology

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 797**

- (Topic 4)

How do AAA operations compare regarding user identification, user services, and access control?

- A. Authorization provides access control, and authentication tracks user services
- B. Authentication identifies users, and accounting tracks user services
- C. Accounting tracks user services, and authentication provides access control
- D. Authorization identifies users, and authentication provides access control

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 798**

- (Topic 4)

What is the difference between RADIUS and TACACS+?

- A. RADIUS logs all commands that are entered by the administrator, but TACACS+ logs only start, stop, and interim commands.
- B. TACACS+ separates authentication and authorization, and RADIUS merges them.
- C. TACACS+ encrypts only password information, and RADIUS encrypts the entire payload.
- D. RADIUS is most appropriate for dial authentication, but TACACS+ can be used for multiple types of authentication.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 799**

- (Topic 4)

What is a difference between local AP mode and FlexConnect AP mode?

- A. Local AP mode creates two CAPWAP tunnels per AP to the WLC
- B. Local AP mode causes the AP to behave as if it were an autonomous AP
- C. FlexConnect AP mode fails to function if the AP loses connectivity with the WLC
- D. FlexConnect AP mode bridges the traffic from the AP to the WLC when local switching is configured

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 800**

- (Topic 4)

The SW1 interface g0/1 is in the down/down state. What are two reasons for the interface condition? (Choose two.)

- A. There is a protocol mismatch
- B. There is a duplex mismatch
- C. The interface is shut down
- D. The interface is error-disabled
- E. There is a speed mismatch

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 801**

- (Topic 4)

How will Link Aggregation be implemented on a Cisco Wireless LAN Controller?

- A. The EtherChannel must be configured in "mode active".
- B. When enabled, the WLC bandwidth drops to 500 Mbps.
- C. To pass client traffic, two or more ports must be configured.
- D. One functional physical port is needed to pass client traffic.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-2/config-guide/b\\_cg82/b\\_cg82\\_chapter\\_010101011.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-2/config-guide/b_cg82/b_cg82_chapter_010101011.html)

**QUESTION 802**

- (Topic 4)

Which two conditions must be met before SSH operates normally on a Cisco IOS switch? (Choose two.)

- A. IP routing must be enabled on the switch.
- B. A console password must be configured on the switch.
- C. Telnet must be disabled on the switch.

- D. The switch must be running a k9 (crypto) IOS image.
- E. The ip domain-name command must be configured on the switch.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/security-vpn/secure-shell-ssh/4145-ssh.html>

### **QUESTION 803**

- (Topic 4)

```
Atlanta#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Atlanta(config)#aaa new-model
Atlanta(config)#aaa authentication login default local
Atlanta(config)#line vty 0 4
Atlanta(config-line)#login authentication default
Atlanta(config-line)#exit
Atlanta(config)#username ciscoadmin password adminadmin123
Atlanta(config)#username ciscoadmin privilege 15
Atlanta(config)#enable password cisco123
Atlanta(config)#enable secret testing1234
Atlanta(config)#end
```

Refer to the exhibit. Which password must an engineer use to enter the enable mode?

- A. adminadmin123
- B. cisco123
- C. default
- D. testing1234

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If neither the enable password command nor the enable secret command is configured, and if there is a line password configured for the console, the console line password serves as the enable password for all VTY sessions -> The "enable secret" will be used first if available, then "enable password" and line password.

### **QUESTION 804**

- (Topic 4)

Which state does the switch port move to when PortFast is enabled?

- A. blocking
- B. listening
- C. learning
- D. forwarding

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 805**

- (Topic 4)

Which protocol prompts the Wireless LAN Controller to generate its own local web administration SSL certificate for GUI access?

- A. RADIUS
- B. HTTPS
- C. TACACS+
- D. HTTP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You can protect communication with the GUI by enabling HTTPS. HTTPS protects HTTP browser sessions by using the Secure Sockets Layer (SSL) protocol. When you enable HTTPS, the controller generates its own local web administration SSL certificate and automatically applies it to the GUI. You also have the option of downloading an externally generated certificate. Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b\\_cg80/b\\_cg80\\_chapter\\_011.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b_cg80/b_cg80_chapter_011.html)

#### **QUESTION 806**

- (Topic 4)

An engineer must configure interswitch VLAN communication between a Cisco switch and a third-party switch. Which action should be taken?

- A. configure DSCP
- B. configure IEEE 802.1q
- C. configure ISL
- D. configure IEEE 802.1p

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

VLAN trunking offers two options, ISL and 802.1Q. ISL is Cisco proprietary while 802.1Q is standards based and supported by multiple vendors.

**QUESTION 807**

- (Topic 4)

An engineer requires a switch interface to actively attempt to establish a trunk link with a neighbor switch. What command must be configured?

- A. switchport mode trunk
- B. switchport mode dynamic desirable
- C. switchport nonegotiate
- D. switchport mode dynamic auto

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference:

<https://www.ciscopress.com/articles/article.asp?p=2181837&seqNum=8#:~:text=switchport%20mode%20dynamic%20auto%20Makes,to%20trunk%20or%20desirable%20mode.&text=switchport%20mode%20dynamic%20desirable%3A%20Makes,link%20to%20a%20trunk%20link>.

**QUESTION 808**

- (Topic 4)

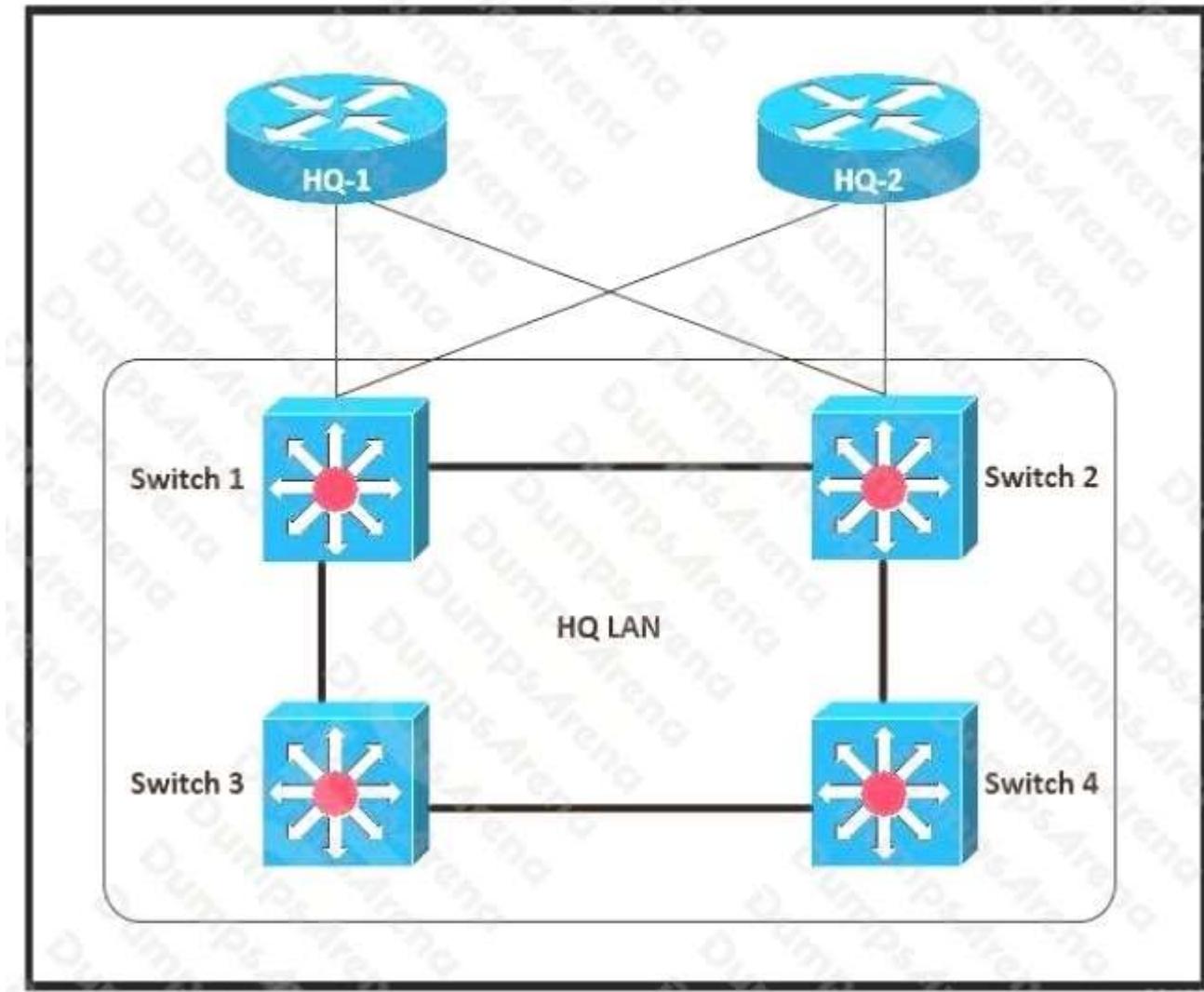
Refer to the exhibit. After the election process, what is the root bridge in the HQ LAN?

Switch 1: 0C:E0:38:81:32:58

Switch 2: 0C:0E:15:22:1A:61

Switch 3: 0C:0E:15:1D:3C:9A

Switch 4: 0C:E0:19:A1:4D:16



- A. Switch 1
- B. Switch 2
- C. Switch 3
- D. Switch 4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 809**

- (Topic 4)

An engineer must establish a trunk link between two switches. The neighboring switch is set to trunk or desirable mode.

What action should be taken?

- A. configure switchport nonegotiate
- B. configure switchport mode dynamic desirable
- C. configure switchport mode dynamic auto
- D. configure switchport trunk dynamic desirable

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 810**

- (Topic 4)

Which spanning-tree enhancement avoids the learning and listening states and immediately places ports in the forwarding

state?

- A. BPDUfilter
- B. PortFast
- C. Backbonefast
- D. BPDUGuard

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 811**

- (Topic 4)

How does the dynamically-learned MAC address feature function?

- A. The CAM table is empty until ingress traffic arrives at each port
- B. Switches dynamically learn MAC addresses of each connecting CAM table.
- C. The ports are restricted and learn up to a maximum of 10 dynamically-learned addresses
- D. It requires a minimum number of secure MAC addresses to be filled dynamically

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 812**

- (Topic 4)

When using Rapid PVST+, which command guarantees the switch is always the root bridge for VLAN 200?

- A. spanning-tree vlan 200 priority 614440
- B. spanning-tree vlan 200 priority 0
- C. spanning-tree vlan 200 root primary
- D. spanning-tree vlan 200 priority 38813258

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 813**

- (Topic 4)



Refer to the exhibit. Which command must be executed for Gi1/1 on SW1 to passively become a trunk port if Gi1/1 on SW2 is configured in desirable or trunk mode?

- A. switchport mode dynamic auto
- B. switchport mode dot1-tunnel
- C. switchport mode dynamic desirable
- D. switchport mode trunk

**Correct Answer:** A

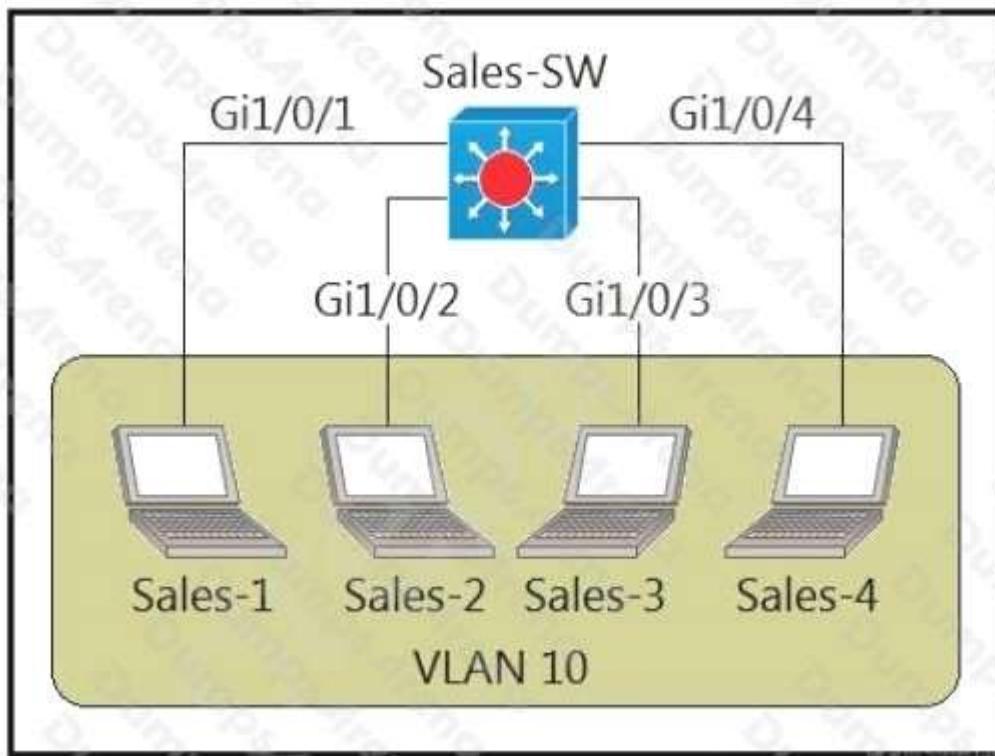
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 814**

- (Topic 4)



Refer to the exhibit. The entire contents or the MAC address table are shown. Sales-4 sends a data frame to Sales-1.

Sales-SW#show mac-address-table

### Mac Address Table

| VLAN | MAC Address    | Type    | Ports   |
|------|----------------|---------|---------|
| 10   | 000c.8590.bb7d | DYNAMIC | Gi1/0/1 |
| 10   | 3939.1170.1bb7 | DYNAMIC | Gi1/0/2 |
| 10   | 00d0.d3b6.957c | DYNAMIC | Gi1/0/3 |

Sales-SW#

What does the switch do as it receives the frame from Sales-4?

- A. Map the Layer 2 MAC address to the Layer 3 IP address and forward the frame.
- B. Insert the source MAC address and port into the forwarding table and forward the frame to Sales-1.

- C. Perform a lookup in the MAC address table and discard the frame due to a missing entry.
  - D. Flood the frame out of all ports except on the port where Sales-1 is connected.
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**Correct Answer:** B

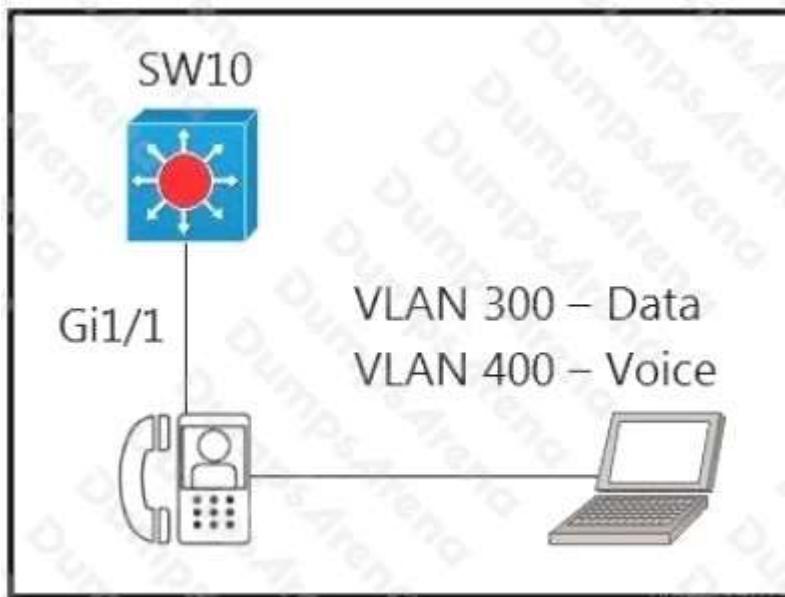
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 815**

- (Topic 4)



Refer to the exhibit. An engineer must configure GigabitEthernet1/1 to accommodate voice and data traffic. Which configuration accomplishes this task?

- A. interface gigabitethernet1/1 switchport mode access switchport access vlan 300 switchport voice vlan 400
- B. interface gigabitethernet1/1 switchport mode trunk switchport trunk vlan 300 switchport trunk vlan 400
- C. interface gigabitethernet1/1 switchport mode access switchport voice vlan 300 switchport access vlan 400
- D. interface gigabitethernet1/1 switchport mode trunk switchport trunk vlan 300 switchport voice vlan 400

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 816**

- (Topic 4)

An engineer needs to add an old switch back into a network. To prevent the switch from corrupting the VLAN database, what action must be taken?

- A. Add the switch in the VTP domain with a lower revision number.
- B. Add the switch in the VTP domain with a higher revision number.
- C. Add the switch with DTP set to dynamic desirable.
- D. Add the switch with DTP set to desirable.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 817**

- (Topic 4)

Which technology prevents client devices from arbitrarily connecting to the network without state remediation?

- A. 802.11n
- B. 802.1x
- C. MAC Authentication Bypass
  
- D. IP Source Guard

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 818**

- (Topic 4)

Which protocol does an access point use to draw power from a connected switch?

- A. Internet Group Management Protocol
- B. Cisco Discovery Protocol
- C. Adaptive Wireless Path Protocol
- D. Neighbor Discovery Protocol

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 819**

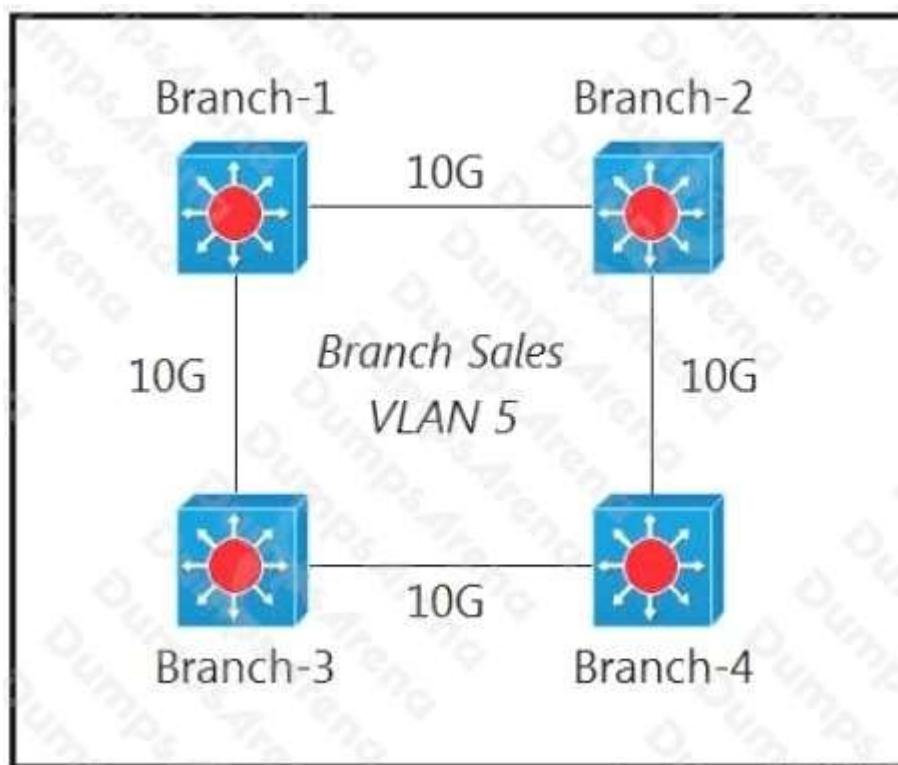
- (Topic 4)

An administrator must secure the WLC from receiving spoofed association requests. Which steps must be taken to configure the WLC to restrict the requests and force the user to wait 10 ms to retry an association request?

- A. Enable MAC filtering and set the SA Query timeout to 10.
- B. Enable 802.1x Layer 2 security and set the Comeback timer to 10.
- C. Enable Security Association Teardown Protection and set the SA Query timeout to 10.
- D. Enable the Protected Management Frame service and set the Comeback timer to 10.

**Correct Answer:** C**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 820**

- (Topic 4)



Refer to the exhibit. Only four switches are participating in the VLAN spanning-tree process.

Branch-1: priority 614440

Branch-2: priority 39391170

Branch-3: priority 0

Branch-4: root primary

Which switch becomes the permanent root bridge for VLAN 5?

- A. Branch-1
- B. Branch-2
- C. Branch-3
- D. Branch-4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 821**

- (Topic 4)

An engineer must configure traffic for a VLAN that is untagged by the switch as it crosses a trunk link. Which command should be used?

- A. switchport trunk encapsulation dot1q
- B. switchport trunk allowed vlan 10
- C. switchport mode trunk
- D. switchport trunk native vlan 10

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 822**

- (Topic 4)

What are two benefits of using the PortFast feature? (Choose two.)

- A. Enabled interfaces are automatically placed in listening state.
- B. Enabled interfaces wait 50 seconds before they move to the forwarding state.
- C. Enabled interfaces never generate topology change notifications.
- D. Enabled interfaces come up and move to the forwarding state immediately.
- E. Enabled interfaces that move to the learning state generate switch topology change notifications.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 823**

- (Topic 4)

What is the benefit of configuring PortFast on an interface?

- A. The frames entering the interface are marked with the higher priority and then processed faster by a switch.
- B. After the cable is connected, the interface is available faster to send and receive user data.
- C. Real-time voice and video frames entering the interface are processed faster.
- D. After the cable is connected, the interface uses the fastest speed setting available for that cable type.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 824**

- (DRAG DROP) - (Topic 4)

DRAG DROP

Drag and drop the functions of AAA supporting protocols from the left onto the protocols on the right.

Select and Place:

|                                                            |         |
|------------------------------------------------------------|---------|
|                                                            | RADIUS  |
| encrypts only the password when it sends an access request |         |
| encrypts the entire body of the access-request packet      |         |
| separates all three AAA operations                         |         |
| combines authentication and authorization                  | TACACS+ |
| uses TCP                                                   |         |
| uses UDP                                                   |         |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

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|                                                            |                                                            |
|------------------------------------------------------------|------------------------------------------------------------|
|                                                            | RADIUS                                                     |
| encrypts only the password when it sends an access request | encrypts only the password when it sends an access request |
| encrypts the entire body of the access-request packet      | uses UDP                                                   |
| separates all three AAA operations                         | combines authentication and authorization                  |
| combines authentication and authorization                  |                                                            |
| uses TCP                                                   |                                                            |
| uses UDP                                                   |                                                            |
|                                                            | TACACS+                                                    |
|                                                            | encrypts the entire body of the access-request packet      |
|                                                            | separates all three AAA operations                         |
|                                                            | uses TCP                                                   |

Explanation:

#### QUESTION 825

- (Topic 4)

Why does a switch flood a frame to all ports?

- A. The frame has zero destination MAC addresses.
- B. The destination MAC address of the frame is unknown.
- C. The source MAC address of the frame is unknown
- D. The source and destination MAC addresses of the frame are the same.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 826**

- (Topic 4)

An engineer configures interface Gi1/0 on the company PE router to connect to an ISP. Neighbor discovery is disabled.

```
interface Gi1/0
description HQ_DC3992-38488
duplex full
speed 100
negotiation auto
lldp transmit
lldp receive
```

Which action is necessary to complete the configuration if the ISP uses third-party network devices?

- A. Disable autonegotiation.
- B. Enable LLDP globally.
- C. Enable LLDP-MED on the ISP device.
- D. Disable Cisco Discovery Protocol on the interface.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 827**

- (DRAG DROP) - (Topic 4)

DRAG DROP

Drag and drop the Rapid PVST+ forwarding state actions from the left to the right. Not all actions are used.

Select and Place:



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

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|                                                                          |                                                                          |
|--------------------------------------------------------------------------|--------------------------------------------------------------------------|
| BPDUs received are forwarded to the system module                        | BPDUs received are forwarded to the system module                        |
| BPDUs received from the system module are processed and transmitted      | BPDUs received from the system module are processed and transmitted      |
| Frames received from the attached segment are discarded                  | Frames received from the attached segment are discarded                  |
| Frames received from the attached segment are processed                  | The port in the forwarding state responds to network management messages |
| Switched frames received from other ports are advanced                   |                                                                          |
| The port in the forwarding state responds to network management messages |                                                                          |

Explanation:

#### QUESTION 828

- (Topic 4)

Which access point mode relies on a centralized controller for management, roaming, and SSID configuration?

- A. lightweight mode
- B. autonomous mode
- C. bridge mode
- D. repeater mode

**Correct Answer: A**

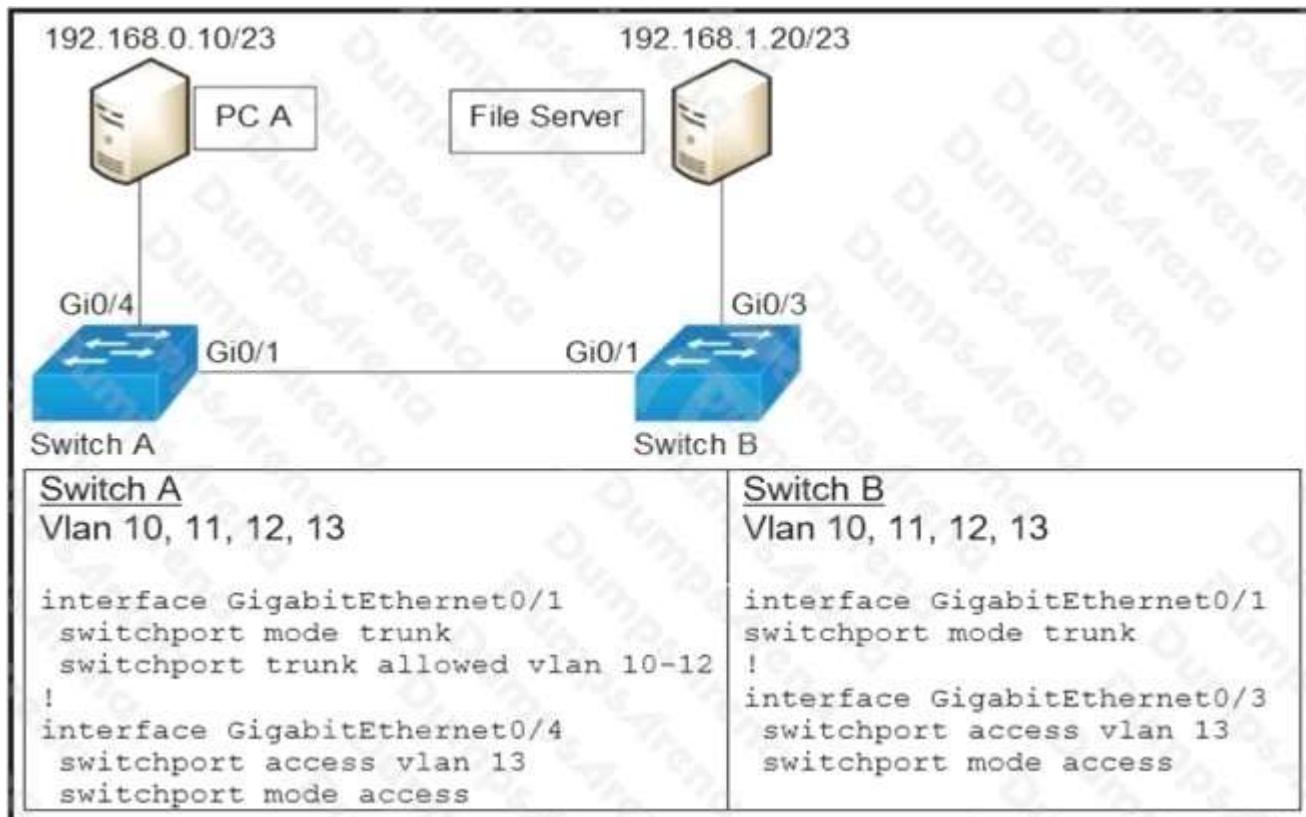
**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 829

- (Topic 4)



Refer to the exhibit. A network engineer must configure communication between PC A and the File Server. To prevent interruption for any other communications, which command must be configured?

- A. switchport truck allowed vlan 12
- B. switchport truck allowed vlan none
- C. switchport truck allowed vlan add 13
- D. switchport truck allowed vlan remove 10-11

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 830**

- (Topic 4)

```
switch(config)#interface gigabitEthernet 1/11
switch(config-if)#switchport mode access
switch(config-if)#spanning-tree portfast
switch(config-if)#spanning-tree bpduguard enable
```

Refer to the exhibit. What is the result if Gig1/11 receives an STP BPDU?

- A. The port transitions to STP blocking.
- B. The port immediately transitions to STP forwarding.
- C. The port goes into error-disable state.
- D. The port transitions to the root port.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 831**

- (Topic 4)

Which access layer threat-mitigation technique provides security based on identity?

- A. Dynamic ARP Inspection
- B. DHCP snooping
- C. 802.1x
- D. using a non-default native VLAN

**Correct Answer:** C

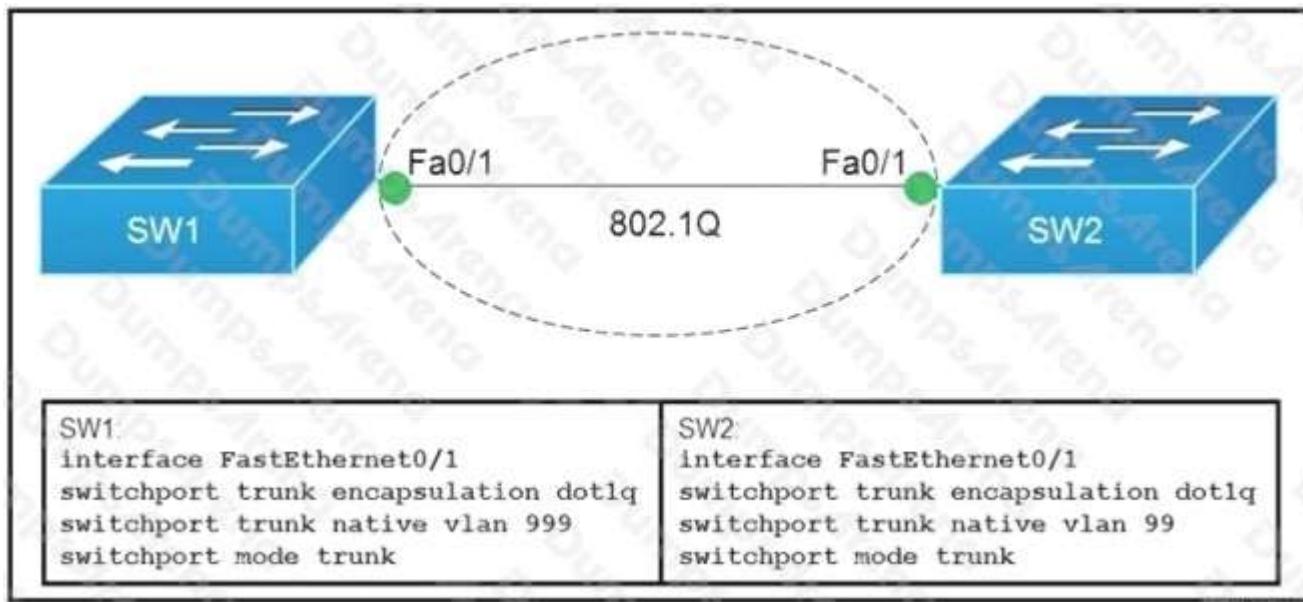
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 832**

- (Topic 4)



Refer to the exhibit. Which action do the switches take on the trunk link?

- A. The trunk does not form, and the ports go into an err-disabled status.
- B. The trunk forms, but the mismatched native VLANs are merged into a single broadcast domain.
- C. The trunk forms, but VLAN 99 and VLAN 999 are in a shutdown state.
- D. The trunk does not form, but VLAN 99 and VLAN 999 are allowed to traverse the link.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The trunk still forms with mismatched native VLANs and the traffic can actually flow between mismatched switches. But it is absolutely necessary that the native VLANs on both ends of a trunk link match; otherwise a native VLAN mismatch occurs, causing the two VLANs to effectively merge. For example with the above configuration, SW1 would send untagged frames for VLAN 999. SW2 receives them but would think they are for VLAN 99 so we can say these two VLANs are merged.

**QUESTION 833**

- (Topic 4)

A network engineer must configure two new subnets using the address block 10.70.128.0/19 to meet these requirements:

The first subnet must support 24 hosts.



The second subnet must support 472 hosts.



Both subnets must use the longest subnet mask possible from the address block.



Which two configurations must be used to configure the new subnets and meet a requirement to use the first available address in each subnet for the router interfaces? (Choose two.)

- A. interface vlan 1148 ip address 10.70.148.1 255.255.254.0
- B. interface vlan 3002 ip address 10.70.147.17 255.255.255.224
- C. interface vlan 4722 ip address 10.70.133.17 255.255.255.192
- D. interface vlan 1234 ip address 10.70.159.1 255.255.254.0
- E. interface vlan 155 ip address 10.70.155.65 255.255.255.224

**Correct Answer:** AE

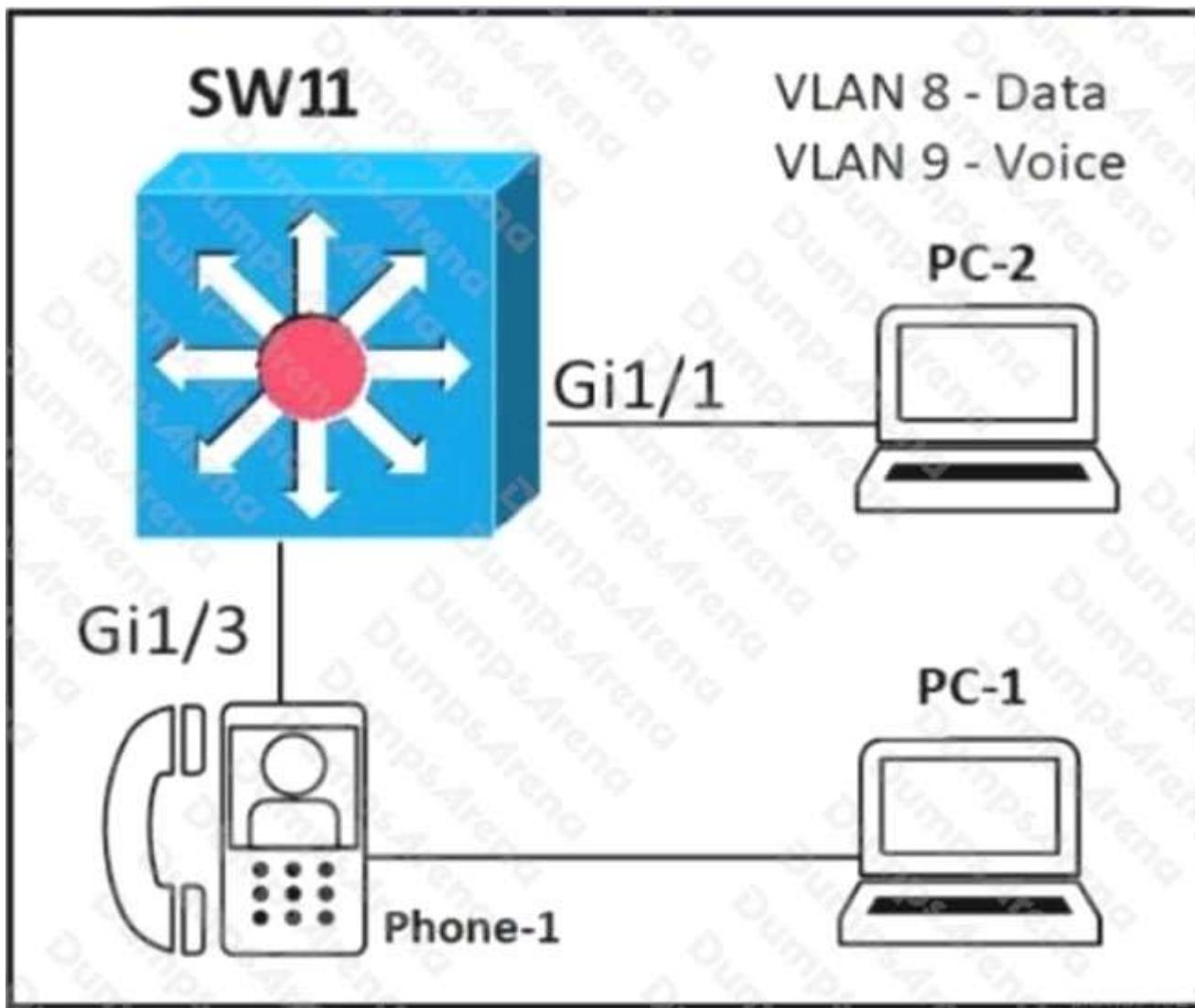
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 834**

- (Topic 4)



Refer to the exhibit. An administrator must configure interfaces Gi1/1 and Gi1/3 on switch SW11. PC-1 and PC-2 must be placed in the Data VLAN, and Phone-1 must be placed in the Voice VLAN. Which configuration meets these requirements?

- A. interface gigabitethernet1/1 switchport mode access switchport access vlan 8 !  
interface gigabitethernet1/3 switchport mode access switchport access vlan 8 switchport voice vlan 9
- B. interface gigabitethernet1/1 switchport mode access switchport access vlan 8 !  
interface gigabitethernet1/3 switchport mode trunk switchport trunk vlan 8 switchport voice vlan 9
- C. interface gigabitethernet1/1 switchport mode access switchport access vlan 9 !  
interface gigabitethernet1/3 switchport mode trunk switchport trunk vlan 8 switchport trunk vlan 9
- D. interface gigabitethernet1/1 switchport mode access switchport access vlan 8 !  
interface gigabitethernet1/3 switchport mode access switchport voice vlan 8 switchport access vlan 9

**Correct Answer:** A  
**Section:** (none)

## Explanation

Explanation/Reference:

### QUESTION 835

- (Topic 4)

The screenshot shows a network configuration interface with the following settings:

- Fast Transition:** Disable
- Protected Management Frame:** Disabled
- WPA+WPA2 Parameters:**
  - WPA Policy
  - WPA2 Policy (checked)
  - WPA2 Encryption: AES (selected)
  - TKIP
  - CCMP256
  - GCMP128
  - GCMP256
- Authentication Key Management:**
  - 802.1X: Enable
  - CCKM: Enable
  - PSK:  Enable
  - FT 802.1X: Enable
  - FT PSK: Enable

Refer to the exhibit. Users need to connect to the wireless network with IEEE 802.11r-compatible devices. The connection must be maintained as users travel between floors or to other areas in the building. What must be the configuration of the connection?

- A. Disable AES encryption.
- B. Enable Fast Transition and select the FT 802.1x option.
- C. Enable Fast Transition and select the FT PSK option.
- D. Select the WPA Policy option with the CCKM option.

**Correct Answer: B**

**Section: (none)**

**Explanation**

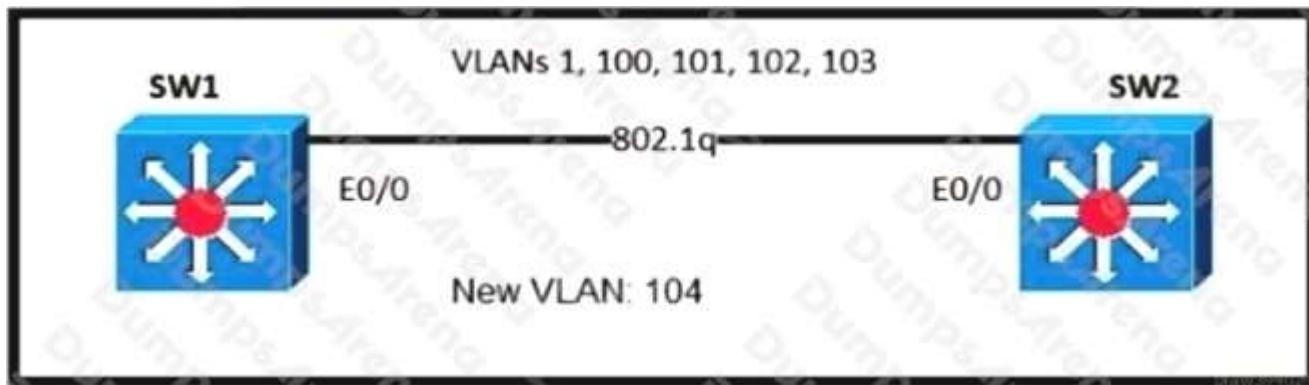
**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/dam/en/us/td/docs/wireless/controller/technotes/80211r-ft/b-80211r-dg.html>

**QUESTION 836**

- (Topic 4)



Refer to the exhibit. An engineer is asked to insert the new VLAN into the existing trunk without modifying anything previously configured. Which command accomplishes this task?

- A. switchport trunk allowed vlan 100-104
- B. switchport trunk allowed vlan 104
- C. switchport trunk allowed vlan all
- D. switchport trunk allowed vlan add 104

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 837**

- (Topic 4)

Aside from discarding, which two states does the switch port transition through while using RSTP (802.1w)? (Choose two.)

- A. blocking
- B. speaking
- C. listening
- D. learning
- E. forwarding

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/lan-switching/spanning-tree-protocol/24062-146.html>

**QUESTION 838**

- (DRAG DROP) - (Topic 4)

**DRAG DROP**

Drag and drop the facts about wireless architectures from the left onto the types of access point on the right.  
Not all options are used.

Select and Place:

**Answer Area**

configured and managed by a WLC

managed from a web-based dashboard

accessible for management via Telnet,  
SSH, or a web GUI

requires a management IP address

supports automatic deployment

**Autonomous Access Point**

|  |
|--|
|  |
|  |

**Cloud-Based Access Point**

|  |
|--|
|  |
|  |

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

**Correct Answer:**

Section: (none)

Explanation

**Explanation/Reference:**

## Answer Area

|                                                         |                                                         |
|---------------------------------------------------------|---------------------------------------------------------|
| configured and managed by a WLC                         | Autonomous Access Point                                 |
| managed from a web-based dashboard                      | accessible for management via Telnet, SSH, or a web GUI |
| accessible for management via Telnet, SSH, or a web GUI | requires a management IP address                        |
| requires a management IP address                        | Cloud-Based Access Point                                |
| supports automatic deployment                           | managed from a web-based dashboard                      |
|                                                         | supports automatic deployment                           |

Explanation:

### QUESTION 839

- (Topic 4)

Which interface mode must be configured to connect the lightweight APs in a centralized architecture?

- A. WLAN dynamic
- B. trunk
- C. access
- D. management

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/69719-wlc-lwap-config.html>

Topic 5, IP Connectivity

### QUESTION 840

- (Topic 5)

Refer to the exhibit. Router R1 is running three different routing protocols. Which route characteristic is used by the router to forward the packet that it receives for destination IP 172.16.32.1?

```
R1# show ip route
...
D 172.16.32.0/27      [90/2888597172] via 20.1.1.1
O 172.16.32.0/19      [110/292094] via 20.1.1.10
R 172.16.32.0/24      [120/2] via 20.1.1.3
```

- A. longest prefix
- B. administrative distance
- C. cost
- D. metric

**Correct Answer:** A

**Section:** (none)

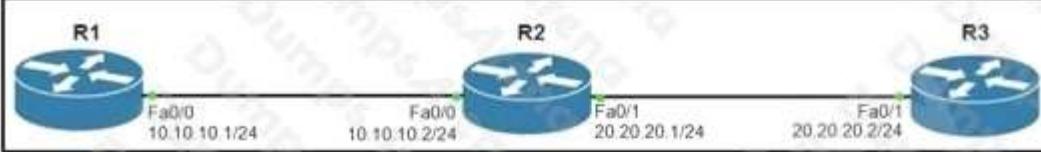
**Explanation**

**Explanation/Reference:**

#### **QUESTION 841**

- (Topic 5)

Refer to the exhibit. Router R1 Fa0/0 cannot ping router R3 Fa0/1. Which action must be taken in router R1 to help resolve the configuration issue?



R1#show ip route

Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, 0 - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - DDR, P - periodic downloaded static route

Gateway of last resort is not set

10.0.0.0/24 is subnetted, 1 subnets  
C 10.10.10.0 is directly connected, FastEthernet0/0

R2#show ip route

Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, 0 - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - DDR, P - periodic downloaded static route

Gateway of last resort is not set

20.0.0.0/24 is subnetted, 1 subnets  
C 20.20.20.0 is directly connected, FastEthernet0/1  
10.0.0.0/24 is subnetted, 1 subnets  
S 10.10.10.0 (1/0) via 20.20.20.1

R2#show ip route

Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, 0 - OSPF, IA - OSPF inter area  
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
E1 - OSPF external type 1, E2 - OSPF external type 2  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2  
ia - IS-IS inter area, \* - candidate default, U - per-user static route  
o - DDR, P - periodic downloaded static route

Gateway of last resort is not set

20.0.0.0/24 is subnetted, 1 subnets  
C 20.20.20.0 is directly connected, FastEthernet0/1  
10.0.0.0/24 is subnetted, 1 subnets  
C 10.10.10.0 is directly connected, FastEthernet0/0

A. set the default gateway as 20.20.20.2

B. configure a static route with Fa0/1 as the egress interface to reach the 20.20.2.0/24 network

C. configure a static route with 10.10.10.2 as the next hop to reach the 20.20.20.0/24 network

D. set the default network as 20.20.20.0/24

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 842

- (Topic 5)

By default, how does EIGRP determine the metric of a route for the routing table?

A. It uses the bandwidth and delay values of the path to calculate the route metric.

B. It uses a default metric of 10 for all routes that are learned by the router.

C. It counts the number of hops between the receiving and destination routers and uses that value as the metric.

D. It uses a reference bandwidth and the actual bandwidth of the connected link to calculate the route metric.

**Correct Answer:** A

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 843**

- (Topic 5)

Router R1 must send all traffic without a matching routing-table entry to 192.168.1.1. Which configuration accomplishes this task?

- A. R1#onfig t  
R1(config)#ip routing  
R1(config)#ip route default-route 192.168.1.1
- B. R1#onfig t  
R1(config)#ip routing  
R1(config)#ip route 192.168.1.1 0.0.0.0 0.0.0.0
- C. R1#onfig t  
R1(config)#ip routing  
R1(config)#ip route 0.0.0.0 0.0.0.0 192.168.1.1
- D. R1#onfig t  
R1(config)#ip routing  
R1(config)#ip default-gateway 192.168.1.1

**Correct Answer:** C

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 844**

- (Topic 5)

A packet is destined for 10.10.1.22. Which static route does the router choose to forward the packet?

- A. ip route 10.10.1.0 255.255.255.240 10.10.255.1
- B. ip route 10.10.1.20 255.255.255.252 10.10.255.1
- C. ip route 10.10.1.16 255.255.255.252 10.10.255.1
- D. ip route 10.10.1.20 255.255.255.254 10.10.255.1

**Correct Answer:** B

**Section:** (none)

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 845**

- (Topic 5)

```
EIGRP: 192.168.12.0/24  
RIP: 192.168.12.0/27  
OSPF: 192.168.12.0/28
```

Refer to the exhibit. How does the router manage traffic to 192.168.12.16?

- A. It chooses the EIGRP route because it has the lowest administrative distance.
- B. It load-balances traffic between all three routes.
- C. It chooses the OSPF route because it has the longest prefix inclusive of the destination address.
- D. It selects the RIP route because it has the longest prefix inclusive of the destination address.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 846**

- (Topic 5)

What are two reasons for an engineer to configure a floating static route? (Choose two.)

- A. to enable fallback static routing when the dynamic routing protocol fails
- B. to route traffic differently based on the source IP of the packet
- C. to automatically route traffic on a secondary path when the primary path goes down
- D. to support load balancing via static routing
- E. to control the return path of traffic that is sent from the router

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 847**

- (Topic 5)

```
R1# show ip route  
  
D 192.168.10.0/24      [90/2679326] via 192.168.1.1  
R 192.168.10.0/27      [120/3] via 192.168.1.2  
O 192.168.10.0/23      [110/2] via 192.168.1.3  
i L1 192.168.10.0/13    [115/30] via 192.168.1.4
```

Refer to the exhibit. How does router R1 handle traffic to 192.168.10.16?

- A. It selects the IS-IS route because it has the shortest prefix inclusive of the destination address
- B. It selects the RIP route because it has the longest prefix inclusive of the destination address
- C. It selects the OSPF route because it has the lowest cost
- D. It selects the EIGRP route because it has the lowest administrative distance

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 848**

- (Topic 5)

IBGP route 10.0.0.0/30  
RIP route 10.0.0.0/30  
OSPF route 10.0.0.0/16  
OSPF route 10.0.0.0/30  
EIGRP route 10.0.0.1/32

Refer to the exhibit. A router received these five routes from different routing information sources. Which two routes does the router install in its routing table? (Choose two.)

- A. OSPF route 10.0.0.0/30
- B. IBGP route 10.0.0.0/30
- C. OSPF route 10.0.0.0/16
- D. EIGRP route 10.0.0.1/32
- E. RIP route 10.0.0.0/30

**Correct Answer:** AD

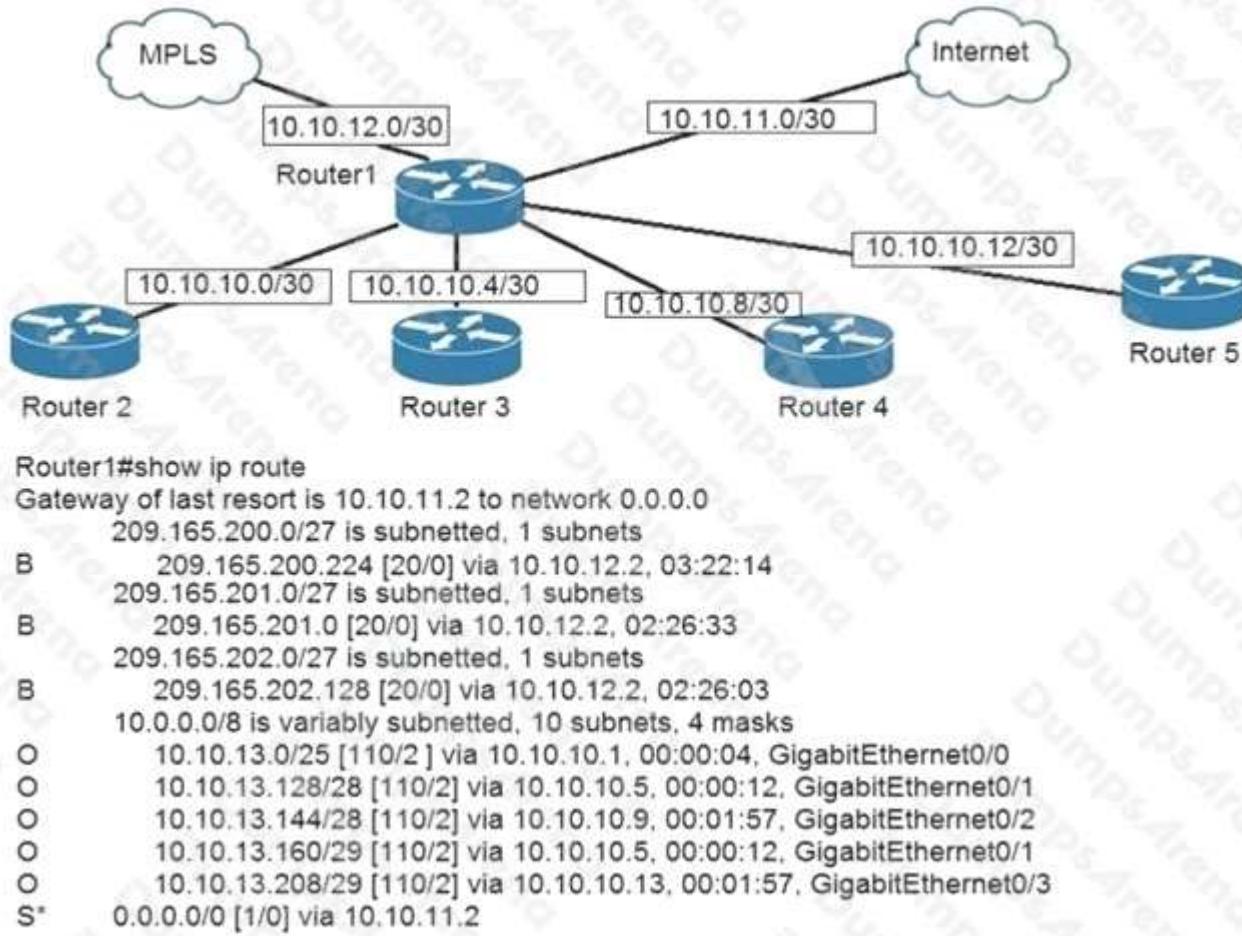
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 849**

- (Topic 5)



Refer to the exhibit. To which device does Router1 send packets that are destined to host 10.10.13.165?

- A. Router2
- B. Router3
- C. Router4
- D. Router5

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 850

- (Topic 5)

R1 has learned route 10.10.10.0/24 via numerous routing protocols. Which route is installed?

- A. route with the next hop that has the highest IP
- B. route with the lowest cost

- C. route with the lowest administrative distance
- D. route with the shortest prefix length

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 851

- (Topic 5)

Which two minimum parameters must be configured on an active interface to enable OSPFv2 to operate?  
(Choose two.)

- A. OSPF process ID
- B. OSPF MD5 authentication key
- C. OSPF stub flag
- D. IPv6 address
- E. OSPF area

**Correct Answer:** AE

**Section:** (none)

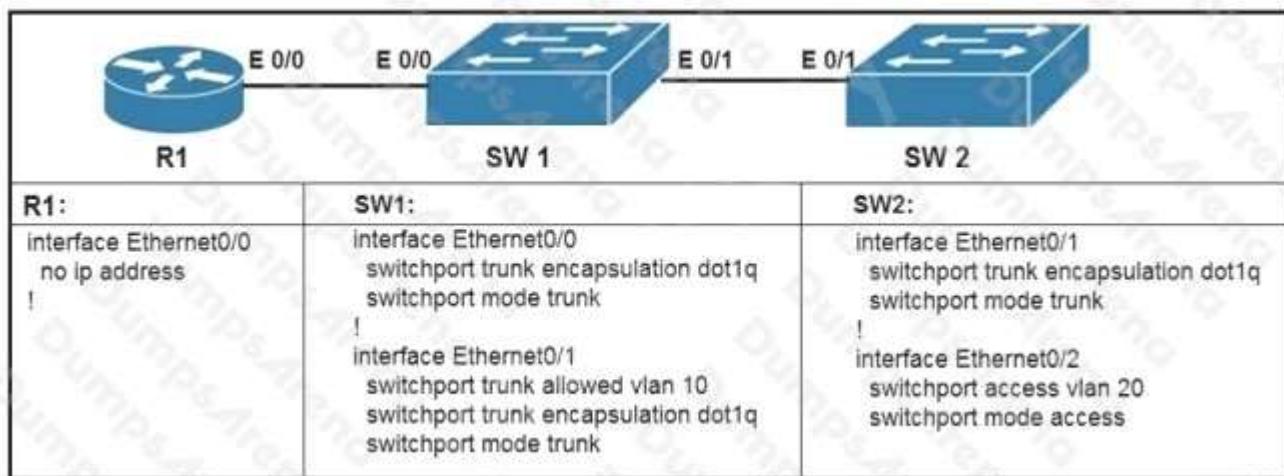
**Explanation**

**Explanation/Reference:**

#### QUESTION 852

- (Topic 5)

Refer to the exhibit. What commands are needed to add a subinterface to Ethernet0/0 on R1 to allow for VLAN 20, with IP address 10.20.20.1/24?



- A. R1(config)#interface ethernet0/0  
R1(config-if)#encapsulation dot1q 20

- R1(config-if)#ip address 10.20.20.1 255.255.255.0
- B. R1(config)#interface ethernet0/0.20  
 R1(config-if)#encapsulation dot1q 20  
 R1(config-if)#ip address 10.20.20.1 255.255.255.0
- C. R1(config)#interface ethernet0/0.20  
 R1(config-if)#ip address 10.20.20.1 255.255.255.0
- D. R1(config)#interface ethernet0/0  
 R1(config-if)#ip address 10.20.20.1 255.255.255.0

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 853

- (Topic 5)

| R1#show ip interface brief |              |     |        |                       |          |  |
|----------------------------|--------------|-----|--------|-----------------------|----------|--|
| Interface                  | IP-Address   | OK? | Method | Status                | Protocol |  |
| FastEthernet0/0            | unassigned   | YES | NVRAM  | administratively down | down     |  |
| GigabitEthernet1/0         | 192.168.0.1  | YES | NVRAM  | up                    | up       |  |
| GigabitEthernet2/0         | 10.10.1.10   | YES | manual | up                    | up       |  |
| GigabitEthernet3/0         | 10.10.10.20  | YES | manual | up                    | up       |  |
| GigabitEthernet4/0         | unassigned   | YES | NVRAM  | administratively down | down     |  |
| Loopback0                  | 172.16.15.10 | YES | manual |                       |          |  |

Refer to the exhibit. What does router R1 use as its OSPF router-ID?

- A. 10.10.1.10  
 B. 10.10.10.20  
 C. 172.16.15.10  
 D. 192.168.0.1

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**Explanation:**

OSPF uses the following criteria to select the router ID:

1. Manual configuration of the router ID (via the "router-id x.x.x.x" command under OSPF router configuration mode).
2. Highest IP address on a loopback interface.
3. Highest IP address on a non-loopback and active (no shutdown) interface.

### QUESTION 854

- (Topic 5)



Refer to the exhibit. The loopback1 interface of the Atlanta router must reach the loopback3 interface of the Washington router. Which two static host routes must be configured on the New York router?

(Choose two.)

- A. ipv6 route 2000::3/128 s0/0/0
- B. ipv6 route 2000::1/128 s0/0/1
- C. ipv6 route 2000::1/128 2012::1
- D. ipv6 route 2000::1/128 2012::2
- E. ipv6 route 2000::3/128 2023::3

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 855

- (Topic 5)



```

Router1(config)#interface GigabitEthernet1/1
Router1(config-if)#description ***Connection to Router2***
Router1(config-if)#ip address 10.10.10.1 255.255.255.252
Router1(config-if)#ip ospf hello-interval 5
Router1(config)#router ospf 1000
Router1(config-router)#router-id 1.1.1.1
Router1(config-router)#network 10.10.10.0 0.0.0.3 area 0

Router2(config)#interface GigabitEthernet1/1
Router2(config-if)#description ***Connection to Router1***
Router2(config-if)#ip address 10.10.10.2 255.255.255.252
Router2(config)#router ospf 1001
Router2(config-router)#router-id 2.2.2.2
Router2(config-router)#network 10.10.10.0 0.0.0.3 area 0
Router2(config-router)#passive-interface default
Router2(config-router)#no passive-interface GigabitEthernet1/1

```

Refer to the exhibit. After the configuration is applied, the two routers fail to establish an OSPF neighbor relationship. What is the reason for the problem?

- A. The OSPF process IDs are mismatched
- B. The network statement on Router1 is misconfigured
- C. Router2 is using the default hello timer
- D. The OSPF router IDs are mismatched

**Correct Answer:** C

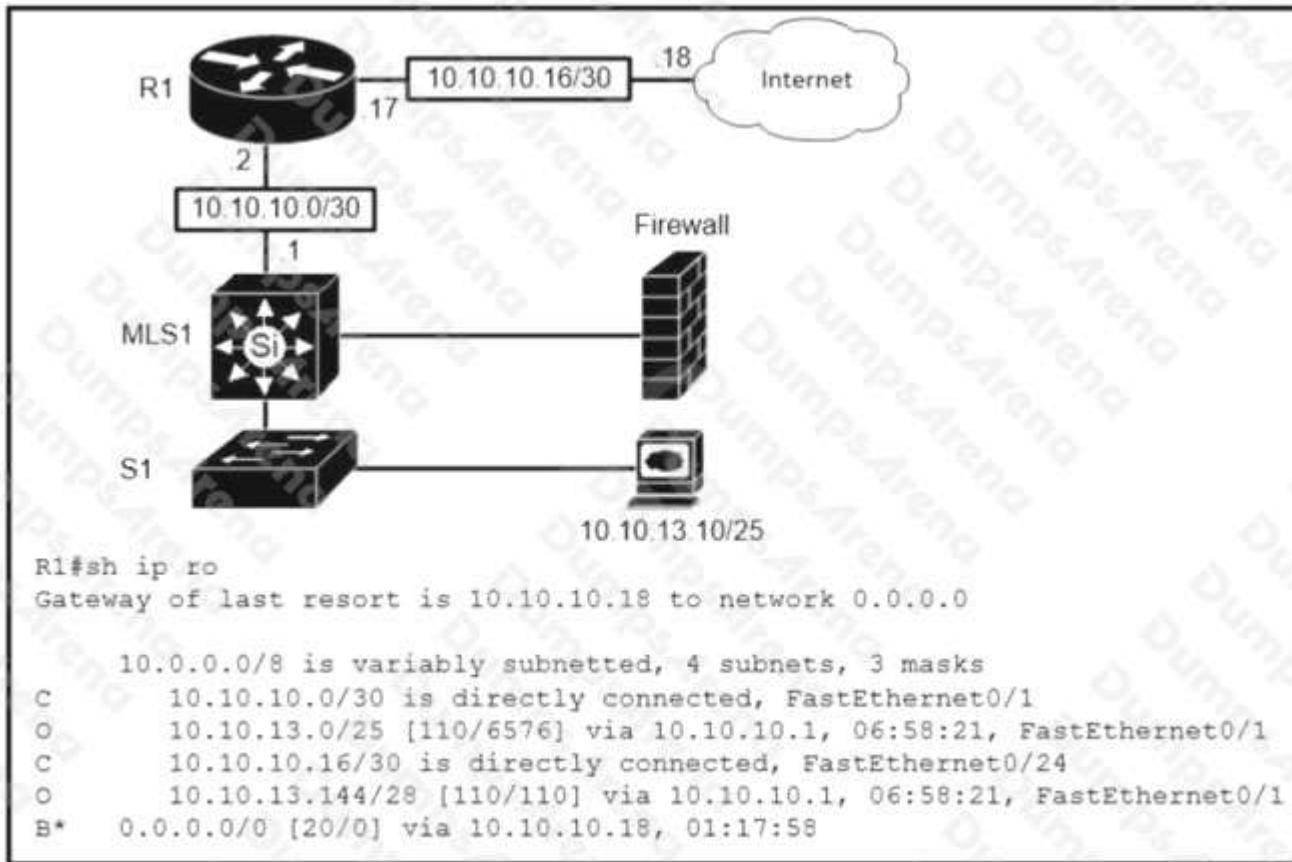
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 856

- (Topic 5)



Refer to the exhibit. Which route type is configured to reach the Internet?

- A. floating static route
- B. host route
- C. network route
- D. default route

**Correct Answer:** D

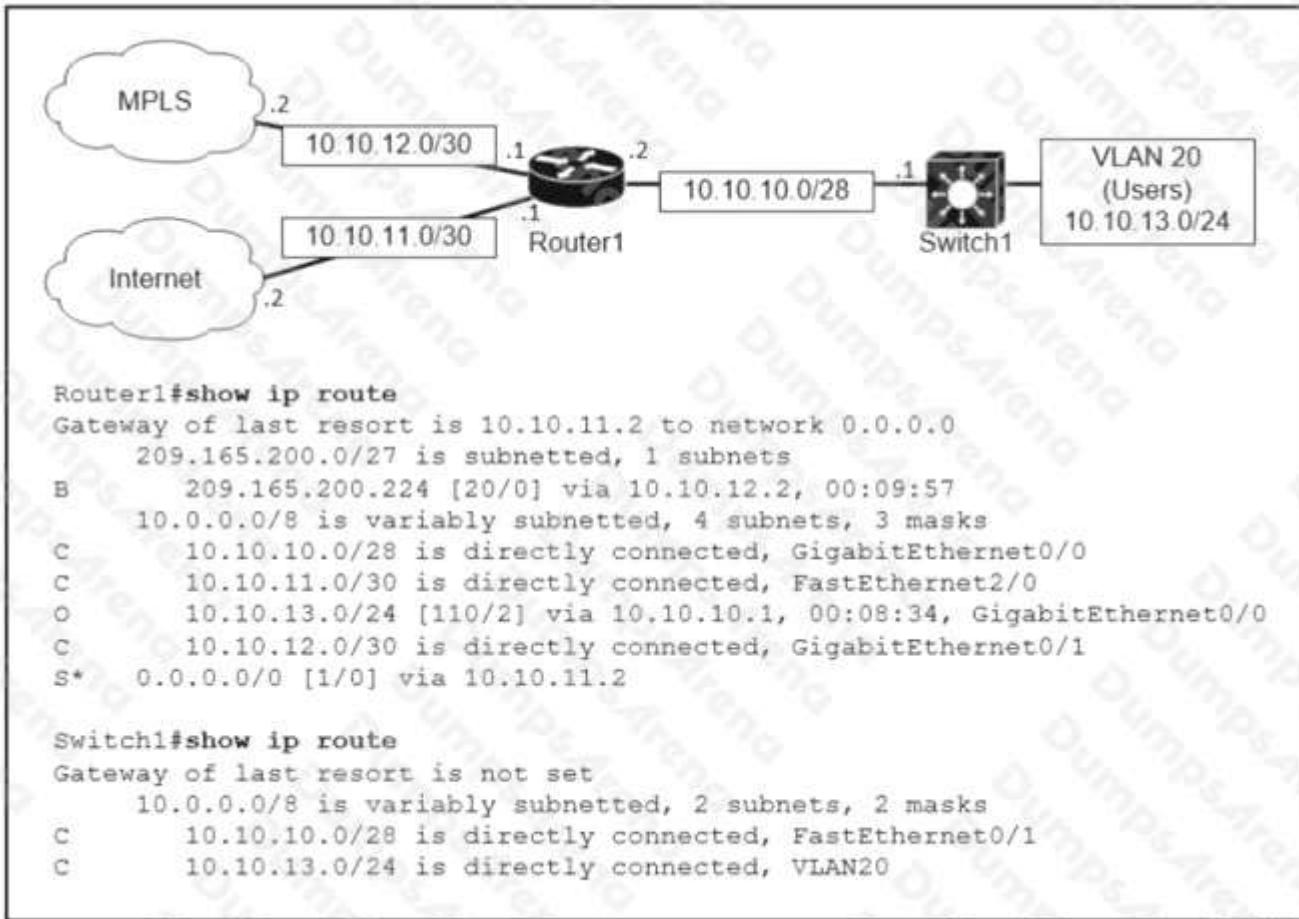
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 857

- (Topic 5)



Refer to the exhibit. Which path is used by the router for Internet traffic?

- A. 209.165.200.0/27
- B. 0.0.0.0/0
- C. 10.10.13.0/24
- D. 10.10.10.0/28

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 858

- (Topic 5)

When OSPF learns multiple paths to a network, how does it select a route?

- A. For each existing interface, it adds the metric from the source router to the destination to calculate the route with the lowest bandwidth.
- B. It counts the number of hops between the source router and the destination to determine the route with the lowest metric.
- C. It divides a reference bandwidth of 100 Mbps by the actual bandwidth of the exiting interface to calculate the route with the lowest cost.
- D. It multiplies the active K values by 256 to calculate the route with the lowest metric.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 859**

- (Topic 5)

When a floating static route is configured, which action ensures that the backup route is used when the primary route fails?

- A. The administrative distance must be higher on the primary route so that the backup route becomes secondary.
- B. The default-information originate command must be configured for the route to be installed into the routing table.
- C. The floating static route must have a lower administrative distance than the primary route so it is used as a backup.
- D. The floating static route must have a higher administrative distance than the primary route so it is used as a backup

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 860**

- (Topic 5)

**Designated Router (ID) 10.11.11.11, Interface address 10.10.10.1**  
**Backup Designated router (ID) 10.3.3.3, Interface address 10.10.10.3**  
**Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5**  
**oob-resync timeout 40**  
**Hello due in 00:00:08**  
**Supports Link-local Signaling (LLS)**  
**Cisco NSF helper support enabled**  
**IETF NSF helper support enabled**  
**Index 1/1/1, flood queue length 0**  
**Next 0x0(0)/0x0(0)/0x0(0)**  
**Last flood scan length is 1, maximum is 6**  
**Last flood scan time is 0 msec, maximum is 1 msec**  
**Neighbor Count is 3, Adjacent neighbor count is 3**  
**Adjacent with neighbor 10.1.1.4**  
**Adjacent with neighbor 10.2.2.2**  
**Adjacent with neighbor 10.3.3.3 (Backup Designated Router)**  
**Suppress hello for 0 neighbor(s)**

Refer to the exhibit. The show ip ospf interface command has been executed on R1. How is OSPF configured?

- A. A point-to-point network type is configured.
- B. The interface is not participating in OSPF.
- C. The default Hello and Dead timers are in use.
- D. There are six OSPF neighbors on this interface.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

From the output we can see there are Designated Router & Backup Designated Router for this OSPF domain so this is a broadcast network (point-to-point and point-to-multipoint networks do not elect DR & BDR).

By default, the timers on a broadcast network (Ethernet, point-to-point and point-to-multipoint) are 10 seconds hello and 40 seconds dead. The timers on a non-broadcast network are 30 seconds hello 120 seconds dead.

From the line "Neighbor Count is 3", we learn there are four OSPF routers in this OSPF domain.

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/13689-17.html>

**QUESTION 861**

- (Topic 5)

A user configured OSPF and advertised the Gigabit Ethernet interface in OSPF. By default, to which type of

OSPF network does this interface belong?

- A. point-to-multipoint
- B. point-to-point
- C. broadcast
- D. nonbroadcast

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Broadcast network type is the default for an OSPF enabled ethernet interface (while Point-to-Point is the default OSPF network type for Serial interface with HDLC and PPP encapsulation).

Reference: <https://www.oreilly.com/library/view/cisco-ios-cookbook/0596527225/ch08s15.html>

**QUESTION 862**

- (Topic 5)

Which attribute does a router use to select the best path when two or more different routes to the same destination exist from two different routing protocols?

- A. dual algorithm
- B. metric
- C. administrative distance
- D. hop count

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Administrative distance is the feature used by routers to select the best path when there are two or more different routes to

the same destination from different routing protocols. Administrative distance defines the reliability of a routing protocol.

**QUESTION 863**

- (Topic 5)

Router A learns the same route from two different neighbors; one of the neighbor routers is an OSPF neighbor, and the other is an EIGRP neighbor.

What is the administrative distance of the route that will be installed in the routing table?

- A. 20
- B. 90
- C. 110
- D. 115

**Correct Answer:** B

**Section:** (none)

**Explanation**

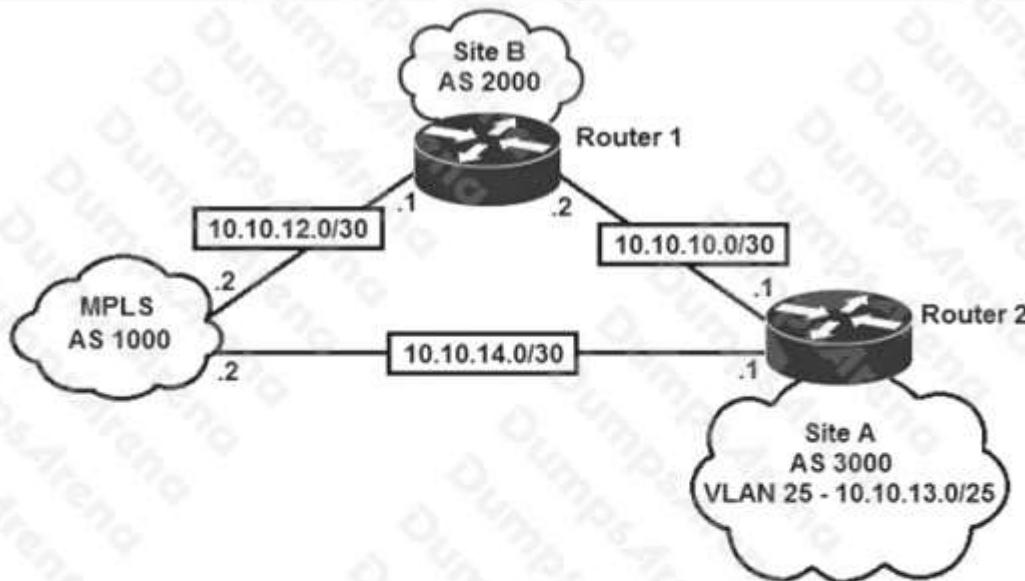
**Explanation/Reference:**

Explanation:

The Administrative distance (AD) of EIGRP is 90 while the AD of OSPF is 110 so EIGRP route will be chosen to install into the routing table.

#### QUESTION 864

- (Topic 5)



```
Router1#show ip route
Gateway of last resort is 10.10.11.2 to network 0.0.0.0
    10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks
C      10.10.10.0/28 is directly connected, GigabitEthernet0/0
C      10.10.11.0/30 is directly connected, FastEthernet2/0
O      10.10.13.0/25 [110/2] via 10.10.10.1, 00:00:17, GigabitEthernet0/0
O      10.10.13.128/28 [110/2] via 10.10.10.1, 00:33:38, GigabitEthernet0/0
O      10.10.13.144/28 [110/2] via 10.10.10.1, 00:33:38, GigabitEthernet0/0
O      10.10.13.160/29 [110/2] via 10.10.10.1, 00:33:38, GigabitEthernet0/0
O      10.10.13.208/29 [110/2] via 10.10.10.1, 00:33:39, GigabitEthernet0/0
O      10.10.13.252/30 [110/2] via 10.10.10.1, 00:33:39, GigabitEthernet0/0
S*    0.0.0.0/0 [1/0] via 10.10.11.2
```

Refer to the exhibit. An engineer is bringing up a new circuit to the MPLS provider on the Gi0/1 interface of Router 1. The new circuit uses eBGP and learns the route to VLAN25 from the BGP path.

What is the expected behavior for the traffic flow for route 10.10.13.0/25?

- A. Traffic to 10.10.13.0/25 is load balanced out of multiple interfaces.
- B. Traffic to 10.10.13.0/25 is asymmetrical.
- C. Route 10.10.13.0/25 is updated in the routing table as being learned from interface Gi0/1.
- D. Route 10.10.13.0/25 learned via the Gi0/0 interface remains in the routing table.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

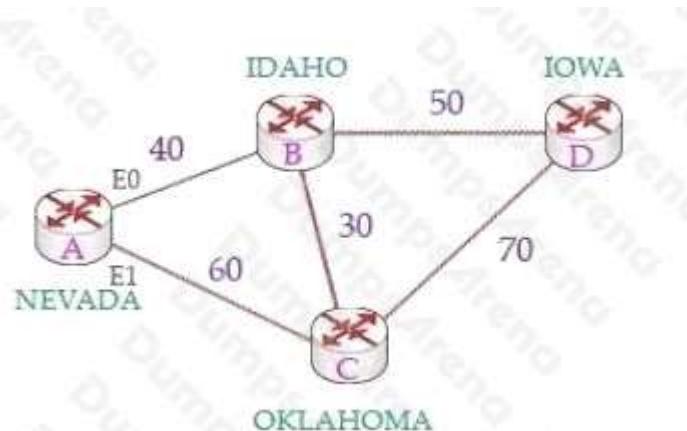
The AD of eBGP (20) is smaller than that of OSPF (110) so the route to 10.10.13.0/25 will be updated as being learned from the new BGP path.

#### QUESTION 865

- (Topic 5)

Which two actions influence the EIGRP route selection process? (Choose two.)

- A. The advertised distance is calculated by a downstream neighbor to inform the local router of the bandwidth on the link.  
Router A considers the first metric (50) as the Advertised distance. The second metric (90), which is from NEVADA to IOWA (through IDAHO), is called the Feasible distance.



The reported distance is calculated in the same way of calculating the metric. By default ( $K1 = 1$ ,  $K2 = 0$ ,  $K3 = 1$ ,  $K4 = 0$ ,  $K5 = 0$ ), the metric is calculated as follows:

$$metric = \left[ \frac{10,000,000}{\text{slowest bandwidth}[in kbps]} + \frac{\text{sum of delay}[in \mu\text{sec}]}{10} \right] * 256$$

Feasible successor is the backup route. To be a feasible successor, the route must have an Advertised distance (AD) less than the Feasible distance (FD) of the current successor route.

Feasible distance (FD): The sum of the AD plus the cost between the local router and the next-hop router. The router must calculate the FD of all paths to choose the best path to put into the routing table.

Note: Although the new CCNA exam does not have EIGRP topic but you should learn the basic knowledge of this routing protocol.

- B. The router calculates the feasible distance of all paths to the destination route.
- C. The router must use the advertised distance as the metric for any given route.
- D. The router calculates the best backup path to the destination route and assigns it as the feasible successor.
- E. The router calculates the reported distance by multiplying the delay on the exiting interface by 256.

**Correct Answer:** BD

**Section:** (none)

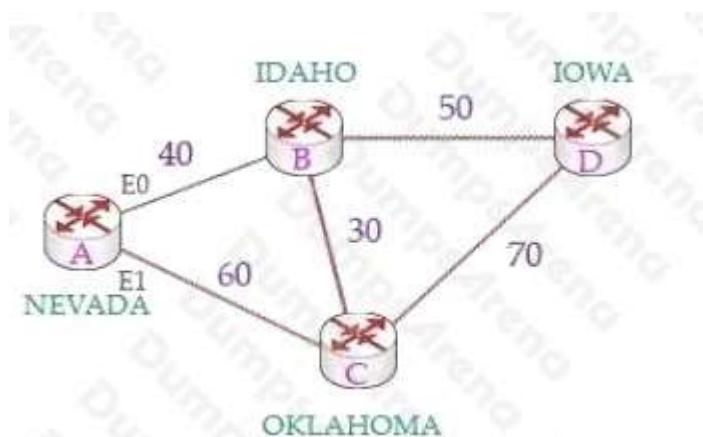
**Explanation**

**Explanation/Reference:**

Explanation:

The reported distance (or advertised distance) is the cost from the neighbor to the destination. It is calculated from the router advertising the route to the network. For example in the topology below, suppose router A & B are exchanging their routing tables for the first time. Router B says "Hey, the best metric (cost) from me to IOWA is 50 and the metric from you to IOWA is 90" and advertises it to router

- A. Router A considers the first metric (50) as the Advertised distance. The second metric (90), which is from NEVADA to IOWA (through IDAHO), is called the Feasible distance.



The reported distance is calculated in the same way of calculating the metric. By default (K1 = 1, K2 = 0, K3 =

1, K4 = 0, K5 = 0), the metric is calculated as follows:

$$\text{metric} = \left[ \frac{10,000,000}{\text{slowest bandwidth[in kbps]}} + \frac{\text{sum of delay[in } \mu\text{sec}]}{10} \right] * 256$$

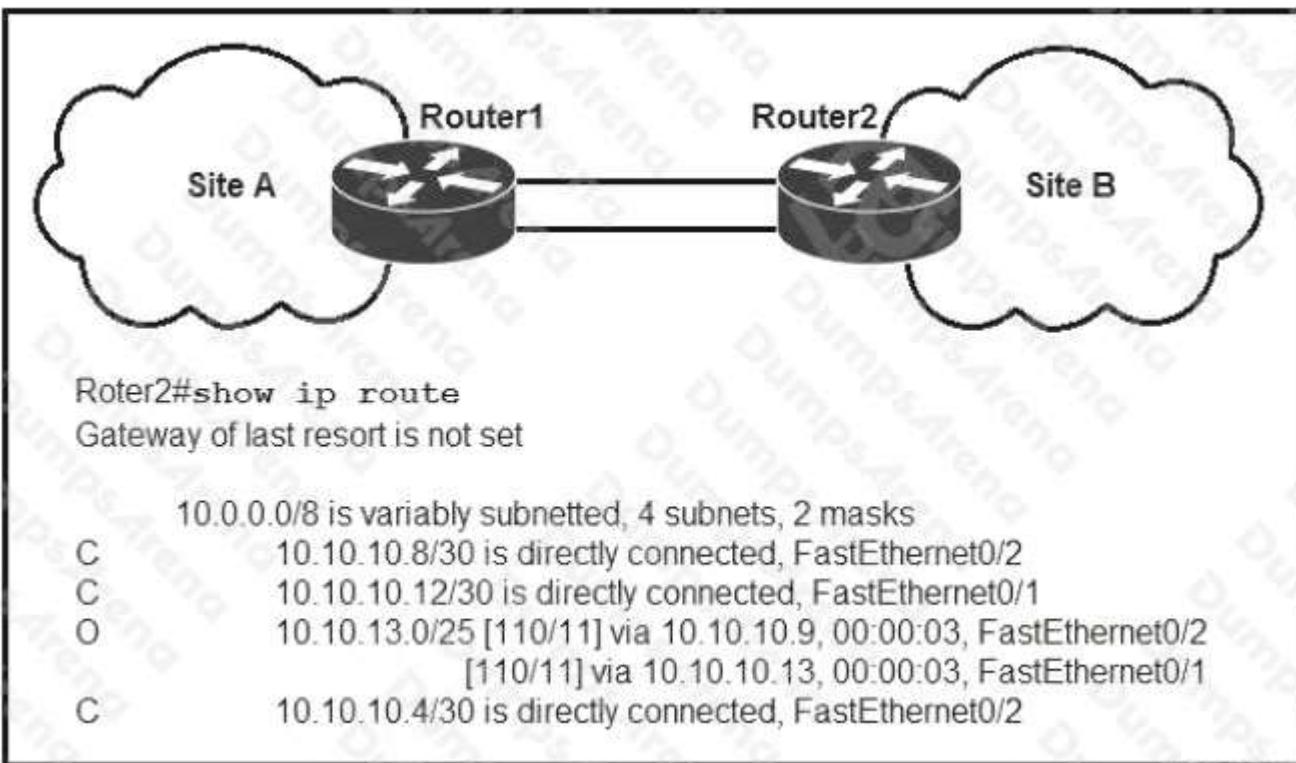
Feasible successor is the backup route. To be a feasible successor, the route must have an Advertised distance (AD) less than the Feasible distance (FD) of the current successor route.

Feasible distance (FD): The sum of the AD plus the cost between the local router and the next-hop router. The router must calculate the FD of all paths to choose the best path to put into the routing table.

Note: Although the new CCNA exam does not have EIGRP topic but you should learn the basic knowledge of this routing protocol.

#### QUESTION 866

- (Topic 5)



Refer to the exhibit. If OSPF is running on this network, how does Router2 handle traffic from Site B to 10.10.13.128/25 at Site A?

- A. It sends packets out of interface Fa0/1 only.
- B. It sends packets out of interface Fa0/2 only.
- C. It load-balances traffic out of Fa0/1 and Fa0/2.
- D. It cannot send packets to 10.10.13.128/25.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Router2 does not have an entry for the subnet 10.10.13.128/25. It only has an entry for 10.10.13.0/25, which ranges from 10.10.13.0 to 10.10.13.127.

**QUESTION 867**

- (Topic 5)

Which two outcomes are predictable behaviors for HSRP? (Choose two.)

- A. The two routers negotiate one router as the active router and the other as the standby router.
- B. The two routers share the same interface IP address, and default gateway traffic is load-balanced between them.
- C. The two routers synchronize configurations to provide consistent packet forwarding.
- D. Each router has a different IP address, both routers act as the default gateway on the LAN, and traffic is load-balanced between them.
- E. The two routers share a virtual IP address that is used as the default gateway for devices on the LAN.

**Correct Answer:** AE

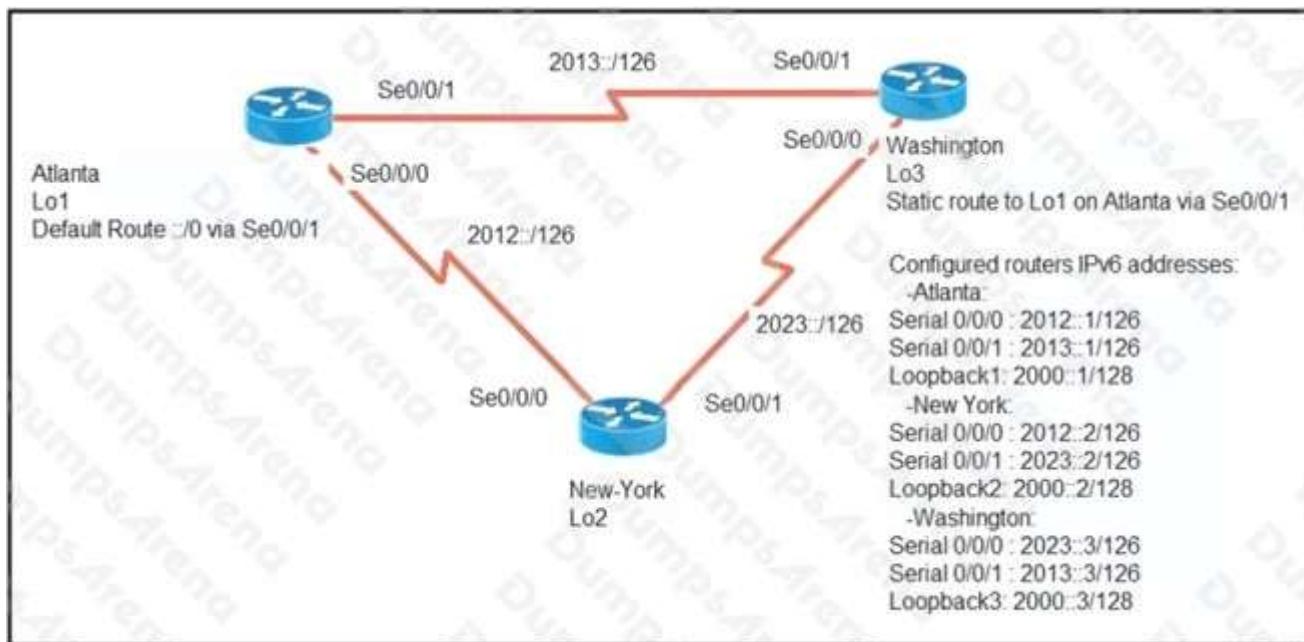
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 868**

- (Topic 5)



Refer to the exhibit. An engineer is configuring the New York router to reach the Lo1 interface of the Atlanta router using interface Se0/0/0 as the primary path. Which two commands must be configured on the New York router so that it reaches the Lo1 interface of the Atlanta router via Washington when the link between New York and Atlanta goes down? (Choose two.)

- A. Ipv6 route 2000::1/128 2012::1
- B. Ipv6 route 2000::1/128 2012::1 5
- C. Ipv6 route 2000::1/128 2012::2
- D. Ipv6 route 2000::1/128 2023::2 5
- E. Ipv6 route 2000::1/128 2023::3 5

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Floating static routes are static routes that have an administrative distance greater than the administrative distance (AD) of another static route or dynamic routes. By default a static route has an AD of 1 then floating static route must have the AD

greater than 1. Floating static route has a manually configured administrative distance greater than that of the primary route and therefore would not be in the routing table until the primary route fails.

#### QUESTION 869

- (Topic 5)

How does HSRP provide first hop redundancy?

- A. It load-balances Layer 2 traffic along the path by flooding traffic out all interfaces configured with the same VLAN.
- B. It uses a shared virtual MAC and a virtual IP address to a group of routers that serve as the default gateway

for hosts on a LAN.

- C. It forwards multiple packets to the same destination over different routed links in the data path.
- D. It load-balances traffic by assigning the same metric value to more than one route to the same destination in the IP routing table.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference:

[https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipapp\\_fhrp/configuration/xe-16/fhp-xe-16-book/fhp-hsrpmgo.html](https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipapp_fhrp/configuration/xe-16/fhp-xe-16-book/fhp-hsrpmgo.html)

**QUESTION 870**

- (Topic 5)

Refer to the exhibit. Which action establishes the OSPF neighbor relationship without forming an adjacency?

```
R1# sh ip ospf int gig0/0
Gig0/0 is up, line protocol is up
    Internet Address 10.201.24.8/28, Area 1, Attached via Network Statement
    Process ID 100, Router ID 192.168.1.1, Network Type BROADCAST, Cost: 1
    Topology-MTID      Cost      Disabled      Shutdown      Topology Name
        0              1          no            no            Base
    Transmit Delay is 1 sec, State DR, Priority 1
    Designated Router (ID) 192.168.1.1, Interface address 10.201.24.8
    No backup designated router on this network
    Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
        oob-resync timeout 40
        Hello due in 00:00:07

R2#sh ip ospf int gig0/0
gig0/0 is up, line protocol is up
    Internet Address 10.201.24.1/28, Area 1
    Process ID 100, Router ID 172.16.1.1, Network Type BROADCAST, Cost: 1
    Transmit Delay is 1 sec, State DR, Priority 1
    Designated Router (ID) 172.16.1.1, Interface address 10.201.24.1
    No backup designated router on this network
    Timer intervals configured, Hello 20, Dead 80, Wait 80, Retransmit 5
```

- A. modify hello interval
- B. modify process ID

- C. modify priority
- D. modify network type

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 871**

- (Topic 5)

Which command must you enter to guarantee that an HSRP router with higher priority becomes the HSRP primary router after it is reloaded?

- A. standby 10 preempt
- B. standby 10 version 1
- C. standby 10 priority 150
- D. standby 10 version 2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The "preempt" command enables the HSRP router with the highest priority to immediately become the active router.

**QUESTION 872**

- (Topic 5)

Which command should you enter to verify the priority of a router in an HSRP group?

- A. show hsrp
- B. show sessions
- C. show interfaces
  
- D. show standby

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The following is sample output from the show standby command:

```
Router# show standby

Ethernet0/1 - Group 1
  State is Active
    2 state changes, last state change 00:30:59
  Virtual IP address is 10.1.0.20
    Secondary virtual IP address 10.1.0.21
  Active virtual MAC address is 0004.4d82.7981
  Local virtual MAC address is 0004.4d82.7981 (bia)
  Hello time 4 sec, hold time 12 sec
    Next hello sent in 1.412 secs
  Gratuitous ARP 14 sent, next in 7.412 secs
  Preemption enabled, min delay 50 sec, sync delay 40 sec
  Active router is local
  Standby router is 10.1.0.6, priority 75 (expires in 9.184 sec)
  Priority 95 (configured 120)
  Tracking 2 objects, 0 up
    Down Interface Ethernet0/2, pri 15
    Down Interface Ethernet0/3
  Group name is "HSRP1" (cfgd)
  Follow by groups:
    Et1/0.3 Grp 2 Active 10.0.0.254 0000.0c07.ac02 refresh 30 secs (nex
    Et1/0.4 Grp 2 Active 10.0.0.254 0000.0c07.ac02 refresh 30 secs (nex
  Group name is "HSRP1", advertisement interval is 34 sec
```

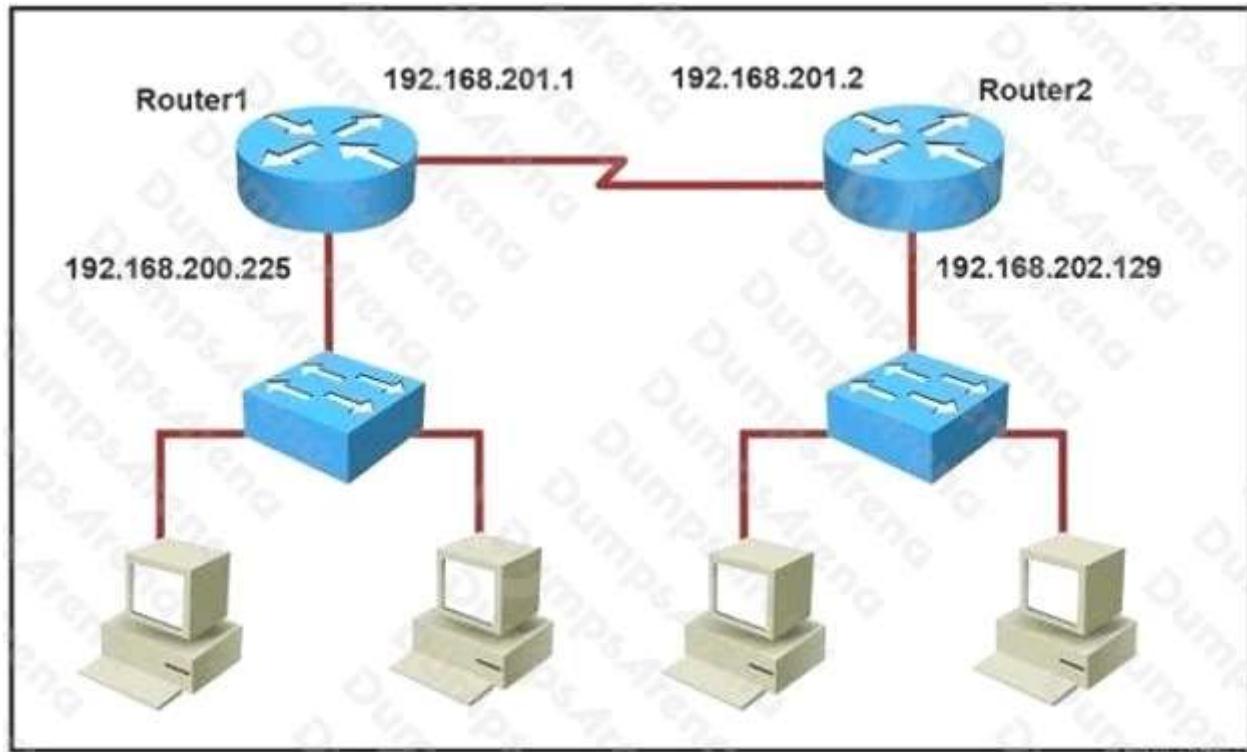
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# DUMPS ARENA

## QUESTION 873

- (Topic 5)

Refer to the exhibit. Which command would you use to configure a static route on Router1 to network 192.168.202.0/24 with a nondefault administrative distance?



- A. router1(config)#ip route 192.168.202.0 255.255.255.0 192.168.201.2 1
- B. router1(config)#ip route 192.168.202.0 255.255.255.0 192.168.201.2 5
- C. router1(config)#ip route 1 192.168.201.1 255.255.255.0 192.168.201.2
- D. router1(config)#ip route 5 192.168.202.0 255.255.255.0 192.168.201.2

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The default AD of static route is 1 so we need to configure another number for the static route.

#### **QUESTION 874**

- (Topic 5)

Which of the following dynamic routing protocols are Distance Vector routing protocols?

- A. IS-IS
- B. EIGRP
- C. OSPF
- D. BGP
- E. RIP

**Correct Answer:** BE

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 875**

- (Topic 5)

You have configured a router with an OSPF router ID, but its IP address still reflects the physical interface. Which action can

you take to correct the problem in the least disruptive way?

- A. Reload the OSPF process
- B. Specify a loopback address
- C. Reboot the router
- D. Save the router configuration

**Correct Answer: A**

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

Explanation:

Once an OSPF Router ID selection is done, it remains there even if you remove it or configure another OSPF Router ID. So the least disruptive way is to correct it using the command "clear ip ospf process".

**QUESTION 876**

- (Topic 5)

Which command should you enter to view the error log in an EIGRP for IPv6 environment?

- A. show ipv6 eigrp neighbors
- B. show ipv6 eigrp topology
- C. show ipv6 eigrp traffic
- D. show ipv6 eigrp events

**Correct Answer: D**

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 877**

- (Topic 5)

Refer to the exhibit. Which two statements about the network environment of router R1 must be true? (Choose two.)

```

R1#show ip route
Gateway of last resort is 10.85.33.14 to network 0.0.0.0

D*EX 0.0.0.0/0
[170/257024] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/257024] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
  10.0.0.0/8 is variably subnetted, 6692 subnets, 20 masks
B   10.0.0.0/8 [20/0] via 10.48.144.14, 1w5d
D EX 10.0.1.0/24
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
D EX 10.0.2.0/23
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
D EX 10.0.4.0/22
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
D EX 10.0.8.0/21
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
D EX 10.0.16.0/20
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
D EX 10.0.32.0/19
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
B   10.1.96.0/23 [20/0] via 10.111.33.217, 2w3d
B   10.1.96.0/24 [20/0] via 10.111.33.217, 2w3d
B   10.1.97.0/24 [20/0] via 10.111.33.217, 4w5d
D EX 10.1.255.240/28
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
D EX 10.2.0.0/16
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
B   10.2.0.0/24 [20/0] via 10.111.33.217, 4w5d
B   10.2.96.0/23 [20/0] via 10.48.144.14, 4w5d
B   10.2.96.0/24 [20/0] via 10.48.144.14, 3w1d
B   10.2.97.0/24 [20/0] via 10.48.144.14, 4w5d
D EX 10.3.0.0/16
[170/51968] via 10.85.33.14, 7w0d, TenGigabitEthernet0/2/0.100
[170/51968] via 10.85.33.10, 7w0d, TenGigabitEthernet0/1/0.100
B   10.5.1.0/24 [20/0] via 10.111.33.217, 1w4d
B   10.5.5.0/24 [20/0] via 10.111.33.217, 4w3d
B   10.6.0.0/24 [20/0] via 10.111.33.217, 3w3d

```

- A. The EIGRP administrative distance was manually changed from 90 to 170.
- B. There are 20 different network masks within the 10.0.0.0/8 network.
- C. Ten routes are equally load-balanced between Te0/1/0.100 and Te0/2/0.100.
- D. The 10.0.0.0/8 network was learned via external EIGRP.
- E. A static default route to 10.85.33.14 was defined.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 878**

- (Topic 5)

Which two statements about exterior routing protocols are true? (Choose two.)

- A. They determine the optimal within an autonomous system.
- B. They determine the optimal path between autonomous systems.
- C. BGP is the current standard exterior routing protocol.
- D. Most modern networking supports both EGP and BGP for external routing.
- E. Most modern network routers support both EGP and EIGRP for external routing.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 879**

- (Topic 5)

You have two paths for the 10.10.10.0 network - one that has a feasible distance of 3072 and the other of 6144.

What do you need to do to load balance your EIGRP routes?

- A. Change the maximum paths to 2
- B. Change the configuration so they both have the same feasible distance
- C. Change the variance for the path that has a feasible distance of 3072 to 2
- D. Change the IP addresses so both paths have the same source IP address

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 880**

- (DRAG DROP) - (Topic 5)

DRAG DROP

Drag each route source from the left to the numbers on the right. Beginning with the lowest and ending with the highest administrative distance.

Select and Place:

connected

EBGP

EIGRP

OSPF

RIP

static

1

2

3

4

5

6

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

**QUESTION 881**

- (Topic 5)

Which two circumstances can prevent two routers from establishing an OSPF neighbor adjacency? (Choose two.)

- A. mismatched autonomous system numbers
- B. an ACL blocking traffic from multicast address 224.0.0.10
- C. mismatched process IDs
- D. mismatched hello timers and dead timers
- E. use of the same router ID on both devices

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 882**

- (Topic 5)

Which three describe the reasons large OSPF networks use a hierarchical design? (Choose three.)

- A. to speed up convergence
- B. to reduce routing overhead
- C. to lower costs by replacing routers with distribution layer switches
- D. to decrease latency by increasing bandwidth

- E. to confine network instability to single areas of the network
- F. to reduce the complexity of router configuration

**Correct Answer:** ABE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 883**

- (Topic 5)

Refer to the exhibit. If R1 receives a packet destined to 172.16.1.1, to which IP address does it send the packet?

```
R1#show ip route
```

```
#output suppressed
```

```
Gateway of last resort is 192.168.14.4 to network 0.0.0.0
```

- C 172.16.1.128/25 is directly connected, GigabitEthernet1/1/0
  - C 192.168.12.0/24 is directly connected, FastEthernet0/0
  - C 192.168.13.0/24 is directly connected, FastEthernet0/1
  - C 192.168.14.0/24 is directly connected, FastEthernet1/0
  - C 172.16.16.1 is directly connected, Loopback1
- 192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
- 0 192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
  - 0 192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
  - 0 192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
  - D 192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
  - 0\*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0

- A. 192.168.14.4
- B. 192.168.12.2
- C. 192.168.13.3
- D. 192.168.15.5

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 884**

- (Topic 5)

Refer to the exhibit. On R1 which routing protocol is in use on the route to 192.168.10.1?

```
R1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C  192.168.12.0/24 is directly connected, FastEthernet0/0
C  192.168.13.0/24 is directly connected, FastEthernet0/1
C  192.168.14.0/24 is directly connected, FastEthernet1/0
  192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O   192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O   192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O   192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D   192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0
```

A. RIP

B. OSPF

C. IGRP

D. EIGRP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 885**

- (Topic 5)

Refer to the exhibit. Which Command do you enter so that R1 advertises the loopback0 interface to the BGP Peers?

- A. Network 172.16.1.32 mask 255.255.255.224
- B. Network 172.16.1.0 0.0.0.255
- C. Network 172.16.1.32 255.255.255.224
- D. Network 172.16.1.33 mask 255.255.255.224
- E. Network 172.16.1.32 mask 0.0.0.31
- F. Network 172.16.1.32 0.0.0.31

**Correct Answer:** A**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 886**

- (Topic 5)

Refer to exhibit. What Administrative distance has route to 192.168.10.1?

```

R1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route

Gateway of last resort is 192.168.14.4 to network 0.0.0.0

C 192.168.12.0/24 is directly connected, FastEthernet0/0
C 192.168.13.0/24 is directly connected, FastEthernet0/1
C 192.168.14.0/24 is directly connected, FastEthernet1/0
  192.168.10.0/24 is variably subnetted, 3 subnets, 3 masks
O   192.168.10.0/24 [110/2] via 192.168.14.4, 00:02:01, FastEthernet1/0
O   192.168.10.32/27 [110/11] via 192.168.13.3, 00:00:52, FastEthernet0/1
O   192.168.0.0/16 [110/2] via 192.168.15.5, 00:05:01, FastEthernet1/1
D   192.168.10.1/32 [90/52778] via 192.168.12.2, 00:03:44, FastEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 192.168.14.4, 00:00:10, FastEthernet1/0

```

- A. 1
- B. 90
- C. 110
- D. 120

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 887

- (Topic 5)

Which value is used to determine the active router in an HSRP default configuration?

- A. Router loopback address
- B. Router IP address
- C. Router priority
- D. Router tracking number

The priority field is used to elect the active router and the standby router for the specific group. In the case of an equal priority, the router with the highest IP address for the respective group is elected as active. Furthermore, if there are more than two routers in the group, the second highest IP address determines the standby router and the other router/routers are in the listen state.

E. If there is no priority configured for a standby group, what determines which router is active?

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Q. If there is no priority configured for a standby group, what determines which router is active?

A. The priority field is used to elect the active router and the standby router for the specific group. In the case of an equal priority, the router with the highest IP address for the respective group is elected as active. Furthermore, if there are more than two routers in the group, the second highest IP address determines the standby router and the other router/routers are in the listen state.

#### **QUESTION 888**

- (Topic 5)

Refer to the exhibit. If RTR01 is configured as shown, which three addresses will be received by other routers that are running EIGRP on the network? (Choose three.)

```
RTR01 (config) #router eigrp 103
RTR01 (config-router) #network 10.4.3.0
RTR01 (config-router) #network 172.16.4.0
RTR01 (config-router) #network 192.168.2.0
RTR01 (config-router) #auto-summary
```

- A. 192.168.2.0
- B. 10.4.3.0
- C. 10.0.0.0
- D. 172.16.0.0
- E. 172.16.4.0
- F. 192.168.0.0

**Correct Answer:** ACD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 889**

- (Topic 5)

Which configuration command can you apply to a HSRP router so that its local interface becomes active if all other routers in the group fail?

- A. no additional config is required
- B. standby 1 track ethernet
- C. standby 1 preempt
- D. standby 1 priority 250

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Simply because that will be the default behavior routers would follow in the event all other routers in the HSRP group fail, then it would not keep attributes such as priority or preemption. What preemption does in summary is to make sure that the configured Priority on all routers within the same HSRP group is always respected. That is, if R1 is configured on the HSRP group with a priority of 150 but he stands as active since all other routers currently subscribed to that group have a priority 150, then will router will preempt the current active router and will take over hence becoming the new active router. With

preemption disabled, the new router does not preempt the current active router, unless routers in the group have to renegotiate their roles based on each router's priority at the time of negotiation.

**QUESTION 890**

- (Topic 5)

Which two statements about eBGP neighbor relationships are true? (Choose two.)

- A. The two devices must reside in different autonomous systems
- B. Neighbors must be specifically declared in the configuration of each device
- C. They can be created dynamically after the network statement is configured
- D. The two devices must reside in the same autonomous system
- E. The two devices must have matching timer settings

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 891**

- (Topic 5)

Refer to the exhibit. How will the router handle a packet destined for 192.0.2.156?

```
router#show ip route
```

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP, D - EIGRP  
EX - EIGRP external, O - OSPF, IA - OSPF inter area, N1 - OSPF NSSA external type 1,  
N2 - OSPF NSSA external type 2, E1 - OSPF external type 1, E2 - OSPF external type 2,  
E - EGP, i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, \* - candidate default, U - per-user  
static route, o - ODR

Gateway of last resort is 192.168.4.1 to network 0.0.0.0

10.0.0.0/24 is subnetted, 3 subnets

|   |                                                                                                                   |
|---|-------------------------------------------------------------------------------------------------------------------|
| C | 10.0.2.0 is directly connected, Ethernet1                                                                         |
| D | 10.0.3.0 [90/2195456] via 192.168.1.2, 00:03:01, Serial0                                                          |
| D | 10.0.4.0 [90/2195456] via 192.168.3.1, 00:03:01, Serial1                                                          |
| C | 192.168.1.0/24 is directly connected, Serial0                                                                     |
| D | 192.168.2.0/24 [90/2681856] via 192.168.1.2, 00:03:01, Serial0<br>[90/2681856] via 192.168.3.1, 00:03:01, Serial1 |
| C | 192.168.3.0/24 is directly connected, Serial1                                                                     |
| C | 192.168.4.0/24 is directly connected, Serial2                                                                     |

- A. The router will forward the packet via either Serial0 or Serial1.
- B. The router will return the packet to its source.
- C. The router will forward the packet via Serial2.
- D. The router will drop the packet.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 892**

- (Topic 5)

Which statements describe the routing protocol OSPF? (Choose three.)

- A. It supports VLSM.
- B. It is used to route between autonomous systems.
- C. It confines network instability to one area of the network.
- D. It increases routing overhead on the network.
- E. It allows extensive control of routing updates.
- F. It is simpler to configure than RIP v2.

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The OSPF protocol is based on link-state technology, which is a departure from the Bellman-Ford vector based algorithms used in traditional Internet routing protocols such as RIP. OSPF has introduced new concepts such as authentication of routing updates, Variable Length Subnet Masks (VLSM), route summarization, and so forth.

OSPF uses flooding to exchange link-state updates between routers. Any change in routing information is flooded to all routers in the network. Areas are introduced to put a boundary on the explosion of link-state updates. Flooding and calculation of the Dijkstra algorithm on a router is limited to changes within an area.

**QUESTION 893**

- (Topic 5)

Refer to the exhibit. After you apply the given configurations to R1 and R2 you notice that OSPFv3 fails to start.

```
R1
ipv6 unicast-routing

interface FastEthernet0/0
    no ip address
ipv6 enable
    ipv6 address 3001:DBB:13::1/64
    ipv6 ospf 1 area 0
ipv6 router ospf 1
router-id 172.16.1.1

R2
ipv6 unicast-routing

interface FastEthernet0/0
    no ip address
    ipv6 enable
    ipv6 address 2001:DBB:12::12/64
    ipv6 ospf 1 area 3
ipv6 router ospf 1
router-id 172.16.3.3
```

- A. The area numbers on R1 and R2 are mismatched
- B. The IPv6 network addresses on R1 and R2 are mismatched
- C. The autonomous system numbers on R1 and R2 are mismatched
- D. The router ids on R1 and R2 are mismatched

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 894**

- (Topic 5)

Which command is used to display the collection of OSPF link states?

A. show ip ospf link-state

B. show ip ospf lsa database

C. show ip ospf neighbors

D. show ip ospf database

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The "show ip ospf database" command displays the link states. Here is an example: Here is the lsa database on R2.

R2#show ip ospf database

OSPF Router with ID (2.2.2.2) (Process ID 1)

Router Link States (Area 0)

Link ID ADV Router Age Seq# Checksum Link count 2.2.2.2 2.2.2.2 793 0x80000003 0x004F85 210.4.4.4 10.4.4.4 776 0x80000004 0x005643 1111.111.111.111 111.111.111.111 755 0x80000005 0x0059CA 2133.133.133.133 133.133.133.133 775 0x80000005 0x00B5B1 2 Net Link States (Area 0)

Link ID ADV Router Age Seq# Checksum 10.1.1.1 111.111.111.111 794 0x80000001 0x001E8B10.2.2.3 133.133.133.133 812 0x80000001 0x004BA910.4.4.1 111.111.111.111 755 0x80000001

0x007F1610.4.4.3 133.133.133.133 775 0x80000001 0x00C31F

**QUESTION 895**

- (Topic 5)

Refer to the exhibit. A network associate has configured OSPF with the command:

City(config-router)# network 192.168.12.64 0.0.0.63 area 0

After completing the configuration, the associate discovers that not all the interfaces are participating in OSPF. Which three of the interfaces shown in the exhibit will participate in OSPF according to this configuration statement? (Choose three.)

**City#show ip interface brief**

| Interface       | IP-Address     | OK? | Method | Status | Protocol |
|-----------------|----------------|-----|--------|--------|----------|
| FastEthernet0/0 | 192.168.12.48  | Yes | manual | up     | up       |
| FastEthernet0/1 | 192.168.12.65  | Yes | manual | up     | up       |
| Serial0/0       | 192.168.12.121 | Yes | manual | up     | up       |
| Seriak0/1       | unassigned     | Yes | unset  | up     | up       |
| Serial0/1.102   | 192.168.12.125 | Yes | manual | up     | up       |
| Serial0/1.103   | 192.168.12.129 | Yes | manual | up     | up       |
| Serial0/1.104   | 192.168.12.133 | Yes | manual | up     | up       |

**City#**

- A. FastEthernet0 /0
- B. FastEthernet0 /1
- C. Serial0/0
- D. Serial0/1.102
- E. Serial0/1.103
- F. Serial0/1.104

**Correct Answer:** BCD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The "network 192.168.12.64 0.0.0.63 equals to network 192.168.12.64/26. This network has: Increment: 64 (/26= 1111



1111.1111 1111.1111 1111.1100 0000) + Network address:

192.168.12.64

Broadcast address: 192.168.12.127

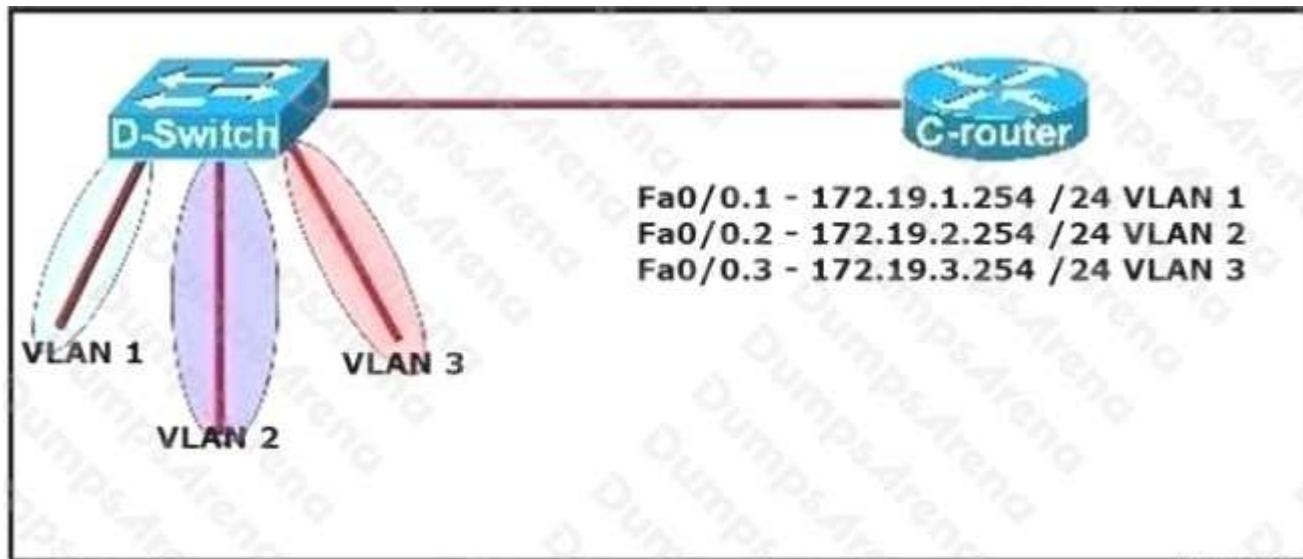


Therefore all interface in the range of this network will join OSPF.

**QUESTION 896**

- (Topic 5)

Refer to the exhibit. C-router is to be used as a "router-on-a-stick" to route between the VLANs. All the interfaces have been properly configured and IP routing is operational. The hosts in the VLANs have been configured with the appropriate default gateway. What is true about this configuration?



- A. These commands need to be added to the configuration:  
`C-router(config)# router eigrp 123`  
`C-router(config-router)# network 172.19.0.0`
- B. These commands need to be added to the configuration:  
`C-router(config)# router ospf 1`  
`C-router(config-router)# network 172.19.0.0 0.0.3.255 area 0`
- C. These commands need to be added to the configuration:  
`C-router(config)# router rip`  
`C-router(config-router)# network 172.19.0.0`
- D. No further routing configuration is required.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Since all the same router (C-router) is the default gateway for all three VLANs, all traffic destined to a different VLA will be sent to the C-router. The C-router will have knowledge of all three networks since they will appear as directly connected in the routing table. Since the C-router already knows how to get to all three networks, no routing protocols need to be configured.

#### QUESTION 897

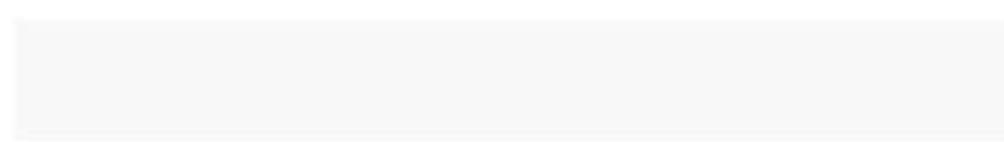
- (Topic 5)

Refer to the exhibit. Which address and mask combination represents a summary of the routes learned by EIGRP?

## **Gateway of last resort is not set**

**192.168.25.0/30 is subnetted, 4 subnets**

- D 192.168.25.20 [90/2681856] via 192.168.15.5, 00:00:10, Serial0/1
- D 192.168.25.16 [90/1823638] via 192.168.15.5, 00:00:50, Serial0/1
- D 192.168.25.24 [90/3837233] via 192.168.15.5, 00:05:23, Serial0/1
- D 192.168.25.28 [90/8127323] via 192.168.15.5, 00:06:45, Serial0/1
- C 192.168.15.4/30 is directly connected, Serial0/1
- C 192.168.2.0/24 is directly connected, FastEthernet0/0



- A. 192.168.25.0 255.255.255.240
- B. 192.168.25.0 255.255.255.252
- C. 192.168.25.16 255.255.255.240
- D. 192.168.25.16 255.255.255.252
- E. 192.168.25.28 255.255.255.240
- F. 192.168.25.28 255.255.255.252

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The binary version of 20 is 10100.

The binary version of 16 is 10000.

The binary version of 24 is 11000.

The binary version of 28 is 11100.

The subnet mask is /28. The mask is 255.255.255.240.

Note:

From the output above, EIGRP learned 4 routes and we need to find out the summary of them:

192.168.25.16

192.168.25.20

192.168.25.24

■

192.168.25.28

■

-> The increment should be  $28 - 16 = 12$  but 12 is not an exponentiation of 2; so we must choose 16 (24). Therefore the subnet mask is /28 ( $=1111\ 1111.1111\ 1111.1111.11110000 = 255.255.255.240$ ).

So the best answer should be 192.168.25.16 255.255.255.240.

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# DUMPS ARENA

## QUESTION 898

- (Topic 5)

Refer to the exhibit. Given the output for this command, if the router ID has not been manually set, what router ID will OSPF use for this router?

```
RouterD# show ip interface brief
Interface          IP-Address      OK?    Method     Status   Protocol
FastEthernet0/0    192.168.5.3    Yes   manual     up      up
FastEthernet0/1    10.1.1.2       Yes   manual     up      up
Loopback0          172.16.5.1    Yes   NVRAM      up      up
Loopback1          10.154.154.1  Yes   NVRAM      up      up
```

- A. 10.1.1.2
- B. 10.154.154.1
- C. 172.16.5.1
- D. 192.168.5.3

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

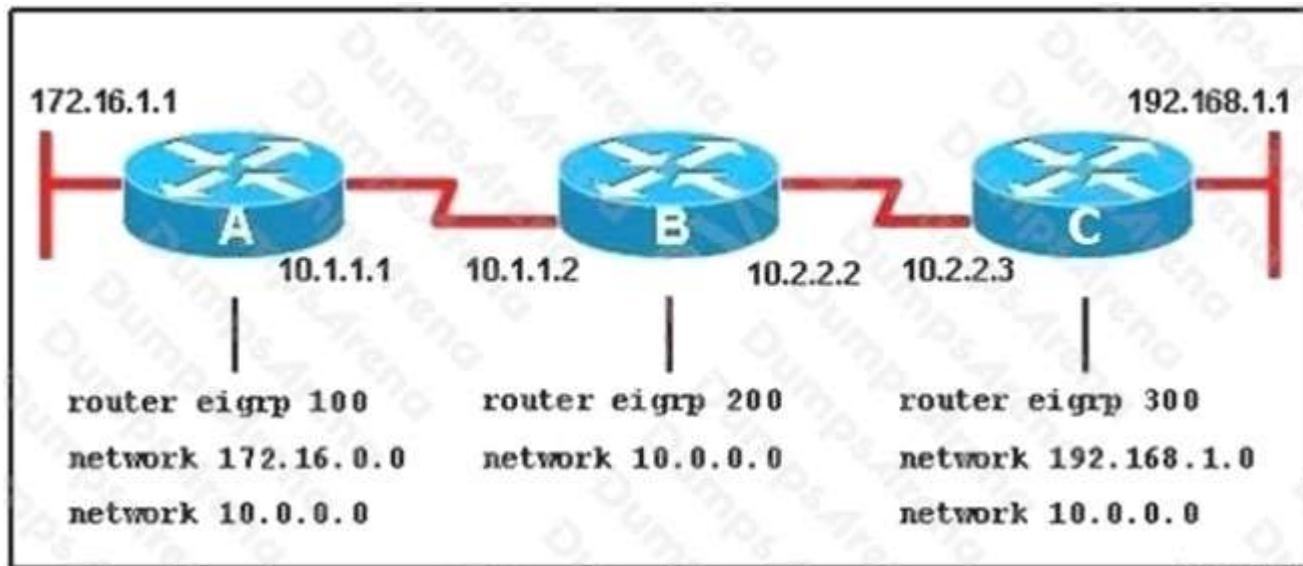
Explanation:

The highest IP address of all loopback interfaces will be chosen -> Loopback 0 will be chosen as the router ID.

## QUESTION 899

- (Topic 5)

Refer to the exhibit. When running EIGRP, what is required for RouterA to exchange routing updates with RouterC?



- A. AS numbers must be changed to match on all the routers
- B. Loopback interfaces must be configured so a DR is elected
- C. The no auto-summary command is needed on Router A and Router C
- D. Router B needs to have two network statements, one for each connected network

**Correct Answer:** A

**Section:** (none)

**Explanation:**

**Explanation/Reference:**

Explanation:

This question is to examine the understanding of the interaction between EIGRP routers. The following information must be

matched so as to create neighborhood. EIGRP routers to establish, must match the following information: 1. AS Number; 2. K value.

#### **QUESTION 900**

- (Topic 5)

A network administrator is troubleshooting the OSPF configuration of routers R1 and R2. The routers cannot establish an adjacency relationship on their common Ethernet link.

- R1:** Ethernet0 is up, line protocol is up  
Internet address 192.168.1.2/24, Area 0  
Process ID 1, Router ID 192.168.31.33, Network Type BROADCAST, Cost: 10  
Transmit Delay is 1 sec, State DR, Priority 1  
Designated Router (ID) 192.168.31.33, Interface address 192.168.1.2  
No backup designated router on this network  
Timer intervals configured, Hello 5, Dead 20, Wait 20, Retransmit 5
- R2:** Ethernet0 is up, line protocol is up  
Internet address 192.168.1.2/24, Area 0  
Process ID 2, Router ID 192.168.31.11, Network Type BROADCAST, Cost: 10  
Transmit Delay is 1 sec, State DR, Priority 1  
Designated Router (ID) 192.168.31.11, Interface address 192.168.1.1  
No backup designated router on this network  
Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5

The graphic shows the output of the show ip ospf interface e0 command for routers R1 and R2. Based on the information in the graphic, what is the cause of this problem?

- A. The OSPF area is not configured properly.
- B. The priority on R1 should be set higher.
- C. The cost on R1 should be set higher.
- D. The hello and dead timers are not configured properly.
- E. A backup designated router needs to be added to the network.
  
- F. The OSPF process ID numbers must match.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

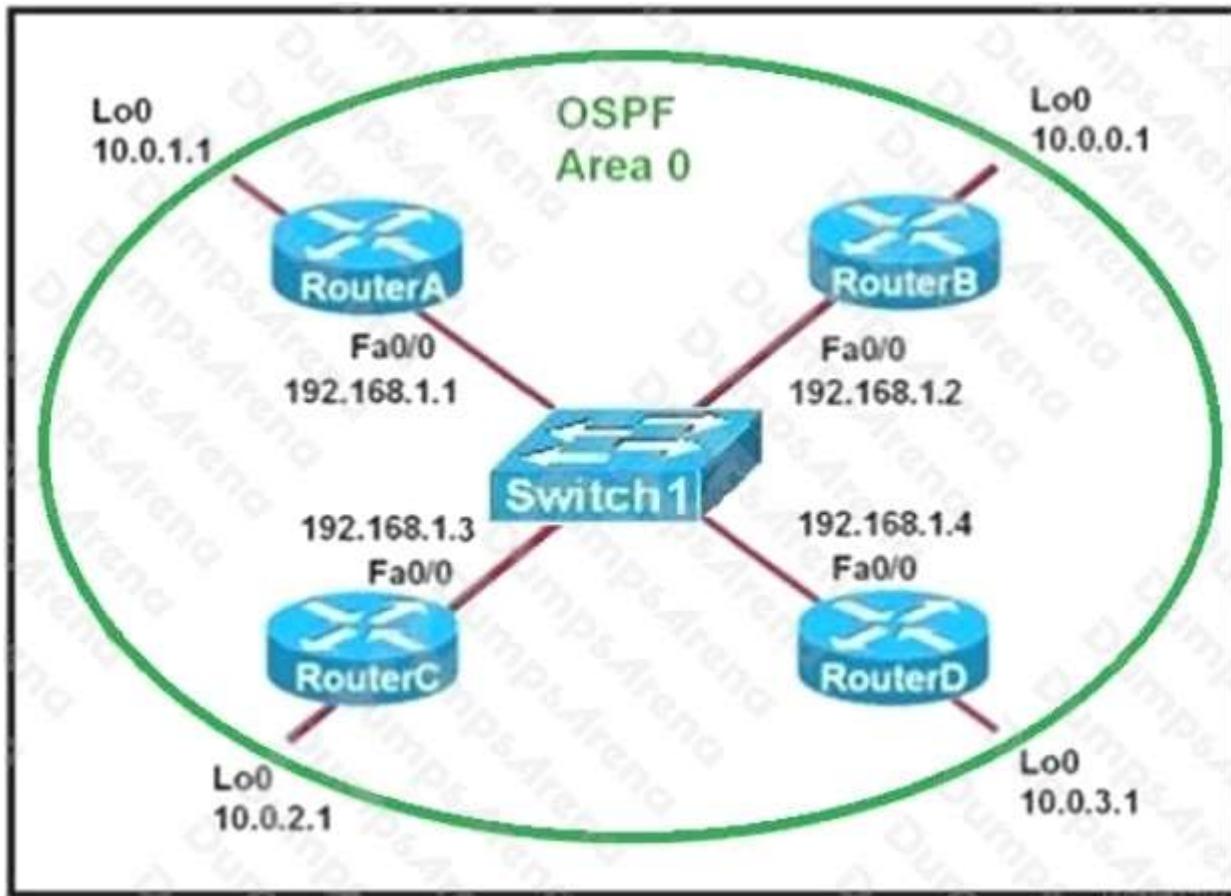
In OSPF, the hello and dead intervals must match and here we can see the hello interval is set to 5 on R1 and 10 on R2.

The dead interval is also set to 20 on R1 but it is 40 on R2.

#### QUESTION 901

- (Topic 5)

Refer to the exhibit. Which two statements are true about the loopback address that is configured on RouterB? (Choose two.)



- A. It ensures that data will be forwarded by RouterB.
- B. It provides stability for the OSPF process on RouterB.
- C. It specifies that the router ID for RouterB should be 10.0.0.1.
- D. It decreases the metric for routes that are advertised from RouterB.
- E. It indicates that RouterB should be elected the DR for the LAN.

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 902

- (Topic 5)

If all OSPF routers in a single area are configured with the same priority value, what value does a router use for the OSPF router ID in the absence of a loopback interface?

- A. the IP address of the first Fast Ethernet interface
- B. the IP address of the console management interface
- C. the highest IP address among its active interfaces
- D. the lowest IP address among its active interfaces

- E. the priority value until a loopback interface is configured

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 903**

- (Topic 5)

The OSPF Hello protocol performs which of the following tasks? (Choose two.)

- A. It provides dynamic neighbor discovery.
- B. It detects unreachable neighbors in 90 second intervals.
- C. It maintains neighbor relationships.
- D. It negotiates correctness parameters between neighboring interfaces.
- E. It uses timers to elect the router with the fastest links as the designated router.
- F. It broadcasts hello packets throughout the internetwork to discover all routers that are running OSPF.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 904**

- (Topic 5)

What are two requirements for an HSRP group? (Choose two.)

- A. exactly one active router
- B. one or more standby routers
- C. one or more backup virtual routers
- D. exactly one standby active router
- E. exactly one backup virtual router

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Exactly one active router: Only one Active Router per HSRP group will be elected based on highest priority. In case of equal

priority, Highest IP address will be elected as Active Router. One or more standby routers: There can be one or more Standby Routers.

**QUESTION 905**

- (Topic 5)

Which two pieces of information can you learn by viewing the routing table? (Choose two.)

- A. whether an ACL was applied inbound or outbound to an interface
- B. the EIGRP or BGP autonomous system
- C. whether the administrative distance was manually or dynamically configured
- D. which neighbor adjacencies are established
- E. the length of time that a route has been known

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 906**

- (Topic 5)

- |                                                                            |
|----------------------------------------------------------------------------|
| 10.0.0.0/24 is subnetted, 1 subnets                                        |
| C      10.0.0.0 is directly connected, FastEthernet0/1                     |
| C      172.16.0.0/16 is directly connected, FastEthernet0/0                |
| D      192.168.0.0/24 [90/30720] via 172.16.0.2, 00:00:03, FastEthernet0/0 |

Refer to the exhibit. Which route type does the routing protocol Code D represent in the output?

- A. statically assigned route
- B. route learned through EIGRP
- C. /24 route of a locally configured IP
- D. internal BGP route

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 907**

- (Topic 5)

An engineer must configure an OSPF neighbor relationship between router R1 and R3. The authentication configuration has been configured and the connecting interfaces are in the same 192.168.1.0/30 subnet. What are the next two steps to

complete the configuration? (Choose two.)

- A. configure the interfaces as OSPF active on both sides
- B. configure both interfaces with the same area ID
- C. configure the hello and dead timers to match on both sides
- D. configure the same process ID for the router OSPF process
- E. configure the same router ID on both routing processes

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 908**

- (Topic 5)

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
S   172.16.3.0/24 [1/0] via 209.165.200.250, Serial0/0/0
O   172.16.3.0/28 [110/1] via 209.165.200.254, 00:00:28, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 6 subnets, 2 masks
C   209.165.200.244/30 is directly connected, Serial0/1/0
L   209.165.200.245/32 is directly connected, Serial0/1/0
C   209.165.200.248/30 is directly connected, Serial0/0/0
L   209.165.200.249/32 is directly connected, Serial0/0/0
C   209.165.200.252/30 is directly connected, Serial0/0/1
L   209.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. A packet is being sent across router R1 to host 172.16.0.14. What is the destination route for the packet?

- A. 209.165.200.250 via Serial0/0/0
- B. 209.165.200.254 via Serial0/0/0
- C. 209.165.200.254 via Serial0/0/1
- D. 209.165.200.246 via Serial0/1/0

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 909**

- (Topic 5)

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 2 subnets, 2 masks
S   172.16.3.0/24 [1/0] via 207.165.200.250, Serial0/0/0
O   172.16.3.0/28 [110/84437] via 207.165.200.254, 00:00:28, Serial0/0/1
    207.165.200.0/24 is variably subnetted, 6 subnets, 2 masks
C   207.165.200.244/30 is directly connected, Serial0/1/0
L   207.165.200.245/32 is directly connected, Serial0/1/0
C   207.165.200.248/30 is directly connected, Serial0/0/0
L   207.165.200.249/32 is directly connected, Serial0/0/0
C   207.165.200.252/30 is directly connected, Serial0/0/1
L   207.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. A packet is being sent across router R1 to host 172.16.3.14. To which destination does the router send the packet?

- A. 207.165.200.246 via Serial0/1/0
- B. 207.165.200.254 via Serial0/0/0
- C. 207.165.200.250 via Serial0/0/0
- D. 207.165.200.254 via Serial0/0/1

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 910**

- (Topic 5)

Refer to the exhibit. Router R2 is configured with multiple routes to reach network 10.1.1.0/24 from router R1. Which path is chosen by router R2 to reach the destination network 10.1.1.0/24?

- A. static
- B. EIGRP
- C. eBGP
- D. OSPF

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 911**

- (Topic 5)

```
R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C       1.0.0.0/8 is directly connected, Loopback0
          10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
O         10.0.1.3/32 [110/100] via 10.0.1.3, 00:39:08, Serial0
C         10.0.1.0/24 is directly connected, Serial0
O         10.0.1.5/32 [110/5] via 10.0.1.50, 00:39:08, Serial0
O         10.0.1.4/32 [110/10] via 10.0.1.4, 00:39:08, Serial0
```

Refer to the exhibit. What is the next hop address for traffic that is destined to host 10.0.1.5?

- A. Loopback 0
- B. 10.0.1.4
- C. 10.0.1.3
- D. 10.0.1.50

**Correct Answer:** D

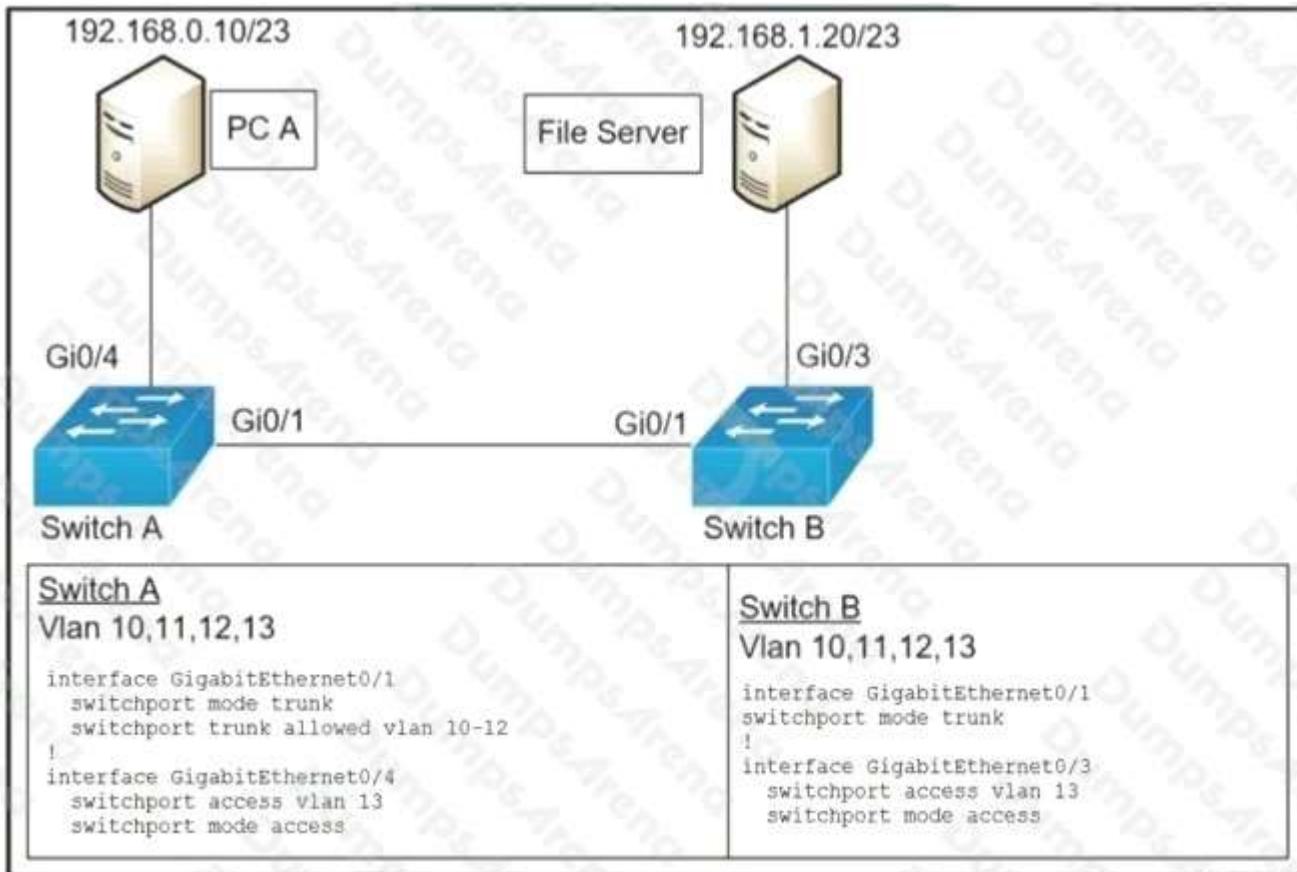
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 912

- (Topic 5)



Refer to the exhibit. A network administrator assumes a task to complete the connectivity between PC A and the File Server. Switch A and Switch B have been partially configured with VLANs 10, 11, 12, and 13. What is the next step in the configuration?

- A. Add PC A to VLAN 10 and the File Server to VLAN 11 for VLAN segmentation
- B. Add VLAN 13 to the trunk links on Switch A and Switch B for VLAN propagation
- C. Add a router on a stick between Switch A and Switch B allowing for Inter-VLAN routing
- D. Add PC A to the same subnet as the File Server allowing for intra-VLAN communication

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 913

- (DRAG DROP) - (Topic 5)

**DRAG DROP**

A network engineer is configuring an OSPFv2 neighbor adjacency. Drag and drop the parameters from the left onto their required categories on the right. Not all parameters are used.

Select and Place:

## Answer Area

area ID  
IP address  
netmask  
OSPF process ID  
router ID  
timers

must match  
[ ]  
[ ]  
[ ]  
must be unique  
[ ]  
[ ]

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

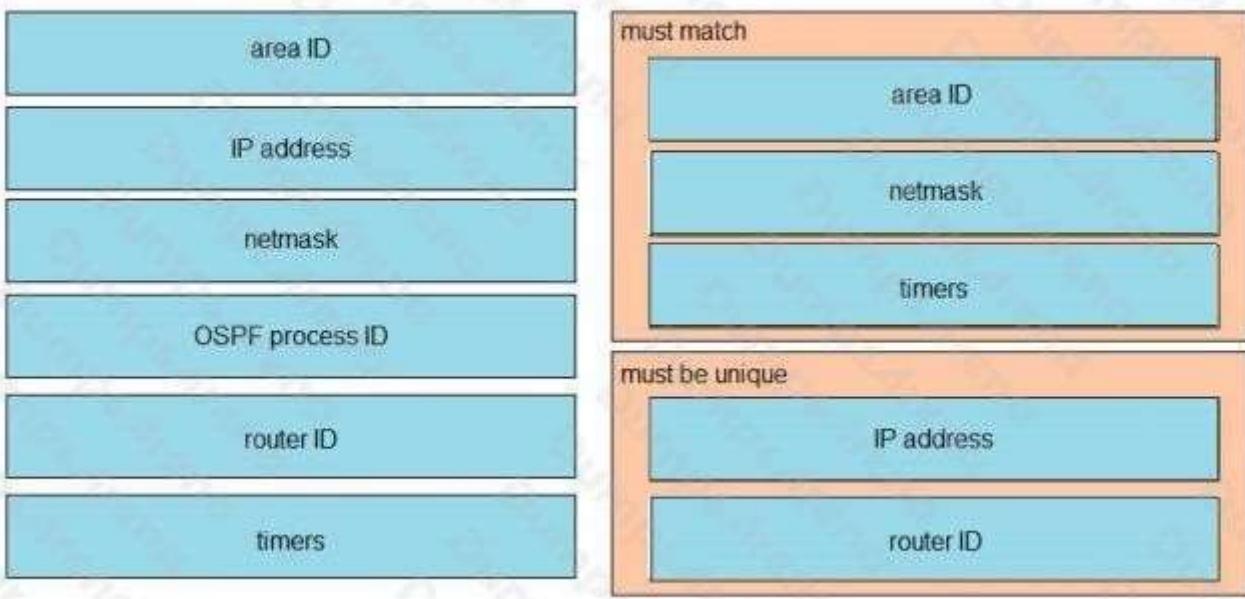
**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Answer Area



Explanation:

### QUESTION 914

- (Topic 5)

R1 has learned route 192.168.12.0/24 via IS-IS, OSPF, RIP, and Internal EIGRP. Under normal operating conditions, which routing protocol is installed in the routing table?

- A. IS-IS
- B. Internal EIGRP
- C. RIP
- D. OSPF

**Correct Answer:** B

**Section:** (none)

**Explanation**

#### Explanation/Reference:

Explanation:

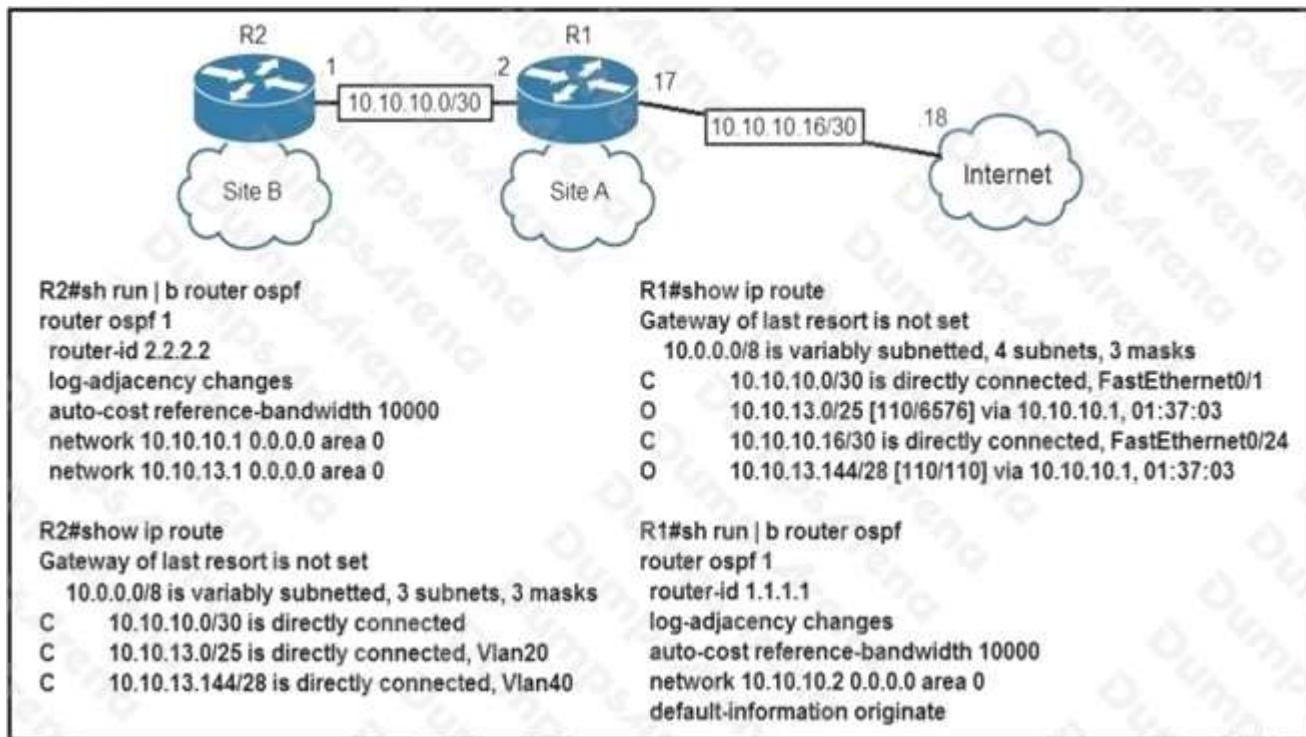
With the same route (prefix), the router will choose the routing protocol with lowest Administrative Distance (AD) to install into the routing table. The AD of Internal EIGRP (90) is lowest so it would be chosen. The table below lists the ADs of popular routing protocols.

| Route Source        | Administrative Distance |
|---------------------|-------------------------|
| Directly Connected  | 0                       |
| Static              | 1                       |
| EIGRP               | 90                      |
| EIGRP Summary route | 5                       |
| OSPF                | 110                     |
| RIP                 | 120                     |

Note: The AD of IS-IS is 115. The "EIGRP" in the table above is "Internal EIGRP". The AD of "External EIGRP" is 170. An EIGRP external route is a route that was redistributed into EIGRP.

### QUESTION 915

- (Topic 5)



Refer to the exhibit. The default-information originate command is configured under the R1 OSPF configuration. After testing, workstations on VLAN 20 at Site B cannot reach a DNS server on the Internet.

Which action corrects the configuration issue?

- A. Add the default-information originate command on R2.
- B. Add the always keyword to the default-information originate command on R1.
- C. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.18 command on R1.
- D. Configure the ip route 0.0.0.0 0.0.0.0 10.10.10.2 command on R2.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 916**

- (Topic 5)

```
R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
S   172.16.0.0/24 [1/0] via 207.165.200.250, Serial0/0/0
O   172.16.0.128/25 [110/38443] via 207.165.200.254, 00:00:23, Serial0/0/1
D   172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:25, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C   209.165.200.248/30 is directly connected, Serial0/0/0
L   209.165.200.249/32 is directly connected, Serial0/0/0
C   209.165.200.252/30 is directly connected, Serial0/0/1
L   209.165.200.253/32 is directly connected, Serial0/0/1
```

Refer to the exhibit. With which metric was the route to host 172.16.0.202 learned?

- A. 0
- B. 110
- C. 38443
- D. 3184439

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Both the line "O 172.16.0.128/25" and "S 172.16.0.0/24" cover the host 172.16.0.202 but with the "longest (prefix) match" rule the router will choose the first route.

**QUESTION 917**

- (Topic 5)

A user configured OSPF in a single area between two routers. A serial interface connecting R1 and R2 is running encapsulation PPP. By default, which OSPF network type is seen on this interface when the user types show ip ospf interface on R1 or R2?

- A. nonbroadcast
- B. point-to-point
- C. point-to-multipoint

D. broadcast

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 918**

- (Topic 5)

Which MAC address is recognized as a VRRP virtual address?

- A. 0000.5E00.010a
- B. 0005.3709.8968
- C. 0000.0C07.AC99
- D. 0007.C070.AB01

**Correct Answer:** A

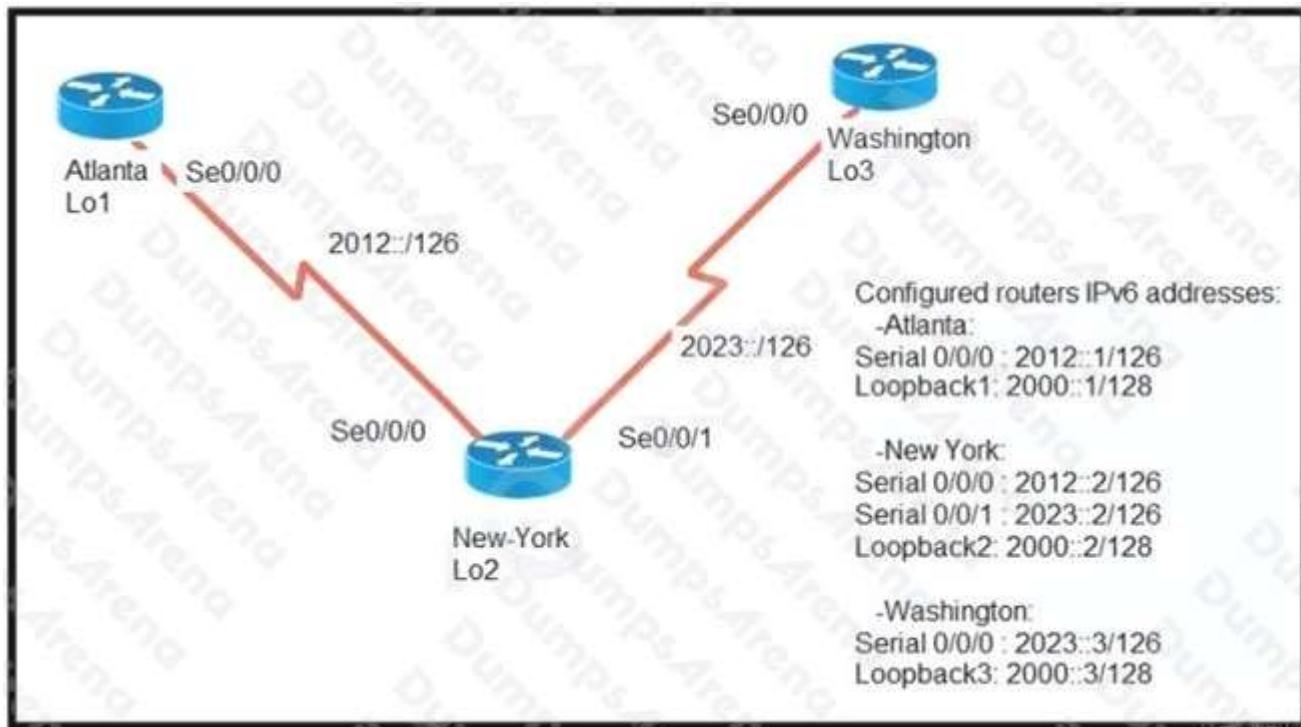
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 919**

- (Topic 5)



Refer to the exhibit. The New York router is configured with static routes pointing to the Atlanta and Washington sites.

Which two tasks must be performed so that the Se0/0/0 interfaces on the Atlanta and Washington routers can reach one another? (Choose two.)

- A. Configure the ipv6 route 2023::/126 2012::1 command on the Atlanta router.
- B. Configure the ipv6 route 2012::/126 2023::2 command on the Washington router.
- C. Configure the ipv6 route 2012::/126 2023::1 command on the Washington router.
- D. Configure the ipv6 route 2023::/126 2012::2 command on the Atlanta router.
- E. Configure the ipv6 route 2012::/126 s0/0/0 command on the Atlanta router.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 920

- (Topic 5)

A router running EIGRP has learned the same route from two different paths. Which parameter does the router use to select the best path?

- A. as-path
- B. administrative distance
- C. metric
- D. cost

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If a router learns two different paths for the same network from the same routing protocol, it has to decide which route is better and will be placed in the routing table. Metric is the measure used to decide which route is better (lower number is better). Each routing protocol uses its own metric. For example, RIP uses hop counts as a metric, while OSPF uses cost.

Reference: <https://study-ccna.com/administrative-distance-metric/>

**QUESTION 921**

- (Topic 5)

An engineer configured an OSPF neighbor as a designated router. Which state verifies the designated router is in the proper mode?

- A. Init
- B. 2-way
- C. Exchange
- D. Full

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 922**

- (Topic 5)

```
R1# show ip route

D    192.168.16.0/26 [90/2679326] via 192.168.1.1
R    192.168.16.0/24 [120/3] via 192.168.1.2
O    192.168.16.0/21 [110/2] via 192.168.1.3
i L1 192.168.16.0/27 [115/30] via 192.168.1.4
```

Refer to the exhibit. Which route does R1 select for traffic that is destined to 192.168.16.2?

- A. 192.168.16.0/21
- B. 192.168.16.0/24
- C. 192.168.16.0/26

D. 192.168.16.0/27

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The destination IP addresses match all four entries in the routing table but the 192.168.16.0/27 has the longest prefix so it will be chosen. This is called the "longest prefix match" rule.

### **QUESTION 923**

- (Topic 5)

```
Gateway of last resort is 10.12.0.1 to network 0.0.0.0

O*E2 0.0.0.0/0 [110/1] via 10.12.0.1, 00:00:01, GigabitEthernet0/0
    10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C     10.0.0.0/24 is directly connected, GigabitEthernet0/0
L     10.0.0.2/32 is directly connected, GigabitEthernet0/0
C     10.13.0.0/24 is directly connected, GigabitEthernet0/1
L     10.13.0.2/32 is directly connected, GigabitEthernet0/1
```

Refer to the exhibit. If configuring a static default route on the router with the ip route 0.0.0.0 0.0.0.0 10.13.0.1 120 command, how does the router respond?

- A. It starts sending traffic without a specific matching entry in the routing table to GigabitEthernet0/1.
- B. It immediately replaces the existing OSPF route in the routing table with the newly configured static route.
- C. It starts load-balancing traffic between the two default routes.
- D. It ignores the new static route until the existing OSPF default route is removed.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Our new static default route has the Administrative Distance (AD) of 120, which is bigger than the AD of OSPF External route (O\*E2) so it will not be pushed into the routing table until the current OSPF External route is removed.

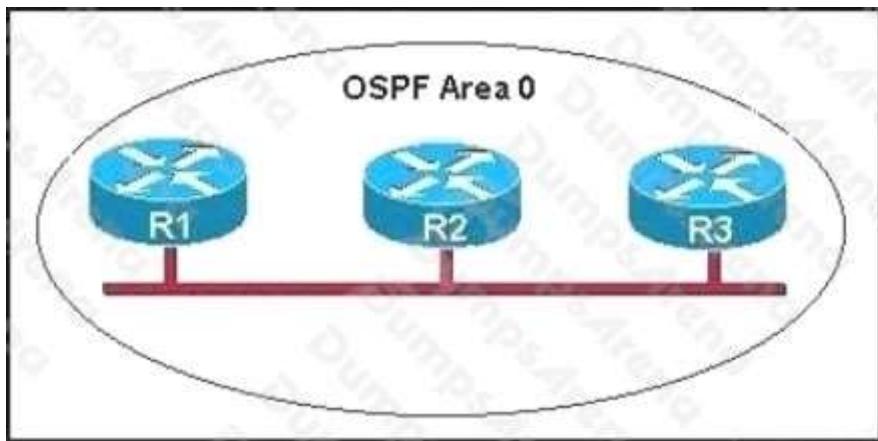
For your information, if you don't type the AD of 120 (using the command "ip route 0.0.0.0 0.0.0.0 10.13.0.1") then the new static default route would replace the OSPF default route as the default AD of static route is 1. You will see such line in the routing table:

S\* 0.0.0.0/0 [1/0] via 10.13.0.1

**QUESTION 924**

- (Topic 5)

Refer to the graphic. R1 is unable to establish an OSPF neighbor relationship with R3. What are possible reasons for this problem? (Choose two.)



- A. All of the routers need to be configured for backbone Area 1.
- B. R1 and R2 are the DR and BDR, so OSPF will not establish neighbor adjacency with R3.
- C. A static route has been configured from R1 to R3 and prevents the neighbor adjacency from being established.
- D. The hello and dead interval timers are not set to the same values on R1 and R3.
- E. EIGRP is also configured on these routers with a lower administrative distance.
- F. R1 and R3 are configured in different areas.

**Correct Answer:** DF**Section:** (none)**Explanation****Explanation/Reference:**

Explanation:

This question is to examine the conditions for OSPF to create neighborhood. So as to make the two routers become neighbors, each router must be matched with the following items: 1. The area ID and its types

2. Hello and failure time interval timer

3. OSPF Password (Optional)

**QUESTION 925**

- (Topic 5)

```

Router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      Gateway of last resort is 209.165.202.131 to network 0.0.0.0

S*   0.0.0.0/0 [1/0] via 209.165.202.131
      209.165.200.0/27 is subnetted, 1 subnets
S     209.165.200.224 [254/0] via 209.165.202.129
      209.165.201.0/27 is subnetted, 1 subnets
S     209.165.201.0 [1/0] via 209.165.202.130

```

Refer to the exhibit. Which command configures a floating static route to provide a backup to the primary link?

- A. ip route 209.165.200.224 255.255.255.224 209.165.202.129 254
- B. ip route 209.165.201.0 255.255.255.224 209.165.202.130
- C. ip route 0.0.0.0 0.0.0.0 209.165.200.224
- D. ip route 0.0.0.0 0.0.0.0 209.165.202.131

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 926

- (Topic 5)



Refer to the exhibit. An engineer configured the New York router with static routes that point to the Atlanta and Washington sites. Which command must be configured on the Atlanta and Washington routers so that both sites are able to reach the loopback2 interface on the New York router?

- A. ipv6 route::/0 Serial 0/0/0
- B. ipv6 route::/0 Serial 0/0/1
- C. ipv6 route:0/0 Serial 0/0/0
- D. ip route 0.0.0.0 0.0.0.0 Serial 0/0/0
- E. ipv6 route::/0 2000::2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute\\_pi/configuration/xe-3s/iri-xe-3s-book/ipv6-route-static-xe.html#GUID-85796C3A-3143-4DF7-B9D0-8EC87D0DB08B](https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_pi/configuration/xe-3s/iri-xe-3s-book/ipv6-route-static-xe.html#GUID-85796C3A-3143-4DF7-B9D0-8EC87D0DB08B)

**QUESTION 927**

- (Topic 5)

What is the effect when loopback interfaces and the configured router ID are absent during the OSPF Process configuration?

- A. The lowest IP address is incremented by 1 and selected as the router ID.
- B. The router ID 0.0.0.0 is selected and placed in the OSPF process.
- C. No router ID is set, and the OSPF protocol does not run.
- D. The highest up/up physical interface IP address is selected as the router ID.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 928**

- (Topic 5)

```
R1#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route
Gateway of last resort is 192.168.30.10 to network 0.0.0.0
  192.168.30.0/29 is subnetted, 2 subnets
C        192.168.30.0 is directly connected, FastEthernet0/0
C        192.168.30.8 is directly connected, Serial0/0.1
          192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
O IA    192.168.10.32/28 [110/193] via 192.168.30.10, 00:18:49, Serial0/0.1
O IA    192.168.10.0/27 [110/192] via 192.168.30.10, 00:18:49, Serial0/0.1
          192.168.20.0/30 is subnetted, 1 subnets
O IA    192.168.20.0 [110/128] via 192.168.30.10, 00:18:49, Serial0/0.1
          192.168.50.0/32 is subnetted, 1 subnets
C        192.168.50.1 is directly connected, Loopback0
O*IA 0.0.0.0/0 [110/84] via 192.168.30.10, 00:10:36, Serial0/0.1
```

Refer to the exhibit. What is the metric of the route to the 192.168.10.33/28 subnet?

- A. 84
- B. 110
- C. 128
- D. 192
- E. 193

**Correct Answer:** E

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 929**

- (Topic 5)

```

R1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2 * - candidate
default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C 192.168.3.5 is directly connected, Loopback0
  10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
O   10.0.1.3/32 [110/100] via 192.168.0.40, 00:39:08, Serial0
C   10.0.1.0/24 is directly connected, Serial0
O   10.0.1.190/32 [110/5] via 192.168.0.35, 00:39:08, Serial0
O   10.0.1.0/24 [110/10] via 192.168.0.4, 00:39:08, Gigabit Ethernet 0/0
D   10.0.1.0/28 [90/10] via 192.168.0.7, 00:39:08, Gigabit Ethernet 0/0

```

Refer to the exhibit. Traffic sourced from the loopback0 interface is trying to connect via ssh to the host at 10.0.1.15. What is the next hop to the destination address?

- A. 192.168.0.7
- B. 192.168.0.4
- C. 192.168.0.40
- D. 192.168.3.5

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 930

- (Topic 5)

When the active router in a VRRP group fails, which router assumes the role and forwards packets?

- A. forwarding
- B. standby
- C. backup
- D. listening

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 931**

- (Topic 5)

Which action does the router take as it forwards a packet through the network?

- A. The router encapsulates the original packet and then includes a tag that identifies the source router MAC address and transmits it transparently to the destination.
- B. The router encapsulates the source and destination IP addresses with the sending router IP address as the source and the neighbor IP address as the destination.
- C. The router replaces the original source and destination MAC addresses with the sending router MAC address as the source and neighbor MAC address as the destination.
- D. The router replaces the source and destination labels with the sending router interface label as a source and the next hop router label as a destination.

**Correct Answer:** C**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 932**

- (Topic 5)

```
R2#show ip route
C      192.168.1.0/26 is directly connected, FastEthernet0/1
```

Refer to the exhibit. Which two prefixes are included in this routing table entry? (Choose two.)

- A. 192.168.1.17
- B. 192.168.1.61
- C. 192.168.1.64
- D. 192.168.1.127
- E. 192.168.1.254

**Correct Answer:** AB**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 933**

- (Topic 5)

Which virtual MAC address is used by VRRP group 1?

- A. 0504.0367.4921

- B. 0007.c061.bc01
- C. 0050.0c05.ad81
- D. 0000.5E00.0101

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 934**

- (Topic 5)

What is the purpose of using First Hop Redundancy Protocol on a specific subnet?

- A. forwards multicast hello messages between routers
- B. sends the default route to the hosts on a network
- C. ensures a loop-free physical topology
- D. filters traffic based on destination IP addressing

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 935**

- (Topic 5)

Refer to the exhibit. Which configuration issue is preventing the OSPF neighbor relationship from being established between the two routers?



```
R1#show running-config
Building configuration...
!
interface GigabitEthernet1/0
  mtu 1600
  ip address 192.168.0.1 255.255.255.252
  negotiation auto
!
router ospf 1
  router-id 1.1.1.1
  passive-interface default
  no passive-interface GigabitEthernet1/0
  network 192.168.0.1 0.0.0.0 area 0
!
R2#show running-config
Building configuration...
!
interface GigabitEthernet2/0
  ip address 192.168.0.2 255.255.255.252
  negotiation auto
!
router ospf 1
  router-id 2.2.2.2
  passive-interface default
  no passive-interface GigabitEthernet2/0
  network 192.168.0.2 0.0.0.0 area 0
```

- A. R1 has an incorrect network command for interface Gi1/0.
- B. R2 should have its network command in area 1.
- C. R1 interface Gi1/0 has a larger MTU size.
- D. R2 is using the passive-interface default command.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 936**

- (Topic 5)

```
R1# show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route, H - NHRP, 1 - LISP
       + - replicated route, % - next hop override

Gateway of last resort is 10.56.0.1 to network 0.0.0.0

S*      0.0.0.0/0 [1/0] via 10.56.0.1
        10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C        10.56.0.0/17 is directly connected, Vlan56
L        10.56.0.19/32 is directly connected, Vlan56
C        10.56.128.0/18 is directly connected, Vlan57
L        10.56.128.19/32 is directly connected, Vlan57
```

Refer to the exhibit. When router R1 is sending traffic to IP address 10.56.192.1, which interface or next hop address does it use to route the packet?

- A. 10.56.0.1
- B. 0.0.0.0/0
- C. Vlan57
- D. 10.56.128.19

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 937**

- (Topic 5)

```

R1# show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
      U - per-user static route, o - ODR
Gateway of last resort is not set
C    172.16.0.0/16 is directly connected, Loopback0
      172.16.0/16 is variably subnetted, 4 subnets, 2 masks
O      172.16.1.3/3 [110/100] via 192.168.7.40, 00:39:08, Serial0
C    172.16.1.0/24 is directly connected, Serial0
O      172.16.1.184/29 [110/5] via 192.168.7.35, 00:39:08, Serial0
O      172.16.3.0/24 [110/10] via 192.168.7.4, 00:39:08, Gigabit Ethernet 0/0
D      172.16.1.0/28 [90/10]  via 192.168.7.7, 00:39:08, Gigabit Ethernet 0/0

```

Refer to the exhibit. Load-balanced traffic is coming in from the WAN destined to a host at 172.16.1.190. Which next-hop is used by the router to forward the request?

- A. 192.168.7.4
- B. 192.168.7.7
- C. 192.168.7.35
- D. 192.168.7.40

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 938

- (Topic 5)

What is a benefit of VRRP?

- A. It provides the default gateway redundancy on a LAN using two or more routers.
- B. It provides traffic load balancing to destinations that are more than two hops from the source.
- C. It prevents loops in a Layer 2 LAN by forwarding all traffic to a root bridge, which then makes the final forwarding decision.
- D. It allows neighbors to share routing table information between each other.

**Correct Answer:** A

**Section:** (none)

**Explanation**

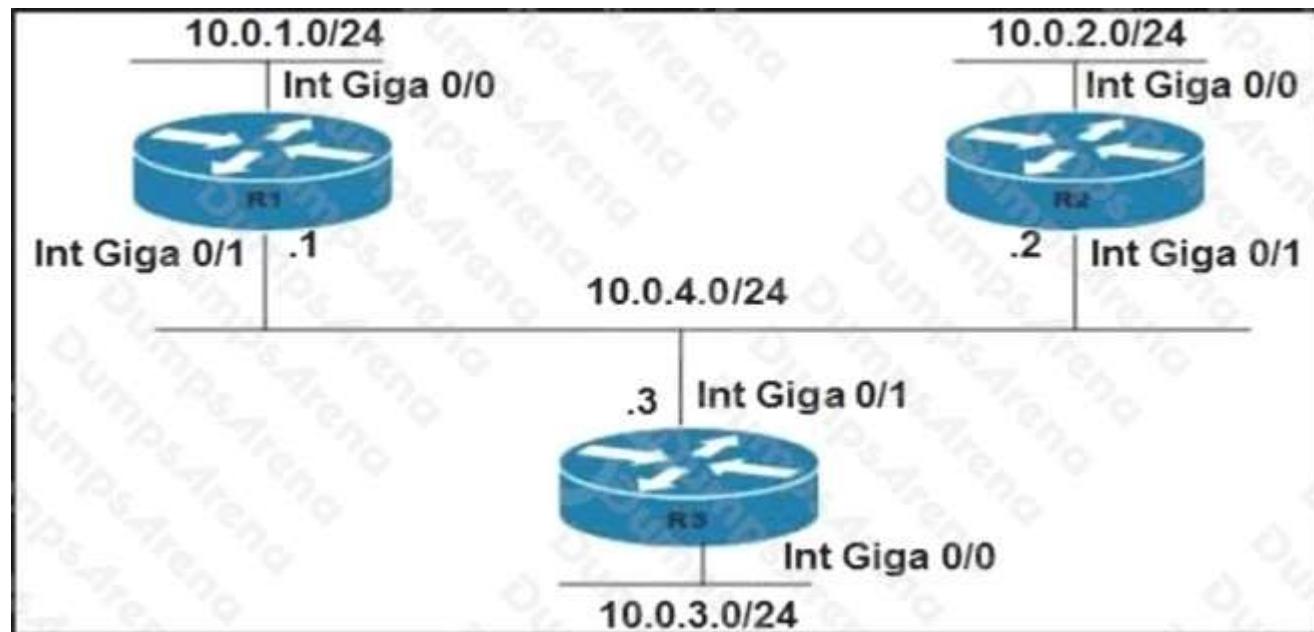
**Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs\\_r4-0/addr\\_serv/configuration/guide/ic40crs1book\\_chapter10.html](https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs_r4-0/addr_serv/configuration/guide/ic40crs1book_chapter10.html)

**QUESTION 939**

- (Topic 5)



Refer to the exhibit. Routers R1 and R3 have the default configuration. The router R2 priority is set to 99. Which commands on R3 configure it as the DR in the 10.0.4.0/24 network?

- A. R3(config)#interface Gig0/0 R3(config-if)#ip ospf priority 100
- B. R3(config)#interface Gig0/0 R3(config-if)#ip ospf priority 1
- C. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 0
- D. R3(config)#interface Gig0/1 R3(config-if)#ip ospf priority 100

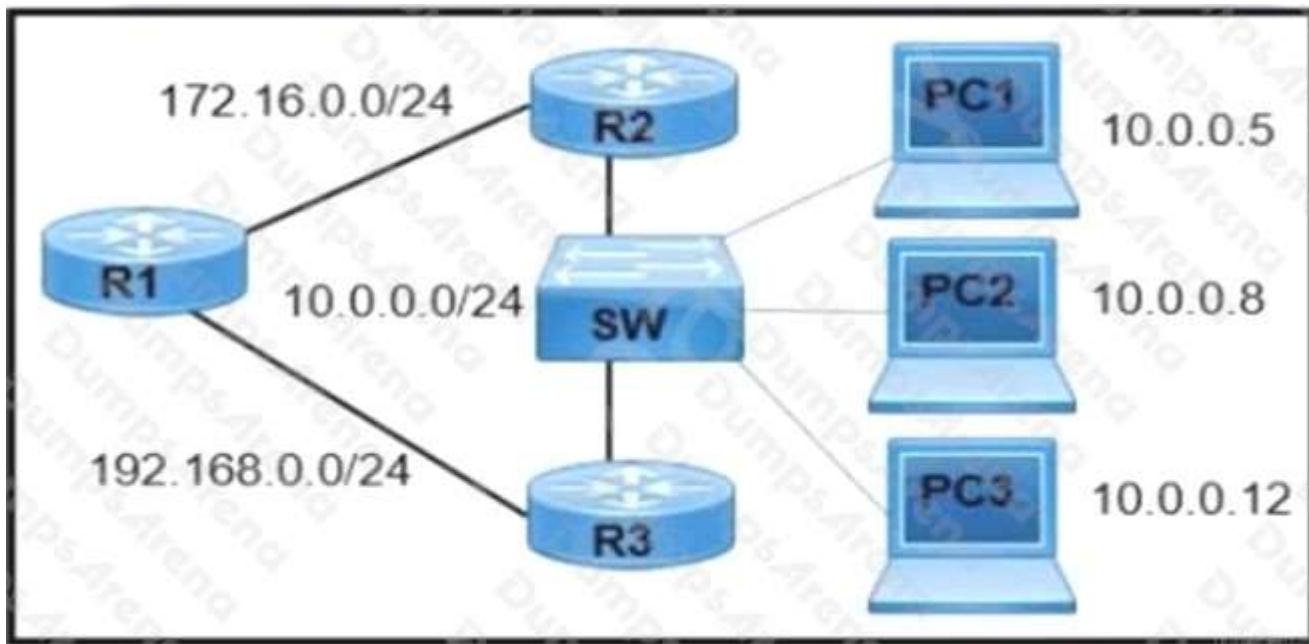
**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 940**

- (Topic 5)



Refer to the exhibit. A network engineer must configure R1 so that it sends all packets destined to the 10.0.0.0/24 network to R3, and all packets destined to PC1 to R2. Which configuration must the engineer implement?

- A. R1(config)#ip route 10.0.0.0 255.255.255.0 172.16.0.2 R1(config)#ip route 10.0.0.5 255.255.255.255 192.168.0.2
- B. R1(config)#ip route 10.0.0.0 255.255.0.0 172.16.0.2 R1(config)#ip route 10.0.0.5 255.255.255.255 192.168.0.2
- C. R1(config)#ip route 10.0.0.0 255.255.255.0 192.168.0.2 R1(config)#ip route 10.0.0.5 255.255.255.255 172.16.0.2
- D. R1(config)#ip route 10.0.0.0 255.255.0.0 192.168.0.2 R1(config)#ip route 10.0.0.5 255.255.255.0 172.16.0.2

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 941

- (Topic 5)

```
CPE# show ip route
 192.168.1.0/24 is variably subnetted, 3 subnets, 3 masks
B 192.168.1.0/24 [20/1] via 192.168.12.2, 00:00:06
R 192.168.1.128/25 [120/5] via 192.168.13.3, 00:02:35, Ethernet0/1
O 192.168.1.192/26 [110/11] via 192.168.14.4, 00:02:23, Ethernet0/2
D 192.168.1.224/27 [90/1024640] via 192.168.15.5, 00:01:40, Ethernet0/3
```

Refer to the exhibit. All traffic enters the CPE router from interface Serial0/3 with an IP address of

192.168.50.1. Web traffic from the WAN is destined for a LAN network where servers are load-balanced. An IP packet with a destination address of the HTTP virtual IP of 192.168.1.250 must be forwarded. Which routing table entry does the router use?

- A. 192.168.1.0/24 via 192.168.12.2
- B. 192.168.1.128/25 via 192.168.13.3
- C. 192.168.1.192/26 via 192.168.14.4
- D. 192.168.1.224/27 via 192.168.15.5

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 942

- (Topic 5)

```
A# show ip ospf neighbor
Neighbor ID      Pri  State            Dead Time    Address          Interface
172.1.1.1        1    EXCHANGE/ -  00:00:36    172.16.32.1  Serial0.1
```

Refer to the exhibit. An engineer assumes a configuration task from a peer. Router A must establish an OSPF neighbor relationship with neighbor 172.1.1.1. The output displays the status of the adjacency after 2 hours. What is the next step in the configuration process for the routers to establish an adjacency?

- A. Configure router A to use the same MTU size as router B.
- B. Configure a point-to-point link between router A and router B.
- C. Set the router B OSPF ID to the same value as its IP address.
- D. Set the router B OSPF ID to a nonhost address.

**Correct Answer:** A

**Section:** (none)

**Explanation**

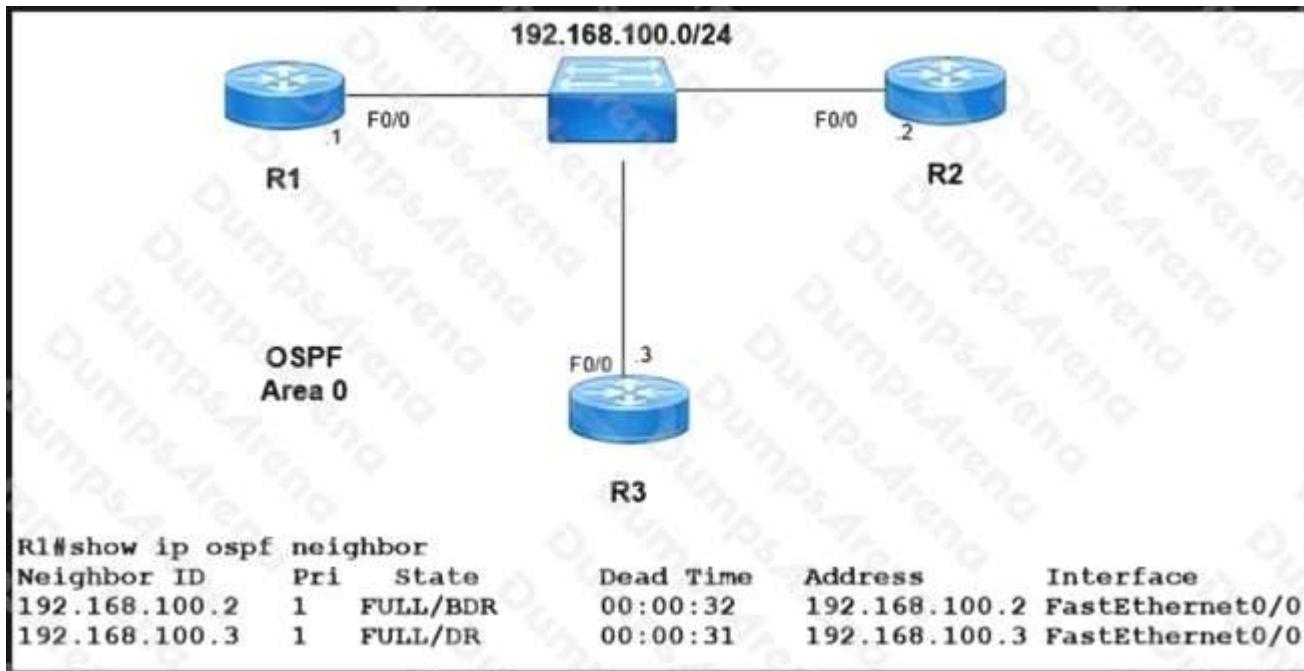
**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/ip/open-shortest-path-first-ospf/13684-12.html#neighbors>

#### QUESTION 943

- (Topic 5)



Refer to the exhibit. Which two configurations must the engineer apply on this network so that R1 becomes the DR? (Choose two.)

- A. R3(config)#interface fastethernet 0/0 R3(config-if)#ip ospf priority 0
  - B. R1(config)#router ospf 1  
R1(config-router)#router-id 192.168.100.1
  - C. R1(config)#interface fastethernet 0/0 R1(config-if)#ip ospf priority 200
  - D. R1(config)#interface fastethernet 0/0 R1(config-if)#ip ospf priority 0
  - E. R3(config)#interface fastethernet 0/0 R3(config-if)#ip ospf priority 200

**Correct Answer:** AC

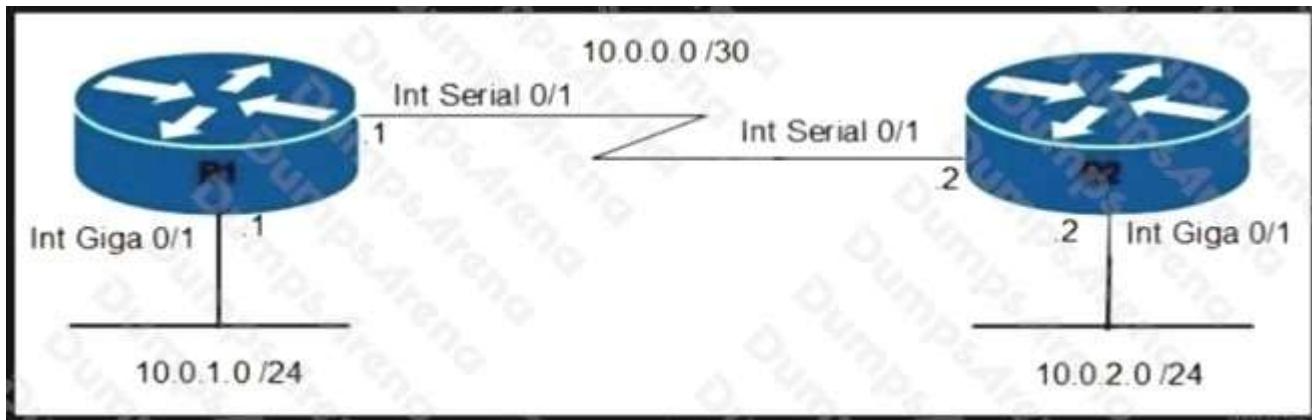
**Section: (none)**

## **Explanation**

### **Explanation/Reference:**

## QUESTION 944

- (Topic 5)



Refer to the exhibit. Which command configures OSPF on the point-to-point link between routers R1 and R2?

- A. router-id 10.0.0.15
- B. neighbor 10.1.2.0 cost 180
- C. network 10.0.0.0 0.0.0.255 area 0
- D. ip ospf priority 100

**Correct Answer:** C

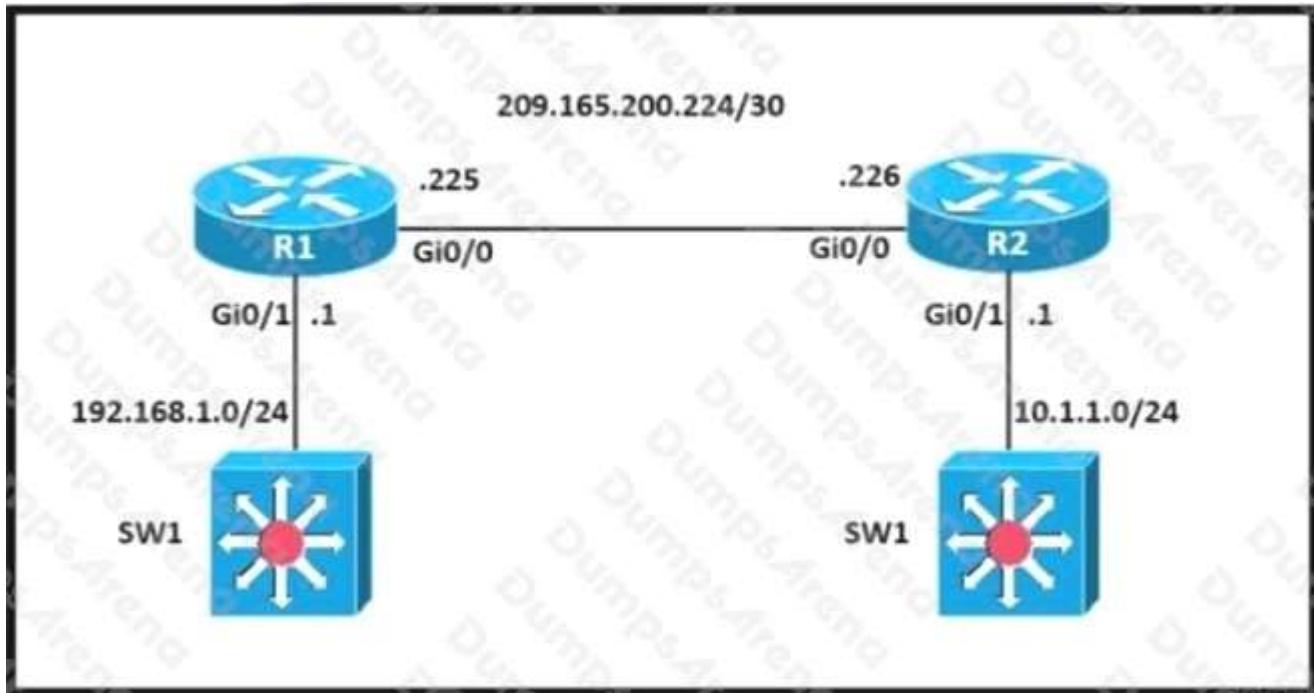
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 945

- (Topic 5)



Refer to the exhibit. A network engineer is in the process of establishing IP connectivity between two sites. Routers R1 and R2 are partially configured with IP addressing. Both routers have the ability to access devices on their respective LANs. Which command set configures the IP connectivity between devices located on both LANs in each site?

- A. R1  
ip route 192.168.1.1 255.255.255.0 GigabitEthernet0/1  
R2  
ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/1
- B. R1  
ip route 192.168.1.0 255.255.255.0 GigabitEthernet0/0  
R2  
ip route 10.1.1.1 255.255.255.0 GigabitEthernet0/0
- C. R1  
ip route 0.0.0.0 0.0.0.0 209.165.200.225  
R2  
ip route 0.0.0.0 0.0.0.0 209.165.200.226
- D. R1  
ip route 0.0.0.0 0.0.0.0 209.165.200.226  
R2  
ip route 0.0.0.0 0.0.0.0 209.165.200.225

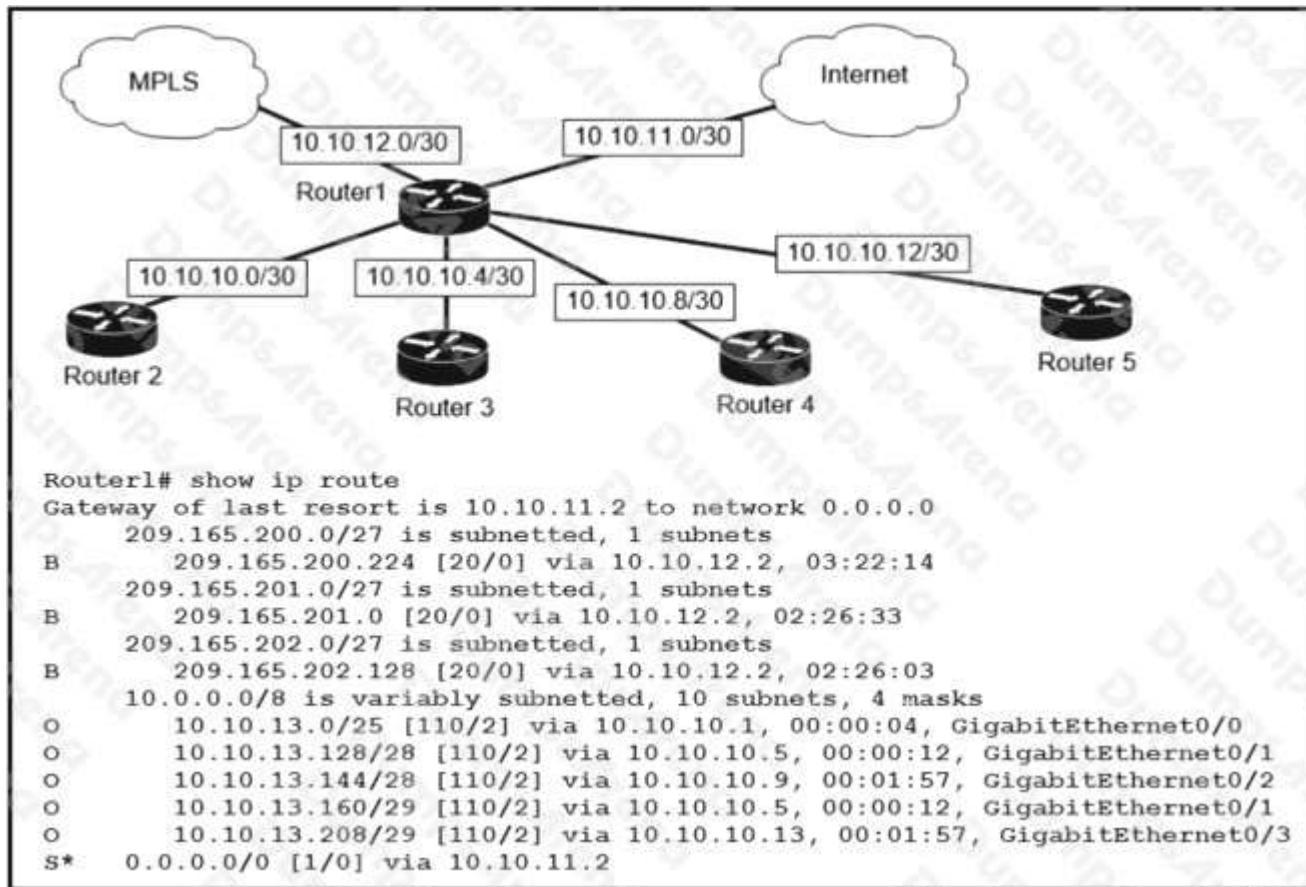
**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 946**  
- (Topic 5)



Refer to the exhibit. Which next-hop IP address does Router1 use for packets destined to host 10.10.13.158?

- A. 10.10.10.9
- B. 10.10.10.5
- C. 10.10.11.2
- D. 10.10.12.2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Topic 6, IP Services

**QUESTION 947**  
- (Topic 6)

Which feature or protocol is required for an IP SLA to measure UDP jitter?

- A. LLDP
- B. EEM

- C. CDP
- D. NTP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 948**

- (Topic 6)

Refer to the exhibit. Which feature is enabled by this configuration?

```
R1(config)#ip nat pool cisco 10.1.1.0 10.1.1.50 255.255.255.0
```

- A. static NAT translation
- B. a DHCP pool
- C. a dynamic NAT address pool
- D. PAT

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 949**

- (Topic 6)

Which NAT term is defined as a group of addresses available for NAT use?

- A. NAT pool
- B. dynamic NAT
- C. static NAT
- D. one-way NAT

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 950**

- (Topic 6)

Which command can you enter to allow Telnet to be supported in addition to SSH?

- A. transport input telnet ssh
- B. transport input telnet
- C. no transport input telnet
- D. privilege level 15

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 951**

- (Topic 6)

Refer to the exhibit. After you apply the given configuration to a router, the DHCP clients behind the device cannot communicate with hosts outside of their subnet. Which action is most likely to correct the problem?

```
ip dhcp pool test
    network 192.168.10.0 /27
    domain-name cisco.com
    dns-server 172.16.1.1 172.16.2.1
    netbios-name-server 172.16.1.10 172.16.2.10
```

- A. Configure the dns server on the same subnet as the clients
- B. Activate the dhcp pool
- C. Correct the subnet mask
- D. Configure the default gateway

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 952**

- (Topic 6)

Refer to the exhibit. Which rule does the DHCP server use when there is an IP address conflict?

| Router# show ip dhcp conflict |                  |                      |
|-------------------------------|------------------|----------------------|
| IP address                    | Detection method | Detection time       |
| 172.16.1.32                   | Ping             | Feb 16 1998 12:28 PM |
| 172.16.1.64                   | Gratuitous ARP   | Feb 23 1198 08:12 AM |

- A. The address is removed from the pool until the conflict is resolved.
- B. The address remains in the pool until the conflict is resolved.
- C. Only the IP detected by Gratuitous ARP is removed from the pool.
- D. Only the IP detected by Ping is removed from the pool.
- E. The IP will be shown, even after the conflict is resolved.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

An address conflict occurs when two hosts use the same IP address. During address assignment, DHCP checks for conflicts using ping and gratuitous ARP. If a conflict is detected, the address is removed from the pool. The address will not be assigned until the administrator resolves the conflict.

**QUESTION 953**

- (Topic 6)

Which command can you enter to determine the addresses that have been assigned on a DHCP Server?

- A. Show ip DHCP database.
- B. Show ip DHCP pool.
- C. Show ip DHCP binding.
- D. Show ip DHCP server statistic.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 954**

- (Topic 6)

What is the authoritative source for an address lookup?

- A. a recursive DNS search
- B. the operating system cache
- C. the ISP local cache
- D. the browser cache

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 955**

- (Topic 6)

Which command is used to verify the DHCP relay agent address that has been set up on your Cisco IOS router?

- A. show ip interface brief
- B. show ip dhcp bindings
- C. show ip route
- D. show ip interface
- E. show interface
- F. show ip dhcp pool

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 956**

- (Topic 6)

Which type of information resides on a DHCP server?

- A. a list of the available IP addresses in a pool
- B. a list of public IP addresses and their corresponding names
- C. usernames and passwords for the end users in a domain
- D. a list of statically assigned MAC addresses

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 957**

- (Topic 6)

What are two roles of Domain Name Services (DNS)? (Choose two.)

- A. builds a flat structure of DNS names for more efficient IP operations

- B. encrypts network Traffic as it travels across a WAN by default
- C. improves security by protecting IP addresses under Fully Qualified Domain Names (FQDNs)
- D. enables applications to identify resources by name instead of IP address
- E. allows a single host name to be shared across more than one IP address

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 958**

- (Topic 6)

Which Cisco IOS command will indicate that interface GigabitEthernet 0/0 is configured via DHCP?

- A. show ip interface GigabitEthernet 0/0 dhcp
- B. show interface GigabitEthernet 0/0
- C. show ip interface dhcp
- D. show ip interface GigabitEthernet 0/0
- E. show ip interface GigabitEthernet 0/0 brief

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 959**

- (Topic 6)

What will happen if you configure the logging trap debug command on a router?

- A. It causes the router to send messages with lower severity levels to the syslog server
- B. It causes the router to send all messages with the severity levels Warning, Error, Critical, and Emergency to the syslog server
- C. It causes the router to send all messages to the syslog server
- D. It causes the router to stop sending all messages to the syslog server

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 960**

- (Topic 6)

A network administrator enters the following command on a router: logging trap 3. What are three message

types that will be sent to the Syslog server? (Choose three.)

- A. informational
- B. emergency
- C. warning
- D. critical
- E. debug

- F. error

**Correct Answer:** BDF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 961**

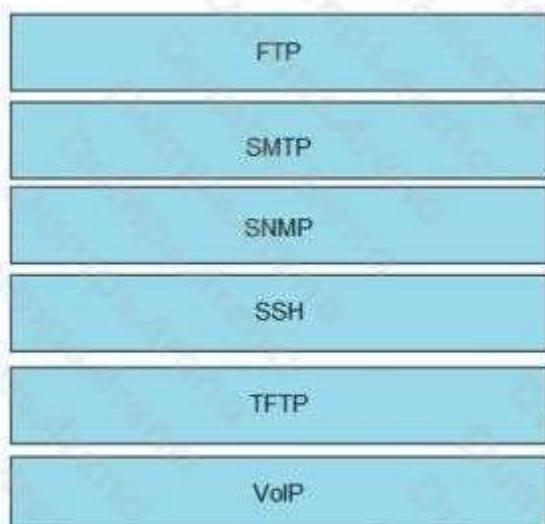
- (DRAG DROP) - (Topic 6)

DRAG DROP

Drag and drop the network protocols from the left onto the correct transport services on the right.

Select and Place:

**Answer Area**



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

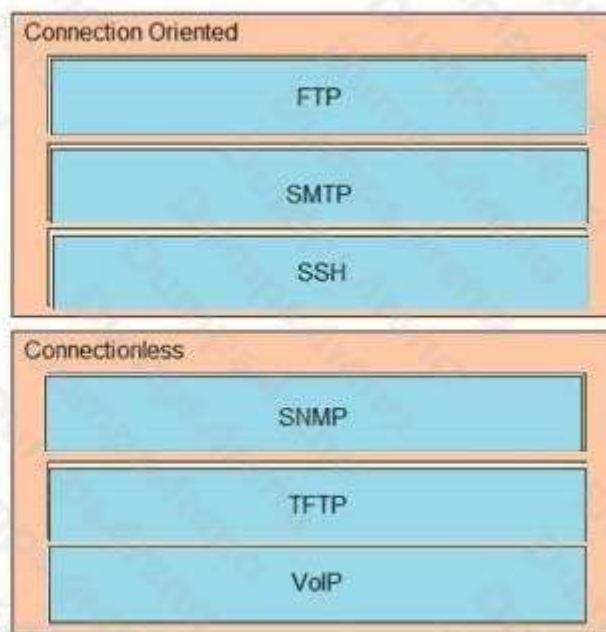
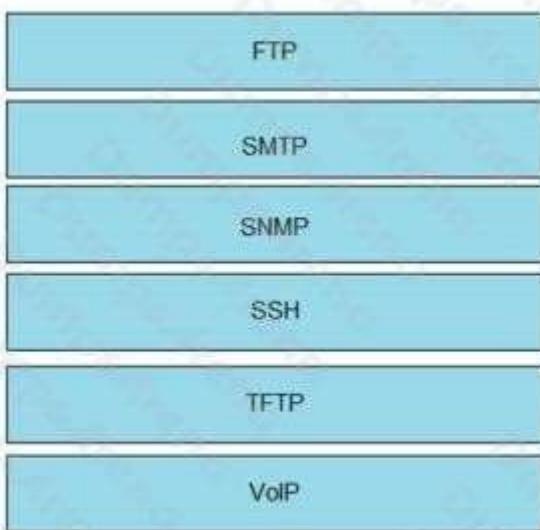
**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**Answer Area**



**QUESTION 962**  
- (Topic 6)

A network engineer must back up 20 network router configurations globally within a customer environment. Which protocol allows the engineer to perform this function using the Cisco IOS MIB?

- A. ARP
- B. SNMP
- C. SMTP

D. CDP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

SNMP is an application-layer protocol that provides a message format for communication between SNMP managers and agents. SNMP provides a standardized framework and a common language used for the monitoring and management of devices in a network.

The SNMP framework has three parts:

- An SNMP manager
- An SNMP agent
- A Management Information Base (MIB)

The Management Information Base (MIB) is a virtual information storage area for network management information, which consists of collections of managed objects.

With SNMP, the network administrator can send commands to multiple routers to do the backup.

**QUESTION 963**

- (Topic 6)

Which command enables a router to become a DHCP client?

- A. ip address dhcp
- B. ip dhcp client
- C. ip helper-address
- D. ip dhcp pool

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

If we want to get an IP address from the DHCP server on a Cisco device, we can use the command "ip address dhcp".

Note: The command "ip helper-address" enables a router to become a DHCP Relay Agent.

**QUESTION 964**

- (Topic 6)

Which function does an SNMP agent perform?

- A. It sends information about MIB variables in response to requests from the NMS
- B. It manages routing between Layer 3 devices in a network

- C. It coordinates user authentication between a network device and a TACACS+ or RADIUS server
- D. It requests information from remote network nodes about catastrophic system events

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 965**

- (Topic 6)

What are two roles of the Dynamic Host Configuration Protocol (DHCP)? (Choose two.)

- A. The DHCP server assigns IP addresses without requiring the client to renew them.
- B. The DHCP server leases client IP addresses dynamically.
- C. The DHCP client is able to request up to four DNS server addresses.
- D. The DHCP server offers the ability to exclude specific IP addresses from a pool of IP addresses.
- E. The DHCP client maintains a pool of IP addresses it is able to assign.

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 966**

- (Topic 6)

Which command must be entered when a device is configured as an NTP server?

- A. ntp peer
- B. ntp master
- C. ntp authenticate
- D. ntp server

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 967**

- (Topic 6)

What event has occurred if a router sends a notice level message to a syslog server?

- A. A certificate has expired

- B. An interface line has changed status
- C. A TCP connection has been torn down
- D. An ICMP connection has been built

**Correct Answer:** B

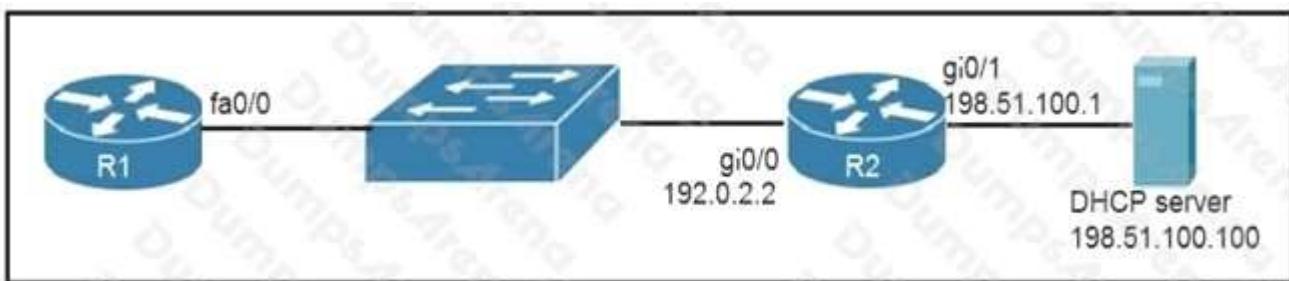
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 968

- (Topic 6)



Refer to the exhibit. An engineer deploys a topology in which R1 obtains its IP configuration from DHCP. If the switch and DHCP server configurations are complete and correct, which two sets of commands must be configured on R1 and R2 to

complete the task? (Choose two.)

- A. R1(config)# interface fa0/0  
R1(config-if)# ip helper-address 198.51.100.100
- B. R2(config)# interface gi0/0  
R2(config-if)# ip helper-address 198.51.100.100
- C. R1(config)# interface fa0/0 R1(config-if)# ip address dhcp  
R1(config-if)# no shutdown
- D. R2(config)# interface gi0/0 R2(config-if)# ip address dhcp
- E. R1(config)# interface fa0/0  
R1(config-if)# ip helper-address 192.0.2.2

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 969

- (Topic 6)

Which two actions are performed by the Weighted Random Early Detection mechanism? (Choose two.)

- A. It supports protocol discovery.
- B. It guarantees the delivery of high-priority packets.
- C. It can identify different flows with a high level of granularity.
- D. It can mitigate congestion by preventing the queue from filling up.
- E. It drops lower-priority packets before it drops higher-priority packets.

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Weighted Random Early Detection (WRED) is just a congestion avoidance mechanism. WRED drops packets selectively based on IP precedence. Edge routers assign IP precedences to packets as they enter the network. When a packet arrives, the following events occur:

1. The average queue size is calculated.
2. If the average is less than the minimum queue threshold, the arriving packet is queued.
3. If the average is between the minimum queue threshold for that type of traffic and the maximum threshold for the interface, the packet is either dropped or queued, depending on the packet dropprobability for that type of traffic.
4. If the average queue size is greater than the maximum threshold, the packet is dropped.

WRED reduces the chances of tail drop (when the queue is full, the packet is dropped) by selectively dropping packets when the output interface begins to show signs of congestion (thus it can mitigate congestion by preventing the queue from filling up). By dropping some packets early rather than waiting until the queue is full, WRED avoids dropping large numbers of packets at once and minimizes the chances of global synchronization. Thus, WRED allows the transmission line to be used

fully at all times.

WRED generally drops packets selectively based on IP precedence. Packets with a higher IP precedence are less likely to be dropped than packets with a lower precedence. Thus, the higher the priority of a packet, the higher the probability that the packet will be delivered.

Reference: [https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos\\_conavd/configuration/15-mt/qos-conavd-15-mt-book/qos-conavd-cfg-wred.html](https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_conavd/configuration/15-mt/qos-conavd-15-mt-book/qos-conavd-cfg-wred.html)

## QUESTION 970

- (Topic 6)

| R2#show ip nat translations |                    |                |                  |                  |
|-----------------------------|--------------------|----------------|------------------|------------------|
| Pro                         | Inside global      | Inside local   | Outside local    | Outside global   |
| tcp                         | 172.23.104.3:43268 | 10.4.4.4:43268 | 172.23.103.10:23 | 172.23.103.10:23 |
| tcp                         | 172.23.104.4:45507 | 10.4.4.5:45507 | 172.23.103.10:80 | 172.23.103.10:80 |

Refer to the exhibit. An engineer configured NAT translations and has verified that the configuration is correct. Which IP address is the source IP after the NAT has taken place?

- A. 10.4.4.4
- B. 10.4.4.5
- C. 172.23.103.10
- D. 172.23.104.4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 971**

- (Topic 6)

If a notice-level message is sent to a syslog server, which event has occurred?

- A. A network device has restarted.
- B. A debug operation is running.
- C. A routing instance has flapped.
- D. An ARP inspection has failed.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Usually no action is required when a route flaps so it generates the notification syslog level message (level 5).

**QUESTION 972**

- (DRAG DROP) - (Topic 6)

**DRAG DROP**

Drag and drop the functions from the left onto the correct network components on the right.

Select and Place:

## Answer Area

resolves web URLs to IP addresses

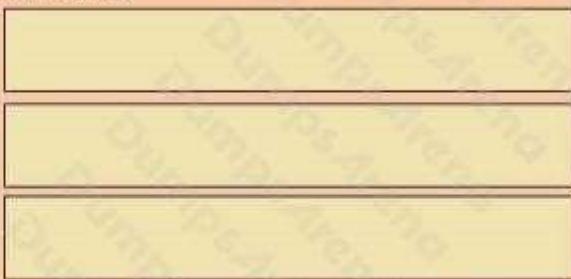
assigns a default gateway to a client

holds the TCP/IP settings to be distributed to the clients

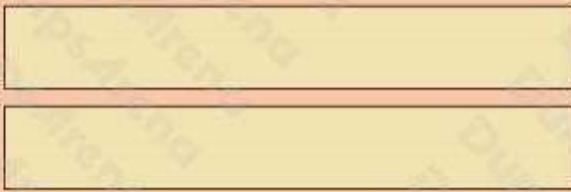
stores a list of IP addresses mapped to names

assigns IP addresses to enabled clients

### DHCP Server



### DNS Server



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

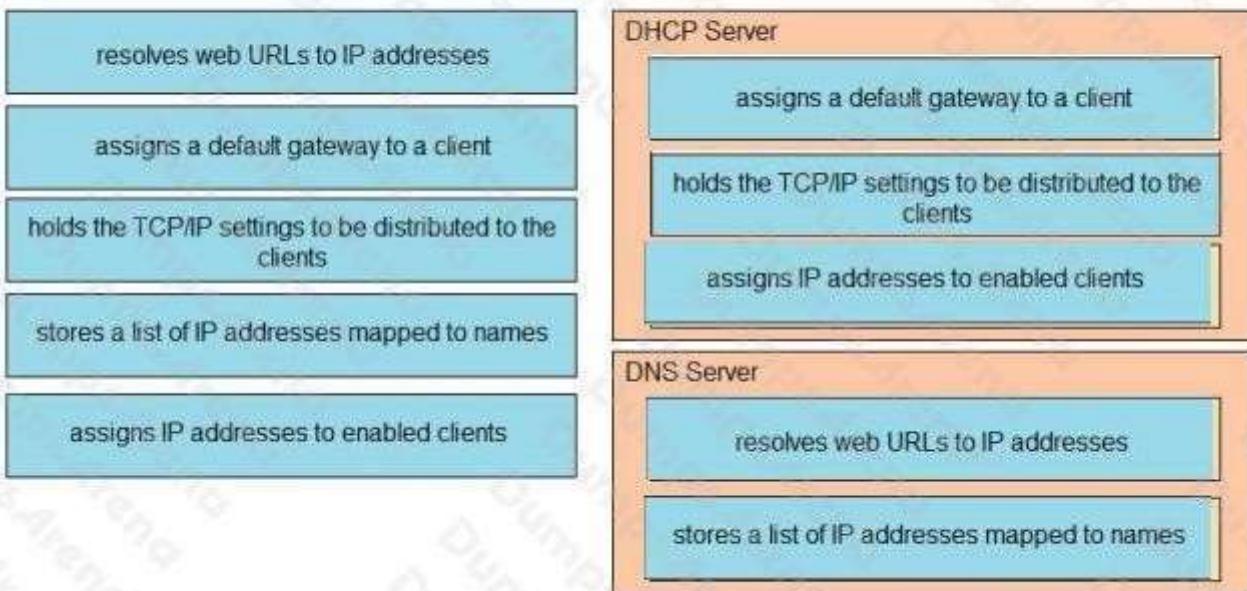
**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Answer Area



Explanation:

### QUESTION 973 - (Topic 6)

Which two tasks must be performed to configure NTP to a trusted server in client mode on a single network device? (Choose two.)

- A. Enable NTP authentication.
- B. Verify the time zone.
- C. Specify the IP address of the NTP server.
- D. Set the NTP server private key.
- E. Disable NTP broadcasts.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

### **Explanation/Reference:**

Explanation:

To configure authentication, perform this task in privileged mode:

Step 1: Configure an authentication key pair for NTP and specify whether the key will be trusted or untrusted.

Step 2: Set the IP address of the NTP server and the public key.

Step 3: Enable NTP client mode.

Step 4: Enable NTP authentication.

Step 5: Verify the NTP configuration.

Reference: <https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4000/8-2glx/configuration/guide/ntp.html>

#### **QUESTION 974**

- (Topic 6)

What is the primary purpose of a First Hop Redundancy Protocol?

- A. It allows directly connected neighbors to share configuration information
- B. It reduces routing failures by allowing Layer 3 load balancing between OSPF neighbors that have the same link metric
- C. It allows a router to use bridge priorities to create multiple loop-free paths to a single destination
- D. It reduces routing failures by allowing more than one router to represent itself as the default gateway of a network

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 975**

- (Topic 6)

An engineer is configuring NAT to translate the source subnet of 10.10.0.0/24 to any one of three addresses: 192.168.3.1, 192.168.3.2, or 192.168.3.3. Which configuration should be used?

- A. enable configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30 access-list 1 permit 10.10.0.0 0.0.0.255 ip nat outside destination list 1 pool mypool interface g1/1 ip nat inside interface g1/2 ip nat outside
- B. enable configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30 access-list 1 permit 10.10.0.0 0.0.0.254 ip nat inside source list 1 pool mypool interface g1/1 ip nat inside interface g1/2 ip nat outside
- C. enable configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30 route map permit 10.10.0.0 255.255.255.0 ip nat outside destination list 1 pool mypool interface g1/1 ip nat inside interface g1/2 ip nat outside
- D. enable configure terminal  
ip nat pool mypool 192.168.3.1 192.168.3.3 prefix-length 30 access-list 1 permit 10.10.0.0 0.0.0.255 ip nat inside source list 1 pool mypool interface g1/1 ip nat inside interface g1/2 ip nat outside

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 976**

- (Topic 6)

When the active router in an HSRP group fails, which router assumes the role and forwards packets?

- A. forwarding
- B. listening
- C. standby
- D. backup

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 977**

- (Topic 6)

What protocol allows an engineer to back up 20 network router configurations globally while using the copy function?

- A. TCP
- B. SMTP
- C. FTP
- D. SNMP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 978**

- (Topic 6)

Which type of address is the public IP address of a NAT device?

- A. outside global
- B. outside local
- C. inside global
- D. inside local
- E. outside public
- F. inside public

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

NAT uses four types of addresses:

Inside local address - The IP address assigned to a host on the inside network. The address is usually not an IP address



assigned by the Internet Network Information Center (InterNIC) or service provider. This address is likely to be an RFC 1918 private address.

Inside global address - A legitimate IP address assigned by the InterNIC or service provider that represents one or more



inside local IP addresses to the outside world.

Outside local address - The IP address of an outside host as it is known to the hosts on the inside network.



Outside global address - The IP address assigned to a host on the outside network. The owner of the host assigns this



address.

**QUESTION 979**

- (Topic 6)

Which two pieces of information can you determine from the output of the show ntp status command? (Choose two.)

- A. whether the NTP peer is statically configured
- B. the IP address of the peer to which the clock is synchronized
- C. the configured NTP servers
- D. whether the clock is synchronized
- E. the NTP version number of the peer

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Below is the output of the "show ntp status" command. From this output we learn that R1 has a stratum of 10 and it is getting clock from 10.1.2.1.

```
R1#show ntp status
Clock is synchronized, stratum 10, reference is 10.1.2.1
nominal freq is 250.0000 Hz, actual freq is 249.9987 Hz, precision is 2**18
reference time is D5E492E9.98ACB4CF (13:00:25.596 CST Wed Sep 18 2013)
clock offset is 15.4356 msec, root delay is 52.17 msec
root dispersion is 67.61 msec, peer dispersion is 28.12 msec
```

### QUESTION 980

- (Topic 6)

Which keyword in a NAT configuration enables the use of one outside IP address for multiple inside hosts?

- A. source
- B. static
- C. pool
- D. overload

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

By adding the keyword "overload" at the end of a NAT statement, NAT becomes PAT (Port Address Translation). This is also a kind of dynamic NAT that maps multiple private IP addresses to a single public IP address (many-to-one) by using different ports. Static NAT and Dynamic NAT both require a one-to-one mapping from the inside local to the inside global address. By using PAT, you can have thousands of users connect to the Internet using only one real global IP address. PAT is the technology that helps us not run out of public IP address on the Internet. This is the most popular type of NAT.

An example of using "overload" keyword is shown below:

```
R1(config)# ip nat inside source list 1 interface ethernet1 overload
```

### QUESTION 981

- (Topic 6)

Which feature or protocol determines whether the QOS on the network is sufficient to support IP services?

- A. LLDP
- B. CDP
- C. IP SLA
- D. EEM

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

IP SLA allows an IT professional to collect information about network performance in real time. Therefore it helps determine whether the QoS on the network is sufficient for IP services or not.

Cisco IOS Embedded Event Manager (EEM) is a powerful and flexible subsystem that provides real-time network event detection and onboard automation. It gives you the ability to adapt the behavior of your network devices to align with your business needs.

**QUESTION 982**

- (Topic 6)

In QoS, which prioritization method is appropriate for interactive voice and video?

- A. traffic policing
- B. round-robin scheduling
- C. low-latency queuing
- D. expedited forwarding

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:****QUESTION 983**

- (DRAG DROP) - (Topic 6)

Drag and drop the SNMP components from the left onto the descriptions on the right.

Select and Place:

**Answer Area**

|              |
|--------------|
| MIB          |
| SNMP agent   |
| SNMP manager |
| SNMP trap    |

|                                                                         |
|-------------------------------------------------------------------------|
| collection of variables that can be monitored                           |
| unsolicited message                                                     |
| responds to status requests and requests for information about a device |
| resides on an NMS                                                       |

- A.
- B.

C.  
D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**Answer Area**

|              |
|--------------|
| MIB          |
| SNMP agent   |
| SNMP manager |
| SNMP trap    |

|              |
|--------------|
| MIB          |
| SNMP trap    |
| SNMP agent   |
| SNMP manager |

**Explanation:**

**QUESTION 984**

- (Topic 6)

What is the purpose of traffic shaping?

- A. to be a marking mechanism that identifies different flows
- B. to provide fair queuing for buffered flows
- C. to mitigate delays over slow links
- D. to limit the bandwidth that a flow can use

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**Explanation:**

The primary reasons you would use traffic shaping are to control access to available bandwidth, to ensure that traffic conforms to the policies established for it, and to regulate the flow of traffic in order to avoid congestion that can occur when the sent traffic exceeds the access speed of its remote, target interface.

**QUESTION 985**

- (Topic 6)

What is a function of TFTP in network operations?

- A. transfers IOS images from a server to a router for firmware upgrades
- B. transfers a backup configuration file from a server to a switch using a username and password
- C. transfers a configuration files from a server to a router on a congested link
- D. transfers files between file systems on a router

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 986**

- (Topic 6)

What is a DHCP client?

- A. a workstation that requests a domain name associated with its IP address
- B. a host that is configured to request an IP address automatically
- C. a server that dynamically assigns IP addresses to hosts.
- D. a router that statically assigns IP addresses to hosts.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 987**

- (Topic 6)

Where does the configuration reside when a helper address is configured to support DHCP?

- A. on the router closest to the server
- B. on the router closest to the client
- C. on every router along the path
- D. on the switch trunk interface

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 988**

- (Topic 6)

What facilitates a Telnet connection between devices by entering the device name?

- A. SNMP
- B. DNS lookup
- C. syslog
- D. NTP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 989**

- (Topic 6)

When deploying syslog, which severity level logs informational messages?

- A. 0
- B. 2
- C. 4
- D. 6

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://en.wikipedia.org/wiki/Syslog>

**QUESTION 990**

- (DRAG DROP) - (Topic 6)

DRAG DROP



e0



s0



Web server

172.16.1.2

interface Ethernet0

A

B

interface Serial0

C

D

E

F

access-list 1 permit 172.16.1.0 0.0.0.255

Refer to the exhibit. An engineer is configuring the router to provide static NAT for the webserver. Drag and drop the configuration commands from the left onto the letters that correspond to its position in the configuration on the right.

Select and Place:

|                                                                            |            |
|----------------------------------------------------------------------------|------------|
| ip address 172.16.1.1 255.255.255.0                                        | position A |
| ip address 45.83.2.214 255.255.255.240                                     | position B |
| ip nat inside                                                              | position C |
| ip nat inside source list 1 interface s0<br>overload                       | position D |
| ip nat inside source static tcp 172.16.1.2<br>80 45.83.2.214 80 extendable | position E |
| ip nat outside                                                             | position F |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ip address 172.16.1.1 255.255.255.0

ip address 45.83.2.214 255.255.255.240

ip nat inside

ip nat inside source list 1 interface s0  
overload

ip nat inside source static tcp 172.16.1.2  
80 45.83.2.214 80 extendable

ip nat outside

ip address 172.16.1.1 255.255.255.0

ip nat inside

ip address 45.83.2.214 255.255.255.240

ip nat outside

ip nat inside source static tcp 172.16.1.2  
80 45.83.2.214 80 extendable

ip nat inside source list 1 interface s0  
overload

Explanation:

**QUESTION 991**

- (Topic 6)

Which two QoS tools provide congestion management? (Choose two.)

- A. CBWFQ
- B. FRTS
- C. CAR
- D. PBR
- E. PQ

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 992**

- (Topic 6)

Which QoS tool is used to optimize voice traffic on a network that is primarily intended for data traffic?

- A. WRED

- B. FIFO
- C. WFQ
- D. PQ

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 993**

- (Topic 6)

An engineer is installing a new wireless printer with a static IP address on the Wi-Fi network. Which feature must be enabled and configured to prevent connection issues with the printer?

- A. client exclusion
- B. DHCP address assignment
- C. passive client
- D. static IP tunneling

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 994**

- (Topic 6)

When a client and server are not on the same physical network, which device is used to forward requests and replies between client and server for DHCP?

- A. DHCPOFFER
- B. DHCP relay agent
- C. DHCP server
- D. DHCPDISCOVER

**Correct Answer:** B

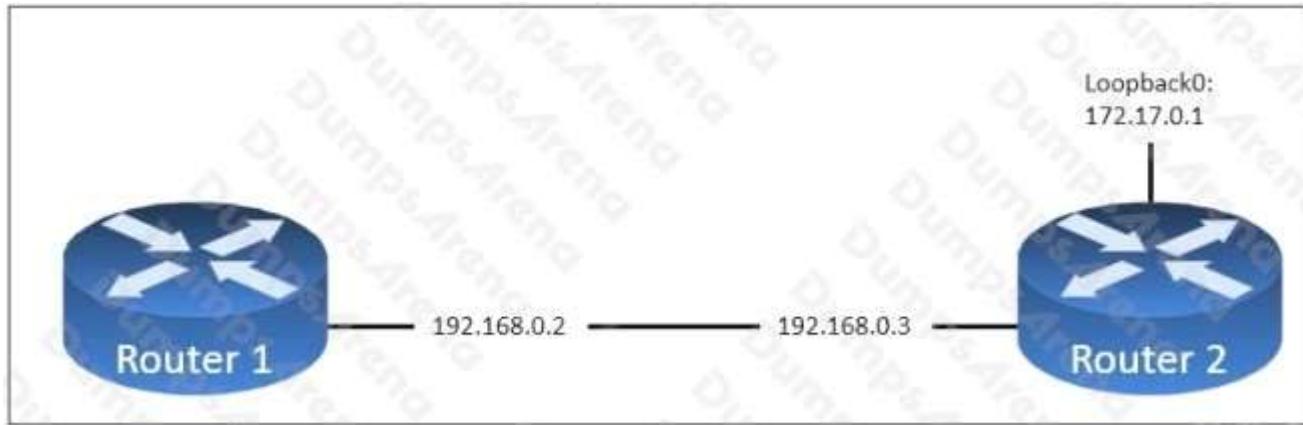
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 995**

- (Topic 6)



Refer to the exhibit. The ntp server 192.168.0.3 command has been configured on router 1 to make it an NTP client of router 2.

2. Which command must be configured on router 2 so that it operates in server-only mode and relies only on its internal clock?

- A. Router2(config)#ntp server 172.17.0.1
- B. Router2(config)#ntp server 192.168.0.2
- C. Router2(config)#ntp passive
- D. Router2(config)#ntp master 4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 996

- (Topic 6)

Which protocol requires authentication to transfer a backup configuration file from a router to a remote server?

- A. FTP
- B. SMTP
- C. TFTP
- D. DTP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 997

- (Topic 6)

Which condition must be met before an NMS handles an SNMP trap from an agent?

- A. The NMS must receive the same trap from two different SNMP agents to verify that it is reliable.

- B. The NMS must receive a trap and an inform message from the SNMP agent within a configured interval.
- C. The NMS software must be loaded with the MIB associated with the trap.
- D. The NMS must be configured on the same router as the SNMP agent.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 1**

- (Topic 6)

What protocol allows an engineer to back up 20 network router configurations globally while using the copy function?

- A. TCP
- B. SMTP
- C. FTP
- D. SNMP

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 2**

- (Topic 6)

Which type of address is the public IP address of a NAT device?

- A. outside global
- B. outside local
- C. inside global
- D. inside local
- E. outside public
- F. inside public

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

NAT uses four types of addresses:

Inside local address - The IP address assigned to a host on the inside network. The address is usually not an IP address

assigned by the Internet Network Information Center (InterNIC) or service provider. This address is likely to be an RFC 1918 private address.

Inside global address - A legitimate IP address assigned by the InterNIC or service provider that represents one or more

inside local IP addresses to the outside world.

Outside local address - The IP address of an outside host as it is known to the hosts on the inside network.

Outside global address - The IP address assigned to a host on the outside network. The owner of the host assigns this

address.

### QUESTION 3

- (Topic 6)

Which two pieces of information can you determine from the output of the show ntp status command? (Choose two.)

- A. whether the NTP peer is statically configured
- B. the IP address of the peer to which the clock is synchronized
- C. the configured NTP servers
- D. whether the clock is synchronized
- E. the NTP version number of the peer

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Below is the output of the "show ntp status" command. From this output we learn that R1 has a stratum of 10 and it is getting clock from 10.1.2.1.

```
R1#show ntp status
Clock is synchronized, stratum 10, reference is 10.1.2.1
nominal freq is 250.0000 Hz, actual freq is 249.9987 Hz, precision is 2**18
reference time is D5E492E9.98ACB4CF (13:00:25.596 CST Wed Sep 18 2013)
clock offset is 15.4356 msec, root delay is 52.17 msec
root dispersion is 67.61 msec, peer dispersion is 28.12 msec
```

### QUESTION 4

- (Topic 6)

Which keyword in a NAT configuration enables the use of one outside IP address for multiple inside hosts?

- A. source
- B. static
- C. pool
- D. overload

# DUMPS ARENA

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

By adding the keyword "overload" at the end of a NAT statement, NAT becomes PAT (Port Address Translation). This is also a kind of dynamic NAT that maps multiple private IP addresses to a single public IP address (many-to-one) by using different ports. Static NAT and Dynamic NAT both require a one-to-one mapping from the inside local to the inside global address. By using PAT, you can have thousands of users connect to the Internet using only one real global IP address. PAT is the technology that helps us not run out of public IP address on the Internet. This is the most popular type of NAT.

An example of using "overload" keyword is shown below:

```
R1(config)# ip nat inside source list 1 interface ethernet1 overload
```

## QUESTION 5

- (Topic 6)

Which feature or protocol determines whether the QoS on the network is sufficient to support IP services?

- A. LLDP
- B. CDP
- C. IP SLA
- D. EEM

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

IP SLA allows an IT professional to collect information about network performance in real time. Therefore it helps determine whether the QoS on the network is sufficient for IP services or not.

Cisco IOS Embedded Event Manager (EEM) is a powerful and flexible subsystem that provides real-time network event detection and onboard automation. It gives you the ability to adapt the behavior of your network devices to align with your business needs.

## QUESTION 6

- (Topic 6)

In QoS, which prioritization method is appropriate for interactive voice and video?

- A. traffic policing
- B. round-robin scheduling
- C. low-latency queuing
- D. expedited forwarding

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 7**

- (DRAG DROP) - (Topic 6)

Drag and drop the SNMP components from the left onto the descriptions on the right.

Select and Place:

#### **Answer Area**

|              |
|--------------|
| MIB          |
| SNMP agent   |
| SNMP manager |
| SNMP trap    |

collection of variables that can be monitored

unsolicited message

responds to status requests and requests for information about a device

resides on an NMS

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Answer Area

|              |
|--------------|
| MIB          |
| SNMP agent   |
| SNMP manager |
| SNMP trap    |

|              |
|--------------|
| MIB          |
| SNMP trap    |
| SNMP agent   |
| SNMP manager |

Explanation:

### QUESTION 8

- (Topic 6)

What is the purpose of traffic shaping?

- A. to be a marking mechanism that identifies different flows
- B. to provide fair queuing for buffered flows
- C. to mitigate delays over slow links
- D. to limit the bandwidth that a flow can use

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The primary reasons you would use traffic shaping are to control access to available bandwidth, to ensure that traffic conforms to the policies established for it, and to regulate the flow of traffic in order to avoid congestion that can occur when the sent traffic exceeds the access speed of its remote, target interface.

### QUESTION 9

- (Topic 6)

What is a function of TFTP in network operations?

- A. transfers IOS images from a server to a router for firmware upgrades
- B. transfers a backup configuration file from a server to a switch using a username and password

- C. transfers a configuration files from a server to a router on a congested link
- D. transfers files between file systems on a router

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 10**

- (Topic 6)

What is a DHCP client?

- A. a workstation that requests a domain name associated with its IP address
- B. a host that is configured to request an IP address automatically
- C. a server that dynamically assigns IP addresses to hosts.
- D. a router that statically assigns IP addresses to hosts.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 11**

- (Topic 6)

Where does the configuration reside when a helper address is configured to support DHCP?

- A. on the router closest to the server
- B. on the router closest to the client
- C. on every router along the path
- D. on the switch trunk interface

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 12**

- (Topic 6)

What facilitates a Telnet connection between devices by entering the device name?

- A. SNMP
- B. DNS lookup
- C. syslog
- D. NTP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 13**

- (Topic 6)

When deploying syslog, which severity level logs informational messages?

- A. 0
- B. 2
- C. 4
- D. 6

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://en.wikipedia.org/wiki/Syslog>

**QUESTION 14**

- (DRAG DROP) - (Topic 6)

DRAG DROP



Web server

172.16.1.2

e0



s0



A

B

C

D

E

F

access-list 1 permit 172.16.1.0 0.0.0.255

Refer to the exhibit. An engineer is configuring the router to provide static NAT for the webserver. Drag and drop the configuration commands from the left onto the letters that correspond to its position in the configuration on the right.

Select and Place:

|                                                                            |            |
|----------------------------------------------------------------------------|------------|
| ip address 172.16.1.1 255.255.255.0                                        | position A |
| ip address 45.83.2.214 255.255.255.240                                     | position B |
| ip nat inside                                                              | position C |
| ip nat inside source list 1 interface s0<br>overload                       | position D |
| ip nat inside source static tcp 172.16.1.2<br>80 45.83.2.214 80 extendable | position E |
| ip nat outside                                                             | position F |

A.

B.

C.

D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

ip address 172.16.1.1 255.255.255.0

ip address 45.83.2.214 255.255.255.240

ip nat inside

ip nat inside source list 1 interface s0  
overload

ip nat inside source static tcp 172.16.1.2  
80 45.83.2.214 80 extendable

ip nat outside

ip address 172.16.1.1 255.255.255.0

ip nat inside

ip address 45.83.2.214 255.255.255.240

ip nat outside

ip nat inside source static tcp 172.16.1.2  
80 45.83.2.214 80 extendable

ip nat inside source list 1 interface s0  
overload

Explanation:

**QUESTION 15**

- (Topic 6)

Which two QoS tools provide congestion management? (Choose two.)

- A. CBWFQ
- B. FRTS
- C. CAR
- D. PBR
- E. PQ

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 16**

- (Topic 6)

Which QoS tool is used to optimize voice traffic on a network that is primarily intended for data traffic?

- A. WRED

- B. FIFO
- C. WFQ
- D. PQ

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 17**

- (Topic 6)

An engineer is installing a new wireless printer with a static IP address on the Wi-Fi network. Which feature must be enabled and configured to prevent connection issues with the printer?

- A. client exclusion
- B. DHCP address assignment
- C. passive client
- D. static IP tunneling

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 18**

- (Topic 6)

When a client and server are not on the same physical network, which device is used to forward requests and replies between client and server for DHCP?

- A. DHCPOFFER
- B. DHCP relay agent
- C. DHCP server
- D. DHCPDISCOVER

**Correct Answer:** B

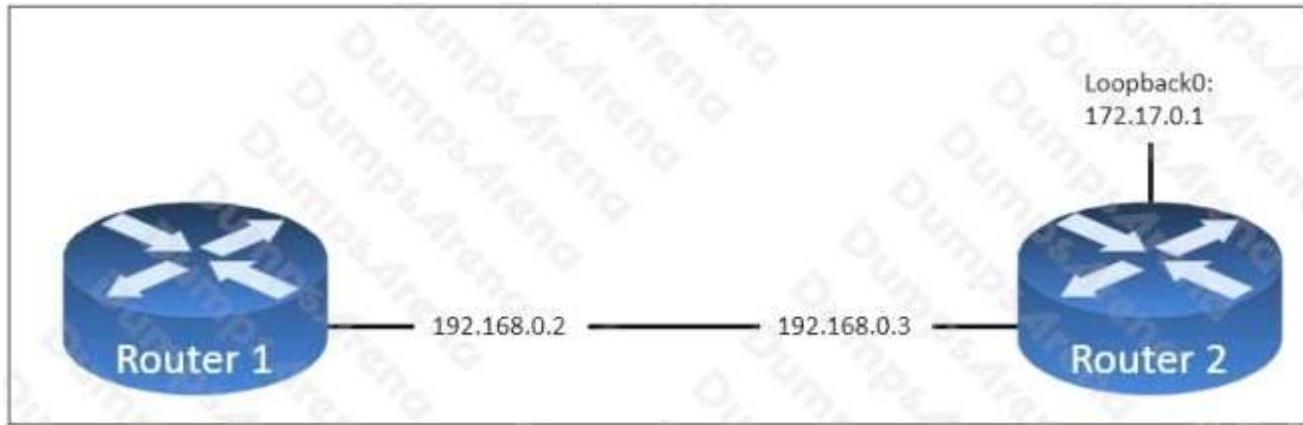
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 19**

- (Topic 6)



Refer to the exhibit. The ntp server 192.168.0.3 command has been configured on router 1 to make it an NTP client of router 2.

2. Which command must be configured on router 2 so that it operates in server-only mode and relies only on its internal clock?

- A. Router2(config)#ntp server 172.17.0.1
- B. Router2(config)#ntp server 192.168.0.2
- C. Router2(config)#ntp passive
- D. Router2(config)#ntp master 4

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 20

- (Topic 6)

Which protocol requires authentication to transfer a backup configuration file from a router to a remote server?

- A. FTP
- B. SMTP
- C. TFTP
- D. DTP

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 21

- (Topic 6)

Which condition must be met before an NMS handles an SNMP trap from an agent?

- A. The NMS must receive the same trap from two different SNMP agents to verify that it is reliable.

- B. The NMS must receive a trap and an inform message from the SNMP agent within a configured interval.
- C. The NMS software must be loaded with the MIB associated with the trap.
- D. The NMS must be configured on the same router as the SNMP agent.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 22**

- (Topic 6)

An engineer is configuring switch SW1 to act as an NTP server when all upstream NTP server connectivity fails. Which configuration must be used?

- A. SW1# config t  
SW1(config)#ntp peer 192.168.1.1  
SW1(config)#ntp access-group peer accesslist1
- B. SW1# config t  
SW1(config)#ntp master  
SW1(config)#ntp server192.168.1.1
- C. SW1# config t  
SW1(config)#ntp backup  
SW1(config)#ntp server192.168.1.1
- D. SW1# config t  
SW1(config)#ntp server192.168.1.1  
SW1(config)#ntp access-group peer accesslist1

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 23**

0 - (Topic 6)

A network administrator must enable DHCP services between two sites. What must be configured for the router to pass DHCPDISCOVER messages on to the server?

- A. DHCP Binding
- B. a DHCP Relay Agent
- C. DHCP Snooping
- D. a DHCP Pool

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 24**

1 - (Topic 6)

Which level of severity must be set to get informational syslogs?

- A. alert
- B. critical
- C. notice
- D. debug

**Correct Answer:** D**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 25**

2 - (Topic 6)

On workstations running Microsoft Windows, which protocol provides the default gateway for the device?

- A. STP
- B. DHCP
- C. SNMP
- D. DNS

**Correct Answer:** B**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 26**

3 - (Topic 6)

Which two statements about NTP operations are true? (Choose two.)

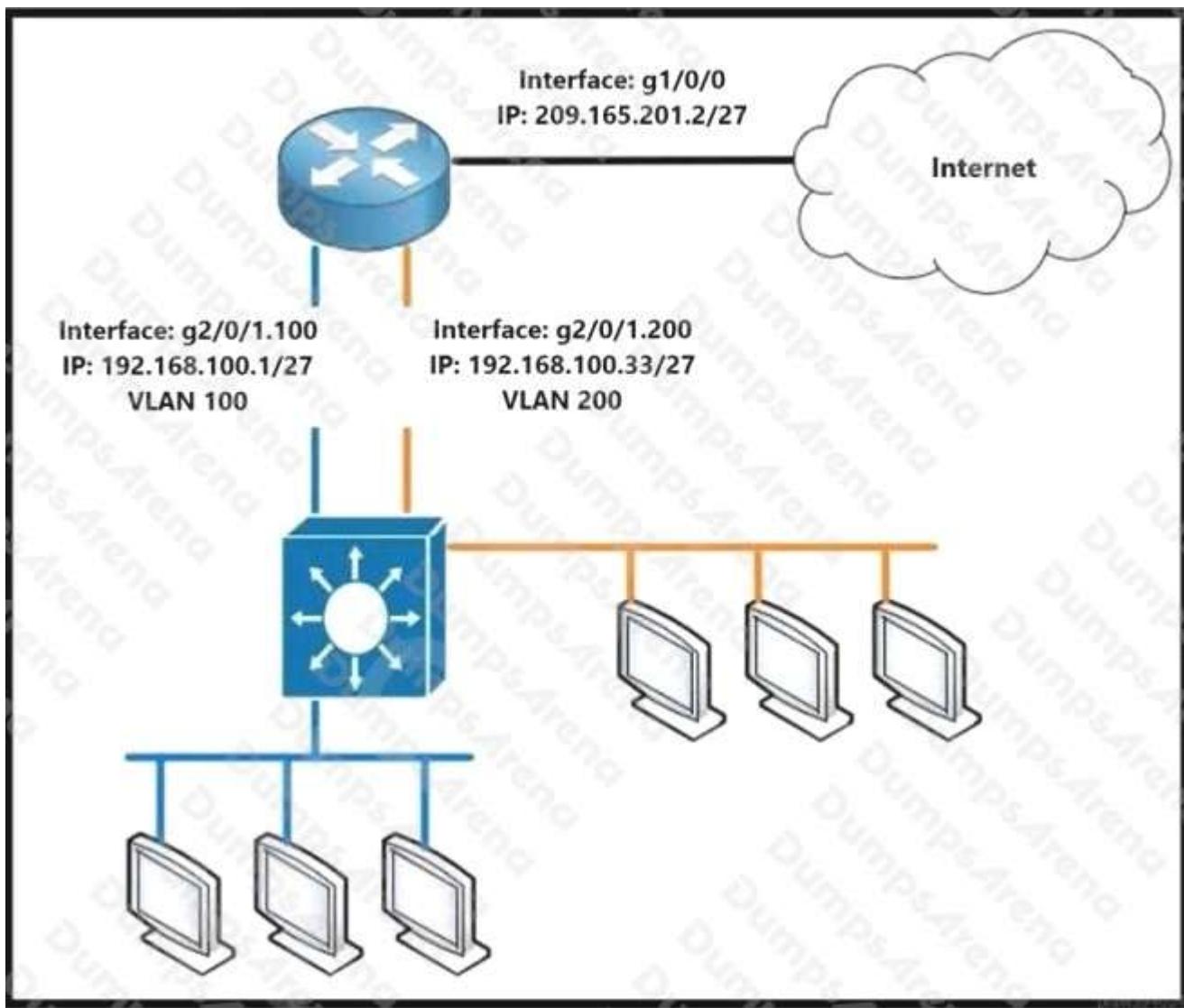
- A. NTP uses UDP over IP.
- B. Cisco routers can act as both NTP authoritative servers and NTP clients.
- C. Cisco routers can act only as NTP servers.
- D. Cisco routers can act only as NTP clients.
- E. NTP uses TCP over IP.

**Correct Answer:** AB**Section:** (none)**Explanation**

**Explanation/Reference:**

**QUESTION 27**

4 - (Topic 6)



Refer to the exhibit. Which configuration must be applied to the router that configures PAT to translate all addresses in VLAN 200 while allowing devices on VLAN 100 to use their own IP addresses?

- A. Router1(config)#access-list 99 permit 192.168.100.32 0.0.0.31 Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload  
Router1(config)#interface gi2/0/1.200  
Router1(config)#ip nat inside

Router1(config)#interface gi1/0/0  
Router1(config)#ip nat outside

- B. Router1(config)#access-list 99 permit 192.168.100.0 0.0.0.255 Router1(config)#ip nat inside source list 99

```
interface gi1/0/0 overload
Router1(config)#interface gi2/0/1.200
Router1(config)#ip nat inside
Router1(config)#interface gi1/0/0
Router1(config)#ip nat outside
C. Router1(config)#access-list 99 permit 209.165.201.2 255.255.255.255 Router1(config)#ip nat inside source
list 99 interface gi1/0/0 overload
Router1(config)#interface gi2/0/1.200
```

```
Router1(config)#ip nat inside
Router1(config)#interface gi1/0/0
Router1(config)#ip nat outside
D. Router1(config)#access-list 99 permit 209.165.201.2 0.0.0.0
Router1(config)#ip nat inside source list 99 interface gi1/0/0 overload Router1(config)#interface gi2/0/1.200
Router1(config)#ip nat inside
Router1(config)#interface gi1/0/0
Router1(config)#ip nat outside
```

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 28**

5 - (Topic 6)

```
R1#show run
Building configuration...
!
hostname R1
!
username CNAC password 0 cona123
!
ip domain-name CNAC.com
!
interface GigabitEthernet0/0/0
    ip address 192.168.1.10 255.255.255.0
    duplex auto
    speed auto
!
line vty 0 15
    login local

R1#show crypto key mypubkey rsa

R1#show ssh
%No SSHv2 server connections running.
%No SSHv1 server connections running.
```

Refer to the exhibit. Which two commands must be added to update the configuration of router R1 so that it accepts only encrypted connections? (Choose two.)

- A. transport input ssh
- B. username CNAC secret R!41!3705926@
- C. crypto key generate rsa 1024

- D. line vty 0 4
  - E. ip ssh version 2
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**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 29**

6 - (Topic 6)

Which command implies the use of SNMPv3?

- A. snmp-server user
- B. snmp-server host
- C. snmp-server enable traps
  
- D. snmp-server community

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/snmp/configuration/15-e/snmp-15-e-book.pdf>

**QUESTION 30**

7 - (Topic 6)

R1 as an NTP server must have:

NTP authentication enabled



NTP packets sourced from Interface loopback 0



NTP stratum 2



NTP packets only permitted to client IP 209.165.200.225



How should R1 be configured?

- A. ntp authenticate ntp authentication-key 2 sha1 CISCO123 ntp source Loopback0 ntp access-group server-only 10 ntp master 2
    - !
    - access-list 10 permit udp host 209.165.200.225 any eq 123
  - B. ntp authenticate ntp authentication-key 2 md5 CISCO123 ntp interface Loopback0 ntp access-group server-only 10 ntp stratum 2
    - !
    - access-list 10 permit 209.165.200.225
  - C. ntp authenticate ntp authentication-key 2 md5 CISCO123 ntp source Loopback0 ntp access-group server-only 10 ntp master 2
    - !
    - access-list 10 permit 209.165.200.225
  - D. ntp authenticate ntp authentication-key 2 md5 CISCO123 ntp source Loopback0 ntp access-group server-only 10 ntp stratum 2
    - !
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access-list 10 permit udp host 209.165.200.225 any eq 123

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 31**

8 - (Topic 6)

What is a capability of FTP in network management operations?

- A. offers proprietary support at the session layer when transferring data
- B. uses separate control and data connections to move files between server and client
- C. encrypts data before sending between data resources
- D. devices are directly connected and use UDP to pass file information

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference:

[https://en.wikipedia.org/wiki/File\\_Transfer\\_Protocol#:~:text=The%20File%20Transfer%20Protocol%20\(FTP,the%20client%20and%20the%20server](https://en.wikipedia.org/wiki/File_Transfer_Protocol#:~:text=The%20File%20Transfer%20Protocol%20(FTP,the%20client%20and%20the%20server)

#### **QUESTION 32**

9 - (Topic 6)

A network engineer is configuring a switch so that it is remotely reachable via SSH. The engineer has already configured the host name on the router. Which additional command must the engineer configure before entering the command to generate the RSA key?

- A. password password
- B. ip ssh authentication-retries 2
- C. ip domain-name domain
- D. crypto key generate rsa modulus 1024

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://www.letsconfig.com/how-to-configure-ssh-on-cisco-ios-devices/>

### **QUESTION 33**

0 - (Topic 6)

Which QoS traffic handling technique retains excess packets in a queue and reschedules these packets for later transmission when the configured maximum bandwidth has been surpassed?

- A. traffic policing
- B. weighted random early detection
- C. traffic prioritization
- D. traffic shaping

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/quality-of-service-qos/qos-policing/19645-policevsshape.html>

### **QUESTION 34**

1 - (Topic 6)

Which command must be entered to configure a DHCP relay?

- A. ip dhcp relay
- B. ip dhcp pool
- C. ip address dhcp

D. ip helper-address

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference:

[https://www.cisco.com/en/US/docs/ios/12\\_4t/ip\\_addr/configuration/guide/htdhcpre.html#:~:text=ip%20helper%20address%20address,-Example%3A&text=Forwards%20UPD%20broadcasts%2C%20including%20BOOTP%20and%20DHCP.&text=The%20address%20argument%20can%20be,to%20respond%20to%20DHCP%20requests](https://www.cisco.com/en/US/docs/ios/12_4t/ip_addr/configuration/guide/htdhcpre.html#:~:text=ip%20helper%20address%20address,-Example%3A&text=Forwards%20UPD%20broadcasts%2C%20including%20BOOTP%20and%20DHCP.&text=The%20address%20argument%20can%20be,to%20respond%20to%20DHCP%20requests)

Topic 7, Security Fundamentals

**QUESTION 35**

2 - (Topic 7)

An organization secures its network with multi-factor authentication using an authenticator app on employee smartphones. How is the application secured in the case of a user's smartphone being lost or stolen?

- A. The application requires the user to enter a PIN before it provides the second factor
- B. The application requires an administrator password to reactivate after a configured interval
- C. The application verifies that the user is in a specific location before it provides the second factor
- D. The application challenges a user by requiring an administrator password to reactivate when the smartphone is rebooted

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 36**

3 - (Topic 7)

Which device performs stateful inspection of traffic?

- A. switch
- B. firewall
- C. access point
- D. wireless controller

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 37**

4 - (Topic 7)

A network administrator enabled port security on a switch interface connected to a printer. What is the next configuration action in order to allow the port to learn the MAC address of the printer and insert it into the table automatically?

- A. enable dynamic MAC address learning
- B. implement static MAC addressing
- C. enable sticky MAC addressing
- D. implement auto MAC address learning

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 38**

5 - (Topic 7)

```
Switch(config)#hostname R1
R1(config)#interface FastEthernet0/1
R1(config-if)#no switchport
R1(config-if)#ip address 10.100.20.42 255.255.255.0
R1(config-if)#line vty 0 4
R1(config-line)#login
```

Refer to the exhibit. An engineer booted a new switch and applied this configuration via the console port. Which additional

configuration must be applied to allow administrators to authenticate directly to enable privilege mode via Telnet using a local username and password?

- A. R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234  
R1(config-line)#transport input telnet
- B. R1(config)#username admin privilege 15 secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local

- C. R1(config)#username admin secret p@ss1234  
R1(config-if)#line vty 0 4  
R1(config-line)#login local  
R1(config)#enable secret p@ss1234
- D. R1(config)#username admin  
R1(config-if)#line vty 0 4  
R1(config-line)#password p@ss1234

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 39**

6 - (Topic 7)

Which effect does the aaa new-model configuration command have?

- A. It enables AAA services on the device.
- B. It configures the device to connect to a RADIUS server for AAA.
- C. It associates a RADIUS server to the group.
- D. It configures a local user on the device.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 40**

7 - (Topic 7)

Refer to the exhibit. Which two events occur on the interface, if packets from an unknown Source address arrive after the interface learns the maximum number of secure MAC address? (Choose two.)

Port Security : Enabled  
Port Status : Secure-up  
Violation Mode : Protect  
Aging Time : 0 mins  
Aging Type : Absolute  
SecureStatic Address Aging : Disabled  
Maximum MAC Addresses : 4  
Total MAC Addresses : 3  
Configured MAC Addresses: 1  
Sticky MAC Addresses : 2  
Last Source Address:Vlan : 0001:0fAA.33BB:1  
Security Vioaltion Count : 0

- A. The security violation counter dose not increment
- B. The port LED turns off
- C. The interface is error-disabled
- D. A syslog message is generated
- E. The interface drops traffic from unknown MAC address

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 41**

8 - (Topic 7)

Which technology must be implemented to configure network device monitoring with the highest security?

- A. IP SLA
- B. syslog
- C. NetFlow
- D. SNMPv3

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 42**

9 - (Topic 7)

Refer to the exhibit. Which two statements about the interface that generated the output are true? (Choose two.)

Port Security : Enabled  
Port Status : Secure-up  
Violation Mode : Protect  
Aging Time : 5 mins  
Aging Type : Inactivity  
SecureStatic Address Aging : Disabled  
Maximum MAC Addresses : 3  
Total MAC Addresses : 3  
Configured MAC Addresses : 1  
Sticky MAC Addresses : 2  
Last Source Address : Vlan : 0001.0fAA.33BB:1  
Security Violation Count : 0

- A. learned MAC addresses are deleted after five minutes of inactivity
- B. the interface is error-disabled if packets arrive from a new unknown source address
- C. it has dynamically learned two secure MAC addresses
- D. it has dynamically learned three secure MAC addresses
- E. the security violation counter increments if packets arrive from a new unknown source address

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 43**

0 - (Topic 7)

Refer to the exhibit. Which statement about the interface that generated the output is true?

|                            |   |                  |
|----------------------------|---|------------------|
| Port Security              | : | Enabled          |
| Port Status                | : | Secure-up        |
| Violation Mode             | : | Shutdown         |
| Aging Time                 | : | 0 mins           |
| Aging Type                 | : | Absolute         |
| SecureStatic Address Aging | : | Disabled         |
| Maximum MAC Addresses      | : | 5                |
| Total MAC Addresses        | : | 1                |
| Configured MAC Addresses   | : | 1                |
| Sticky MAC Addresses       | : | 0                |
| Last Source Address : Vlan | : | 0001.0fAA.33BB:1 |
| Security Violation Count   | : | 0                |

- A. A syslog message is generated when a violation occurs.
- B. One secure MAC address is manually configured on the interface.
- C. One secure MAC address is dynamically learned on the interface.
- D. Five secure MAC addresses are dynamically learned on the interface.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 44**

1 - (Topic 7)

```
ip arp inspection vlan 2
interface fastethernet 0/1
    switchport mode access
    switchport access vlan 2
```

Refer to the exhibit. What is the effect of this configuration?

- A. The switch port remains administratively down until the interface is connected to another switch.
- B. Dynamic ARP Inspection is disabled because the ARP ACL is missing.
- C. The switch port interface trust state becomes untrusted.
- D. The switch port remains down until it is configured to trust or untrust incoming packets.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Dynamic ARP inspection (DAI) is a security feature that validates ARP packets in a network. It intercepts, logs, and discards ARP packets with invalid IP-to-MAC address bindings. This capability protects the network from certain man-in-the-middle attacks. After enabling DAI, all ports become untrusted ports.

#### **QUESTION 45**

2 - (Topic 7)

What is the difference between AAA authentication and authorization?

- A. Authentication identifies and verifies a user who is attempting to access a system, and authorization controls the tasks the user performs.
- B. Authentication controls the system processes a user accesses, and authorization logs the activities the user initiates.
- C. Authentication verifies a username and password, and authorization handles the communication between the authentication agent and the user database.
- D. Authentication identifies a user who is attempting to access a system, and authorization validates the user's password.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

AAA stands for Authentication, Authorization and Accounting.

- Authentication: Specify who you are (usually via login username & password)
- Authorization: Specify what actions you can do, what resource you can access
- Accounting: Monitor what you do, how long you do it (can be used for billing and auditing)

An example of AAA is shown below:

- Authentication: "I am a normal user. My username/password is user\_tom/learnforever"
- Authorization: "user\_tom can access LearnCCNA server via HTTP and FTP"

- Accounting: "user\_tom accessed LearnCCNA server for 2 hours". This user only uses "show" commands.

**QUESTION 46**

3 - (Topic 7)

When configuring a WLAN with WPA2 PSK in the Cisco Wireless LAN Controller GUI, which two formats are available to select? (Choose two.)

- A. decimal
- B. ASCII
- C. hexadecimal
- D. binary
- E. base64

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/9800/config-guide/b\\_wl\\_16\\_10\\_cg/multi-preshared-key.pdf](https://www.cisco.com/c/en/us/td/docs/wireless/controller/9800/config-guide/b_wl_16_10_cg/multi-preshared-key.pdf)

**QUESTION 47**

4 - (DRAG DROP) - (Topic 7)

DRAG DROP

Drag and drop the AAA functions from the left onto the correct AAA services on the right.

Select and Place:

## Answer Area

controls the actions that a user can perform

provides analytical information for the network administrator

records user activities

restricts the services that are available to a user

verifies the password associated with a user

identifies the user

### Authentication

|  |
|--|
|  |
|  |

### Authorization

|  |
|--|
|  |
|  |

### Accounting

|  |
|--|
|  |
|  |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

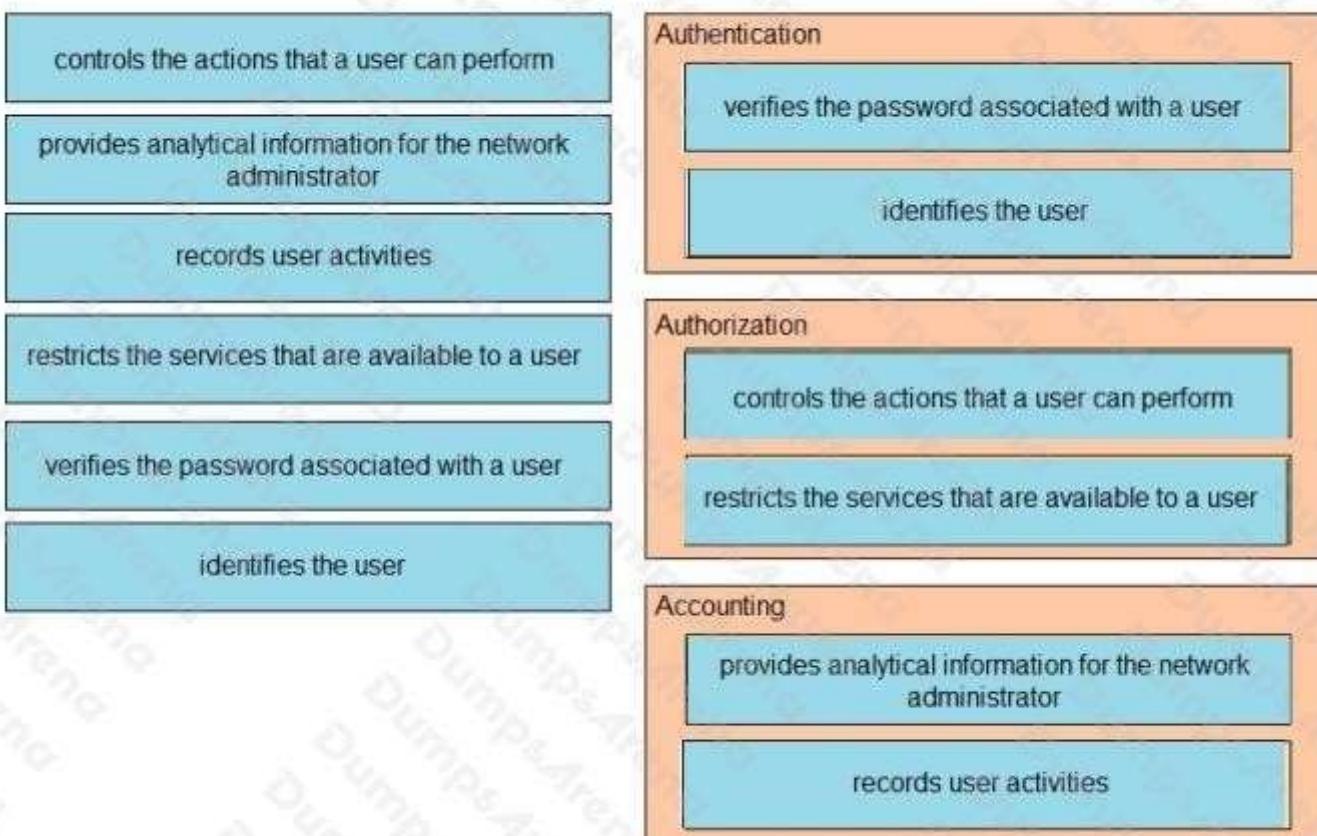
**Explanation/Reference:**

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# DUMPS ARENA

## Answer Area



Explanation:

### QUESTION 48

5 - (Topic 7)

An engineer is asked to protect unused ports that are configured in the default VLAN on a switch. Which two steps will fulfill the request? (Choose two.)

- A. Configure the ports as trunk ports.
- B. Enable the Cisco Discovery Protocol.
- C. Configure the port type as access and place in VLAN 99.
- D. Administratively shut down the ports.
- E. Configure the ports in an EtherChannel.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 49**

6 - (Topic 7)

An email user has been lured into clicking a link in an email sent by their company's security organization. The webpage that opens reports that it was safe, but the link may have contained malicious code.

Which type of security program is in place?

- A. user awareness
- B. brute force attack
- C. physical access control
- D. social engineering attack

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

This is a training program which simulates an attack, not a real attack (as it says "The webpage that opens reports that it was safe") so we believed it should be called a "user awareness" program. Therefore the best answer here should be "user awareness". This is the definition of "User awareness" from CCNA 200-301 Official Cert Guide Book:

"User awareness: All users should be made aware of the need for data confidentiality to protect corporate information, as well as their own credentials and personal information. They should also be made aware of potential threats, schemes to mislead, and proper procedures to report security incidents."

Note: Physical access control means infrastructure locations, such as network closets and data centers, should remain securely locked.

**QUESTION 50**

7 - (DRAG DROP) - (Topic 7)

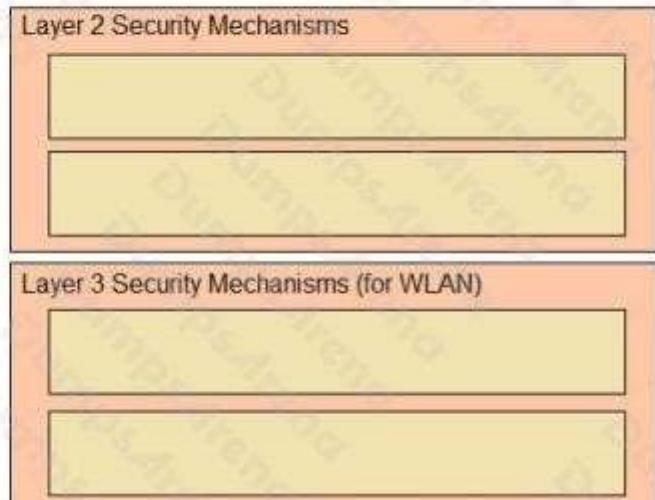
DRAG DROP

Drag and drop the Cisco Wireless LAN Controller security settings from the left onto the correct security mechanism categories on the right.

Select and Place:

## Answer Area

web policy  
Passthrough  
WPA+WPA2  
802.1X



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

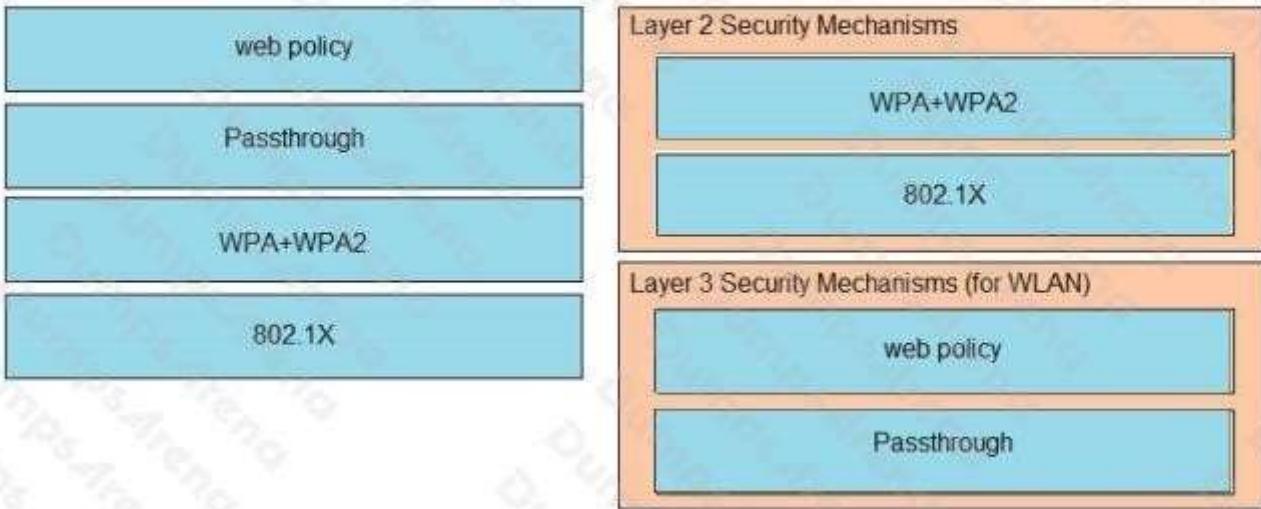
**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## Answer Area



Explanation:

Layer 2 Security Mechanism includes WPA+WPA2, 802.1X, Static WEP, CKIP while Layer 3 Security Mechanisms (for WLAN) includes IPSec, VPN Pass-Through, Web Passthrough ...

Reference: <https://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/106082-wlc-compatibility-matrix.html>

### QUESTION 51

8 - (Topic 7)

Which feature on the Cisco Wireless LAN Controller when enabled restricts management access from specific networks?

- A. TACACS
- B. CPU ACL
- C. Flex ACL
- D. RADIUS

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Whenever you want to control which devices can talk to the main CPU, a CPU ACL is used.

Note: CPU ACLs only filter traffic towards the CPU, and not any traffic exiting or generated by the CPU.

Reference: <https://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/109669-secure-wlc.html>

**QUESTION 52**

9 - (Topic 7)

Which set of actions satisfy the requirement for multifactor authentication?

- A. The user enters a user name and password, and then re-enters the credentials on a second screen.
- B. The user swipes a key fob, then clicks through an email link.
- C. The user enters a user name and password, and then clicks a notification in an authentication app on a mobile device.
- D. The user enters a PIN into an RSA token, and then enters the displayed RSA key on a login screen.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

This is an example of how two-factor authentication (2FA) works:

1. The user logs in to the website or service with their username and password.
2. The password is validated by an authentication server and, if correct, the user becomes eligible for the second factor.
3. The authentication server sends a unique code to the user's second-factor method (such as a smartphone app).
4. The user confirms their identity by providing the additional authentication for their second-factor method.

**QUESTION 53**

0 - (Topic 7)

Which configuration is needed to generate an RSA key for SSH on a router?

- A. Configure VTY access.
- B. Configure the version of SSH.
- C. Assign a DNS domain name.
- D. Create a user with a password.

**Correct Answer:** C

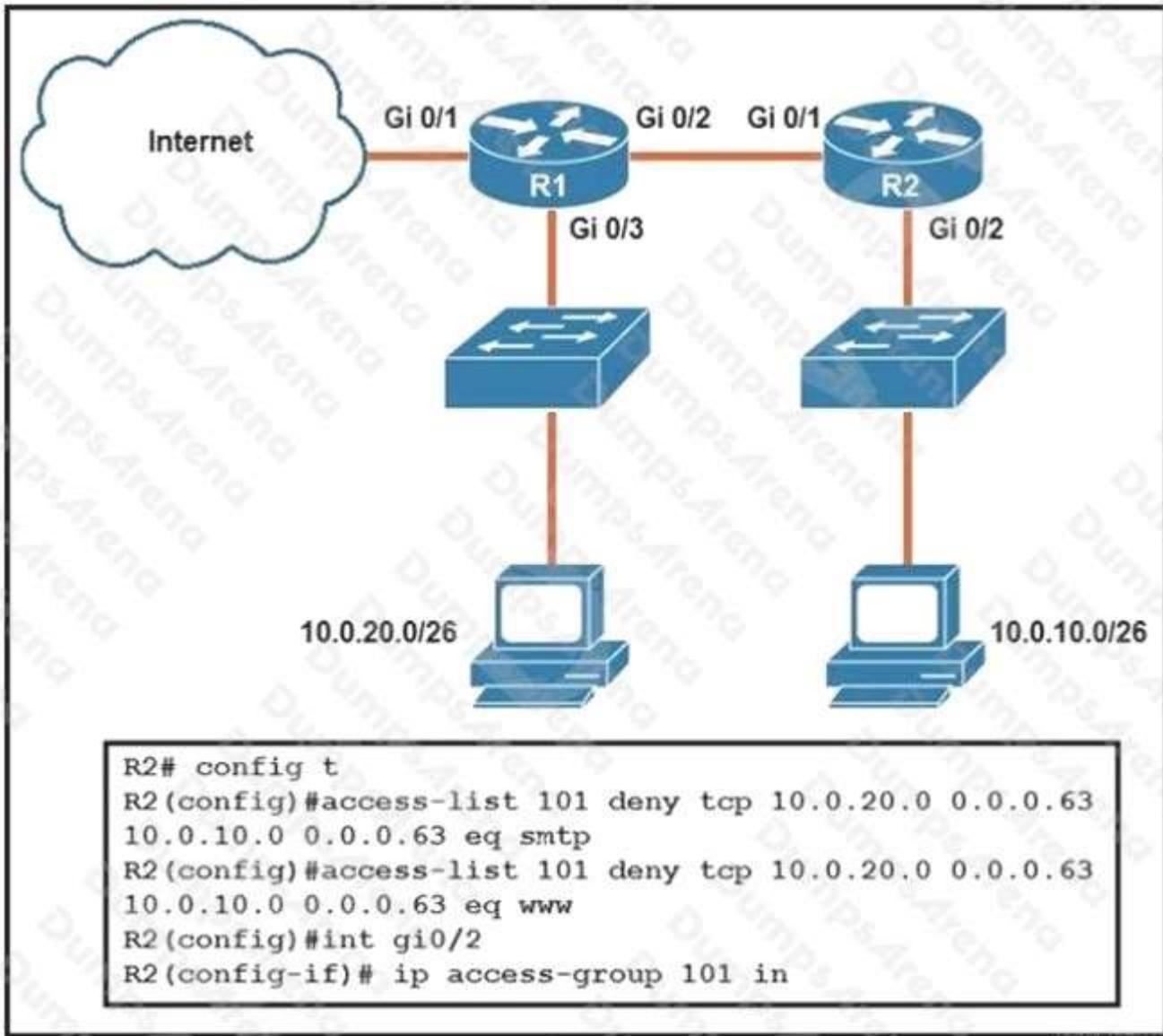
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 54**

1 - (Topic 7)



Refer to the exhibit. An extended ACL has been configured and applied to router R2. The configuration failed to work as intended.

Which two changes stop outbound traffic on TCP ports 25 and 80 to 10.0.20.0/26 from the 10.0.10.0/26 subnet while still allowing all other traffic? (Choose two.)

- A. Add a "permit ip any any" statement at the end of ACL 101 for allowed traffic.
- B. Add a "permit ip any any" statement to the beginning of ACL 101 for allowed traffic.
- C. The ACL must be moved to the Gi0/1 interface outbound on R2.
- D. The source and destination IPs must be swapped in ACL 101.
- E. The ACL must be configured the Gi0/2 interface inbound on R1.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 55**

2 - (Topic 7)

An engineer must configure a WLAN using the strongest encryption type for WPA2-PSK. Which cipher fulfills the configuration requirement?

- A. WEP
- B. AES
- C. RC4
- D. TKIP

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Many routers provide WPA2-PSK (TKIP), WPA2-PSK (AES), and WPA2-PSK (TKIP/AES) as options. TKIP is actually an older encryption protocol introduced with WPA to replace the very-insecure WEP encryption at the time. TKIP is actually quite similar to WEP encryption. TKIP is no longer considered secure, and is now deprecated. In other words, you shouldn't be using it.

AES is a more secure encryption protocol introduced with WPA2 and it is currently the strongest encryption type for WPA2- PSK/.

**QUESTION 56**

3 - (DRAG DROP) - (Topic 7)

DRAG DROP

Drag and drop the attack-mitigation techniques from the left onto the types of attack that they mitigate on the right.

Select and Place:

### Answer Area

configure 802.1x authenticate

configure DHCP snooping

configure the native VLAN with a nondefault VLAN ID

disable DTP

802.1q double-tagging VLAN-hopping attack

MAC flooding attack

man-in-the-middle spoofing attack

switch-spoofing VLAN-hopping attack

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

**Correct Answer:**

Section: (none)

Explanation

Explanation/Reference:

### Answer Area

configure 802.1x authenticate

configure DHCP snooping

configure the native VLAN with a nondefault VLAN ID

disable DTP

configure the native VLAN with a nondefault VLAN ID

configure DHCP snooping

configure 802.1x authenticate

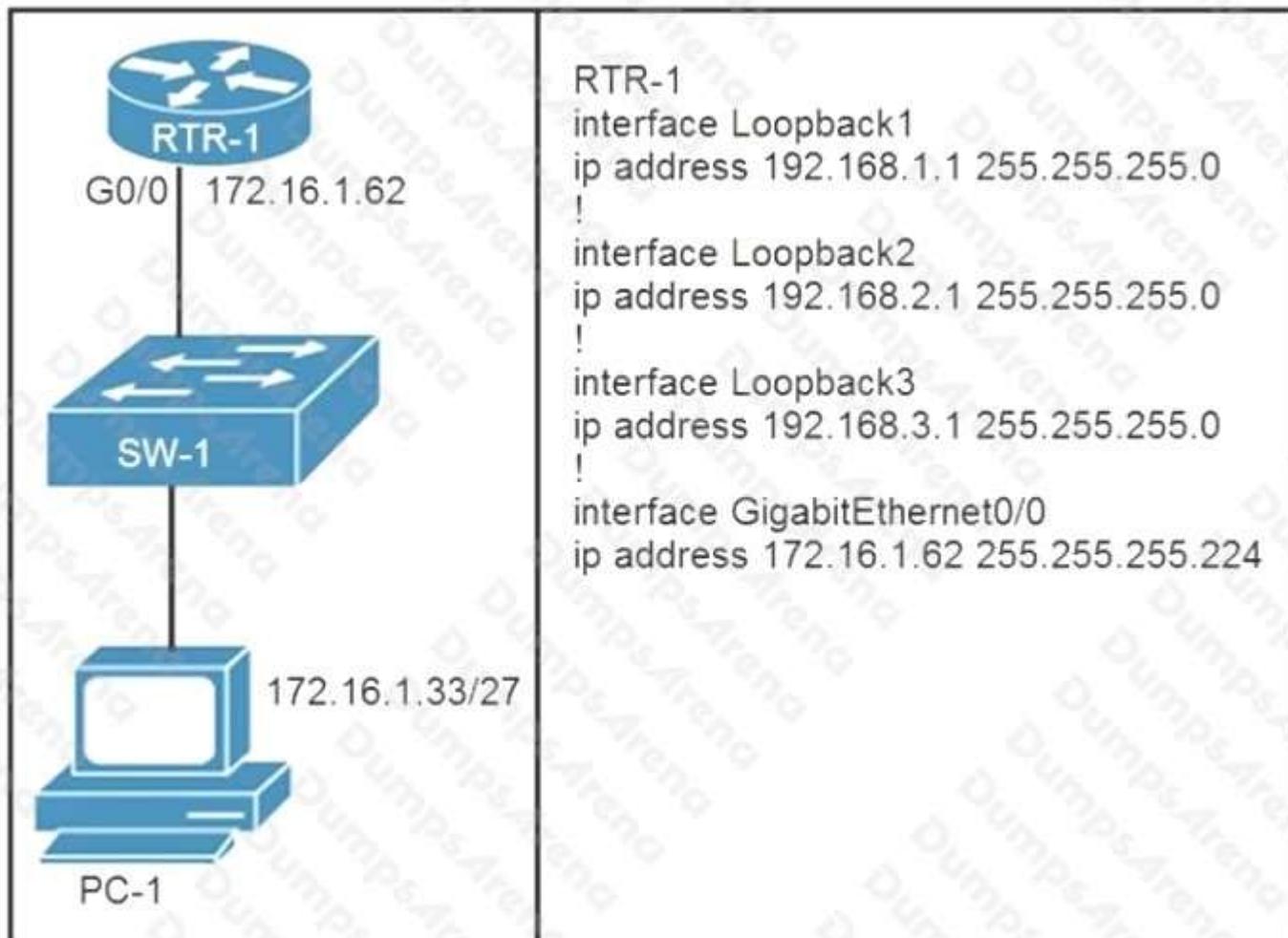
disable DTP

Explanation:

### QUESTION 57

4 - (Topic 7)

Refer to the exhibit. What configuration for RTR-1 denies SSH access from PC-1 to any RTR-1 interface and allows all other traffic?



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**DUMPS ARENA**

- A. access-list 100 deny tcp host 172.16.1.33 any eq 22  
access-list 100 permit ip any any

```
interface GigabitEthernet0/0
ip access-group 100 in
```

- B. access-list 100 deny tcp host 172.16.1.33 any eq 22  
access-list 100 permit ip any any

```
line vty 0 15
```

```
access-class 100 in
```

- C. access-list 100 deny tcp host 172.16.1.33 any eq 23  
access-list 100 permit ip any any

```
interface GigabitEthernet0/0
```

```
ip access-group 100 in
```

- D. access-list 100 deny tcp host 172.16.1.33 any eq 23  
access-list 100 permit ip any any

```
line vty 0 15
```

```
access-class 100 in
```

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 58**

5 - (Topic 7)

While examining excessive traffic on the network, it is noted that all incoming packets on an interface appear to

be allowed even though an IPv4 ACL is applied to the interface. Which two misconfigurations cause this behavior? (Choose two.)

- A. The ACL is empty
- B. A matching permit statement is too broadly defined
- C. The packets fail to match any permit statement
- D. A matching deny statement is too high in the access list
- E. A matching permit statement is too high in the access list

**Correct Answer:** BE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 59**

6 - (Topic 7)

The service password-encryption command is entered on a router. What is the effect of this configuration?

- A. restricts unauthorized users from viewing clear-text passwords in the running configuration
- B. prevents network administrators from configuring clear-text passwords
- C. protects the VLAN database from unauthorized PC connections on the switch
- D. encrypts the password exchange when a VPN tunnel is established

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 60**

7 - (Topic 7)

Which WPA3 enhancement protects against hackers viewing traffic on the Wi-Fi network?

- A. SAE encryption
- B. TKIP encryption
- C. scrambled encryption key
- D. AES encryption

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 61**

8 - (Topic 7)

Refer to the exhibit. If the network environment is operating normally, which type of device must be connected to interface fastethernet 0/1?

```
ip arp inspection vlan 2-10
interface fastethernet 0/1
    ip arp inspection trust
```

- A. DHCP client
- B. access point
- C. router
- D. PC

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 62**

9 - (Topic 7)

Refer to the exhibit. An administrator configures four switches for local authentication using passwords that are stored as a cryptographic hash. The four switches must also support SSH access for administrators to manage the network infrastructure. Which switch is configured correctly to meet these requirements?

```
SW1(config-line) #line vty 0 15
SW1(config-line) #no login local
SW1(config-line) #password cisco

SW2(config) #username admin1 password abcd1234
SW2(config) #username admin2 password abcd1234
SW2(config-line) #line vty 0 15
SW2(config-line) #login local

SW3(config) #username admin1 secret abcd1234
SW3(config) #username admin2 secret abcd1234
SW3(config-line) #line vty 0 15
SW3(config-line) #login local

SW4(config) #username admin1 secret abcd1234
SW4(config) #username admin2 secret abcd1234
SW4(config-line) #line console 0
SW4(config-line) #login local
```

- A. SW1
- B. SW2
- C. SW3
- D. SW4

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 63**

0 - (Topic 7)

```
ip arp inspection vlan 5-10
interface fastethernet 0/1
    switchport mode access
    switchport access vlan 5
```

Refer to the exhibit. What is the effect of this configuration?

- A. The switch discards all ingress ARP traffic with invalid MAC-to-IP address bindings.

- B. All ARP packets are dropped by the switch.
- C. Egress traffic is passed only if the destination is a DHCP server.
- D. All ingress and egress traffic is dropped because the interface is untrusted.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Dynamic ARP inspection is an ingress security feature; it does not perform any egress checking.

**QUESTION 64**

1 - (Topic 7)

When a site-to-site VPN is used, which protocol is responsible for the transport of user data?

- A. IPsec
- B. IKEv1
- C. MD5
- D. IKEv2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A site-to-site VPN allows offices in multiple fixed locations to establish secure connections with each other over a public network such as the Internet. A site-to-site VPN means that two sites create a VPN tunnel by encrypting and sending data between two devices. One set of rules for creating a site-to-site VPN is defined by IPsec.

**QUESTION 65**

2 - (Topic 7)

Which type of wireless encryption is used for WPA2 in preshared key mode?

- A. AES-128
- B. TKIP with RC4
- C. AES-256
- D. RC4

**Correct Answer:** C

**Section:** (none)

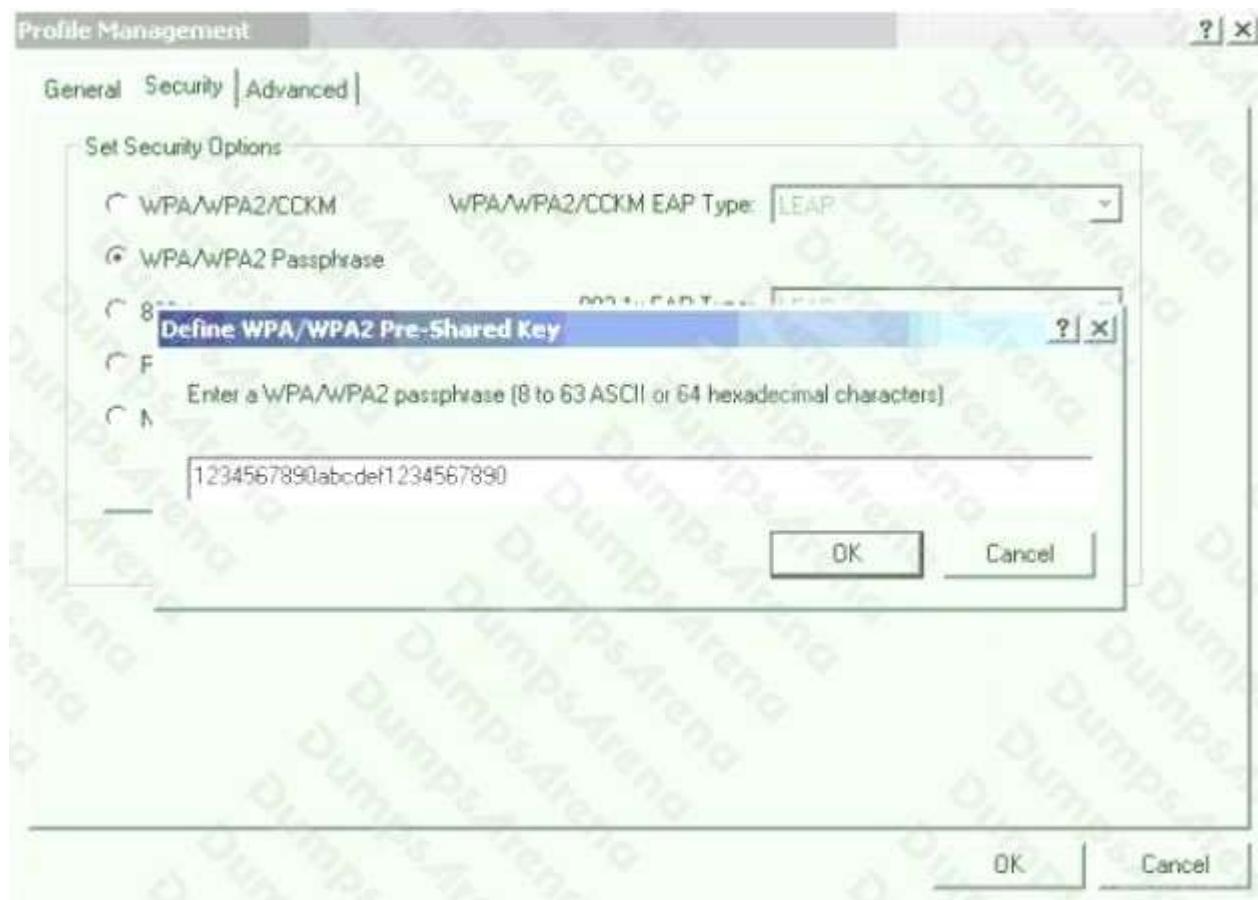
**Explanation**

**Explanation/Reference:**



Explanation:

We can see in this picture we have to type 64 hexadecimal characters (256 bit) for the WPA2 passphrase so we can deduce the encryption is AES-256, not AES-128.



Reference: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/67134-wpa2-config.html>

#### QUESTION 66

3 - (DRAG DROP) - (Topic 7)

DRAG DROP

Drag and drop the threat-mitigation techniques from the left onto the types of threat or attack they mitigate on the right.

Select and Place:

## Answer Area

|                                   |                                               |
|-----------------------------------|-----------------------------------------------|
| Configure BPDU guard.             | 802.1q double tagging                         |
| Configure dynamic ARP inspection. | ARP spoofing                                  |
| Configure root guard.             | unwanted superior BPDUs                       |
| Configure VACL.                   | unwanted BPDUs on PortFast-enabled interfaces |

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

**Correct Answer:**

**Section: (none)**

**Explanation**

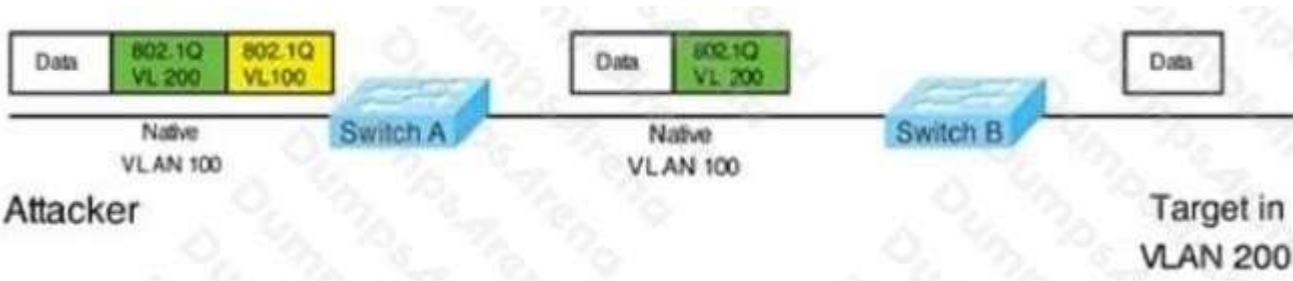
**Explanation/Reference:**

## Answer Area

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Configure BPDU guard.             | Configure VACL.                   |
| Configure dynamic ARP inspection. | Configure dynamic ARP inspection. |
| Configure root guard.             | Configure root guard.             |
| Configure VACL.                   | Configure BPDU guard.             |

Explanation:

Double-Tagging attack:



In this attack, the attacking computer generates frames with two 802.1Q tags. The first tag matches the native VLAN of the trunk port (VLAN 10 in this case), and the second matches the VLAN of a host it wants to attack (VLAN 20).

When the packet from the attacker reaches Switch A, Switch A only sees the first VLAN 10 and it matches with its native VLAN 10 so this VLAN tag is removed. Switch A forwards the frame out all links with the same native VLAN 10. Switch B receives the frame with a tag of VLAN 20 so it removes this tag and forwards out to the Victim computer.

Note: This attack only works if the trunk (between two switches) has the same native VLAN as the attacker.

To mitigate this type of attack, you can use VLAN access control lists (VACLs, which applies to all traffic within a VLAN. We can use VACL to drop attacker traffic to specific victims/servers) or implement Private VLANs.

ARP attack (like ARP poisoning/spoofing) is a type of attack in which a malicious actor sends falsified ARP messages over a local area network as ARP allows a gratuitous reply from a host even if an ARP request was not received. This results in the linking of an attacker's MAC address with the IP address of a legitimate computer or server on the network. This is an attack based on ARP which is at Layer 2. Dynamic ARP inspection (DAI) is a security feature that validates ARP packets in a network which can be used to mitigate this type of attack.

**QUESTION 67**

4 - (Topic 7)

Which command prevents passwords from being stored in the configuration as plain text on a router or switch?

- A. enable secret
- B. enable password
- C. service password-encryption
- D. username cisco password encrypt

**Correct Answer:** C

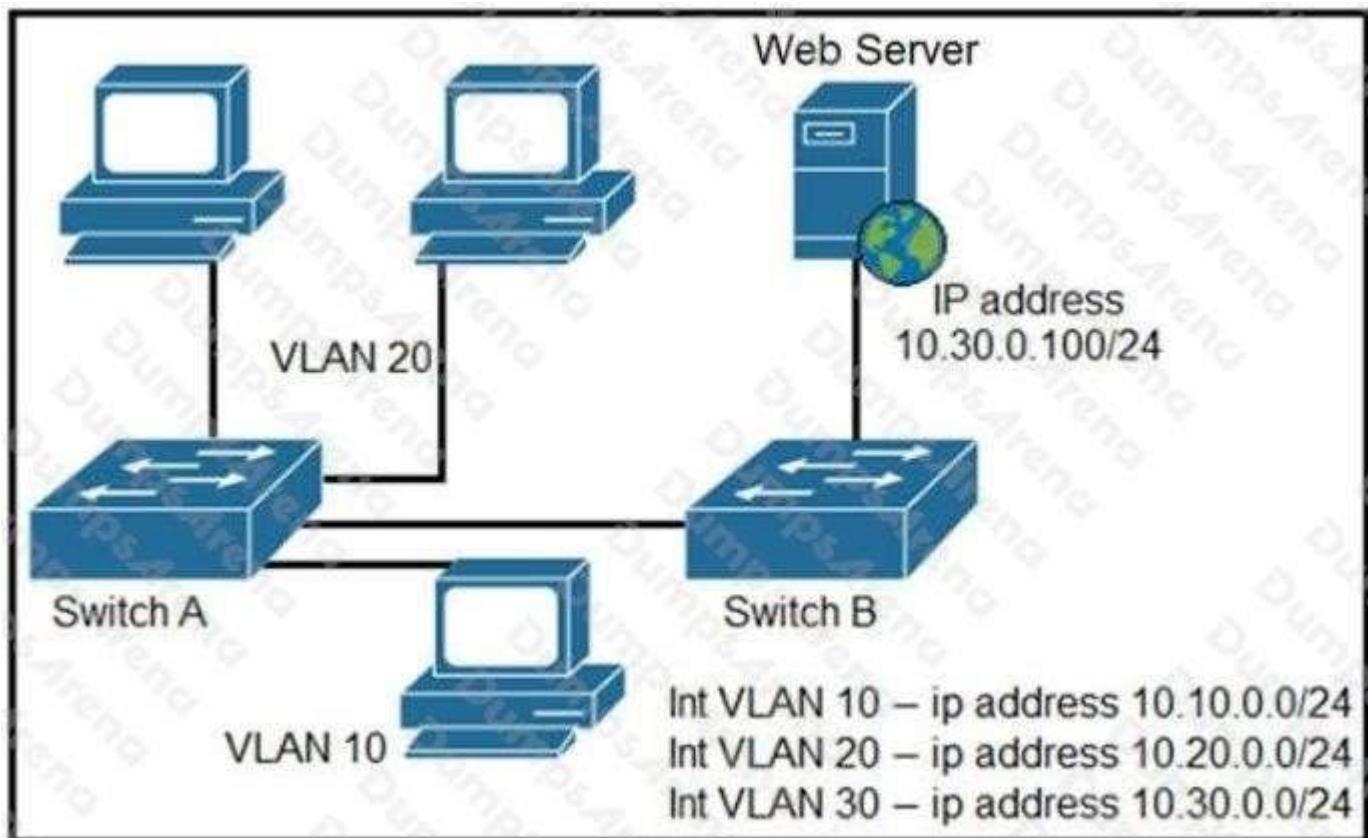
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 68**

5 - (Topic 7)



Refer to the exhibit. A network engineer must block access for all computers on VLAN 20 to the web server via HTTP. All other computers must be able to access the web server. Which configuration when applied to switch A accomplishes the task?

- A. config t  
ip access-list extended wwwblock  
permit ip any any  
deny tcp any host 10.30.0.100 eq 80  
int vlan 20  
ip access-group wwwblock in
  
- B. config t  
ip access-list extended wwwblock  
permit ip any any  
deny tcp any host 10.30.0.100 eq 80  
int vlan 30  
ip access-group wwwblock in

- C. config t  
ip access-list extended wwwblock  
deny tcp any host 10.30.0.100 eq 80  
int vlan 10  
ip access-group wwwblock in
- D. config t  
ip access-list extended wwwblock  
deny tcp any host 10.30.0.100 eq 80  
permit ip any any  
int vlan 20  
ip access-group wwwblock in
- A. Option A  
B. Option B  
C. Option C  
D. Option D

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 69**

6 - (Topic 7)

In which two ways does a password manager reduce the chance of a hacker stealing a user's password?  
(Choose two.)

- A. It encourages users to create stronger passwords
- B. It uses an internal firewall to protect the password repository from unauthorized access
- C. It stores the password repository on the local workstation with built-in antivirus and anti-malware functionality
- D. It automatically provides a second authentication factor that is unknown to the original user
- E. It protects against keystroke logging on a compromised device or web site

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 70**

7 - (Topic 7)

Which goal is achieved by the implementation of private IPv4 addressing on a network?

- A. provides an added level of protection against Internet exposure
- B. provides a reduction in size of the forwarding table on network routers
- C. allows communication across the Internet to other private networks
- D. allows servers and workstations to communicate across public network boundaries

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 71**

8 - (Topic 7)

Which type of attack is mitigated by dynamic ARP inspection?

- A. DDoS
- B. malware
- C. man-in-the-middle
- D. worm

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 72**

9 - (Topic 7)

What is a function of a remote access VPN?

- A. establishes a secure tunnel between two branch sites
- B. uses cryptographic tunneling to protect the privacy of data for multiple users simultaneously
- C. used exclusively when a user is connected to a company's internal network
- D. allows the users to access company internal network resources through a secure tunnel

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 73**

0 - (Topic 7)

What are two recommendations for protecting network ports from being exploited when located in an office space outside of an IT closet? (Choose two.)

- A. enable the PortFast feature on ports
- B. configure static ARP entries
- C. configure ports to a fixed speed
- D. implement port-based authentication
- E. shut down unused ports

**Correct Answer:** DE**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 74**

1 - (Topic 7)

```
interface GigabitEthernet0/1
ip address 192.168.1.2 255.255.255.0
ip access-group 2699 in
!
access-list 2699 deny icmp any 10.10.1.0 0.0.0.255 echo
access-list 2699 deny ip any 10.20.1.0 0.0.0.255
access-list 2699 permit ip any 10.10.1.0 0.0.0.255
access-list 2699 permit tcp any 10.20.1.0 0.0.0.127 eq 22
```

Refer to the exhibit. A network administrator must permit SSH access to remotely manage routers in a network. The operations team resides on the 10.20.1.0/25 network. Which command will accomplish this task?

- A. access-list 2699 permit udp 10.20.1.0 0.0.0.255
- B. no access-list 2699 deny tcp any 10.20.1.0 0.0.0.127 eq 22
- C. access-list 2699 permit tcp any 10.20.1.0 0.0.0.255 eq 22
- D. no access-list 2699 deny ip any 10.20.1.0 0.0.0.255

**Correct Answer:** D

**Section: (none)****Explanation****Explanation/Reference:**

Explanation:

Already a statement is there in last to allow SSH Traffic for network 10.20.1.0 0.0.0.127, but Second statement says deny ip any 10.20.1.0 0.0.0.255, so how it will work once it is denied. So the right answer is remove the --- no access-list 2699 deny ip any 10.20.1.0 0.0.0.255.

**QUESTION 75**

2 - (Topic 7)

A port security violation has occurred on a switch port due to the maximum MAC address count being exceeded. Which command must be configured to increment the security-violation count and forward an SNMP trap?

- A. switchport port-security violation access
- B. switchport port-security violation protect
- C. switchport port-security violation restrict
- D. switchport port-security violation shutdown

**Correct Answer: C****Section: (none)****Explanation****Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/25ew/configuration/guide/conf/port\\_sec.html](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst4500/12-2/25ew/configuration/guide/conf/port_sec.html)

**QUESTION 76**

3 - (Topic 7)

What is a practice that protects a network from VLAN hopping attacks?

- A. Enable dynamic ARP inspection
- B. Configure an ACL to prevent traffic from changing VLANs
- C. Change native VLAN to an unused VLAN ID
- D. Implement port security on internet-facing VLANs

**Correct Answer: C****Section: (none)****Explanation****Explanation/Reference:****QUESTION 77**

4 - (Topic 7)

Where does a switch maintain DHCP snooping information?

- A. In the CAM table
- B. In the frame forwarding database
- C. In the MAC address table
- D. In the binding database

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 78**

5 - (Topic 7)

A network administrator must configure SSH for remote access to router R1. The requirement is to use a public and private key pair to encrypt management traffic to and from the connecting client. Which configuration, when applied, meets the requirements?

- A. R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 1024
- B. R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate ec keysiz 2048
- C. R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key encrypt rsa name myKey
- D. R1#enable  
R1#configure terminal  
R1(config)#ip domain-name cisco.com  
R1(config)#crypto key generate rsa modulus 1024

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 79**

6 - (Topic 7)

When a WLAN with WPA2 PSK is configured in the Wireless LAN Controller GUI, which format is supported?

- A. decimal
- B. ASCII
- C. unicode
- D. base64

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 80**

7 - (Topic 7)

```
access-list 101 permit ospf any any
access-list 101 permit tcp any any eq 179
access-list 101 permit tcp any eq 179 any
access-list 101 permit gre any any
access-list 101 permit esp any any

access-list 101 deny ospf any any
access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq telnet
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 500
access-list 101 permit udp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq 4500
access-list 101 deny ip any any log

interface Ethernet0/0
 ip address 10.1.1.25 255.255.255.0
 ip access-group 101 in
```

Refer to the exhibit. A network administrator has been tasked with securing VTY access to a router. Which access-list entry accomplishes this task?

- A. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq telnet
- B. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq scp
- C. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq https DumpsArena - Pass Your Next Certification Exam Fast!
- D. access-list 101 permit tcp 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255 eq ssh

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 81**

8 - (Topic 7)

Which two protocols must be disabled to increase security for management connections to a Wireless LAN Controller? (Choose two.)

- A. HTTPS
- B. SSH
- C. HTTP

- D. Telnet
- E. TFTP

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 82**

9 - (Topic 7)

Which security program element involves installing badge readers on data-center doors to allow workers to enter and exit based on their job roles?

- A. physical access control
- B. biometrics
- C. role-based access control
- D. multifactor authentication

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 83**

0 - (Topic 7)

Which function is performed by DHCP snooping?

- A. listens to multicast traffic for packet forwarding
- B. rate-limits certain traffic
- C. propagates VLAN information between switches
- D. provides DDoS mitigation

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 84**

1 - (DRAG DROP) - (Topic 7)

#### **DRAG DROP**

An engineer is configuring an encrypted password for the enable command on a router where the local user database has

already been configured. Drag and drop the configuration commands from the left into the correct sequence on

the right. Not all commands are used.

Select and Place:



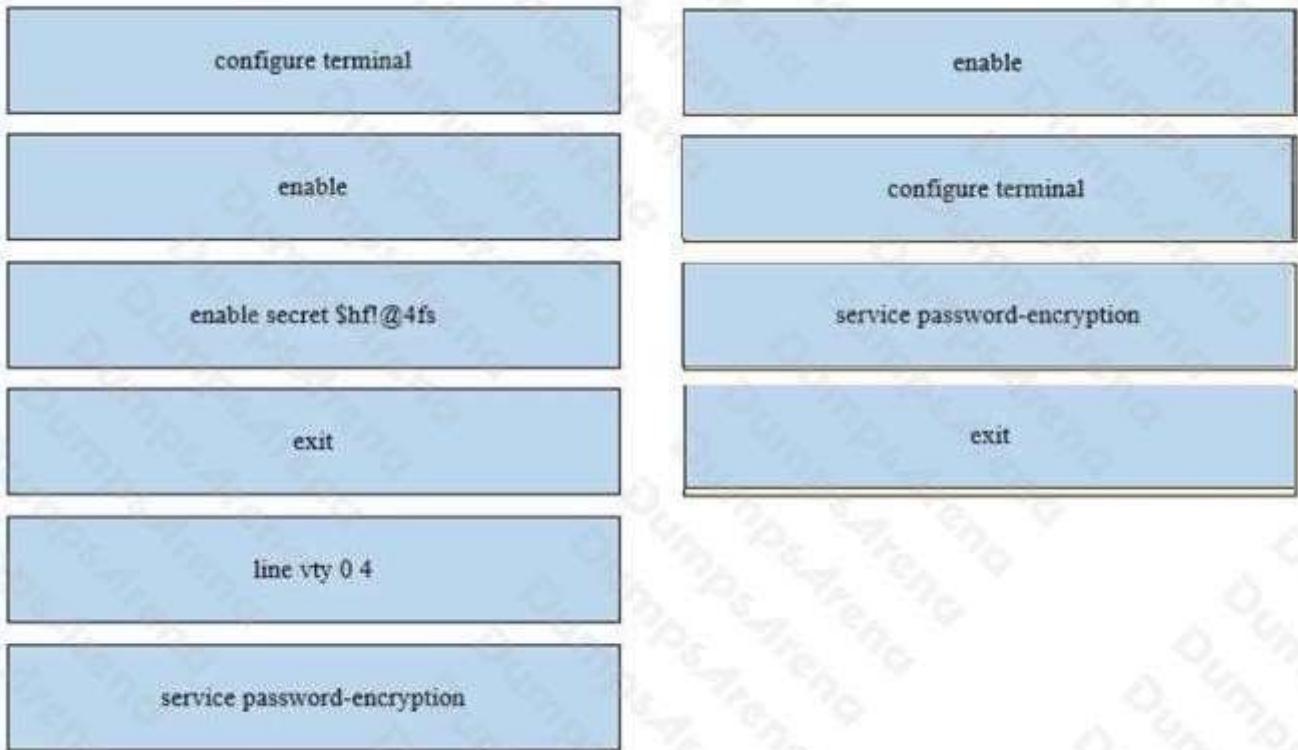
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**



Explanation:

**QUESTION 85**

2 - (Topic 7)

Which protocol is used for secure remote CLI access?

- A. Telnet
- B. HTTP
- C. HTTPS
- D. SSH

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 86**

3 - (Topic 7)

Which implementation provides the strongest encryption combination for the wireless environment?

- A. WEP

- B. WPA + TKIP
- C. WPA + AES
- D. WPA2 + AES

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 87**

4 - (Topic 7)

What does physical access control regulate?

- A. access to networking equipment and facilities
- B. access to servers to prevent malicious activity
- C. access to specific networks based on business function
- D. access to computer networks and file systems

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 88**

5 - (Topic 7)

A network engineer is asked to configure VLANS 2, 3, and 4 for a new implementation. Some ports must be assigned to the new VLANS with unused ports remaining. Which action should be taken for the unused ports?

- A. configure in a nondefault native VLAN
- B. configure ports in the native VLAN
- C. configure ports in a black hole VLAN
- D. configure ports as access ports

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 89**

6 - (Topic 7)

When a WPA2-PSK WLAN is configured in the Wireless LAN Controller, what is the minimum number of characters that is required in ASCII format?

- A. 6

- B. 8
- C. 12
- D. 18

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 90**

7 - (Topic 7)

What mechanism carries multicast traffic between remote sites and supports encryption?

- A. ISATAP
- B. IPsec over ISATAP
- C. GRE
  
- D. GRE over IPsec

**Correct Answer:** D

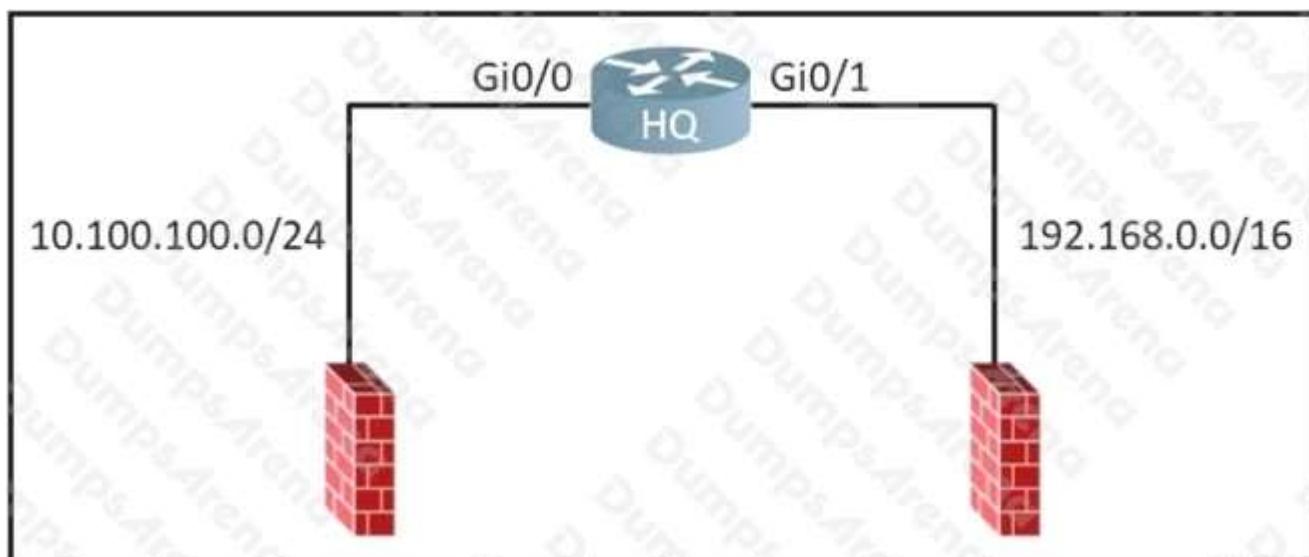
**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 91**

8 - (Topic 7)



Refer to the exhibit. An access-list is required to permit traffic from any host on interface Gi0/0 and deny traffic from interface Gi0/1. Which access list must be applied?

- A. ip access-list standard 99 permit 10.100.100.0 0.0.0.255 deny 192.168.0.0 0.0.255.255

- B. ip access-list standard 99 permit 10.100.100.0 0.0.0.255 deny 192.168.0.0 0.255.255.255
- C. ip access-list standard 199 permit 10.100.100.0 0.0.0.255 deny 192.168.0.0 0.255.255.255
- D. ip access-list standard 199 permit 10.100.100.0 0.0.0.255 deny 192.168.0.0 0.0.255.255

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 92**

9 - (Topic 7)



Refer to the exhibit. Which two commands must be configured on router R1 to enable the router to accept secure remote-access connections? (Choose two.)

- A. ip ssh pubkey-chain
- B. username cisco password 0 cisco
- C. crypto key generate rsa
- D. transport input telnet
- E. login console

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 93**

0 - (Topic 7)

Which service is missing when RADIUS is selected to provide management access to the WLC?

- A. authorization
- B. authentication

- C. accounting
- D. confidentiality

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 94**

1 - (Topic 7)

Which action implements physical access control as part of the security program of an organization?

- A. setting up IP cameras to monitor key infrastructure
- B. configuring a password for the console port
- C. backing up syslogs at a remote location
- D. configuring enable passwords on network devices

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 95**

2 - (Topic 7)

Which field within the access-request packet is encrypted by RADIUS?

- A. authorized services
- B. password
- C. authenticator
- D. username

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://www.cisco.com/c/en/us/support/docs/security-vpn/remote-authentication-dial-user-service-radius/12433-32.html>

**QUESTION 96**

3 - (Topic 7)

A Cisco engineer is configuring a factory-default router with these three passwords:

The user EXEC password for console access is p4ssw0rd1.

The user EXEC password for Telnet access is s3cr3t2.

The password for privileged EXEC mode is priv4t3p4ss.

Which command sequence must the engineer configure?

A. enable secret priv4t3p4ss

```
!
line con 0 password p4ssw0rd1
!
line vty 0 15 password s3cr3t2
```

B. enable secret priv4t3p4ss

```
!
line con 0 password p4ssw0rd1
login
!
line vty 0 15 password s3cr3t2 login
```

C. enable secret priv4t3p4ss

```
!
line con 0
password login p4ssw0rd1
!
line vty 0 15 password login s3cr3t2
```

login

D. enable secret privilege 15 priv4t3p4ss

```
!
line con 0 password p4ssw0rd1
login
!
line vty 0 15 password s3cr3t2 login
```

**Correct Answer:** B

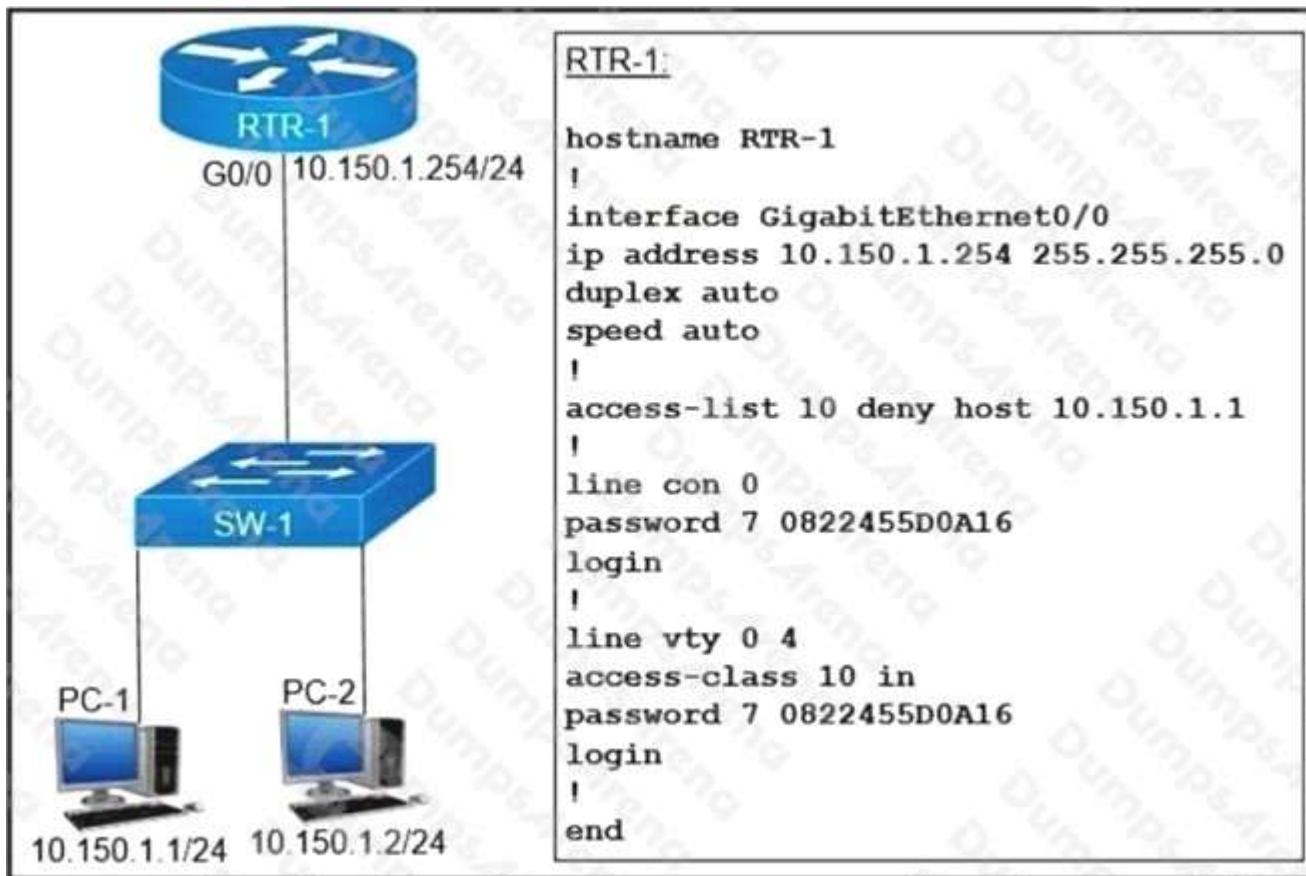
**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 97**

4 - (Topic 7)



Refer to the exhibit. An access list is created to deny Telnet access from host PC-1 to RTR-1 and allow access from all other hosts. A Telnet attempt from PC-2 gives this message: "% Connection refused by remote host." Without allowing Telnet access from PC-1, which action must be taken to permit the traffic?

- A. Add the access-list 10 permit any command to the configuration.
- B. Remove the access-class 10 in command from line vty 0 4
- C. Add the ip access-group 10 out command to interface g0/0.
- D. Remove the password command from line vty 0 4.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 98

5 - (DRAG DROP) - (Topic 7)

**DRAG DROP**

An engineer is tasked to configure a switch with port security to ensure devices that forward unicasts, multicasts, and broadcasts are unable to flood the port. The port must be configured to permit only two random MAC addresses at a time. Drag and drop the required configuration commands from the left onto the sequence on the right. Not all commands are used.

Select and Place:

**Answer Area**

|                                                     |   |
|-----------------------------------------------------|---|
| switchport mode access                              | 1 |
| switchport port-security                            | 2 |
| switchport port-security mac-address 00E0.3EDD.77AB | 3 |
| switchport port-security mac-address 00D0.D3ED.622A | 4 |
| switchport port-security mac-address sticky         |   |
| switchport port-security maximum 2                  |   |
| switchport port-security violation shutdown         |   |

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### Answer Area

|                                                     |                                             |
|-----------------------------------------------------|---------------------------------------------|
| switchport mode access                              | switchport mode access                      |
| switchport port-security                            | switchport port-security                    |
| switchport port-security mac-address 0060.3EDD.77AB | switchport port-security maximum 2          |
| switchport port-security mac-address 00D0.D3ED.622A | switchport port-security violation shutdown |
| switchport port-security mac-address sticky         |                                             |
| switchport port-security maximum 2                  |                                             |
| switchport port-security violation shutdown         |                                             |

Explanation:

Reference:

[https://www.cisco.com/en/US/docs/switches/lan/catalyst3850/software/release/3se/consolidated\\_guide/b\\_consolidated\\_3850\\_3se\\_cg\\_chapter\\_01000000.html](https://www.cisco.com/en/US/docs/switches/lan/catalyst3850/software/release/3se/consolidated_guide/b_consolidated_3850_3se_cg_chapter_01000000.html)

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# DUMPS ARENA

### QUESTION 99

6 - (Topic 7)

What is a function of Opportunistic Wireless Encryption in an environment?

- A. provide authentication
- B. protect traffic on open networks
- C. offer compression
- D. increase security by using a WEP connection

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/wireless/controller/9800/16-12/config-guide/b\\_wl\\_16\\_12\\_cg/wpa3.html](https://www.cisco.com/c/en/us/td/docs/wireless/controller/9800/16-12/config-guide/b_wl_16_12_cg/wpa3.html)

### QUESTION 100

7 - (DRAG DROP) - (Topic 7)

#### DRAG DROP

Drag and drop the AAA features from the left onto the corresponding AAA security services on the right. Not all options are used.

Select and Place:

#### Answer Area

It enables the device to allow user- or group-based access.

It leverages a RADIUS server to grant user access to a reverse Telnet session.

It records the amount of time for which a user accesses the network on a remote server.

It restricts the CLI commands that a user can perform.

It uses TACACS+ to log the configuration commands entered by a network administrator.

It verifies the user and password before granting access to the device.

#### Accounting

#### Authorization

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## Answer Area

It enables the device to allow user- or group-based access.

It leverages a RADIUS server to grant user access to a reverse Telnet session.

It records the amount of time for which a user accesses the network on a remote server.

It restricts the CLI commands that a user can perform.

It uses TACACS+ to log the configuration commands entered by a network administrator.

It verifies the user and password before granting access to the device.

### Accounting

It records the amount of time for which a user accesses the network on a remote server.

It uses TACACS+ to log the configuration commands entered by a network administrator.

### Authorization

It enables the device to allow user- or group-based access.

It restricts the CLI commands that a user can perform.

Explanation:

### QUESTION 101

8 - (Topic 7)

**Layer 2** **Layer 3** **AAA Servers**

Layer 2 Security **WPA+WPA2** 

MAC Filtering  

**Fast Transition**

Fast Transition  **Adaptive** 

Over the DS 

Reassociation Timeout 20 Seconds

**Protected Management Frame**

PMF  **Disabled** 

**WPA+WPA2 Parameters**

WPA Policy 

WPA2 Policy 

WPA2 Encryption  **AES**  TKIP  CCMP256  GCMP128  GCMP256

OSEN Policy 

**Authentication Key Management** 

802.1X  **Enable**

CCKM  **Enable**

PSK  **Enable**

FT 802.1X  **Enable**

FT PSK  **Enable**

SUITEB-1X  **Enable**

SUITEB192-1X  **Enable**

WPA gtk-randomize State  **Disable** 

Refer to the exhibit. Clients on the WLAN are required to use 802.11r. What action must be taken to meet the requirement?

- A. Under Protected Management Frames, set the PMF option to Required.
- B. Enable CCKM under Authentication Key Management.
- C. Set the Fast Transition option and the WPA gtk-randomize State to disable.
- D. Set the Fast Transition option to Enable and enable FT 802.1X under Authentication Key Management.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 102**

9 - (Topic 7)

| General                                                                  | Security       | QoS                           | Policy-Mapping                   | Advanced                                                          |
|--------------------------------------------------------------------------|----------------|-------------------------------|----------------------------------|-------------------------------------------------------------------|
| Layer 2                                                                  | <b>Layer 3</b> | AAA Servers                   |                                  |                                                                   |
| <b>Layer 2 Security</b> <input type="button" value="Edit"/>              |                |                               |                                  |                                                                   |
| Security Type <input type="button" value="Edit"/> Enterprise             |                |                               |                                  |                                                                   |
| MAC Filtering <input type="button" value="Edit"/>                        |                |                               |                                  |                                                                   |
| <b>WPA+WPA2 Parameters</b>                                               |                |                               |                                  |                                                                   |
| WPA Policy <input type="checkbox"/>                                      |                |                               |                                  |                                                                   |
| WPA2 Policy <input checked="" type="checkbox"/>                          |                |                               |                                  |                                                                   |
| WPA2 Encryption <input checked="" type="checkbox"/> CCMP128(AES)         |                | TKIP <input type="checkbox"/> | CCMP256 <input type="checkbox"/> | GCMP128 <input type="checkbox"/> GCMP256 <input type="checkbox"/> |
| OSEN Policy                                                              |                |                               |                                  |                                                                   |
| <b>Fast Transition</b>                                                   |                |                               |                                  |                                                                   |
| Fast Transition <input type="button" value="Edit"/> Disable              |                |                               |                                  |                                                                   |
| <b>Protected Management Frame</b>                                        |                |                               |                                  |                                                                   |
| PMF <input type="button" value="Edit"/> Disabled                         |                |                               |                                  |                                                                   |
| <b>Authentication Key Management</b> <input type="button" value="Edit"/> |                |                               |                                  |                                                                   |
| 802.1X-SHA1 <input checked="" type="checkbox"/> Enable                   |                |                               |                                  |                                                                   |

Refer to the exhibit. What must be configured to enable 802.11w on the WLAN?

- A. Set Fast Transition to Enabled.
- B. Enable WPA Policy.
- C. Set PMF to Required.
- D. Enable MAC Filtering.

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

Explanation:

Reference:

[https://www.cisco.com/c/en/us/td/docs/wireless/controller/5700/software/release/3se/wlan/configuration\\_guide/b\\_wlan\\_3se\\_5700\\_cg/b\\_wlan\\_3se\\_5700\\_cg\\_chapter\\_01000.pdf](https://www.cisco.com/c/en/us/td/docs/wireless/controller/5700/software/release/3se/wlan/configuration_guide/b_wlan_3se_5700_cg/b_wlan_3se_5700_cg_chapter_01000.pdf)

Topic 8, Automation and Programmability

**QUESTION 103**

## 0 - (Topic 8)

An organization has decided to start using cloud-provided services. Which cloud service allows the organization to install its own operating system on a virtual machine?

- A. platform-as-a-service
- B. network-as-a-service
- C. software-as-a-service
- D. infrastructure-as-a-service

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Below are the 3 cloud supporting services cloud providers provide to customer:

SaaS (Software as a Service): SaaS uses the web to deliver applications that are managed by a third-party vendor and

whose interface is accessed on the clients' side. Most SaaS applications can be run directly from a web browser without any downloads or installations required, although some require plugins.

PaaS (Platform as a Service): are used for applications, and other development, while providing cloud components to

software. What developers gain with PaaS is a framework they can build upon to develop or customize applications. PaaS makes the development, testing, and deployment of applications quick, simple, and cost-effective. With this technology, enterprise operations, or a third-party provider, can manage OSes, virtualization, servers, storage, networking, and the PaaS software itself. Developers, however, manage the applications.

IaaS (Infrastructure as a Service): self-service models for accessing, monitoring, and managing remote datacenter

infrastructures, such as compute (virtualized or bare metal), storage, networking, and networking services (e.g. firewalls). Instead of having to purchase hardware outright, users can purchase IaaS based on consumption, similar to electricity or other utility billing.

In general, IaaS provides hardware so that an organization can install their own operating system.

## QUESTION 104

### 1 - (Topic 8)

How do traditional campus device management and Cisco DNA Center device management differ in regards to

deployment?

- A. Traditional campus device management allows a network to scale more quickly than with Cisco DNA Center device management.
- B. Cisco DNA Center device management can deploy a network more quickly than traditional campus device management.
- C. Cisco DNA Center device management can be implemented at a lower cost than most traditional campus device management options.
- D. Traditional campus device management schemes can typically deploy patches and updates more quickly than Cisco DNA Center device management.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 105**

2 - (Topic 8)

Which purpose does a northbound API serve in a controller-based networking architecture?

- A. facilitates communication between the controller and the applications
- B. reports device errors to a controller
- C. generates statistics for network hardware and traffic
- D. communicates between the controller and the physical network hardware

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 106**

3 - (Topic 8)

What benefit does controller-based networking provide versus traditional networking?

- A. allows configuration and monitoring of the network from one centralized point
- B. provides an added layer of security to protect from DDoS attacks
- C. combines control and data plane functionality on a single device to minimize latency
- D. moves from a two-tier to a three-tier network architecture to provide maximum redundancy

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 107**

4 - (Topic 8)

What is an advantage of Cisco DNA Center versus traditional campus device management?

- A. It is designed primarily to provide network assurance.
- B. It supports numerous extensibility options, including cross-domain adapters and third-party SDKs.
- C. It supports high availability for management functions when operating in cluster mode.
- D. It enables easy autodiscovery of network elements in a brownfield deployment.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 108**

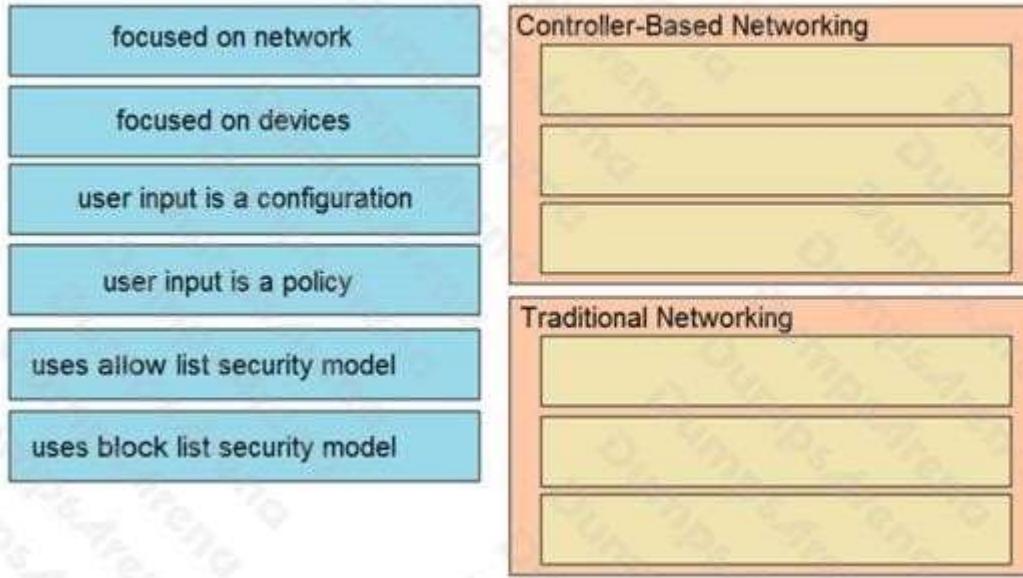
5 - (DRAG DROP) - (Topic 8)

DRAG DROP

Drag and drop the characteristics of networking from the left onto the correct networking types on the right.

Select and Place:

**Answer Area**



A.

- B.
- C.
- D.

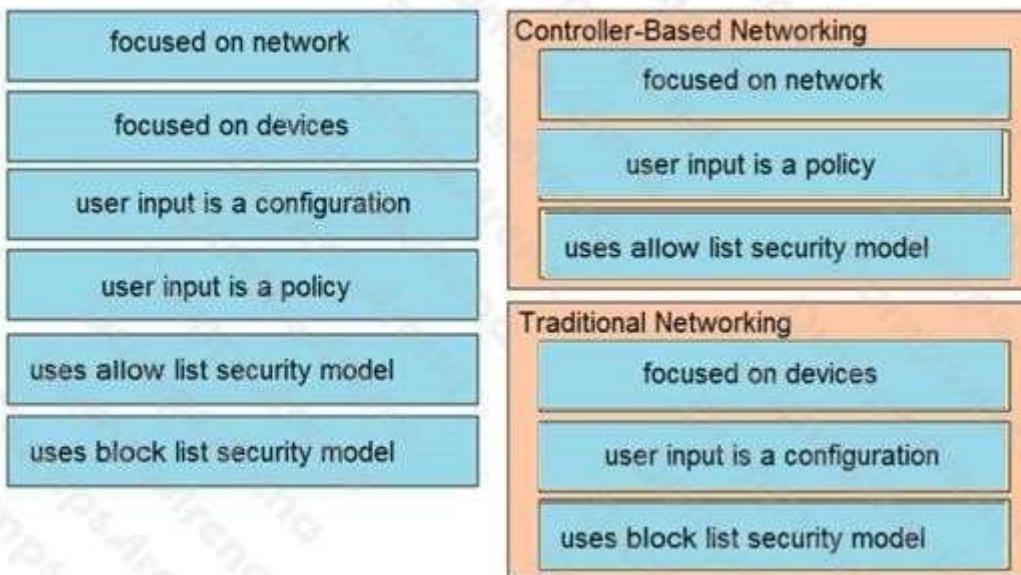
**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**Answer Area**



**Explanation:**

#### **QUESTION 109**

6 - (Topic 8)

What are two fundamentals of virtualization? (Choose two.)

- A. It allows logical network devices to move traffic between virtual machines and the rest of the physical network.
- B. It allows multiple operating systems and applications to run independently on one physical server.
- C. It allows a physical router to directly connect NICs from each virtual machine into the network.
- D. It requires that some servers, virtual machines, and network gear reside on the Internet.
- E. The environment must be configured with one hypervisor that serves solely as a network manager to monitor SNMP

traffic.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 110**

7 - (Topic 8)

How does Cisco DNA Center gather data from the network?

- A. Devices use the call-home protocol to periodically send data to the controller
- B. Devices establish an IPsec tunnel to exchange data with the controller
- C. The Cisco CLI Analyzer tool gathers data from each licensed network device and streams it to the controller
- D. Network devices use different services like SNMP, syslog, and streaming telemetry to send data to the controller

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 111**

8 - (Topic 8)

Which statement correctly compares traditional networks and controller-based networks?

- A. Only controller-based networks decouple the control plane and the data plane.
- B. Traditional and controller-based networks abstract policies from device configurations.
- C. Only traditional networks natively support centralized management.
- D. Only traditional networks offer a centralized control plane.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Most traditional devices use a distributed architecture, in which each control plane is resided in a networking device. Therefore they need to communicate with each other via messages to work correctly. In contrast to distributed architecture, centralized (or controller-based) architectures centralizes the control of networking devices into one device, called SDN controller.

**QUESTION 112**

9 - (Topic 8)

What are two benefits of network automation? (Choose two.)

- A. reduced hardware footprint

- B. reduced operational costs
- C. faster changes with more reliable results
- D. fewer network failures
- E. increased network security

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 113**

0 - (Topic 8)

Which two encoding methods are supported by REST APIs? (Choose two.)

- A. SGML
- B. YAML
- C. XML
- D. JSON
- E. EBCDIC

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Application Policy Infrastructure Controller (APIC) REST API is a programmatic interface that uses REST architecture. The API accepts and returns HTTP (not enabled by default) or HTTPS messages that contain JavaScript Object Notation (JSON) or Extensible Markup Language (XML) documents.

Reference: [https://www.cisco.com/c/en/us/td/docs/switches/datacenter/aci/apic/sw/2-x/rest\\_cfg/2\\_1\\_x/b\\_Cisco\\_APIC\\_REST\\_API\\_Configuration\\_Guide/b\\_Cisco\\_APIC\\_REST\\_API\\_Configuration\\_Guide\\_chapter\\_01.html](https://www.cisco.com/c/en/us/td/docs/switches/datacenter/aci/apic/sw/2-x/rest_cfg/2_1_x/b_Cisco_APIC_REST_API_Configuration_Guide/b_Cisco_APIC_REST_API_Configuration_Guide_chapter_01.html)

**QUESTION 114**

1 - (Topic 8)

What are two characteristics of a controller-based network? (Choose two.)

- A. It uses Telnet to report system issues.
- B. The administrator can make configuration updates from the CLI.
- C. It uses northbound and southbound APIs to communicate between architectural layers.
- D. It decentralizes the control plane, which allows each device to make its own forwarding decisions.
- E. It moves the control plane to a central point.

**Correct Answer:** CE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

```
{  
  "response": {  
    "taskId": {},  
    "url": "string"  
  },  
  "version": "string"  
}  
  
{  
  "response"- {  
    "taskId"- {},  
    "url"- "string"  
  },  
  "version"- "string"  
}
```

**QUESTION 115**

2 - (Topic 8)

Which output displays a JSON data representation?

- A. {  
  "response": {  
    "taskId": {},  
    "url": "string"  
  },  
  "version": "string"  
}  
  
B. {  
  "response"- {  
    "taskId"- {},  
    "url"- "string"  
  },  
  "version"- "string"  
}  
  
C. {  
  "response": {  
    "taskId": {},  
    "url": "string"  
  },  
  "version": "string"  
}  
  
D. {  
  "response", {  
    "taskId": {},  
    "url": "string"  
  },  
  "version", "string"  
}

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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

JSON data is written as name/value pairs.

A name/value pair consists of a field name (in double quotes), followed by a colon, followed by a value:  
"name":"Mark"

JSON can use arrays. Array values must be of type string, number, object, array, boolean or null. For example:

```
{  
  "name": "John",  
  "age": 30,  
  "cars": [ "Ford", "BMW", "Fiat" ]
```

```
}
```

JSON can have empty object like "taskId":{}

**QUESTION 116**

3 - (DRAG DROP) - (Topic 8)

DRAG DROP

Drag and drop the descriptions from the left onto the configuration-management technologies on the right.

Select and Place:

## Answer Area

- fundamental configuration elements are stored in a manifest
- uses TCP port 10002 for configuration push jobs
- uses Ruby for fundamental configuration elements
- uses SSH for remote device communication
- uses TCP 8140 for communication
- uses YAML for fundamental configuration elements



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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Answer Area

- fundamental configuration elements are stored in a manifest
- uses TCP port 10002 for configuration push jobs
- uses Ruby for fundamental configuration elements
- uses SSH for remote device communication
- uses TCP 8140 for communication
- uses YAML for fundamental configuration elements

### Ansible

uses SSH for remote device communication

uses YAML for fundamental configuration elements

### Chef

uses TCP port 10002 for configuration push jobs

uses Ruby for fundamental configuration elements

### Puppet

fundamental configuration elements are stored in a manifest

uses TCP 8140 for communication

## Explanation:

The focus of Ansible is to be streamlined and fast, and to require no node agent installation. Thus, Ansible performs all functions over SSH. Ansible is built on Python, in contrast to the Ruby foundation of Puppet and Chef.

TCP port 10002 is the command port. It may be configured in the Chef Push Jobs configuration file . This port allows Chef Push Jobs clients to communicate with the Chef Push Jobs server.

Puppet is an open-source configuration management solution, which is built with Ruby and offers custom Domain Specific Language (DSL) and Embedded Ruby (ERB) templates to create custom Puppet language files, offering a declarative- paradigm programming approach.

A Puppet piece of code is called a manifest, and is a file with .pp extension.

## QUESTION 117

4 - (Topic 8)

Which two capabilities of Cisco DNA Center make it more extensible as compared to traditional campus device management? (Choose two.)

- A. REST APIs that allow for external applications to interact natively
- B. adapters that support all families of Cisco IOS software
- C. SDKs that support interaction with third-party network equipment
- D. modular design that is upgradable as needed
- E. customized versions for small, medium, and large enterprises

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Cisco DNA Center offers 360-degree extensibility through four distinct types of platform capabilities:

Intent-based APIs leverage the controller and enable business and IT applications to deliver intent to the network and to

reap network analytics and insights for IT and business innovation.

Process adapters, built on integration APIs, allow integration with other IT and network systems to streamline IT

operations and processes.

Domain adapters, built on integration APIs, allow integration with other infrastructure domains such as data center, WAN,

and security to deliver a consistent intent-based infrastructure across the entire IT environment.

SDKs allow management to be extended to third-party vendor's network devices to offer support for diverse environments.

Reference: <https://www.cisco.com/c/en/us/products/collateral/cloud-systems-management/dna-center/nb-06-dna-centr-platf-aag-cte-en.html>

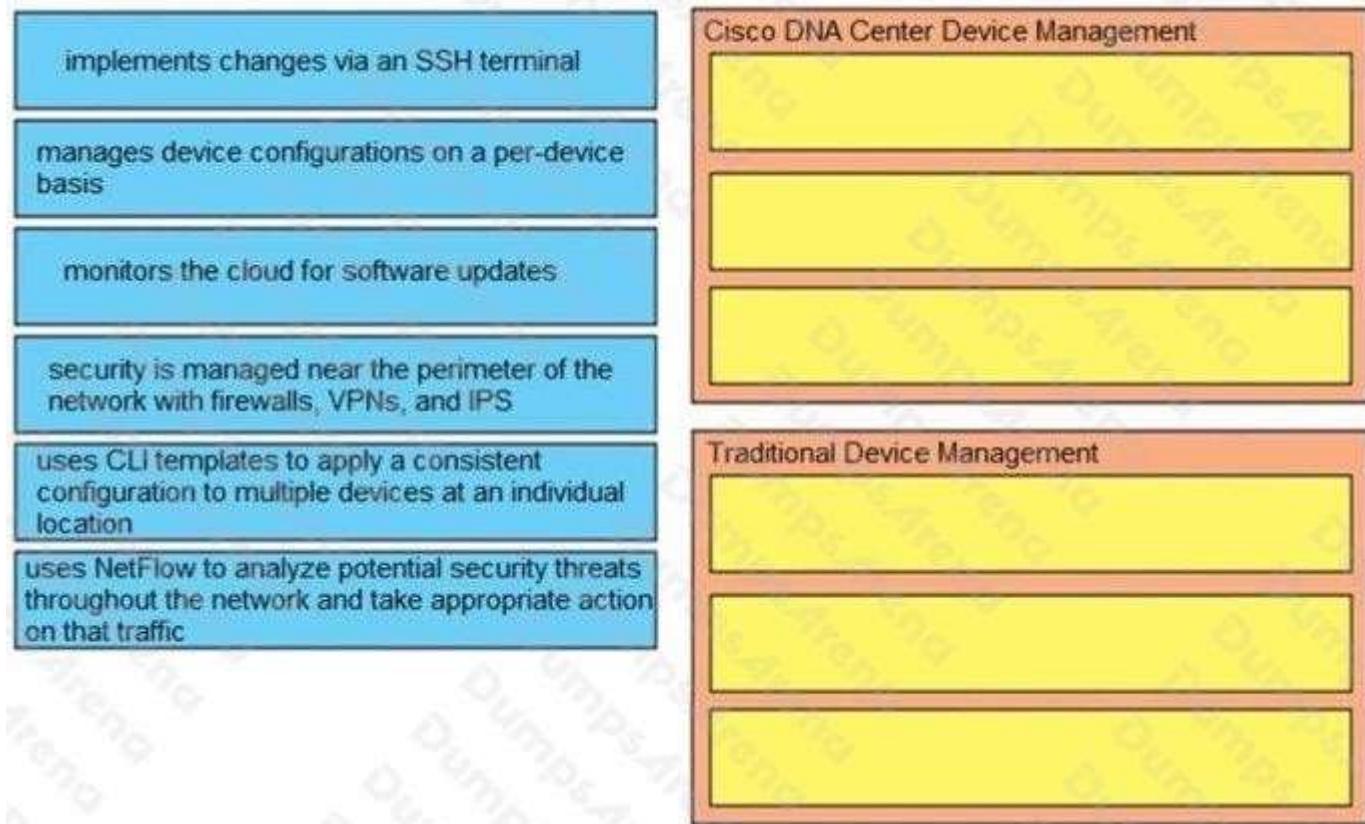
### **QUESTION 118**

5 - (DRAG DROP) - (Topic 8)

DRAG DROP

Drag the descriptions of device management from the left onto the types of device management on the right.

Select and Place:



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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

|                                                                                                                       |                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| implements changes via an SSH terminal                                                                                | Cisco DNA Center Device Management                                                                                    |
| manages device configurations on a per-device basis                                                                   | monitors the cloud for software updates                                                                               |
| monitors the cloud for software updates                                                                               | uses CLI templates to apply a consistent configuration to multiple devices at an individual location                  |
| security is managed near the perimeter of the network with firewalls, VPNs, and IPS                                   | uses NetFlow to analyze potential security threats throughout the network and take appropriate action on that traffic |
| uses CLI templates to apply a consistent configuration to multiple devices at an individual location                  | Traditional Device Management                                                                                         |
| uses NetFlow to analyze potential security threats throughout the network and take appropriate action on that traffic | implements changes via an SSH terminal                                                                                |
|                                                                                                                       | manages device configurations on a per-device basis                                                                   |
|                                                                                                                       | security is managed near the perimeter of the network with firewalls, VPNs, and IPS                                   |

Explanation:

#### QUESTION 119

6 - (Topic 8)

What software-defined architecture plane assists network devices with making packet-forwarding decisions by providing Layer 2 reachability and Layer 3 routing information?

- A. management plane
- B. control plane
- C. data plane
- D. policy plane

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 120**

7 - (Topic 8)

What are two benefits of controller-based networking compared to traditional networking? (Choose two.)

- A. controller-based increases network bandwidth usage, while traditional lightens the load on the network
- B. controller-based reduces network configuration complexity, while traditional increases the potential for errors
- C. controller-based allows for fewer network failures, while traditional increases failure rates
- D. controller-based provides centralization of key IT functions, while traditional requires distributed management functions
- E. controller-based inflates software costs, while traditional decreases individual licensing costs

**Correct Answer:** BD**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 121**

8 - (Topic 8)

Which type of API allows SDN controllers to dynamically make changes to the network?

- A. northbound API
- B. REST API
- C. SOAP API
- D. southbound API

**Correct Answer:** D**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 122**

9 - (DRAG DROP) - (Topic 8)

**DRAG DROP**

Drag and drop the AAA terms from the left onto the descriptions on the right.

**Select and Place:**

|                |                            |
|----------------|----------------------------|
| accounting     | tracks activity            |
| authentication | updates session attributes |
| authorization  | verifies access rights     |
| CoA            | verifies identity          |

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

**Correct Answer:**

**Section:** (none)

**Explanation**

**Explanation/Reference:**

|                |                |
|----------------|----------------|
| accounting     | accounting     |
| authentication | CoA            |
| authorization  | authorization  |
| CoA            | authentication |

**Explanation:**

**QUESTION 123**

0 - (Topic 8)

Which option about JSON is true

- A. uses predefined tags or angle brackets () to delimit markup text
- B. used to describe structured data that includes arrays
- C. used for storing information
- D. similar to HTML, it is more verbose than XML

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

JSON data is written as name/value pairs.

A name/value pair consists of a field name (in double quotes), followed by a colon, followed by a value:  
"name":"Mark"

JSON can use arrays. Array values must be of type string, number, object, array, boolean or null..

For example:

```
{  
  "name": "John",  
  "age": 30,  
  
  "cars": [ "Ford", "BMW", "Fiat" ] }
```

**QUESTION 124**

1 - (Topic 8)

Which option best describes an API?

- A. a contract that describes how various components communicate and exchange data with each other
- B. an architectural style (versus a protocol) for designing applications
- C. a stateless client-server model
- D. request a certain type of data by specifying the URL path that models the data

**Correct Answer:** A**Section:** (none)**Explanation****Explanation/Reference:****QUESTION 125**

2 - (DRAG DROP) - (Topic 8)

## DRAG DROP

Drag and drop the characteristics of a cloud environment from the left onto the correct examples on the right.

Select and Place:

|                   |                                                                                                    |
|-------------------|----------------------------------------------------------------------------------------------------|
| multitenancy      | One or more clients can be hosted with the same physical or virtual infrastructure                 |
| on-demand         | Resources can be added and removed as needed to support current workload and tasks                 |
| resiliency        | Tasks can be migrated to different physical locations to increase efficiency or reduce cost.       |
| scalability       | Resources are dedicated only when necessary instead of on a permanent                              |
| workload movement | Tasks and data residing on a failed server can be seamlessly migrated to other physical resources. |

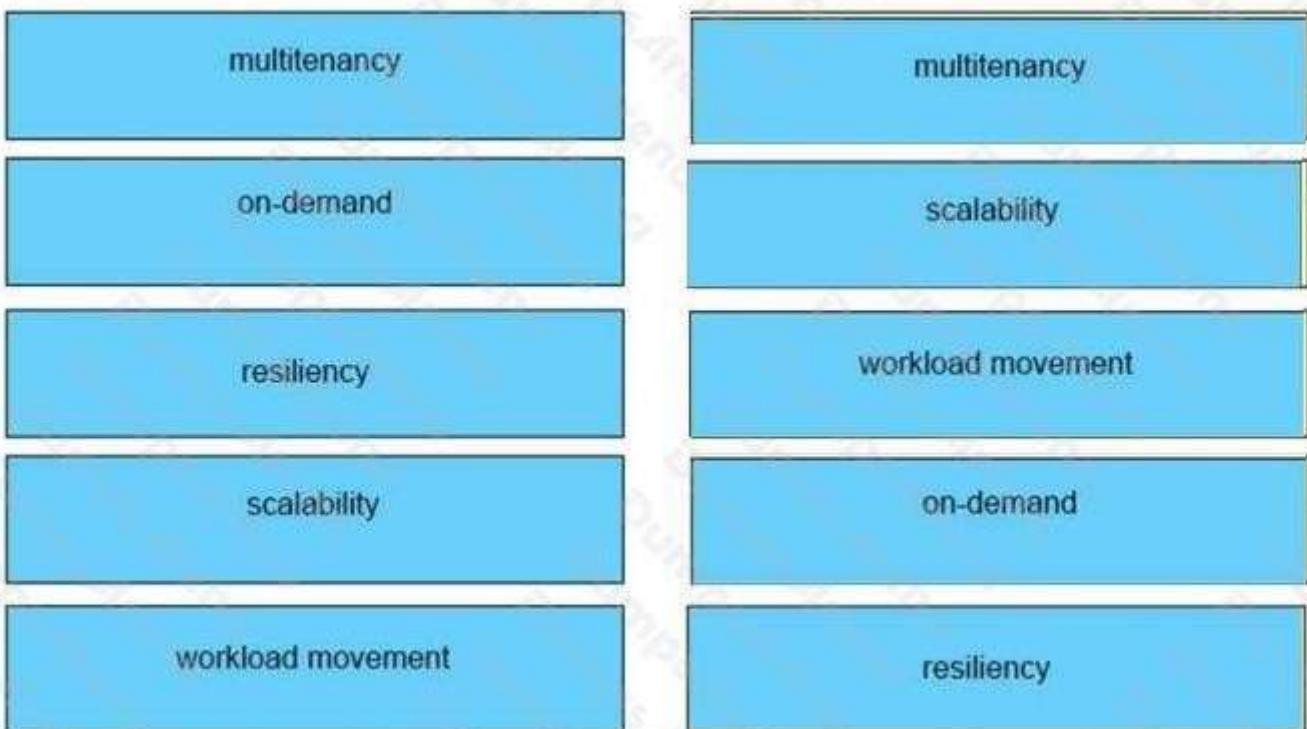
- A.
- B.
- C.
- D.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**



Explanation:

**QUESTION 126**

3 - (Topic 8)

Which of the following is the JSON encoding of a dictionary or hash?

- A. {"key": "value"}
- B. ["key", "value"]
- C. {"key", "value"}
- D. ("key": "value")

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 127**

4 - (Topic 8)

What role does a hypervisor provide for each virtual machine in server virtualization?

- A. infrastructure-as-a-service
- B. Software-as-a-service
- C. control and distribution of physical resources
- D. services as a hardware controller

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 128**

5 - (Topic 8)

What is the function of a server?

- A. It transmits packets between hosts in the same broadcast domain.
- B. It provides shared applications to end users.
- C. It routes traffic between Layer 3 devices.
- D. It Creates security zones between trusted and untrusted networks.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 129**

6 - (Topic 8)

Which CRUD operation modifies an existing table or view?

- A. read
- B. update
- C. replace
- D. create

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 130**

7 - (Topic 8)

In software-defined architectures, which plane is distributed and responsible for traffic forwarding?

- A. management plane
- B. policy plane
- C. data plane
- D. control plane

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 131**

8 - (Topic 8)

Refer to the exhibit. Which type of configuration is represented in the output?

```
cisco_ospf_vrf {"R1 default":  
    ensure => 'present',  
    auto_cost => '100',  
}
```

- A. Ansible
- B. JSON
- C. Chef
- D. Puppet

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://forge.puppet.com/modules/puppetlabs/ciscopuppet/1.0.0>

**QUESTION 132**

9 - (Topic 8)

Which configuration management mechanism uses TCP port 22 by default when communicating with managed nodes?

- A. Ansible
- B. Python
- C. Puppet

D. Chef

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 133**

0 - (Topic 8)

What does an SDN controller use as a communication protocol to relay forwarding changes to a southbound API?

- A. Java
- B. REST
- C. OpenFlow
- D. XML

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 134**

1 - (Topic 8)

What uses HTTP messages to transfer data to applications residing on different hosts?

- A. OpenStack
- B. OpFlex
- C. REST
- D. OpenFlow

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 135**

2 - (Topic 8)

Which JSON data type is an unordered set of attribute-value pairs?

- A. string

- B. array
- C. Boolean
- D. object

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 136**

3 - (Topic 8)

Which protocol is used in Software Defined Access (SDA) to provide a tunnel between two edge nodes in different fabrics?

- A. Generic Router Encapsulation (GRE)
- B. Virtual Local Area Network (VLAN)
- C. Virtual Extensible LAN (VXLAN)
- D. Point-to-Point Protocol (PPP)

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 137**

4 - (Topic 8)

Which plane is centralized by an SDN controller?

- A. management-plane
- B. data-plane
- C. services-plane
- D. control-plane

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 138**

5 - (Topic 8)

Where is the interface between the control plane and data plane within the software-defined architecture?

- A. application layer and the management layer
- B. application layer and the infrastructure layer

- C. control layer and the application layer
- D. control layer and the infrastructure layer

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 139**

6 - (Topic 8)

Which statement compares traditional networks and controller-based networks?

- A. Only traditional networks natively support centralized management.
- B. Traditional and controller-based networks abstract policies from device configurations.
- C. Only traditional networks offer a centralized control plane.
- D. Only controller-based networks decouple the control plane and the data plane.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 140**

7 - (Topic 8)

Which two events occur automatically when a device is added to Cisco DNA Center? (Choose two.)

- A. The device is placed into the Managed state.
- B. The device is placed into the Unmanaged state.
- C. The device is assigned to the Local site.
  
- D. The device is assigned to the Global site.
- E. The device is placed into the Provisioned state.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: [https://www.cisco.com/c/en/us/td/docs/cloud-systems-management/network-automation-and-management/dna-center/1-0-x/b\\_dnac\\_ug\\_1\\_0/b\\_dnac\\_ug\\_1\\_0\\_chapter\\_01110.html](https://www.cisco.com/c/en/us/td/docs/cloud-systems-management/network-automation-and-management/dna-center/1-0-x/b_dnac_ug_1_0/b_dnac_ug_1_0_chapter_01110.html)

**QUESTION 141**

8 - (Topic 8)

Which two components are needed to create an Ansible script that configures a VLAN on a switch? (Choose two.)

- A. playbook
- B. recipe
- C. model
- D. cookbook
- E. task

**Correct Answer:** AE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 142**

9 - (Topic 8)

In software-defined architecture, which plane handles switching for traffic through a Cisco router?

- A. control
- B. data
- C. management
- D. application

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 143**

0 - (Topic 8)

What are two southbound APIs? (Choose two.)

- A. Thrift
- B. DSC
- C. CORBA
- D. NETCONF
- E. OpenFlow

**Correct Answer:** DE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**Explanation:**

OpenFlow is a well-known southbound API. OpenFlow defines the way the SDN Controller should interact with the forwarding plane to make adjustments to the network, so it can better adapt to changing business requirements.

The Network Configuration Protocol (NetConf) uses Extensible Markup Language (XML) to install, manipulate and delete configuration to network devices.

Other southbound APIs are:

- onePK: a Cisco proprietary SBI to inspect or modify the network element configuration without hardware upgrades.
- OpFlex: an open-standard, distributed control system. It sends "summary policy" to network elements.

**QUESTION 144**

1 - (Topic 8)

What makes Cisco DNA Center different from traditional network management applications and their management of networks?

- A. Its modular design allows someone to implement different versions to meet the specific needs of an organization.
- B. It only supports auto-discovery of network elements in a greenfield deployment.
- C. It does not support high availability of management functions when operating in cluster mode.
- D. It abstracts policy from the actual device configuration.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 145**

2 - (Topic 8)

Which API is used in controller-based architectures to interact with edge devices?

- A. southbound
- B. overlay
- C. northbound
- D. underlay

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 146**

3 - (DRAG DROP) - (Topic 8)

DRAG DROP

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

Select and Place:

## Answer Area

This type allows better control over how networks work and how networks are configured.

This type enables networks to integrate with applications through APIs.

New devices are configured using the physical infrastructure.

This type provisions resources from a centralized location.

This type requires a distributed control plane.

### Controller-Based Networking

### Traditional Networking

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## Answer Area

This type allows better control over how networks work and how networks are configured.

This type enables networks to integrate with applications through APIs.

New devices are configured using the physical infrastructure.

This type provisions resources from a centralized location.

This type requires a distributed control plane.

### Controller-Based Networking

This type allows better control over how networks work and how networks are configured.

This type enables networks to integrate with applications through APIs.

This type provisions resources from a centralized location.

### Traditional Networking

New devices are configured using the physical infrastructure.

This type requires a distributed control plane.

Explanation:

**QUESTION 147**  
4 - (Topic 8)

```
1 [  
2   { "switch": "3750", "port": e2 },  
3   { "router": "2951", "port": e20 },  
4   { "switch": "3750", "port": e23 },  
5 ]
```

Refer to the exhibit. What is represented beginning with line 1 and ending with line 5?

- A. object
- B. value
- C. key
- D. array

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://stackoverflow.com/questions/688097/objects-vs-arrays-in-javascript-for-key-value-pairs>

**QUESTION 148**

5 - (Topic 8)

Which CRUD operation corresponds to the HTTP GET method?

- A. create
- B. read
- C. delete
- D. update

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Reference: <https://hub.packtpub.com/crud-operations-rest/>

**QUESTION 149**

6 - (Topic 8)

What differentiates device management enabled by Cisco DNA Center from traditional campus device management?

- A. CLI-oriented device
- B. centralized
- C. device-by-device hands-on
- D. per-device

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 150**

7 - (DRAG DROP) - (Topic 8)

DRAG DROP

Drag and drop the statements about networking from the left onto the corresponding networking types on the right.

Select and Place:

**Answer Area**

- This type deploys a consistent configuration across multiple devices.
- A distributed control plane is needed.
- This type requires a distributed management plane.
- Southbound APIs are used to apply configurations.
- Northbound APIs interact with end devices.

**Controller-Based Networking**

**Traditional Networking**

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

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## Answer Area

This type deploys a consistent configuration across multiple devices.

A distributed control plane is needed.

This type requires a distributed management plane.

Southbound APIs are used to apply configurations.

Northbound APIs interact with end devices.

### Controller-Based Networking

This type deploys a consistent configuration across multiple devices.

Southbound APIs are used to apply configurations.

### Traditional Networking

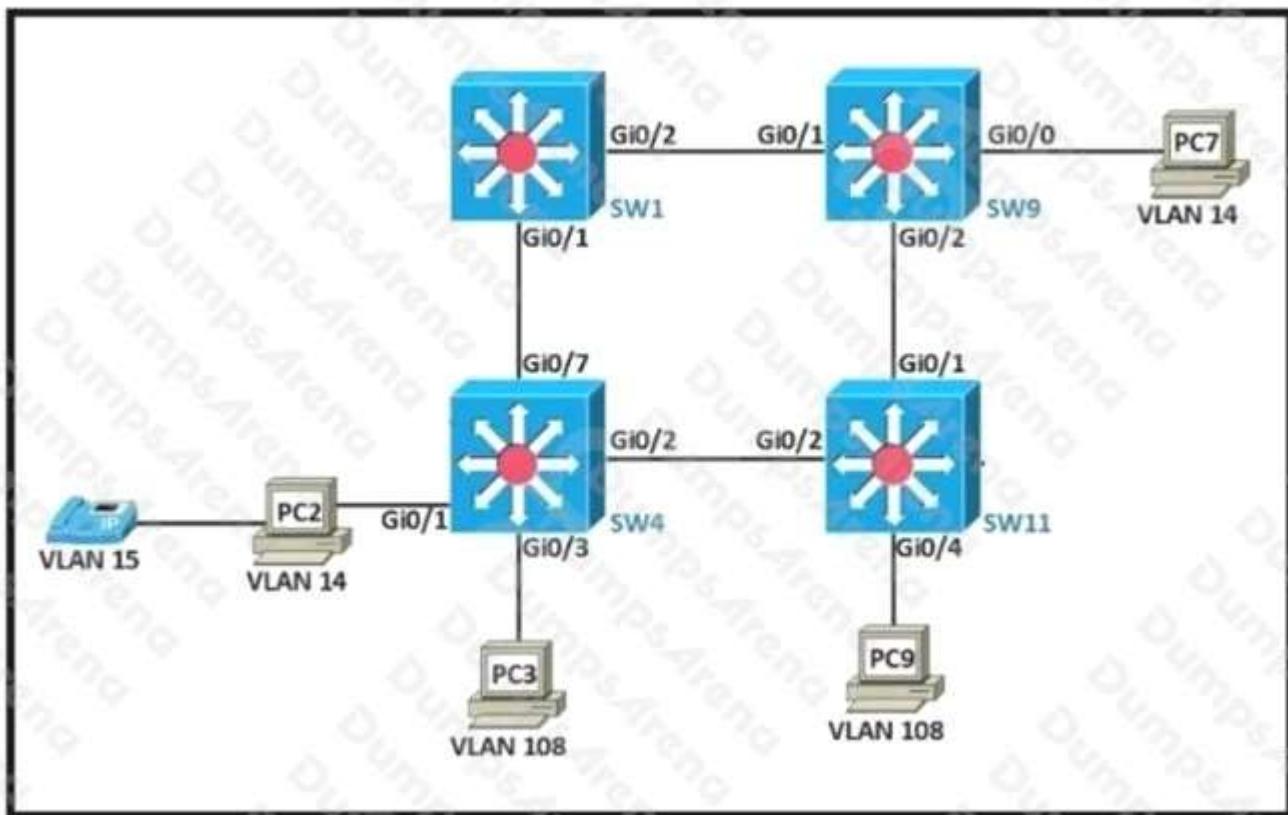
A distributed control plane is needed.

This type requires a distributed management plane.

Explanation:

### QUESTION 151

8 - (Topic 8)



Refer to the exhibit. The following must be considered:

SW1 is fully configured for all traffic.



The SW4 and SW9 links to SW1 have been configured.



The SW4 interface Gi0/1 and Gi0/0 on SW9 have been configured.



The remaining switches have had all VLANs added to their VLAN database.



Which configuration establishes a successful ping from PC2 to PC7 without interruption to traffic flow between other PCs?

A. SW4

```
interface Gi0/7 switchport mode trunk switchport trunk allowed vlan 108 !
interface Gi0/2 switchport mode access switchport access vlan 14
SW11#
```

```
interface Gi0/2 switchport mode trunk switchport trunk allowed vlan 14,108 !
interface Gi0/1 switchport mode trunk switchport trunk allowed vlan 14,108 SW9#
interface Gi0/2 switchport mode access switchport access vlan 14
```

B. SW4

```
interface Gi0/2 switchport mode trunk switchport trunk allowed vlan 14,108 SW11#
interface Gi0/2 switchport mode trunk switchport trunk allowed vlan 14,108 !!
```

```
interface Gi0/1 switchport mode trunk switchport trunk allowed vlan 14,108 SW9#
interface Gi0/2 switchport mode trunk switchport trunk allowed vlan 14
```

C. SW4

```
interface Gi0/2 switchport mode trunk switchport trunk allowed vlan 14 SW11#
interface Gi0/1 switchport mode trunk switchport trunk allowed vlan 14 SW9#
interface Gi0/2 switchport mode trunk switchport trunk allowed vlan 108
```

D. SW4

```
interface Gi0/2 switchport mode access switchport access vlan 14
```

```
SW11#
interface Gi0/2 switchport mode trunk switchport trunk allowed vlan 14 !
interface Gi0/0 switchport mode access switchport access vlan 14
!
interface Gi0/1 switchport mode trunk
SW9#
interface Gi0/2 switchport mode access switchport access vlan 14
```

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

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## **Exam A**

### **QUESTION 1**

You are the network administrator for your company and have configured Cisco Discovery Protocol (CDP) in your network. You recently noticed that when devices send large numbers of CDP neighbor announcements, some devices are crashing. You decide to disable CDP on the router.

Which command should you use to achieve the objective?

- A. no cdp run
- B. set cdp disable
- C. no cdp enable
- D. no cdp advertise-v2

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

You should use the no cdp run command to disable CDP on the router. Due to a known vulnerability regarding the handling of CDP by Cisco routers and switches when devices send large numbers of CDP neighbor announcements, some devices can crash or cause abnormal system behavior. To overcome this problem, you can disable CDP for the entire router by using the no cdp run command.

You cannot use the set cdp disable command to disable CDP on the router. This command disables CDP on an entire Catalyst switch.

You cannot use the no cdp enable command to disable CDP on the router. This command disables CDP on a specific interface.

You cannot use the no cdp advertise-v2 command to disable CDP on the router. This command disables CDPv2 advertisements.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Configure and verify Layer 2 protocols

References:

[Cisco > Support > Using Cisco Discovery Protocol](#)

[Cisco > Support > Technology Support > Network Management > Cisco's Response to the CDP Issue > Document ID: 13621](#)

### **QUESTION 2**

Which is NOT a valid range for private IP addresses?

- A. 10.0.0.0 - 10.255.255.255
- B. 172.16.0.0 - 172.31.255.255
- C. 192.168.0.0 - 192.168.255.255
- D. 192.255.255.255-193.0.0.0

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The range 192.255.255.255 - 193.0.0.0 is a valid public IP address range, not a private IP address range.

The Internet Assigned Numbers Authority (IANA) has reserved the following three ranges for private Internet use:

10.0.0.0 - 10.255.255.255 (10.0.0.0/8)  
172.16.0.0 - 172.31.255.255 (172.16.0.0/12)  
192.168.0.0 - 192.168.255.255 (192.168.0.0/16)

The Internet Assigned Numbers Authority (IANA) manages and distributes global public IP addresses. IANA also performs DNS root zone management. IANA operates with the help of International Engineering Task Force (IETF) and RFC Editor to manage IP address allocation and DNS root zone management. There are Regional Internet Registries (RIRs) through which IANA allocates local registrations of IP addresses to different regions of the world. Each RIR handles a specific region of the world.

Objective:

Network Fundamentals

Sub-Objective:

Describe the need for private IPv4 addressing

References:

<http://www.ietf.org/rfc/rfc1918.txt>

<http://www.iana.org/>

### QUESTION 3

Which of the following protocols allow the root switch location to be optimized per VLAN? (Choose all that apply.)

- A. PVST+
- B. RSTP
- C. PVRST
- D. STP

**Correct Answer:** AC

**Section:** (none)

**Explanation**

#### Explanation/Reference:

Explanation:

Both Per VLAN Spanning Tree Plus (PVST+) and Per VLAN Rapid Spanning Tree (PVRST) protocols allow for a spanning tree instance for each VLAN, allowing for the location optimization of the root bridge for each VLAN. These are Cisco proprietary enhancements to the 802.1d and 802.1w standards, respectively.

Rapid Spanning Tree Protocol (RSTP) is another name for the 802.1w standard. It supports only one instance of spanning tree.

Spanning Tree Protocol (STP) is another name for the 802.1d standard. It supports only one instance of spanning tree.

Objective:

LAN Switching Fundamentals

Sub-Objective:

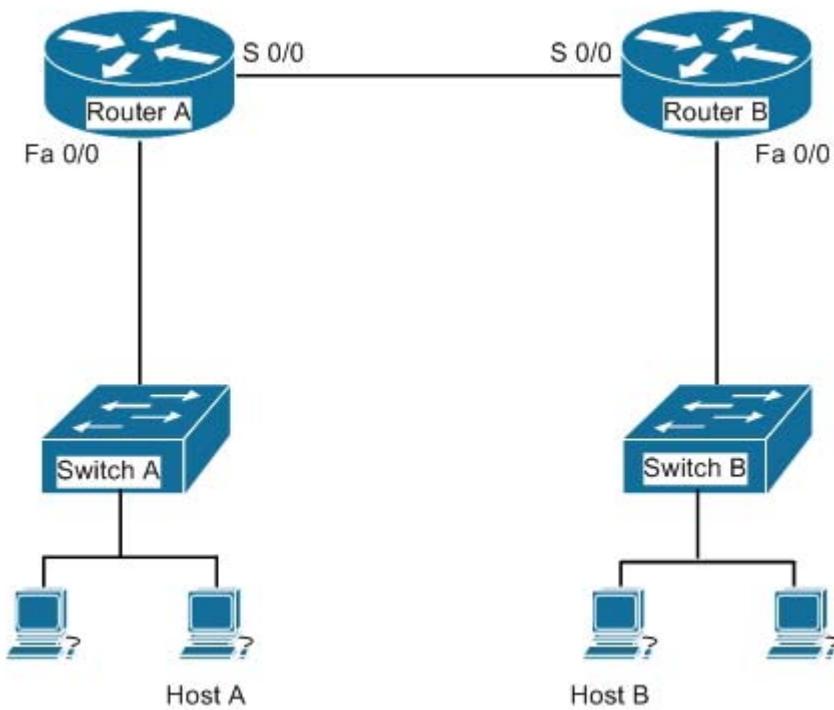
Configure, verify, and troubleshoot STP protocols

References:

[Cisco Home > Support > Technology Support > LAN Switching](#)

### QUESTION 4

Your assistant just finished configuring a small test network as part of his training. The network is configured as shown in the diagram below:



When testing the configuration, you find that Host A in the diagram cannot ping Host B.

Which of the following pairs of connections are required to be in the same subnet for Host A to be able to ping Host B? (Choose all that apply.)

- A. The IP address of Host A and the IP address of the Fa0/0 interface of Router A
- B. The IP address of the Fa0/0 interface of Router A and the IP address of the Fa0/0 interface of Router B
- C. The IP address of Host A and the IP address of the Fa0/0 interface of Router B
- D. The IP address of Host A and the IP address of Switch A
- E. The IP address of the S 0/0 interface of Router A and the IP address of the S 0/0 interface of Router B
- F. The IP address of Host A and the IP address of Host B
- G. The IP address of Host B and the IP address of the Fa0/0 interface of Router B

**Correct Answer:** AEG

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The following pairs of connections are required to be in the same subnet:

- the IP address of Host A and the IP address of the Fa0/0 interface of Router A
- the IP address of the S 0/0 interface of Router A and the IP address of the S 0/0 interface of Router B
- the IP address of Host B and the IP address of the Fa0/0 interface of Router B

When troubleshooting a correctly labeled network diagram for IP addressing problems, one must start on one end and trace each link in one direction, ensuring at each step that the interfaces are in the same subnet. A switch simply passes the packet to the router; therefore, the IP address of the switch is not important. It performs its job even if it has no IP address.

Moving from Host A to Host B, however, the following links must be in the same subnet:

- The IP address of Host A and the IP address of the Fa0/0 interface of Router A
- The IP address of the S0/0 interface of Router A and the IP address of the S0/0 interface of Router B
- The IP address of Host B and the IP address of the Fa0/0 interface of Router B

Neither of the switch addresses is important to the process.

If all other routing issues are correct, it is also not required for Host A and Host B to be in the same subnet.

Objective:

Network Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot IPv4 addressing and subnetting

References:

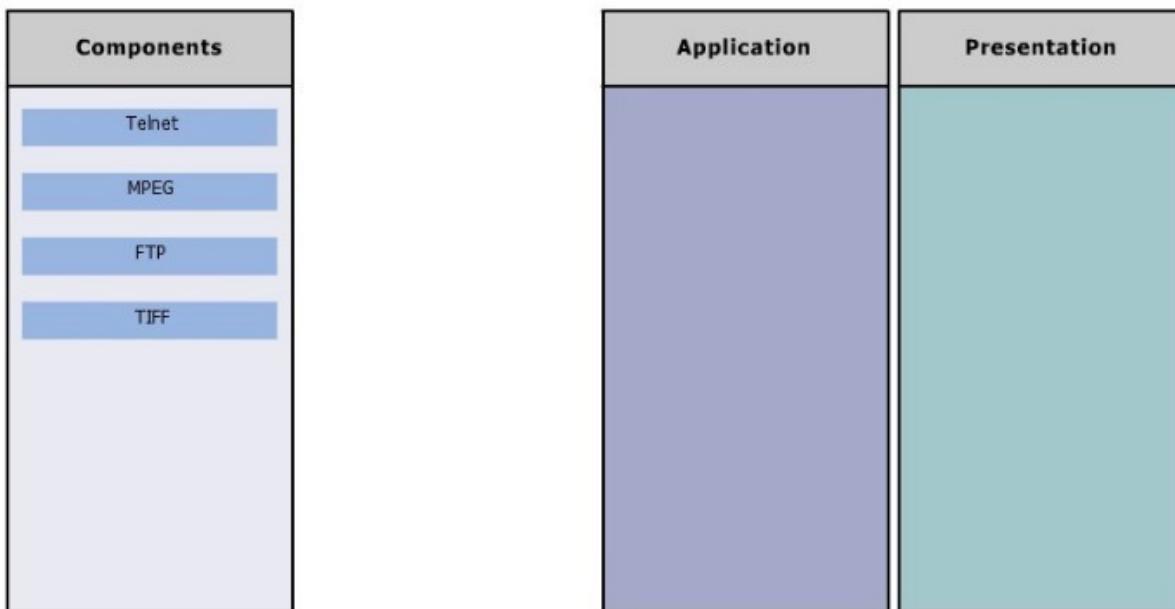
[Cisco > Home > Support > Technology Support > IP > IP Routing > Design > Design Technotes > IP Addressing and Subnetting for New Users](#)

## QUESTION 5

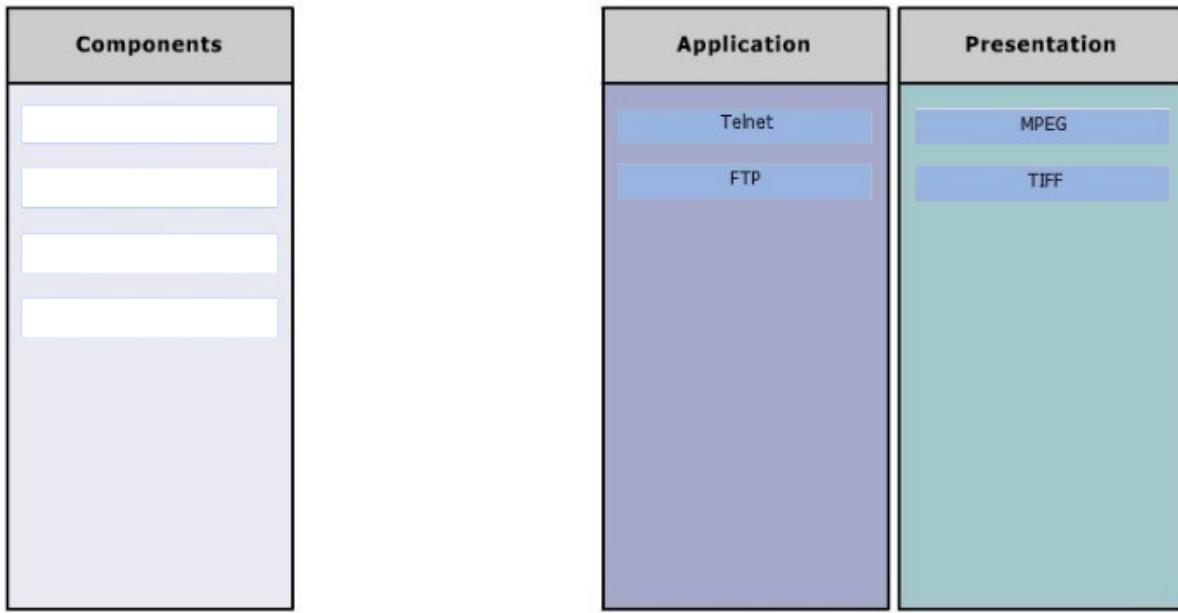
DRAG DROP

Click and drag the components on the left to their corresponding layers of the Open Systems Interconnection (OSI) model on the right.

Select and Place:



Correct Answer:



**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

File Transfer Protocol (FTP) and Telnet are services, which are implemented at the Application layer in the Open Systems Interconnection (OSI) model. The Application layer is responsible for interacting directly with the application. It provides application services, such as e-mail.

Motion Picture Experts Group (MPEG) and Tagged Image File Format (TIFF) are graphic image formats, which are implemented at the Presentation layer. The Presentation layer enables coding and conversion functions for application layer data. Data is formatted and encrypted at this layer. The Presentation layer converts data into a format which is acceptable to the Application layer.

The following are also OSI layers and their descriptions:

- Session: Used to create, manage, and terminate sessions between communicating nodes. The Session layer handles the service requests and service responses which take place between different applications.
- Transport: Responsible for error-free and sequential delivery of data. This layer is used to manage data transmission between devices, a process known as flow control. The Transport layer protocols are Transmission Control Protocol (TCP) and User Datagram Protocol (UDP).
- Network: Used to define the network address or the Internet Protocol (IP) address, which is then used by the routers to make routing decisions.
- Data Link: Ensures the reliable transmission of data across a network on the basis of Layer 2 addresses such as MAC addresses (Ethernet) or DLCIs (Frame relay).
- Physical: Consists of hardware for sending and receiving data on a carrier. The protocols which work at the Physical layer include Fast Ethernet, RS232 and Asynchronous Transfer Mode (ATM).

Objective:

Network Fundamentals

Sub-Objective:

Compare and contrast OSI and TCP/IP models

References:

[Internetworking Technology Handbook > Internetworking Basics > OSI Model and Communication Between Systems](#)

**QUESTION 6**

Which two fields are present in the output of the show ip interface brief command? (Choose two.)

- A. YES?
- B. Helper address
- C. OK?
- D. Method
- E. Proxy ARP

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Sample output of the show ip interface brief command is as follows:

```
Router# show ip interface brief
Interface IP-Address OK? Method Status Protocol
Ethernet0 10.108.00.5 YES NVRAM up up
Ethernet1 unassigned YES unset administratively down down
Loopback0 10.108.200.5 YES NVRAM up up
Serial0 10.108.100.5 YES NVRAM up up
Serial1 10.108.40.5 YES NVRAM up up
Serial2 10.108.100.5 YES manual up up
Serial3 unassigned YES unset administratively down down
```

The following fields are present in the output of the show ip interface brief command:

**OK?:** If the value of this field is "yes", it represents that the IP address is valid. If the value of this field is "No", it represents an invalid IP address.

**Method:** This field can have one of the following values:

- RARP or SLARP: Reverse Address Resolution Protocol (RARP) or Serial Line Address Resolution Protocol (SLARP) request
- BOOTP: Bootstrap protocol
- TFTP: Configuration file obtained from TFTP server
- Manual: Manually changed by CLI command
- NVRAM: Configuration file in NVRAM
- IPCP: ip address negotiated command
- DHCP: ip address dhcp command
- unassigned: No IP address
- unset: Unset
- other: Unknown
- Interface: Refers to the type of interface.
- IP-Address: Refers to the IP address assigned to the interface.

**Status:** Displays the interface status. Possible values in this field are as follows:

- up: Interface is administratively up.
- down: Interface is down.
- administratively down: Interface is administratively down.

**Protocol:** An indicator of the operational status of the routing protocol for this interface.

YES? is not a valid field in the output of the show ip interface brief command.

Helper address and Proxy ARP fields are present in the output of the show ip interface command, not the show ip interface brief command.

Objective:  
Network Fundamentals

Sub-Objective:  
Configure, verify, and troubleshoot IPv4 addressing and subnetting

References:  
[Cisco > Cisco IOS IP Addressing Command Reference > show ip interface](#)

### QUESTION 7

Which two modes are Cisco Internetwork Operating System (IOS) operating modes? (Choose two.)

- A. User Privileged mode
- B. User EXEC mode
- C. Local configuration mode
- D. Global configuration mode
- E. NVRAM monitor mode

**Correct Answer:** BD

**Section:** (none)

**Explanation**

#### Explanation/Reference:

Explanation:

User EXEC mode and global configuration mode are the Cisco IOS operating modes. The following list shows the Cisco IOS operating modes along with their description:

- User EXEC mode: The commands in this mode are used to enable connections to remote devices and change the terminal settings for a short duration. User EXEC commands also enable you to perform basic tests and view system information.
- Global configuration mode: The commands in this mode enable you to make changes to the entire system.
- Privileged EXEC mode: The commands in this mode are used to configure operating parameters. This mode also provides access to the remaining command modes.
- Interface configuration mode: The commands in this mode allow you to change the operation for interfaces such as serial or Ethernet ports.
- ROM monitor: The commands in this mode are used to perform low-level diagnostics.

All the other options are incorrect because they are not valid Cisco IOS operating modes.

To enter privileged EXEC mode, you must enter the command `enable` on the router. You will then be prompted for the enable password, if one has been created.

To enter global configuration mode, you must first enter privileged EXEC mode (see above) and then enter the command `configure terminal` (which can be abbreviated to `config t`), and the router will enter a mode that allows you to make global configuration changes.

Objective:  
Network Fundamentals  
Sub-Objective:  
Select the appropriate cabling type based on implementation requirements

References:  
[Cisco Documentation > RPM Installation and Configuration > IOS and Configuration Basics > Cisco IOS Modes of Operation](#)

### QUESTION 8

Which of the following accurately describes the purpose of a trunk?

- A. A trunk is used to carry traffic for a single VLAN and is typically used between switches.

- B. A trunk is used to carry traffic for a single VLAN and is typically used between a switch and an end-user device.
- C. A trunk is used to carry multiple VLANs and is typically used between switches.
- D. A trunk is used to carry multiple VLANs and is typically used between a switch and a server.

**Correct Answer:** C

**Section:** (none)

**Explanation**

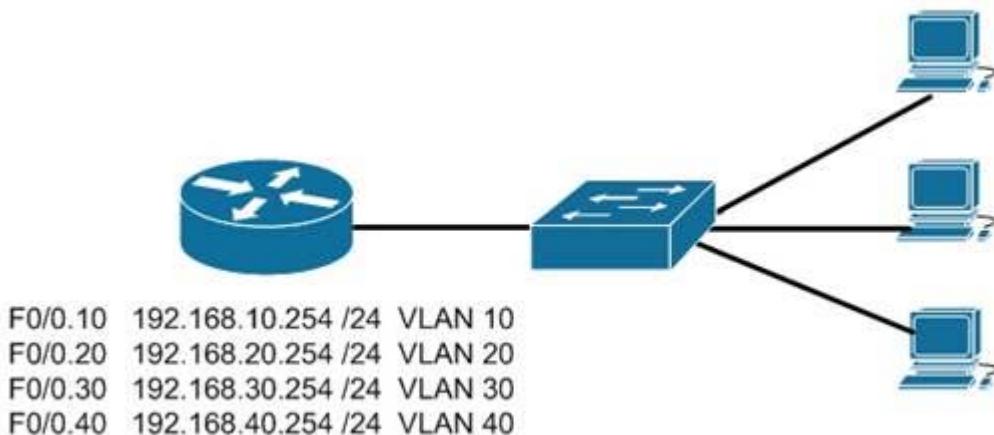
**Explanation/Reference:**

Explanation:

Trunk links are used between switches to allow communications between hosts that are in the same VLAN, but connected to different switches. Trunk links do not allow hosts in different VLANs to communicate, unless there is an additional trunk link connecting to a Layer 3 device, such as a router or a multilayer switch. Trunk links do allow a host in VLAN 10 on SwitchA to communicate with a host in VLAN 10 on SwitchB. Similarly, a host in VLAN 20 on SwitchA could also communicate with a host in VLAN 20 on SwitchB. A trunk link supports all VLANs by default, and frames that are not traveling on the native VLAN are "tagged" with the VLAN ID of the originating port before being sent over the trunk. The receiving switch reads the VLAN ID and forwards the frame to the appropriate host in the same VLAN.

The other options are incorrect because trunk links do not carry data for a single VLAN, nor are trunks used between switches and hosts (such as workstations and servers).

When a trunk link is extended to a router for the purpose of enabling routing between VLANs, the physical connection that the link connects to is usually subdivided logically into subinterfaces. Then each subinterface is given an IP address from the same subnet as the computers that reside on that VLAN. Finally, each computer in the VLAN will use the corresponding IP address on the matching subinterface of the router as its default gateway. In the example below, the switch has five VLANs created and some hosts connected to it. If hosts from different VLANs need to communicate, the link between the router and the switch must be a trunk link.



Furthermore, the physical link on the router must be subdivided into subinterfaces and addressed according to the legend shown for each subinterface in the diagram. For example, the configuration for VLAN 10 shown in the diagram would be as follows:

```
Router(config)# interface f0/0.10
Router(config-if)#encapsulation dot1q 10
Router(config-if)#ip address 192.168.10.254 255.255.255.0
```

Finally, each computer in VLAN 10 should have its default gateway set to 192.168.10.254.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Describe and verify switching concepts

References:

### QUESTION 9

Which Ethernet LAN contention or access method listens for a signal on the channel before transmitting data, and stops transmitting if a collision is detected?

- A. CSMA/CA
- B. CSMA/CD
- C. CSMA/CB
- D. CSMA/CS

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Carrier Sense Multiple Access - Collision Detection (CSMA/CD) contention method verifies that a channel is clear before transmitting, and stops transmitting data when it detects a collision on the channel in use.

Carrier Sense Multiple Access (CSMA) is the channel access mechanism used by Ethernet LANs. CSMA defines when and how to access the channel to transmit data. There are two variants of CSMA: CSMA with Collision Avoidance (CSMA/CA) and CSMA/CD.

With CSMA/CD, the transmitting station waits to detect channel traffic before sending the first packet over the channel. If the channel happens to be idle, the station transmits its packets. Despite the process of checking the channel before transmitting, it is still possible for two stations to transmit at once, resulting in collisions. If a collision occurs, the transmitting stations perform a retransmission. This retransmission uses a back-off algorithm by which a station waits for a random amount of time before retransmitting. As soon there is a collision on the network, the transmitting station stops transmitting and waits for a random interval of time before attempting the transmission again.

You should not select CSMA/CA. With Carrier Sense Multiple Access - Collision Avoidance (CSMA/CA), the transmitting station listens for a signal on the channel, then only transmits when the channel is idle. If the channel is busy, it waits a random amount of time before re-attempting transmission. CSMA/CA protocol is used in 802.11-based wireless LANs, while CSMA/CD is used in Ethernet LANs. Collisions are more often avoided with CSMA/CA than with CSMA/CD because sending stations signal non-sending stations to "wait" a specific amount of time and then check for clearance again before sending. The cost of these mechanisms is reduced throughput.

CSMA/CB and CSMA/CS are invalid Ethernet contention methods, and are therefore incorrect options.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Describe and verify switching concepts

References:

[Cisco Documentation > Internetwork Troubleshooting Handbook > Troubleshooting Ethernet](#)

[Cisco > Tech Notes > Troubleshooting Ethernet Collisions > Document ID: 12768](#)

[Cisco > Technology Support > Ethernet > Carrier Sense Multi-Access/Collision Detection \(CSMA/CD\)](#)

## QUESTION 10

What will be the effects of executing the following set of commands? (Choose all that apply.)

```
router(config)# router eigrp 44
router (config-router)# network 10.0.0.0
router (config-router)# network 192.168.5.0
```

- A. EIGRP will be enabled in AS 44
- B. EIGRP instance number 44 will be enabled
- C. EIGRP will be activated on the router interface 10.0.0.2/8
- D. EIGRP will be activated on the router interface 192.168.5.9/24
- E. EIGRP will be activated on the router interface 10.0.5.8/16
- F. EIGRP will be activated on the router interface 192.168.6.1/24

**Correct Answer:** ACDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The effects of executing this set of commands will be that Enhanced Interior Gateway Routing Protocol (EIGRP) will be enabled in Autonomous System (AS) 44 and will be active on the router interfaces 10.0.0.2/8, 192.168.5.9/24, and 10.0.5.8/16.

The `router eigrp 10` command is used to enable EIGRP on a router. The `network 10.0.0.0` and `network 192.168.5.0` commands are used to activate EIGRP over any interfaces that fall within the major networks 10.0.0.0 and 192.168.5.0, or within any subnets of these classful networks. The `network` commands in EIGRP configuration ignore any subnet-specific information by default. Since the IP address 10.0.5.8.9/24 is in a subnet of the Class A IP network 10.0.0.0, and only the first octet (byte) of a Class A IP address represents the major (classful) network, the remaining bytes are ignored by the `network` command.

EIGRP instance number 44 will not be enabled. The number 44 in the command does not represent an instance of EIGRP; it represents an autonomous system (AS) number. The autonomous-system parameter of the `router eigrp` command (`router eigrp 44`) specifies the autonomous system number. To ensure that all the routers in a network can communicate with each other, you should specify the same autonomous system number on all routers.

EIGRP will not be activated on the router interface 192.168.6.1/24. This interface does not exist within the Class C network 192.168.5.0 or Class A network 10.0.0.0, or within any of their subnets.

Objective:

Routing Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot EIGRP for IPv4 (excluding authentication, filtering, manual summarization, redistribution, stub)

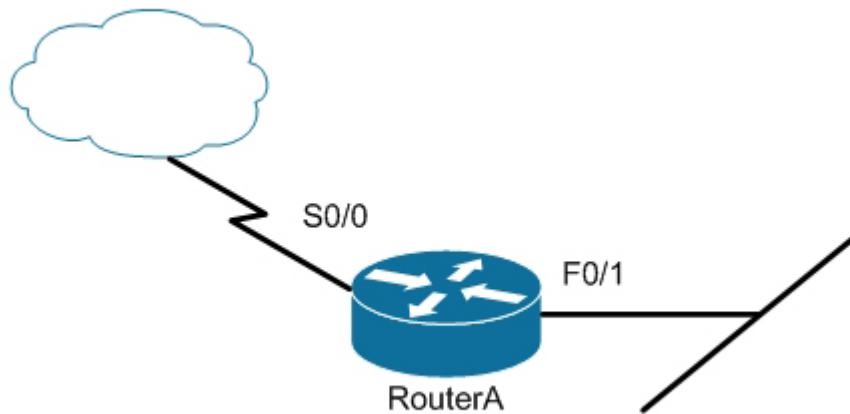
References:

[Cisco > Support > Cisco IOS Software > Configuring EIGRP > Enabling EIGRP](#)

CCNA ICND2 Official Exam Certification Guide (Cisco Press, ISBN 1-58720-181-X), Chapter 10: EIGRP, pp. 389-390.

## QUESTION 11

Users on the LAN are unable to access the Internet. How would you correct the immediate problem?



```
Router# show ip interface brief
```

| Interface        | IP-Address   | OK?        | Method | Status           | Protocol  |
|------------------|--------------|------------|--------|------------------|-----------|
| FastEthernet 0/0 |              | unassigned | YES    | unset            | down down |
| FastEthernet 0/1 | 172.16.1.254 | YES        | NVRAM  | up               | up        |
| Serial0/0        | 200.16.4.25  | YES        | NVRAM  | administratively | down down |
| Serial0/1        |              | YES        | unset  | down             | down      |

- Configure a bandwidth on the serial interface.
- Perform a no shutdown command on the serial interface.
- Configure a private IP address on the Fastethernet0/0 LAN interface.
- Change the IP address on the serial interface.

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The output indicates that the serial interface leading to the Internet is administratively down. All router interfaces are disabled by default due to the presence of a shutdown command in the running configuration. The no shutdown command removes this configuration, and the interface becomes active. The command sequence is:

```
Router(config)# interface serial0/0
Router(config-if)# no shutdown
```

Although it was not the problem in the scenario, the S0/0 interface could also cause an error if it is configured as shown in this output:

```
Interface IP-Address OK? Method Status Protocol
```

```
Serial0/0 200.16.4.25 YES NVRAM up down
```

In this example, the S0/0 interface has been enabled, and while there is Layer 1 connectivity (the Status column), Layer 2 is not functioning (the Protocol column). There are two possible reasons for this result:

- Interface S0/0 is not receiving a clock signal from the CSU/DSU (if one is present).
- The encapsulation type configured on S0/0 does not match the type configured on the other end of the link (if the other end is a router).

Configuring a bandwidth on the serial interface is incorrect because the output indicates the interface is administratively down, which does not pertain to bandwidth.

Configuring a private IP address on the Fastethernet0/0 LAN interface is incorrect because the output indicates the problem is with the disabled serial interface.

The IP address on the serial interface may or may not be valid, but it is not the immediate cause of the connectivity problem. The serial interface is disabled.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Troubleshoot interface and cable issues (collisions, errors, duplex, speed)

References:

[Cisco > Support > Administrative Commands > shutdown](#)

### QUESTION 12

When a packet is forwarded through a network from one host to another host, which of the following fields in the Ethernet frame will change at every hop?

- A. Source IP address
- B. Destination MAC address
- C. Source port number
- D. Destination IP address

**Correct Answer:** B

**Section:** (none)

**Explanation**

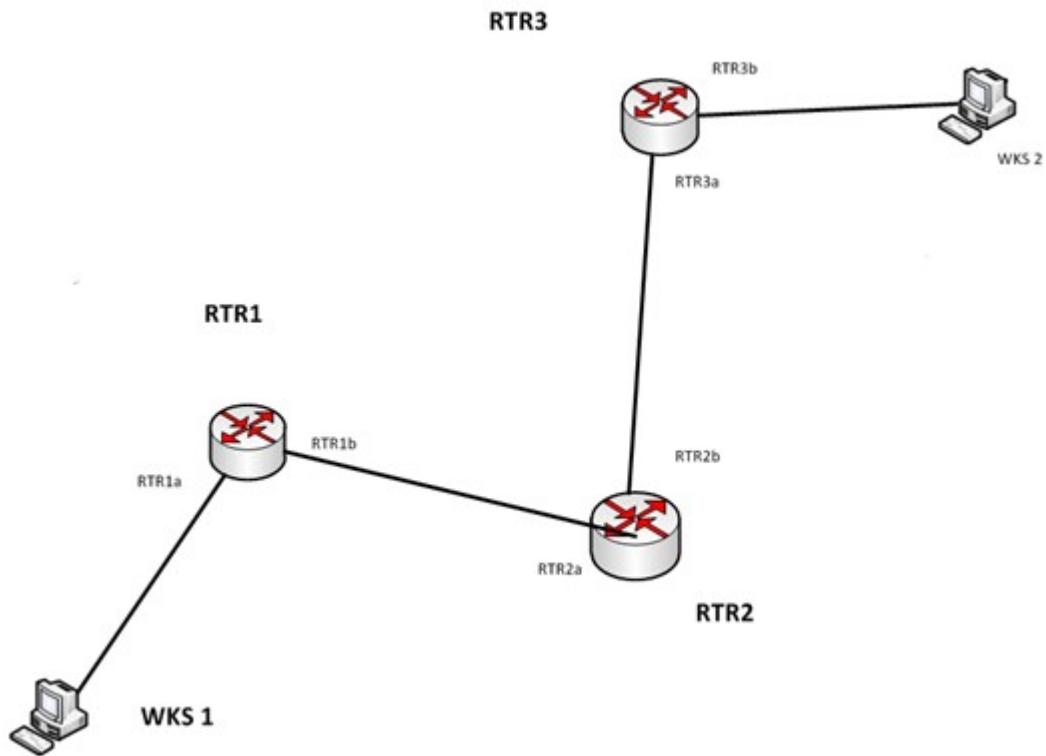
**Explanation/Reference:**

Explanation:

When an Ethernet frame is forwarded through the network, both the source and destination MAC addresses will change at every hop.

The source and destination IP addresses and source and destination port numbers MUST remain the same for proper routing to occur, for the proper delivery to the destination service, and for the proper reception of responses to the sending device. By contrast, the MAC addresses used at each hop must be those of the physical interfaces involved in the Layer 2 forwarding at each hop.

As a simple illustration of this process, IP addresses and MAC addresses are assigned to two computers and three routers shown in the diagram. The network is arranged as shown below:



The IP addresses and the MAC addresses of each device are shown below:

| DEVICE | IP ADDRESS  | MAC ADDRESS |
|--------|-------------|-------------|
| WKS1   | 192.168.5.5 | a-a-a-a-a-a |
| RTR1a  | 192.168.5.6 | b-b-b-b-b-b |
| RTR1b  | 172.16.5.5  | c-c-c-c-c-c |
| RTR2a  | 172.16.5.6  | d-d-d-d-d-d |
| RTR2b  | 10.6.9.5    | e-e-e-e-e-e |
| RTR3a  | 10.6.9.6    | f-f-f-f-f-f |
| RTR3b  | 27.3.5.9    | g-g-g-g-g-g |
| WKS2   | 27.3.5.10   | h-h-h-h-h-h |

There will be four handoffs to get this packet from WKS1 to WKS2. The following table shows the destination IP addresses and destination MAC addresses used at each handoff.

| Handoff        | Packet (IP) destination address | Frame (MAC) Destination Address |
|----------------|---------------------------------|---------------------------------|
| WKS1 to RTR1a  | 27.3.5.10                       | b-b-b-b-b-b                     |
| RTR1b to RTR2a | 27.3.5.10                       | d-d-d-d-d-d                     |
| RTR2b to RTR3a | 27.3.5.10                       | f-f-f-f-f-f                     |
| RTR3b to WKS2  | 27.3.5.10                       | h-h-h-h-h-h                     |

As you can see, the destination IP address in the packet does not change, but the MAC address in the frame changes at each handoff.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Interpret Ethernet frame format

References:

[MAC address changes for every new network](#)

**QUESTION 13**

Which Cisco IOS Cisco Discovery Protocol (CDP) command displays the IP address of the directly connected Cisco devices?

- A. show cdp
- B. show cdp devices
- C. show cdp traffic
- D. show cdp neighbors detail

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

The show cdp neighbors detail command displays the IP address of the directly connected Cisco devices. CDP is a Layer 2 (Data Link layer) protocol that finds information about neighboring network devices. CDP does not use Network layer protocols to transmit information because it operates at the Data Link layer. For this reason, IP addresses need not even be configured on the interfaces for CDP to function. The only requirement is that the interfaces be enabled with the no shutdown command. An example of the output of the show cdp neighbors detail command is as follows:

```
Tecumsah# show cdp neighbors detail
-----
Device ID: Tacoma
Entry address(es):
IP address: 172.19.169.88
Platform: cisco 7206VXR, Capabilities: Router
Interface: Ethernet0, Port ID (outgoing port): FastEthernet0/0/0
Holdtime : 123 sec
Version :
Cisco Internetwork Operating System Software
IOS (tm) 5800 Software (C5800-P4-M), Version 12.1(2)
Copyright (c) 1986-2002 by Cisco Systems, Inc.
advertisement version: 2
Duplex: half
-----
Device ID: Topeka
Entry address(es):
IP address: 172.19.169.100
Platform: cisco AS5300, Capabilities: Router
<<output omitted>>
```

The show cdp devices command is incorrect because this is not a valid Cisco IOS command.

The show cdp command is incorrect because this command is used to view the global CDP information. It lists the default update and holdtime timers, as in the following sample output:

```
Atlanta# show cdp
Global CDP information:
```

Sending CDP packets every 60 seconds  
Sending a holdtime value of 180 seconds  
Sending CDPv2 advertisements is enabled

The show cdp traffic command is incorrect because this command displays traffic information between network devices collected by the CDP, as in the following example:

```
Birmingham# show cdp traffic
Total packets output: 652, Input: 214
Hdr syntax: 0, Chksum error: 0, Encaps failed: 0
No memory: 0, Invalid: 0, Fragmented: 0
CDP version 1 advertisements output: 269, Input: 50
CDP version 2 advertisements output: 360, Input: 25
```

Objective:  
Infrastructure Management  
Sub-Objective:  
Use Cisco IOS tools to troubleshoot and resolve problems

References:  
[Cisco > Cisco IOS Network Management Command Reference > schema through show event manager session cli username > show cdp neighbors detail](#)

#### QUESTION 14

Your assistant is interested in gathering statistics about connection-oriented operations.

Which of the following should be done to enhance the accuracy of the information gathered?

- A. configure an IP SLA responder on the destination device
- B. configure an IP SLA responder on the source device
- C. schedule the operation on the destination device
- D. add the verify-data command to the configuration of the operation

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Any IP SLA operations accuracy can be enhanced by configure an IP SLA responder on the destination device. It is important to note that only Cisco devices support the configuration as a responder.

You do not configure an IP SLA responder on the source device. You schedule the operation on the source device and the destination device is the one that is configured as a responder.

You do not schedule the operation on the destination device. You schedule the operation on the source device and the destination device is the one that is configured as a responder.

Adding the verify-data command to the configuration of the operation will not enhance the accuracy of the information gathered. When data verification is enabled, each operation response is checked for corruption. Use the verify-data command with caution during normal operations because it generates unnecessary overhead.

Objective:  
Infrastructure Management  
Sub-Objective:  
Troubleshoot network connectivity issues using ICMP echo-based IP SLA

References:

[IP SLAs Configuration Guide, Cisco IOS Release 15M > Configuring IP SLAs TCP Connect Operations](#)

### QUESTION 15

You are the network administrator for your company. You have installed a new router in your network. You want to establish a remote connection from your computer to the new router so it can be configured. You are not concerned about security during the remote connection.

Which Cisco IOS command should you use to accomplish the task?

- A. ssh
- B. telnet
- C. terminal
- D. virtual

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The telnet command should be used to establish a remote connection from your computer to the router. The syntax of the command is as follows:

```
telnet {{hostname | IP_address mask interface_name} | {IPv6_address interface_name} | {timeoutnumber}}
```

The following parameters are used with the telnet command:

hostname: Specifies the name of the host.

interface\_name: Specifies the name of the network interface to which you need to telnet.

IP\_address: Specifies the IP address of the host.

IPv6\_address: Specifies the IPv6 address associated to the host.

timeout number: Specifies the number of minutes that a telnet session can be idle.

The following features are the key characteristics of Telnet:

- It is a client server protocol.
- It uses TCP port number 23.
- It is used to establish a remote connection over the internet or Local Area Network (LAN).
- Telnet does not encrypt any data sent over the connection; that is, the data travels in clear text.
- A Cisco router supports five simultaneous telnet sessions, by default. These lines are called vty 0-4.
- A successful Telnet connection requires that the destination device be configured to support Telnet connections, which means it must be configured with a Telnet password.
- The telnet command can also be used to test application layer connectivity to a device.

The ssh command is incorrect because this command is used to remotely establish a secure connection between two computers over the network.

The terminal command is incorrect because this command is used to change console terminal settings.

The virtual command is incorrect because this command is used along with the http and telnet parameters to configure a virtual server.

Objective:

Infrastructure Management

Sub-Objective:

Configure and verify device management

References:

[Cisco > Cisco IOS Terminal Services Command Reference > telnet](#)

### QUESTION 16

You are configuring a WAN connection between two offices. You cannot ping between the routers in a test. The Serial0 interface on RouterA is connected to the Serial1 interface on RouterB.

The commands you have executed are shown below. What is the problem with the configuration?

```
RouterA(config)#username RouterB password lie
RouterA(config)#interface serial0
RouterA(config-if)#encapsulation ppp
RouterA(config-if)#ppp authentication chap

RouterB(config)#username RouterA password lie
RouterB(config)#interface serial0
RouterB(config-if)#encapsulation ppp
RouterB(config-if)#ppp authentication chap
```

- A. The passwords are incorrectly configured
- B. The usernames are incorrectly configured
- C. The wrong interface has been configured
- D. The encapsulation is incorrect on RouterA
- E. The encapsulation is incorrect on RouterB
- F. The authentication types do not match

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The two routers are connected using Serial0 on RouterA and Serial1 on RouterB. However, the configuration commands were executed on interface Serial0 on RouterB. So although the configuration itself is completely correct, it is configured on the wrong interface.

The passwords are correct. The passwords should match on both routers. In this case, they are both set to lie. If even one character does not match, including character casing, the authentication and the connection will fail.

The usernames are correct. The username should be set to the host name of the peer router. In this case, RouterA's username is set to RouterB and RouterB's username is set to RouterA, which is correct.

The encapsulations are correct. They are both set to PPP, which is the correct type of encapsulation when using authentication.

The authentication types do match. They are both set to CHAP. It is possible to configure two authentication methods, with the second used as a fallback method in cases where the other router does not support the first type. The command below would be used to enable CHAP with PAP as a fallback method:

```
RouterB(config-if)#ppp authentication chap pap
```

**Objective:**

WAN Technologies

Sub-Objective:

Configure and verify PPP and MLPPI on WAN interfaces using local authentication

References:

[Cisco > Home > Support > Technology Support > WAN > Point-To-Point Protocol \(PPP\) > Design > Design Technotes > Understanding and Configuring PPP CHAP Authentication](#)

### QUESTION 17

Which Cisco 2950 switch command or set of commands would be used to create a Virtual LAN (VLAN) named MARKETING with a VLAN number of 25?

- A. switch(config)# vtp domain MARKETING 25
- B. switch(config)# vlan 25  
switch(config-vlan)# name MARKETING
- C. switch(config-if)# vlan 25 name MARKETING
- D. switch(config)# vtp 25  
switch(config-vtp)# name MARKETING

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The following commands would create a VLAN named MARKETING with a VLAN number of 25:

```
switch(config)# vlan 25  
switch(config-vlan)# name MARKETING
```

The steps to add a new VLAN are as follows:

1. Create the new VLAN
2. Name the VLAN
3. Add the desired ports to the VLAN

VLANs on current Cisco switches are configured in global configuration mode. The VLAN is first created with the `vlan #` command, and then optionally named with the `vlan-name` command. Interfaces are added to VLANs using either the `interface` or `interface range` commands.

The `switch(config)# vtp domain MARKETING 25` command will not create a VLAN. This command creates a VLAN Trunking Protocol (VTP) domain. VTP is a means of synchronizing VLANs between switches, not a method of manually creating VLANs.

The `vlan 25 name` command is deprecated, and is not supported on newer Cisco switches. Even on switches that support the command, this answer is incorrect because the `vlan 25 name` command was issued in VLAN database mode, rather than interface mode.

**Objective:**

LAN Switching Fundamentals

**Sub-Objective:**

Configure, verify, and troubleshoot VLANs (normal/extended range) spanning multiple switches

References:

[Cisco > Support > LAN Switching > Virtual LANS / VLAN Trunking Protocol \(VLANS/VTP\) > Configure > Configuration Examples and Technotes > Configuring VLAN Trunk Protocol \(VTP\) > Document ID: 98154](#)

### QUESTION 18

What command would be used to verify trusted DHCP ports?

- A. show mls qos
- B. show ip dhcp snooping

- C. show ip trust
- D. show ip arp trust

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The command `show ip dhcp snooping` is used to verify trusted DHCP ports. This command is used to verify which ports are intended to have DHCP servers connected to them.

DHCP snooping creates an IP address to MAC address database that is used by Dynamic ARP Inspection (DAI) to validate ARP packets. It compares the MAC address and IP address in ARP packets, and only permits the traffic if the addresses match. This eliminates attackers that are spoofing MAC addresses.

DHCP snooping is used to define ports as trusted for DHCP server connections. The purpose of DHCP snooping is to mitigate DHCP spoofing attacks. DHCP snooping can be used to determine what ports are able to send DHCP server packets, such as DHCPOFFER, DHCPACK, and DHCPNAK. DHCP snooping can also cache the MAC address to IP address mapping for clients receiving DHCP addresses from a valid DHCP server.

MLS QOS has no bearing on DHCP services, so `show mls qos` is not correct.

The other commands are incorrect because they have invalid syntax.

Objective:

Infrastructure Security

Sub-Objective:

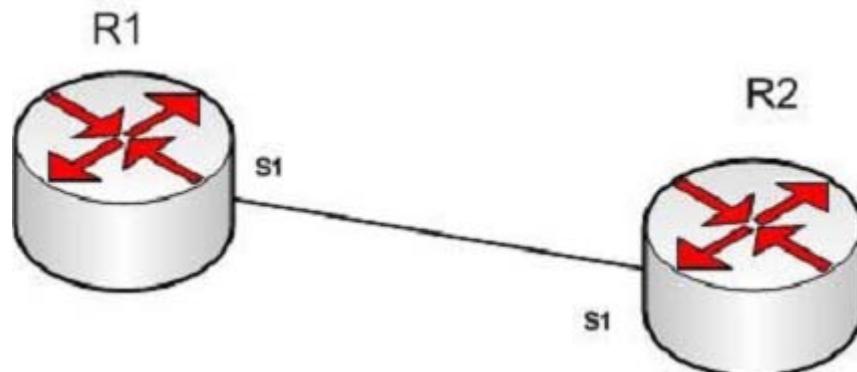
Describe common access layer threat mitigation techniques

References:

[Cisco > Cisco IOS IP Addressing Services Command Reference > DHCP Commands > show ip dhcp snooping](#)

### QUESTION 19

R1 and R2 are connected as shown in the diagram and are configured as shown in output in the partial output of the `show run` command.



```
R1#show run

version 12.0
hostname R1

interface s1
ip address 192.168.5.5 255.255.255.252

ip host R1 192.168.5.6
```

```
R2#show run

version 12.0
hostname R2
interface s1
ip address 192.168.5.6 255.255.255.252
ip host R1 192.168.5.5
```

The command ping R2 fails when executed from R1. What command(s) would allow R1 to ping R2 by name?

- A. R1(config)#int S1  
R1(config-if)#no ip address 192.168.5.5  
R1(config-if)# ip address 192.168.5.9 255.255.255.252
- B. R1(config)#no ip host R1  
R1(config)# ip host R2 192.168.5.6 255.255.255.252
- C. R1(config)#no hostname R2  
R1(config)# hostname R1
- D. R2(config)#int S1  
R1(config-if)#no ip address 192.168.5.5  
R1(config-if)# ip address 192.168.5.9 255.255.255.0

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Both routers have been configured with the ip host command. This command creates a name to IP address mapping, thereby enabling the pinging of the device by address. On R1, the mapping is incorrect and needs to be corrected. Currently it is configured as ip host R1 192.168.5.6. It is currently mapping its own name to the IP address of R2.

To fix the problem, you should remove the incorrect IP address mapping and create the correct mapping for R2, as follows:

```
R1(config)#no ip host R1
R1(config)# ip host R2 192.168.5.6 255.255.255.252
```

Once this is done, the ping on R2 will succeed.

The IP address of the S1 interface on R1 does not need to be changed to 192.168.5.9 /30. In fact, if that is done the S1 interface on R1 and the S1 interface in R2 will no longer be in the same network. With a 30-bit mask configured, the network they are currently in extends from 192.168.5.4 - 192.168.5.7. They are currently set to the two usable addresses in that network, 192.168.5.5 and 192.168.5.6.

The hostnames of the two routers do need to be set correctly using the hostname command for the ping to function, but they are correct now and do not need to be changed.

The subnet mask of the S1 interface on R2 does not need to be changed to 255.255.255.0. The mask needs to match that of R1, which is 255.255.255.252.

Objective:

Infrastructure Services

Sub-Objective:

Troubleshoot client connectivity issues involving DNS

References:

Cisco IOS IP Command Reference, Volume 1 of 4: Addressing and Services, Release 12.3>IP Addressing and Services Commands: idle through ip local-proxy-arp>ip host

## QUESTION 20

You network team is exploring the use of switch stacking.

Which of the following statements is NOT true of switch stacking?

- A. The master switch is the only switch with full access to the interconnect bandwidth
- B. Switches are connected with special cable
- C. The stack has a single IP address
- D. Up to nine switches can be added to the stack

**Correct Answer:** A

**Section:** (none)

**Explanation**

### Explanation/Reference:

Explanation:

All switches in the stack have full access to the interconnect bandwidth, not just the master switch. The master switch is elected from one of the stack members. It automatically configures the stack with the currently running IOS image and a single configuration file.

The switches are connected with special cables that form a bidirectional closed loop path.

The stack has a single management IP address and is managed as a unit.

Up to nine switches can be in a stack.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Describe the benefits of switch stacking and chassis aggregation

References:

[Products & Services > Switches > Campus LAN Switches - Access > Cisco Catalyst 3750 Series Switches > Data Sheets and Literature > White Papers > Cisco StackWise and StackWise Plus Technology](#)

## QUESTION 21

RouterA and RouterB, which connect two locations, are unable to communicate. You run the show running-

configuration command on both router interfaces, RouterA and RouterB. The following is a partial output:

```
routerA#show running-config
interface Serial0
description Router_A
ip address 192.10.191.2 255.255.255.0
encapsulation ppp
no ip mroute-cache
clockrate 64000

routerB#show running-config
interface Serial1
description Router_B
ip address 192.10.192.1 255.255.255.0
encapsulation ppp
no ip mroute-cache
clockrate 64000
```

Based on the information given in the output, what are two likely causes of the problem? (Choose two.)

- A. The IP address defined is incorrect.
- B. Both routers cannot have a clock rate defined.
- C. Both routers cannot have an identical clock rate.
- D. The Layer 2 framing is misconfigured.
- E. At least one of the routers must have the ip mroute-cache command enabled.

**Correct Answer:** AB

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Two possible causes of the problem are that the IP addresses are incorrect as defined, or that both routers have a defined clock rate. The IP addresses on the routers are in different subnets. The IP addresses need to be changed to fall in the same subnet.

Both routers cannot have a clock rate configured. Only routers with a DCE cable connected should have a clock rate, which provides synchronization to the router connected to the DTE cable. In a point-to-point serial connection, the DCE cable connects to the DTE cable, providing a communication path between the two routers. If both computers have a clock rate configured, the routers will not communicate.

A matching clock rate is not the problem. The clock rates between two routers should match. The router connected to the DCE cable will provide the clock rate to the router connected to the DTE cable, resulting in matching clock rates.

The Layer 2 encapsulation refers to the Data Link protocol used on the link. In this case, the protocol is Point to Point Protocol (PPP), which is configured correctly on both ends as indicated by the matching encapsulation ppp statements in the output. The connection would be prevented from working if one of the routers were missing this setting (which would be indicated by the absence of the encapsulation ppp statement in its output), or if a different Layer 2 encapsulation type were configured, such as High-Level Data Link Control (HDLC).

The ip mroute-cache command is used to fast-switch multicast packets and would not cause the problem in this scenario.

Objective:

Network Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot IPv4 addressing and subnetting

References:

[Cisco > Internetworking Technology Handbook > Point to Point Protocol \(PPP\)](#)

[Cisco > Support > Product Support > Cisco IOS Software Releases 11.1 > Configure > Feature Guides > Clock Rate Command Enhancements Feature Module > clock rate](#)

## QUESTION 22

Which of the following should be a characteristic of the core layer in the Cisco three-layer hierarchical model?

- A. redundant components
- B. emphasis on high speed
- C. PoE
- D. QoS

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The core layer of the Cisco three-layer hierarchical network design model places an emphasis on high speed. Items such as access control lists (ACLs) and Quality of Service (QoS) should NOT be implemented on this level, as those types of service will slow the high-speed switching process desired at this level.

The three layers of the hierarchical design model are the access layer, the distribution layer, and the core (backbone) layer. The core layer connects to every building block in the modular network, so it must emphasize speed and resilience.

Quality of service and ACLs are implemented on the distribution layer. Layer 3 support is required at this level.

Redundant hardware components and Power over Ethernet (PoE) are characteristics of the access layer. This is the layer where user devices are connected to the network. Layer 2 Port security is also implemented at this layer.

Objective:

Network Fundamentals

Sub-Objective:

Compare and contrast collapsed core and three-tier architectures

References:

[Cisco > Home > Solutions > Enterprise > Programs for Enterprise > Design Zone > Design Zone for Campus > Design Guides > Campus Network for High Availability Design Guide > Hierarchical Network Design Model](#)

## QUESTION 23

Which of the following commands will set the line speed of a serial connection that connects to a Channel Service Unit /Digital Service Unit (CSU/DSU) at 56 Kbps?

- A. service-module 56000 clock rate speed
- B. service-module 56k clock rate speed
- C. bandwidth 56k
- D. bandwidth 56000

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The command service-module 56k clock rate speed will configure the network line speed for a 4-wire, 56/64-kbps CSU/DSU module.

The command service-module 56000 clock rate speed is incorrect because the speed must be stated in the form 56k (for Kbps), rather than 56000.

The bandwidth command is used to limit the amount of bandwidth used by an application when utilizing Quality of Service (QoS). It does not set the line speed of a serial connection that connects to a Channel Service Unit /Digital Service Unit CSU/DSU. Therefore, both the bandwidth 56k and the bandwidth 56000 commands are incorrect.

Objective:

WAN Technologies

Sub-Objective:

Describe WAN access connectivity options

References:

[Cisco IOS Interface and Hardware Component Configuration Guide, Release 12.4T > Part 2: Serial Interfaces > Configuring Serial Interfaces > 2-Wire and 4-Wire, 56/64-kbps CSU/DSU Service Module Configuration Task List > Setting the Network Line Speed](#)

#### **QUESTION 24**

You are discovering that there are differences between the configuration of EIGRP for IPv6 and EIGRP for IPv4. Which statement is true with regard to the difference?

- A. A router ID is required for both versions
- B. A router ID must be configured under the routing process for EIGRP for IPv4
- C. AS numbers are not required in EIGRP for IPv6
- D. AS numbers are not required in EIGRP for IPv4

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Both versions of EIGRP require a router ID. The difference is that with EIGRP for IPv6, you must configure a router ID under the routing process if there are no IPv4 addresses on the router. In EIGRP for IPv4, the router can select one of the configured IPv4 addresses as the router ID.

A router ID can be configured under the routing process for EIGRP for IPv4, but it is not required. In EIGRP for IPv4, the router can select one of the configured Pv4 addresses as the router ID.

AS numbers are required in both versions of EIGRP.

Objective:

Routing Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot EIGRP for IPv6 (excluding authentication, filtering, manual summarization, redistribution, stub)

References:

### QUESTION 25

Which of the following techniques is NOT used by distance vector protocols to stop routing loops in a network?

- A. Split horizon
- B. Spanning Tree Protocol (STP)
- C. Holddowns
- D. Route poisoning

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Spanning Tree Protocol (STP) is not used by distance vector protocols to stop routing loops in a network. STP is used to prevent switching loops in a switched network.

Routing loops can occur due to slow convergence and inconsistent routing tables, and can cause excessive use of bandwidth or complete network failure. An example of a routing table problem would be incorrectly configured static default routes. Suppose that Router A is connected to Router B, and the addresses of the interfaces on each end of the link connecting the two routers are as follows:

Router A 192.168.5.1/24  
Router B 192.168.5.2/24

A partial output of the routing tables of the two routers is shown below. Router B hosts the connection to the Internet.

```
routerA# show ip route
Gateway of last resort is 192.168.5.2 to network 0.0.0.0
<Output omitted>

routerB# show ip route
Gateway of last resort is 192.168.5.1 to network 0.0.0.0
<<output omitted>>
```

From the limited information shown above, you can see that Router A is pointing to Router B for the default route, and Router B is pointing to Router A for the default route. This will cause a routing loop for any traffic that is not in their routing tables. For example, if a ping were initiated to the address 103.5.6.8 and that address was not in the routing tables of Routers A and B, the most likely message received back would NOT be "destination unreachable" but "TTL expired in transit." This would be caused by the packet looping between the two routers until the TTL expired.

The following techniques are used by distance vector protocols to stop routing loops in a network:

- Split horizon stops routing loops by preventing route update information from being sent back over the same interface on which it arrived.
- Holddown timers prevent regular update messages from reinstating a route that is unstable. The holddown timer places the route in a suspended, or "possibly down" state in the routing table and regular update messages regarding this route will be ignored until the timer expires.
- Route poisoning "poisons" a failed route by increasing its cost to infinity (16 hops, if using RIP). Route poisoning is combined with triggered updates to ensure fast convergence in the event of a network change.

Objective:

Routing Fundamentals

Sub-Objective:

Compare and contrast distance vector and link-state routing protocols

References:

[Cisco > Articles > Network Technology > General Networking > Dynamic Routing Protocols](#)

**QUESTION 26**

You are creating a configuration to use on a switch. The configuration must enable you to remotely manage the switch.

Which of the following command sets is correct? (Assume the commands are executed at the correct prompt.)

- A. interface vlan 1  
ip address 192.168.20.244 255.255.255.240  
no shutdown  
exit  
ip default-gateway 192.168.20.241  
line vty 0 15  
password cisco  
login  
exit
- B. interface fastethernet 0/1  
ip address 192.168.20.244 255.255.255.240  
no shutdown  
exit  
ip default-gateway 192.168.20.241  
line vty 0 15  
password cisco  
login  
exit
- C. interface vlan 1  
ip address 192.168.20.244 255.255.255.240  
no shutdown  
exit  
ip route 192.168.20.241  
line vty 0 15  
login  
exit
- D. interface vlan 1  
ip address 192.168.20.244 255.255.255.240  
no shutdown  
exit  
ip default-gateway 192.168.20.241  
line con 0 15  
password cisco  
login  
exit
- E. interface vlan 1  
ip address 192.168.20.244 255.255.255.240  
no shutdown  
exit  
ip default-gateway 192.168.20.27  
line vty 0 15  
password cisco  
login  
exit
- F. interface vlan 1  
ip address 192.168.20.244 255.255.255.240  
shutdown  
exit  
ip default-gateway 192.168.20.241

```
line vty 0 15
password cisco
login
exit
```

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The following command set is correct:

```
interface vlan 1
ip address 192.168.20.244 255.255.255.240
no shutdown
exit
ip default-gateway 192.168.20.241
line vty 0 15
password cisco
login
exit
```

It sets an IP address for VLAN 1, which is the management VLAN. Next, it sets a default gateway that is in the same network with the IP address. It correctly enables the interface, sets a required password on the VTY lines, and sets the switch to prompt for the password.

Switches do not need IP addresses unless you want to remotely manage the devices. When an IP address is assigned to a switch for this purpose, it is not applied to a physical interface. It is applied to the VLAN 1 interface, which is the management VLAN by default.

The following command set is incorrect because it applies the IP address to the fastethernet 0/1 interface, rather than the management VLAN. When you set an IP address for the switch, you do so on the management VLAN, not one of the physical interfaces.

```
interface fastethernet 0/1
ip address 192.168.20.244 255.255.255.240
no shutdown
exit
ip default-gateway 192.168.20.241
line vty 0 15
password cisco
login
exit
```

The following command set is incorrect because it does not set a password on the VTY lines, which is required to connect with Telnet unless you include the no login command.

```
interface vlan 1
ip address 192.168.20.244 255.255.255.240
no shutdown
exit
ip default-gateway 192.168.20.241
line con 0 15
login
exit
```

The following command set is incorrect because it sets the password in the console line rather than the VTY lines.

```
interface vlan 1
ip address 192.168.20.244 255.255.255.240
no shutdown
exit
ip default-gateway 192.168.20.241
line con 0 15
password cisco
login
exit
```

The following command set is incorrect because the address for VLAN1 and the gateway are not in the same subnet. With a 28-bit mask the interval is 16, which means the network that the gateway is in is the 192.168.20.16/28 network and VLAN 1 is in the 192.168.20.240/28 network.

```
interface vlan 1
ip address 192.168.20.244 255.255.255.240
no shutdown
exit
ip default-gateway 192.168.20.27
line vty 0 15
password cisco
login
exit
```

The following command set is incorrect because the VLAN 1 interface has been disabled with the shutdown command.

```
interface vlan 1
ip address 192.168.20.244 255.255.255.240
shutdown
exit
ip default-gateway 192.168.20.241
line vty 0 15
password cisco
login
exit
```

Objective:

Infrastructure Management

Sub-Objective:

Configure and verify device management

References:

[Home>Support>Product Support>End-of-Sale and End-of-life Products>Cisco Catalyst 6000 Series Switches>Troubleshoot and Alerts> Troubleshooting TechNotes>Configuring a Management IP Address on Catalyst 4500/4000, 5500/5000, 6500/6000, and Catalyst Fixed Configuration Switches](#)

## QUESTION 27

What command should you use to quickly view the HSRP state of the switch for all HSRP groups of which the switch is a member?

- A. switch# show standby brief
- B. switch# show ip interface brief
- C. switch# show hsrp
- D. switch# show standby

**Correct Answer: A**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

The command show standby brief should be used to quickly view the HSRP state of a switch for all HSRP groups of which it is a member. The summary information it provides includes the group number, priority, state, active device address, standby address, and group address.

The command show standby can be used to display detailed information about HSRP groups of which a switch is a member. This command would not provide a quick view. This command displays information about HSRP on all configured interfaces and for all HSRP groups. It also displays hello timer information and the expiration timer for the standby switch.

The command show ip interface brief is useful in that lists the interfaces and displays the basic IP configuration of each. This output would include the IP address of the interface and the state of the interface, but not HSRP information.

The command show hsrp is not a valid command due to incorrect syntax.

Objective:

Infrastructure Services

Sub-Objective:

Configure, verify, and troubleshoot basic HSRP

References:

[Cisco > Cisco IOS IP Application Services Command Reference > show standby](#)

[Cisco > Cisco IOS IP Application Services Configuration Guide, Release 12.4 > Part 1: First Hop Redundancy](#)

[Protocols > Configuring HSRP](#)

**QUESTION 28**

When packets are transmitted from one host to another across a routed segment, which two addresses are changed? (Choose two.)

- A. source IP address
- B. source MAC address
- C. destination IP address
- D. destination MAC address

**Correct Answer:** BD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

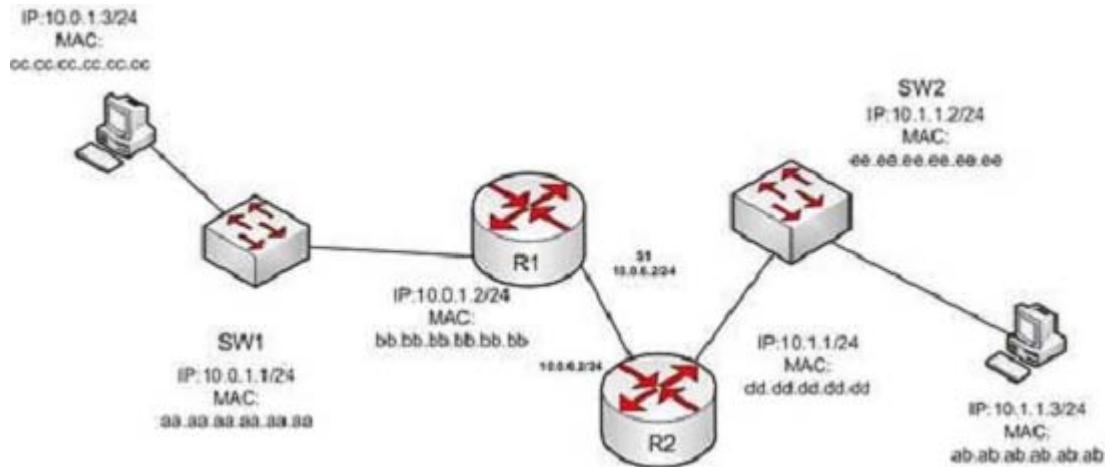
Explanation:

When packets move from one LAN segment to another LAN segment across a router, the source and destination Media Access Control (MAC) addresses in the packet change.

Packets destined for a remote network must be forwarded by a router that is typically the sending host's default gateway. The IP address of the remote host is inserted into the packet, while the MAC address of the default gateway is inserted as the Layer 2 address. This ensures that the packet is received by the default gateway. The router then examines the destination IP address, performs a route lookup, and forwards the packet toward the destination, inserting its MAC address as the source MAC address. If the next hop is another router, then the destination MAC address is replaced with the next router's MAC address. This process is repeated by each router along the path (inserting its own MAC address as the source MAC address and inserting the MAC address of the next router interface as the destination MAC address) until the packet is received by the remote host's default gateway. The destination gateway then replaces the destination MAC address with the host's MAC address and forwards the packet.

In the diagram below, when the host located at the IP address 10.0.1.3 sends data to the host located at IP

address 10.1.1.3, the Layer 2 and Layer 3 destination addresses will be bb.bb.bb.bb.bb.bb and 10.1.1.3, respectively. Note that the Layer 2 destination address matches the host's default gateway and not the address of the switch or the destination host.



It is incorrect to state that the source IP address or the destination IP address change when packets transfer from one host to another across a routed segment. The Internet Protocol (IP) addresses within the packets do not change because this information is needed to route the packet, including any data returned to the sender.

Data return to the sending host is critically dependent on the destination having a default gateway configured and its router having a route back to the sender. If either is missing or configured incorrectly, a return is not possible. For example, when managing a switch remotely with Telnet, the switch cannot be located on the other side of a router from the host being used to connect if the switch does not have a gateway configured. In this case, there will no possibility of a connection being made because the switch will not have a return path to the router.

Objective:

Routing Fundamentals

Sub-Objective:

Describe the routing concepts

References:

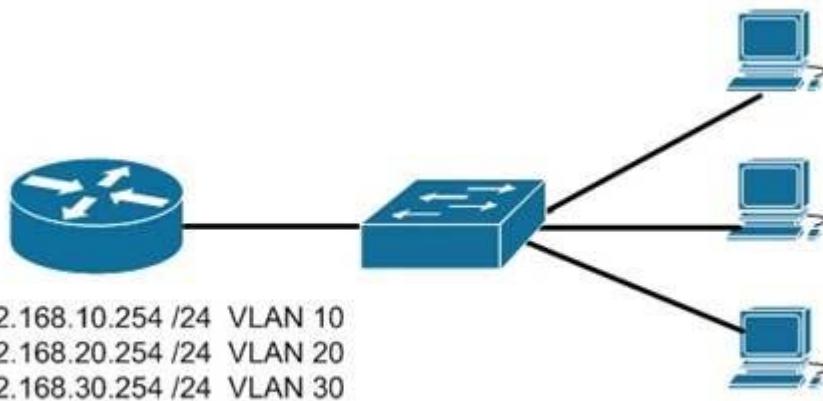
[Cisco Documentation > Internetworking Technology Handbook > Routing Basics](#)

### QUESTION 29

You are connecting a new computer to Switch55. The new computer should be placed in the Accounting VLAN. You execute the show vlan command and get the following output:

```
Switch55#show vlan
VLAN Name Status Ports
1 default active Fa0/1, Fa0/2, Fa0/3,
Fa0/7, Fa0/8, Fa0/9,
Fa0/14, Fa0/16, Fa0/23,
Fa0/19, Fa0/20, Fa0/23
10 sales active Fa0/10, Fa0/22
20 accounting active Fa0/5, Fa0/6, Fa0/15
30 hr active Fa0/11, Fa0/12
40 it active Fa0/17
<<output omitted>>
```

Examine the additional network diagram.



What action should you take to place the new computer in the Accounting VLAN and allow for inter-VLAN routing?

- A. Connect the new computer to Fa0/1
- B. Connect the new computer to Fa0/14
- C. Connect the new computer to Fa0/5
- D. Configure a dynamic routing protocol on the router interface

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

Explanation:

Switchport Fa0/5 can be used to place the computer in the Accounting VLAN.

The diagram indicates that a router has been configured as a "router-on-a-stick" to perform inter-VLAN routing between VLANs 10, 20, 30 and 40. The show vlan output indicates that interfaces Fa0/5, Fa0/15, and Fa0/6 have been assigned to VLAN 20, the Accounting VLAN:

```
20 accounting active Fa0/5, Fa0/6, Fa0/15
```

Switchports Fa0/1 and Fa0/14 are both in the default VLAN, as indicated by the portion of the output describing the switch ports that are unassigned and therefore still residing in the default VLAN:

```
1 default active Fa0/1, Fa0/2, Fa0/3,  
Fa0/7, Fa0/8, Fa0/9,  
Fa0/14, Fa0/16, Fa0/23,  
Fa0/19, Fa0/20, Fa0/23
```

It is not necessary to configure a dynamic routing protocol on the router. Since the router is directly connected to all four subinterfaces and their associated networks, the networks will automatically be in the router's routing table, making inter-VLAN routing possible.

**Objective:**

LAN Switching Fundamentals

**Sub-Objective:**

Configure, verify, and troubleshoot VLANs (normal/extended range) spanning multiple switches

References:

[Cisco > Support > Cisco IOS LAN Switching Command Reference > show vlan](#)

[Cisco Networking Essentials 2nd Edition, by Troy McMillan \(ISBN 1119092159\). Sybex, 2015.](#) Chapter 15: Configuring Inter-VLAN Routing

### QUESTION 30

What two devices can be connected to a router WAN serial interface that can provide clocking? (Choose two.)

- A. CSU/DSU
- B. switch
- C. modem
- D. hub

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A router DTE interface must receive a clock rate from the DCE end and the rate can be provided by either a CSU/DSU or a modem. Therefore, the connection between the local router and the service provider can be successfully completed by adding either of these devices between the service provider and the local router.

Switches and hubs are neither capable of providing the clock rate nor able to complete the connection between the local router and the service provider.

Objective:

Network Fundamentals

Sub-Objective:

Describe the impact of infrastructure components in an enterprise network

References:

[Cisco Documentation > Internetworking Technology Handbook > Introduction to WAN Technologies](#)

### QUESTION 31

You are a network administrator for your organization. Your organization has two Virtual LANs, named Marketing and Production. All Cisco 2950 switches in the network have both VLANs configured on them. Switches A, C, F, and G have user machines connected for both VLANs, whereas switches B, D, and E have user machines connected for the Production VLAN only. (Click the Exhibit(s) button to view the network diagram.)

You receive a request to configure Fast Ethernet port 0/2 on Switch B for a user computer in the Marketing VLAN. VLAN numbers for the Marketing and Production VLANs are 15 and 20, respectively.

Which Cisco 2950 switch command should you use to configure the port?

- A. SwitchB(config-if)#switchport trunk vlan 15
- B. SwitchB(config)#switchport access vlan 15
- C. SwitchB(config-if)#switchport access vlan 15
- D. SwitchB(config-if)#switchport trunk vlan 15, 20

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The SwitchB(config-if)#switchport access vlan 15 command should be used to enable the port for the Marketing VLAN in access link mode. You must first enter the interface configuration mode by using the following command:

```
SwitchB(config)#interface fast 0/2
```

When executing the command switchport access vlan vlan #, if the VLAN number does NOT match that of the correct VLAN, the host connected to this port will not be in the correct VLAN. If the VLAN number doesn't exist, the host will not be able to communicate with any resources on the LAN.

User machines are always connected to an access link. A trunk link is used to span multiple VLANs from one switch to another or from a switch to a router. For inter-VLAN routing to function, the port that is connected to the router must be configured as a trunk port. To configure a port into trunk mode, you should use the following command:

```
SwitchB(config-if)#switchport mode trunk
```

The SwitchB(config)#switchport access vlan 15 command is incorrect because the router is in global configuration mode. The switchport command is applied in the interface configuration mode.

All other options are incorrect because the access parameter should be used with the switchport command. The trunk parameter is used to add allowed VLANs on the trunk. The correct command syntax is:

```
switchport trunk {{allowed vlan vlan-list} | {native vlan vlan-id} | {pruning vlan vlan-list}}
```

Objective:

LAN Switching Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot VLANs (normal/extended range) spanning multiple switches

References:

**QUESTION 32**

Which Cisco Internetwork Operating System (IOS) command is used to view the number of Enhanced Interior Gateway Routing Protocol (EIGRP) packets that are sent and received?

- A. show eigrp neighbors
- B. show ip eigrp interfaces
- C. show ip eigrp packets
- D. show ip eigrp traffic
- E. show ip route
- F. show ip eigrp topology

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The show ip eigrp traffic command is used to view the number of EIGRP packets that are sent and received. The syntax of the command is:

```
Router# show ip eigrp traffic [autonomous-system-number]
```

The autonomous-system-number parameter is optional. The output of the command is as follows:

```
Router# show ip eigrp traffic

IP-EIGRP Traffic Statistics for process 78
Hellos sent/received: 2180/2005
Updates sent/received: 70/21
Queries sent/received: 3/1
Replies sent/received: 0/3
Acks sent/received: 22/11
```

The `show ip eigrp neighbors` command is incorrect because it does not show the number of packets sent or received. It does show IP addresses of the devices with which the router has established an adjacency, as well as the retransmit interval and the queue count for each neighbor, as shown below:

```
Router# show ip eigrp neighbors
IP-EIGRP Neighbors for process 49
Address Interface Holdtime Uptime Q Seq SRTT RTO
(secs) (h:m:s) Count Num (ms) (ms)
146.89.81.28 Ethernet1 13 0:00:41 0 11 4 20
146.89.80.28 Ethernet0 12 0:02:01 0 10 12 24
146.89.80.31 Ethernet0 11 0:02:02 0 4 5 20
```

The `show ip eigrp interfaces` command is incorrect because this command is used to view information about the interfaces configured for EIGRP.

The `show ip eigrp packets` command is incorrect because it is not a valid Cisco IOS commands.

The `show ip route` command will not display EIGRP packets that are sent and received. It is used to view the routing table. When connectivity problems occur between subnets, this is the logical first command to execute. Routers must have routes to successfully send packets to remote subnets. Using this command is especially relevant when the underlying physical connection to the remote network has been verified as functional, but routing is still not occurring.

The `show ip eigrp topology` command is incorrect because it does not show the number of packets sent or received. This command displays all successor and feasible successor routes (if they exist) to each network. If you are interested in that information for only a specific destination network, you can specify that as shown in the output below. When you do, the command output displays all possible routes, including those that are not feasible successors:

```

Router# show ip eigrp topology 25.0.0.5 255.255.255.255

IP-EIGRP topology entry for 25.0.0.5/32 State is Passive, Query
origin flag is 1, 1 Successor(s), FD is 41152000

<output omitted>

10.1.0.1 (serial0), from 10.1.0.1 composite
metric is 46152000/41640000
<output omitted>
10.0.0.2 (serial0.1), from 10.0.0.2
composite metric is 53973240/120256
<output omitted>
10.1.0.3 (serial0), from 10.1.0.3
composite metric is 46866176/46354176
<output omitted>
10.1.1.1 (serial0.1), from 10.1.1.1
composite metric is 46670776/46251776
<output omitted>

```

In the above output, four routers are providing a route to the network specified in the command. However, only one of the submitted routes satisfies the feasibility test. This test dictates that to be a feasible successor, the advertised distance of the route must be less than the feasible distance of the current successor route.

The current successor route has a FD of 41152000, as shown in the first section of the output. In the values listed for each of the four submitted routes, the first number is the feasible distance and the second is the advertised distance. Only the route received from 10.0.0.2 (second section) with FD/AD values of 53973240/120256 satisfies this requirement, and thus this route is the only feasible successor route present in the topology table for the network specified in the command.

Objective:

Routing Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot EIGRP for IPv4 (excluding authentication, filtering, manual summarization, redistribution, stub)

References:

[Cisco > Cisco IOS IP Routing Protocols Command Reference > Routing Information Protocol Commands > show ip eigrp traffic](#)

### QUESTION 33

You are configuring a PPP connection between two routers, R1 and R2. The password for the connection will be poppycock. When you are finished you execute the show run command on R1 to verify the configuration.

Which of the following examples of partial output of the show run command from R1 represents a correct configuration of PPP on R1?

- A. enable password griswold  
hostname R1  
username R1 password poppycock  
interface serial 0/0  
ip address 192.168.5.5 255.255.255.0  
encapsulation ppp  
ppp authentication chap
- B. enable password griswold

```

hostname R1
username R1 password poppycok
interface serial 0/1
ip address 192.168.5.5 255.255.255.0
encapsulation ppp
ppp authentication chap
C. enable password griswold
hostname R1
username R2 password poppycock
interface serial 0/0
ip address 192.168.5.5 255.255.255.0
encapsulation ppp
ppp authentication chap
D. enable password griswold
hostname R1
username R1 password griswald
interface serial 0/0
ip address 192.168.5.5 255.255.255.0
encapsulation ppp
ppp authentication chap

```

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The correct configuration is as follows:

```

enable password griswold
hostname R1
username R2 password poppycock
interface serial 0/0
ip address 192.168.5.5 255.255.255.0
encapsulation ppp
ppp authentication chap

```

The key settings that are common problems are as follows:

- The username is set to the hostname of the other router (in this case, R2)
- The password is set poppycock which must be the same in both routers

The following set is incorrect because the username is set to the local hostname (R1) and not the hostname of the other router (R2):

```

enable password griswold
hostname R1
username R1 password poppycock
interface serial 0/0
ip address 192.168.5.5 255.255.255.0
encapsulation ppp
ppp authentication chap

```

The following set is incorrect because the password is misspelled. It should be poppycock, not poppycok.

```

enable password griswold
hostname R1
username R1 password poppycok
interface serial 0/0
ip address 192.168.5.5 255.255.255.0

```

```
encapsulation ppp
ppp authentication chap
```

The following set is incorrect because the password is set to the enable password of the local router (R1) rather than the agreed upon PPP password, which is poppycock.

```
enable password griswold
hostname R1
username R1 password griswold
interface serial 0/0
ip address 192.168.5.5 255.255.255.0
encapsulation ppp
ppp authentication chap
```

Objective:

WAN Technologies

Sub-Objective:

Configure and verify PPP and MLPPP on WAN interfaces using local authentication

References:

[Cisco > Home > Support > Technology Support > WAN > Point-to-Point Protocol \(PPP\) > Design > Design TechNotes > Understanding and Configuring PPP CHAP Authentication](#)

#### QUESTION 34

Which statement is NOT true regarding Internet Control Message Protocol (ICMP)?

- A. ICMP can identify network problems.
- B. ICMP is documented in RFC 792.
- C. ICMP provides reliable transmission of data in an Internet Protocol (IP) environment.
- D. An ICMP echo-request message is generated by the ping command.

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

ICMP does NOT provide reliable transmission of data in an Internet Protocol (IP) environment. The Transmission Control Protocol (TCP) is used to provide reliable transmission of data in an IP environment.

The following statements are TRUE regarding ICMP:

- ICMP can identify network problems.
- ICMP is documented in RFC 792.
- An ICMP echo-request message is generated by the ping command.
- An ICMP echo-reply message is an indicator that the destination node is reachable.
- ICMP is a network-layer protocol that uses message packets for error reporting and informational messages.

Objective:

Network Fundamentals

Sub-Objective:

Compare and contrast TCP and UDP protocols

References:

[Cisco > Internetworking Technology Handbook > Internet Protocols \(IP\) > Internet Control Message Protocol \(ICMP\)](#)

**QUESTION 35**

What is the valid host address range for the subnet 172.25.4.0 /23?

- A. 172.25.4.1 to 172.25.5.254
- B. 172.25.4.10 to 172.25.5.210
- C. 172.25.4.35 to 172.25.5.64
- D. 172.25.4.21 to 172.25.5.56

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

For the subnet 172.25.4.0, the valid host range will start at 172.25.4.1 and end at 172.25.5.254.

To determine the valid range of addresses in a subnet, one must determine the subnet number or network ID and the broadcast address of the subnet and all valid addresses will lie within those boundaries.

In this case:

Network address: 172.25.0.0

Subnet mask in decimal: 255.255.254.0 (/23 indicates 23 bit in the mask)

Subnet mask in binary: 11111111.11111111.11111110.00000000

The formulas to calculate the number of subnets and hosts are:

Number of subnets = 2<sup>number-of-subnet-bits</sup>

Number of hosts per subnet = 2<sup>number-of-host-bits</sup> - 2

In this scenario:

Number of subnet bits: 7 (the binary 1s in the third octet of the subnet mask)

Number of subnets: 2<sup>7</sup> = 128

Number of host bits: 9 (the binary 0s in the subnet mask)

Number of hosts: 2<sup>9</sup> - 2 = 510

These formulas are useful when determining if a subnet mask/network ID combination will support a given number of hosts.

To determine the boundaries of each of the 128 subnets that this mask will yield, you should utilize a concept called the interval or block size. This number helps to identify the distance between network IDs. Determining the network IDs allows the identification of the broadcast address for each subnet, because the broadcast address for any particular subnet will always be the last address before the next network ID. The interval is determined by the value of the far right-hand bit in the mask, which is 2 in this case. Then it is applied to the octet where the mask ends. In this case, the first 4 network IDs are:

172.25.0.0

172.25.2.0

172.25.4.0

172.25.6.0

...incrementing by two at each point

Therefore, the valid addresses in the 172.25.4.0 network are framed by the two addresses that cannot be used: 172.25.4.0 (network ID) and 172.25.5.255 (broadcast address, or the last address before the next network ID). The addresses within these boundaries are 172.25.4.1 to 172.25.5.254.

For subnet 172.25.0.0, the valid host range will run from 172.25.0.1 to 172.25.1.254. The broadcast address for subnet 172.25.0.0 will be 172.25.1.255.

For subnet 172.25.2.0, the valid host range will run from 172.25.2.1 to 172.25.3.254. The broadcast address

for subnet 172.25.2.0 is 172.25.3.255.

For the subnet 172.25.4.0, the valid host range will run from 172.25.4.1 to 172.25.5.254. The broadcast address for subnet 172.25.4.0 is 172.25.5.255.

Always remember that the first address of each subnet is the network ID, and as such cannot be used as a host or router IP address. Also, the last address of each subnet is the broadcast address for the subnet, and as such cannot be used as a host or router IP address.

Objective:

Network Fundamentals

Sub-Objective:

Compare and contrast IPv4 address types

References:

[Cisco > Support > Technology Support > IP > IP Routing > Design > Design Technotes > IP Addressing and Subnetting for New Users > Document ID: 13788 > Understanding IP Addresses](#)

### QUESTION 36

Which of the following are port roles in the Rapid Spanning Tree Protocol (RSTP)? (Choose three.)

- A. Alternate
- B. Listening
- C. Routing
- D. Designated
- E. Backup
- F. Blocking
- G. Discarding

**Correct Answer:** ADE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

There are five port roles in RSTP:

- Root port: the closest port to the root bridge in terms of path cost. There can be only one root port on each switch, and the root switch is the only switch in the network that does not have a root port.
- Designated port: a forwarding port to the root bridge. All versions of STP require each network segment to have only one path toward the root bridge, to avoid bridging loops in redundantly connected environments. All bridges connected to a given segment listen to one another's BPDUs and agree that the bridge that is sending the best BPDU is the designated bridge for the segment.
- Alternate port: a blocking port that becomes the root port if the active root port fails.
- Backup port: a blocking port that becomes the designated port if an existing designated port fails.
- Disabled port: a disabled port has no role within the operation of spanning tree.
- RSTP was designed to provide rapid convergence of the spanning tree in case of changes to the active topology, such as switch failure.

RSTP has the following similarities to STP:

- RSTP elects the root switch using the same parameters as STP.
- RSTP elects the root port using the same rules as STP.
- Designated ports on each LAN segment are elected in RSTP in the same way as STP.

Listening is a port state, not a port role. Listening is the STP transitional state while a port is preparing to enter a root or designated role.

Blocking is a port state, not a port role. A blocking port is inactive in STP spanning tree, and blocking is not a

port state in RSTP. In RSTP that port state is called discarding.

The routing port does not exist in the RSTP topology.

Discarding is an RSTP port state, not a port role.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot STP protocols

References:

[Support > Technology Support > LAN Switching > Spanning Tree Protocol > Troubleshoot and Alerts > Troubleshooting TechNotes > Understanding Rapid Spanning Tree Protocol \(802.1w\)](#)

### QUESTION 37

Which of the following cables would be used to connect a router to a switch?

- A. v.35
- B. crossover
- C. rollover
- D. straight-through

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

A straight-through cable would be used. When connecting "unlike" devices, such as a switch to a router, a straight-through cable is used. This is a cable where the wires are in the same sequence at both ends of the cable.

NOTE: The one exception to this general rule of connecting unlike devices with a straight-through cable is when a computer NIC is connected to an Ethernet port on a router. In that case, a crossover cable is used.

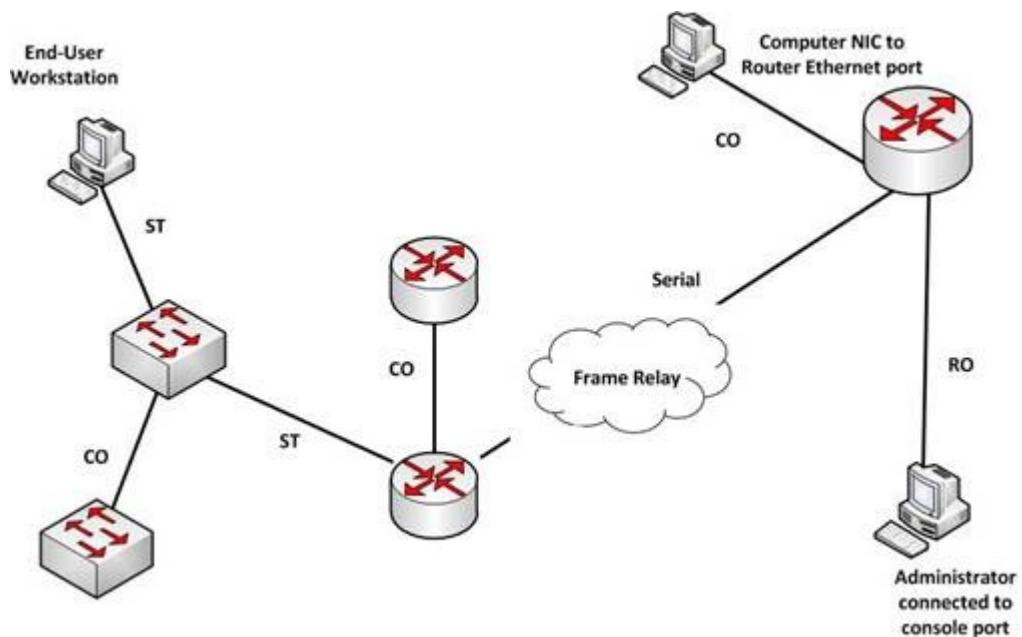
A v.35 cable is used to connect serial connections between routers. This cable has a male DB-60 connector on the Cisco end and a male Winchester connector on the network end. It comes in two types: DCE and DTE. It is often used to simulate a WAN connection in lab environments. In that case, the DCE end acts as the CSU/DSU and is the end where the clock rate is set. A CSU/DSU (Channel Service Unit/Data Service Unit) is a device that connects the router to the T1 or T3 line.

A crossover cable has two wires reversed and is used to connect "like" devices, such as a switch to a switch. It is also used when a computer NIC is connected to an Ethernet port on a router.

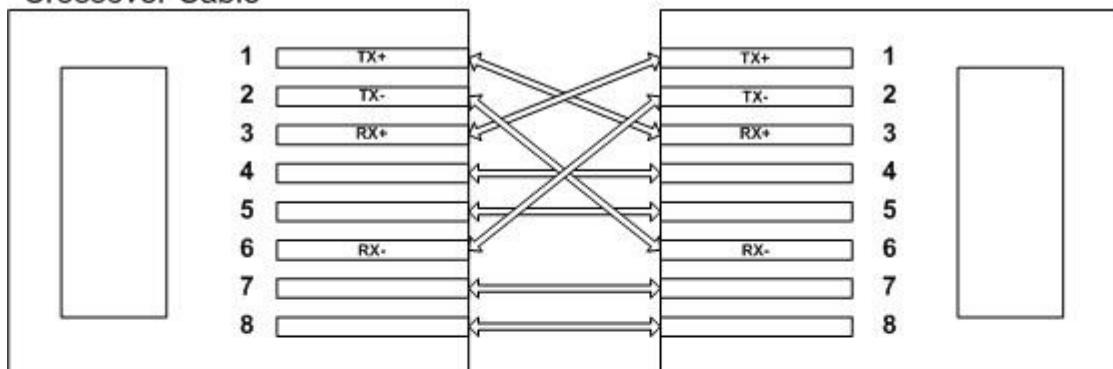
A rollover cable is used to connect to the console port of a router to configure the router. It is also called a console cable.

The diagram below illustrates the correct usage of each of the cable types shown using the following legend:

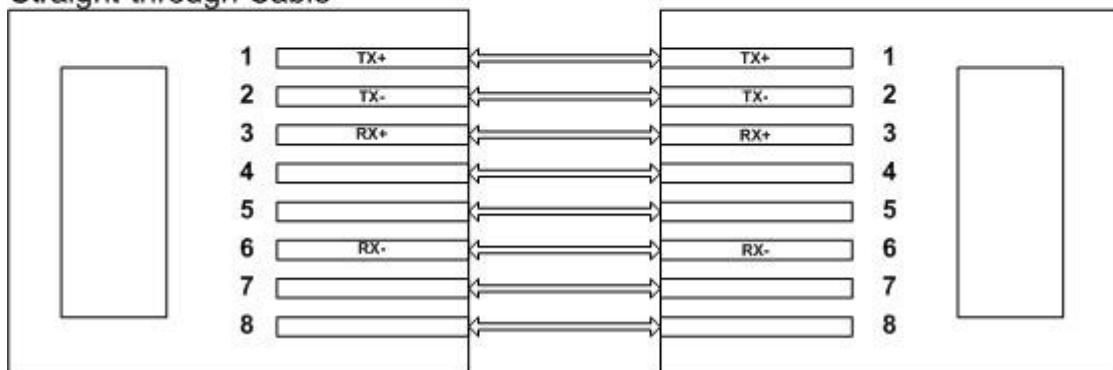
- SO      Ethernet Straight through Cable
- CO      Ethernet Crossover Cable
- Serial    Serial cable
- RO      Rollover cable



Crossover Cable



Straight-through Cable



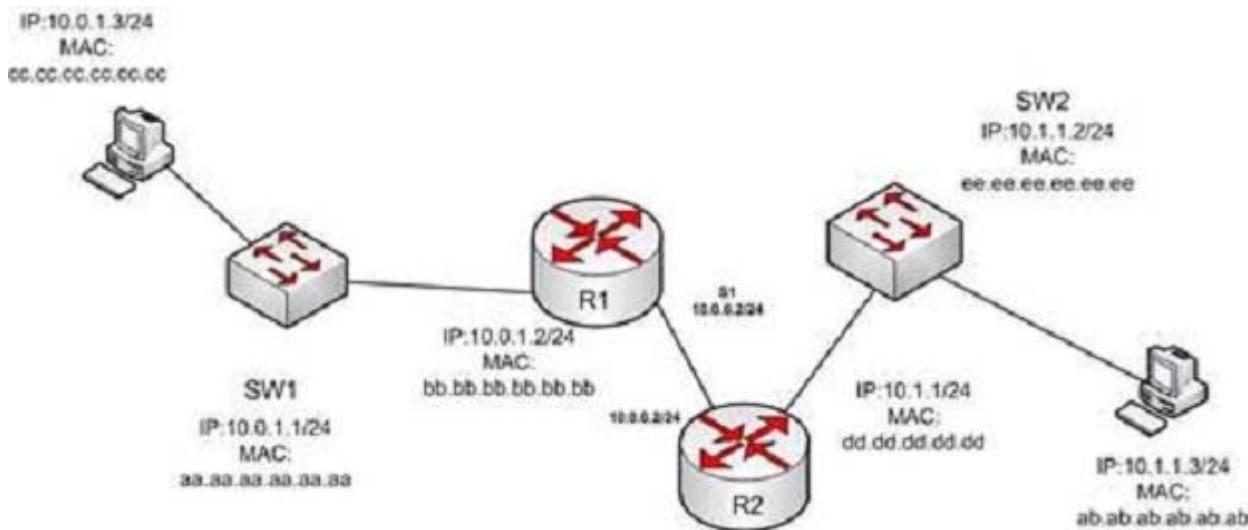
RX = Receive, TX = Transmit

Objective:  
Network Fundamentals  
Sub-Objective:  
Select the appropriate cabling type based on implementation requirements

References:

### QUESTION 38

In the diagram below, if the workstation at 10.0.1.3 sends a packet to the workstation at 10.1.1.3, what will be the source physical address when the packet arrives at 10.1.1.3?



- A. ab.ab.ab.ab.ab.ab
- B. ee.ee.ee.ee.ee.ee
- C. dd.dd.dd.dd.dd.dd
- D. cc.cc.cc.cc.cc.cc
- E. aa.aa.aa.aa.aa.aa
- F. bb.bb.bb.bb.bb.bb

**Correct Answer:** C

**Section:** (none)

**Explanation**

#### Explanation/Reference:

Explanation:

The source physical address of the packet when it arrives at 10.1.1.3 will be that of the interface on the R2 router, dd.dd.dd.dd.dd.dd. Each router will change the MAC address field to the MAC address of its sending interface as it sends the packet and will leave the IP address field unchanged. The switches will change neither field, but will simply use the MAC address field to determine the forwarding path and switch the frame to the port where the MAC address is located. The R2 router is the last device that will make a change to the MAC address field.

The source (10.0.1.3) and destination (10.1.1.3) IP address fields will stay the same at each device. The MAC address field changes when R1 sends the frame to R2 and when R2 send the frame to the workstation at 10.1.1.3.

Objective:

LAN Switching Fundamentals

Sub-Objective:

Describe and verify switching concepts

References:

**QUESTION 39**

What command was used to generate the output shown below?

```
Connection-specific DNS Suffix . : ajax.acme.com
Description . . . . . : Broadcom NetXtreme 57xx Gigabit Controller

Physical Address. . . . . : 00-1A-A0-E1-95-AB
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . : Yes
Link-local IPv6 Address . : fe80::ada3:8b73:a66e:6bc0%10 (Preferred)
IPv4 Address. . . . . : 10.88.2.177 (Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Wednesday, October 05, 2011 4:31:32 PM
Lease Expires . . . . . : Friday, October 07, 2011 4:33:32 AM
Default Gateway . . . . . : 10.88.2.6
DHCP Server . . . . . : 10.88.10.48
DHCPv6 IAID . . . . . : 234887840
DHCPv6 Client DUID. . . . : 00-01-00-01-14-EE-0F-98-00-1A-A0-E1-95-AB

DNS Servers . . . . . : 10.88.10.48
10.75.139.18
NetBIOS over Tcpip. . . . . : Enabled
```

- A. winipcfg
- B. ipconfig
- C. ifconfig
- D. ipconfig/all

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The output displayed is that generated by the ipconfig/all command as executed on a Windows computer. This command displays a wealth of information about the current configuration. Examples of information that can be gleaned from the sample output include:

- The router for computer is at 10.88.2.6.
- The primary DNS server is 10.88.10.49.
- The address of the computer is 10.88.2.177. Any packets that need to be sent to any computers in the 10.88.2.0/24 network will not use the default gateway but will be switched to the destination by MAC address. Packets that need to be sent to any other network, however, will require the use of the default gateway and so the frame will be switched to MAC address of the gateway.

This information can be used with other utilities for troubleshooting. For example, if you can ping the primary DNS server at 10.88.10.49, which in a remote network, then the IP address is correct and your router (10.88.2.6) knows a route to the network where the DNS server is located. However, this result would NOT prove that DNS is working correctly. Verification would require successfully pinging local or remote hosts by name rather than IP address.

It is not the output of winipcfg. This command was used in Windows 95 to generate a subset of this information in a GUI dialog box.

It is not the output of ifconfig. This command is used to generate a subset of this information in a Linux/Unix environment.

It is not the output of ipconfig. This command generates IP address subnet mask and gateway only.

Objective:

Network Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot IPv4 addressing and subnetting

References:

[Cisco>Home>Support>Technology Support>IP>IP Addressing Services>Configure>Configuration Examples and TechNotes> Dynamically Configuring DHCP Server Options>Troubleshoot](#)

#### QUESTION 40

Which two security features can be configured to prevent unauthorized access into the network through a networking device? (Choose two.)

- A. Anti-Replay
- B. Traffic filtering
- C. Authentication
- D. IPSec network security

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Traffic filtering and authentication security can be configured to prevent unauthorized access into the network through a networking device. Unauthorized access to the company's network should be blocked because unauthorized access can damage a company's network. Attackers may access confidential data, plant a virus in the network, or flood the network with illegitimate packets. Therefore, preventive measures should be taken to block any unauthorized access.

The traffic filtering security feature uses two measures to prevent unauthorized access into the network: access lists and Cisco IOS firewalls.

Access lists are configured to determine which traffic to block and which traffic should be forwarded at the router interfaces. The following types of access lists are available when using Cisco devices:

- Basic access lists: Allow only specific traffic through the device; other traffic is dropped.
- Extended access lists: Used to filter the traffic based on source IP address, destination IP address, port numbers, or protocols.

Cisco IOS firewalls provide various security features according to your needs. Following are the key components of Cisco IOS firewall:

- Context-based Access Control (CBAC): Filters TCP and UDP packets on the basis of application layer protocol session information.
- Cisco IOS firewall Intrusion Detection System (IDS): Used to detect suspicious activity. IDS are used to watch packets and sessions as they flow through the router and scan them to match IDS signatures. If the packet is detected as suspicious, the packet is dropped.
- Authentication Proxy: Used to apply specific security policies on a per-user basis.

Authentication security can be used to prevent unauthorized access to the network. When a user attempts to access a service or host within the network, they must enter credentials such as their user name and password. If the credentials are correct, then access is provided; otherwise, the user is not allowed to access the service.

Anti-replay and IPSec network security cannot prevent unauthorized access through a networking device into the network. Anti-replay prevents the capture and replay of packets on a network. Although a good security

feature to deploy it does not specifically address access to the network through a device. IPSec is used to encrypt and protect the integrity of data that travels through the network, not control access through a device.

Objective:

Infrastructure Security

Sub-Objective:

Configure, verify, and troubleshoot basic device hardening

References:

[Cisco > Tech Notes > Cisco Guide to Harden Cisco IOS Devices > Document ID: 13608](#)

#### QUESTION 41

Which Cisco IOS command is used on a Cisco Catalyst 6500 series switch to view the spanning-tree protocol (STP) information for a virtual LAN (VLAN)?

- A. show spanning tree
- B. show spanning-tree vlan
- C. show spantree
- D. show spantree vlan

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The show spanning-tree vlan Cisco IOS command is used on a Catalyst 6500 series switch to view the spanning-tree information for a VLAN, such as information on the root switch (bridge ID, root path, root cost), as well as local switch.

The following is sample output of the show spanning-tree vlan-id command:

```
Switch# show spanning-tree vlan 1
VLAN0001
Spanning tree enabled protocol ieee
Root ID Priority 0
Address 000c.00d3.5124
Cost 19
Port 2 (FastEthernet0/2)
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32769 (priority 32768 sys-id-ext 1)
Address 000c.14f5.b5c0
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300
```

The show spanning tree command is incorrect because it is not the correct syntax of a Cisco IOS command.

The show spantree and show spantree vlan commands are incorrect because these are CatOS commands, not Cisco IOS commands.

Objective:

LAN Switching Fundamentals

**Sub-Objective:**  
Configure and verify Layer 2 protocols

**References:**  
[Cisco > Cisco IOS LAN Switching Command Reference > show spanning-tree](#)

#### QUESTION 42

DRAG DROP

Click and drag the command(s) used to configure passwords on a Cisco router to their appropriate descriptions. (Not all options will be used.)

**Select and Place:**

| <b>Password Commands:</b>   |  | <b>Descriptions:</b> |                                                                                |
|-----------------------------|--|----------------------|--------------------------------------------------------------------------------|
| key-string                  |  |                      | Used to encrypt passwords.                                                     |
| neighbor password           |  |                      | Used to activate MD5 authentication on a TCP connection between two BGP peers. |
| service encryption-password |  |                      | Used to configure the authentication string for a key.                         |
| service password-encryption |  |                      |                                                                                |
| key-authentication string   |  |                      |                                                                                |

**Correct Answer:**

| <b>Password Commands:</b>   |                             | <b>Descriptions:</b> |                                                                                |
|-----------------------------|-----------------------------|----------------------|--------------------------------------------------------------------------------|
|                             | service password-encryption |                      | Used to encrypt passwords.                                                     |
|                             | neighbor password           |                      | Used to activate MD5 authentication on a TCP connection between two BGP peers. |
| service encryption-password | key-string                  |                      | Used to configure the authentication string for a key.                         |
|                             |                             |                      |                                                                                |
|                             | key-authentication string   |                      |                                                                                |

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

Explanation:

Following are the commands along with their descriptions:

**key-string:** This command is used to configure the authentication string for a key.

**neighbor password:** The neighbor password command is used to activate MD5 authentication on a TCP connection between two BGP peers. The complete syntax of this command is: neighbor { ip-address | peer-group-name } password string

service password-encryption: This command is used to encrypt passwords . When executed it will encrypt all text clear text passwords when they are created.

The other options offered are not valid commands.

Objective:

Infrastructure Security

Sub-Objective:

Configure, verify, and troubleshoot basic device hardening

References:

[Cisco > Cisco IOS Security Command Reference > service password-encryption](#)

[Cisco > Cisco IOS IP Routing: BGP Command Reference > neighbor password](#)

#### QUESTION 43

Which Enhanced Interior Gateway Routing Protocol (EIGRP) packet type is used for neighbor discovery?

- A. Hello
- B. Update
- C. Queries
- D. Replies

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Hello packets are used for neighbor discovery. These are sent as multicasts and do not require an acknowledgement.

Update packets are sent to communicate the routes used by a router to converge. When a new route is discovered or the convergence process is completed, updates are sent as multicast. During topology table synchronization, updates are sent as unicasts to neighboring peers.

Query packets are sent when a router performs route computation and cannot find a feasible successor. These packets are sent to neighboring peers asking if they have a feasible successor to the destination network.

Reply packets are sent in response of a query packet. These are unicast and sent to the originator of the query.

Objective:

Routing Fundamentals

Sub-Objective:

Configure, verify, and troubleshoot EIGRP for IPv4 (excluding authentication, filtering, manual summarization, redistribution, stub)

References:

#### QUESTION 44

Which layer in the Open Systems Interconnection (OSI) model enables coding and conversion functions for application layer data?

- A. Presentation layer
- B. Session layer

- C. Application layer
- D. Physical layer

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The Presentation layer in the OSI model enables coding and conversion functions for application layer data. Data formatting and encryption is done at this layer. The Presentation layer converts data into a format that can be accepted by the application layer. The Presentation layer is also known as the syntax layer, which provides translation between different data formats by using a common format.

The Session layer in the OSI model does not enable coding and conversion functions for the application layer data. It is used to create, manage, and terminate sessions between communicating nodes. The session layer handles the service requests and service responses that take place between different applications.

The Application layer in the OSI model does not enable coding and conversion functions for the application layer data. The application layer is responsible for interacting directly with the application, and provides application services, such as e-mail and File Transfer Protocol (FTP).

The Physical layer in the OSI model does not enable coding and conversion functions. The Physical layer consists of the hardware that sends and receives data on a carrier. The protocols that work at the Physical layer include Fast Ethernet, RS-232, and Asynchronous Transfer Mode (ATM). The Physical layer is the base layer in the OSI model.

The three remaining layers in the OSI model are the Transport, Network, and Data Link layers. The Transport layer is responsible for error-free and sequential delivery of data. This layer is used to manage data transmission between devices, a process known as flow control. The Transport layer protocols are Transmission Control Protocol (TCP) and User Datagram Protocol (UDP).

The Network layer is used to define the network address or the Internet Protocol (IP) address that is then used by the routers to forward the packets. The Data Link layer ensures reliable transmission of data across a network.

The seven layers of the OSI model are sequentially interconnected to each other. From the top to the bottom, the seven layers are:

- Layer 7: Application
- Layer 6: Presentation
- Layer 5: Session
- Layer 4: Transport
- Layer 3: Network
- Layer 2: Data Link
- Layer 1: Physical

Objective:

Network Fundamentals

Sub-Objective:

Compare and contrast OSI and TCP/IP models

References:

[Internetworking Technology Handbook > Internetworking Basics > OSI Model and Communication Between Systems](#)

#### **QUESTION 45**

Which of these applications uses the IMAP protocol to transfer information between a server and a host?

- A. E-mail
- B. FTP
- C. Web browser
- D. Telnet

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

E-mail applications use Internet Message Access Protocol (IMAP) to retrieve messages from mail servers. IMAP differs from Post Office Protocol (POP3) in that IMAP allows the manipulation of email message as they remain on the email server, unlike POP3 in which the email can only be downloaded to the client. By default, IMAP uses TCP port 143. IMAP3 uses port 220.

File Transfer Protocol (FTP) does not use IMAP. FTP transfers files from an FTP server to a client computer over the Internet or intranet. By default, FTP uses TCP port 21 to connect to the client system.

A Web browser does not use IMAP. It uses Hyper Text Transmission Control Protocol (HTTP) to exchange information over the Internet. A Web browser provides access to the Internet through which a user can access text, images, and other information on a Web site. By default, HTTP uses TCP port 80 to connect to the client computer.

Telnet does not use IMAP. Telnet is an application that remotely accesses a computer for the purpose of executing commands. It uses TCP port 23 to connect to the remote computer.

Objective:

Network Fundamentals

Sub-Objective:

Compare and contrast TCP and UDP protocols

References:

[Internetworking Technology Handbook > Internetworking Basics > OSI Model and Communication Between Systems>OSI Model Application Layer](#)

#### **QUESTION 46**

Below is the output of the show ip route command from one of your routers:

```
R66#show ip route
```

.....

1.0.0.0/30 is subnetted, 4 subnets

- C 1.1.1.0 is directly connected, FastEthernet0/1
  - O 1.1.1.4 [110/2] via 1.1.1.2, 00:10:04, FastEthernet0/1
  - O 1.1.1.8 [110/2] via 1.1.1.13, 00:10:04, FastEthernet0/0
  - C 1.1.1.12 is directly connected, FastEthernet0/0
- 172.16.0.0/24 is subnetted, 4 subnets
- C 172.16.0.0 is directly connected, Ethernet0/0/0
  - O 172.16.1.0 [110/11] via 1.1.1.2, 00:10:04, FastEthernet0/1
  - O 172.16.2.0 [110/12] via 1.1.1.13, 00:09:24, FastEthernet0/0  
[110/12] via 1.1.1.2, 00:09:24, FastEthernet0/1
  - O 172.16.3.0 [110/11] via 1.1.1.13, 00:10:04, FastEthernet0/0

What does the value 110 represent in the output?

- A. OSPF administrative distance
- B. EIGRP administrative distance
- C. OSPF cost
- D. EIGRP cost

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The value of 110 represents the administrative distance of the route, which in this case was learned by OSPF. OSPF routes are always indicated by an O to the left of the route details. The two values in brackets in each route entry indicate the administrative distance on the left of the forward slash. The value to the right of the slash is the cost of the route. Therefore, [110/2] represents an administrative distance of 110 and a cost of 2.

The value of 110 does not represent EIGRP administrative distance because the route was not learned from EIGRP. If it were, the route would have a D to the left of the route details. Moreover, the default administrative distance of EIGRP is 90, not 110.

The values do not represent OSPF cost. The cost value is on the right side of the forward slash within the brackets in each route entry. For example, the route entry O 1.1.1.4 [110/2] via 1.1.1.2, 00:10:04, FastEthernet0/1 indicates an OSPF cost of 2.

The values do not represent an EIGRP cost. First, if it were an EIGRP route, the route would have a D to the left of the route details. Moreover, the cost value is located within the square brackets to the right of the forward slash in each route entry. The only cost values shown in the table are 2, 11, and 12.

Objective:

Routing Fundamentals

Sub-Objective:

Describe how a routing table is populated by different routing information sources

References:

**QUESTION 47**

With the following equipment list, which of the following network scenarios could be supported?

- Two IP subnets of 255.255.255.0
  - Seven 48-port switches
  - Two router interfaces
- A. 300 workstations in a single broadcast domain, each workstation in its own collision domain  
B. 300 workstations, with 150 workstations in two broadcast domains and each workstation in its own collision domain  
C. 300 workstations, with 150 workstations in two broadcast domains and all workstations in the same collision domain  
D. 600 workstations, with 300 workstations in two broadcast domains and each workstation in its own collision domain

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

This equipment will support 300 workstations, with 150 workstations divided in two broadcast domains and each workstation in its own collision domain. Subnets with a 24-bit mask (255.255.255.0) yield 254 addresses in each network, so 150 is within those limits. Also, seven 48-port switches make 336 ports available. After subtracting out 2 ports per switch for connecting the switches to each other and the router ( a total of 14) that leaves 321 ports yielding 160 for each subnet ( with one left over) . Two subnets require two router interfaces, which are available in the scenario, and since switches are in use, each switch port is its own collision domain.

This equipment will not support 300 workstations in a single broadcast domain with each workstation in its own collision domain. With a 24-bit mask, 300 workstations cannot be placed in a single subnet.

This equipment will not support 300 workstations, 150 each in two broadcast domains and all workstations in the same collision domain. The 300 workstations cannot be placed in the same collision domain when using switches. If hubs were in use that would be possible, but not desirable.

This equipment will not support 600 workstations, 300 each in two broadcast domains; each workstation in its own collision domain. 600 workstations cannot be placed in two subnets when using the mask 255.255.255.0. Each subnet can only hold 254 workstations, not 300. Moreover, 300 workstations cannot be placed in the same collision domain when using switches. If hubs were in use that would be possible but not desirable.

Objective:

Network Fundamentals

Sub-Objective:

Describe the impact of infrastructure components in an enterprise network

References:

[Cisco Documentation](#) > [Internetwork Design Guide](#) > [Internetworking Basics](#)

**QUESTION 48**

Which of the following is NOT a true statement regarding Virtual Private Networks (VPNs)?

- A. A VPN is a method of securing private data over public networks  
B. IPsec is a method for providing security over VPN

- C. Frame Relay is a Layer 3 VPN technology
- D. IPsec provides packet-level encryption
- E. A Cisco VPN solution provides increased security, reduced cost, and scalability

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

Frame Relay is a Layer 2 VPN technology, providing connectivity over switched carrier Wide Area Networks (WANs). Packets are encapsulated in Frame Relay frames, and assigned Data Link Connection Identifiers (DLCIs) to identify to the local Frame Relay switch the virtual circuit (VC) that the data should follow.

A VPN is a method of securing private data over public networks (such as the Internet), so this is a true statement.

IPsec is a security framework that provides security for data traveling over VPNs, so this is a true statement. It is an open standard protocol framework that is used to secure end-to-end communications.

IPsec allows for encryption at the packet level (Layer 3) when configured in tunnel mode, so this is a true statement.

VPN solutions such as those supported by Cisco ASA firewalls and Cisco integrated routers provide the following benefits:

- Lower desktop support costs
- Threat protection
- Flexible and cost-effective licensing
- Reduced cost and management complexity

Objective:

WAN Technologies

Sub-Objective:

Describe WAN access connectivity options

References:

[Cisco > Internetworking Technology Handbook > Frame Relay](#)

[Cisco > Internetworking Technology Handbook > Virtual Private Networks \(VPNs\)](#)

#### **QUESTION 49**

Which of the following IPV6 commands is used to define a static host name-to-address mapping in the host name cache?

- A. ipv6 host
- B. ipv6 unicast routing
- C. ipv6 neighbor
- D. ipv6 local

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Explanation:

The ipv6 host command is used to define a static host name-to-address mapping in the host name cache, and is executed in global configuration mode.

The ipv6 unicast-routing command is used to enable IPv6 forwarding on a router.

There is no ipv6 local command. There is an ipv6 local pool command that can be used to define a prefix pool when using DHCPv6.

The ipv6 neighbor command is used to configure a static entry in the IPv6 neighbor discovery cache, which will enhance the neighbor discovery process that occurs with IPv6.

Objective:

Infrastructure Services

Sub-Objective:

Troubleshoot client connectivity issues involving DNS

References:

[Cisco > Cisco IOS IPv6 Command Reference > ipv6 host](#)

#### **QUESTION 50**

Which two statements are TRUE of synchronous serial ports? (Choose two.)

- A. These ports can be used to provide leased-line or dial-up communications.
- B. These ports do not support the High-Level Data Link Control (HDLC) encapsulation method.
- C. An AUI connector is used with serial ports.
- D. These ports can be used to configure high-speed lines (E1 or T1).
- E. An RJ-45 connector is used with serial ports.

**Correct Answer:** AD

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

Explanation:

Synchronous serial ports can be used to provide leased-line or dial-up communications, and these ports can be used to configure high-speed lines (E1 or T1). The following are also true of synchronous serial ports:

- With the help of synchronous serial lines, dialers can be configured, which are then used to support dial-on-demand routing.
- These ports are found on several serial network interface processors and cards.

The option stating that synchronous serial ports cannot support High-Level Data Link Control (HDLC) encapsulation method is incorrect because HDLC is the default encapsulation method configured on serial interfaces.

The option stating that an AUI connector is used with serial ports is incorrect because AUI is a connector used with Ethernet ports.

The option stating that an RJ-45 connector is used with serial ports is incorrect because RJ-45 and RJ-48 connectors are used with ISDN BRI connections.

Objective:

WAN Technologies

Sub-Objective:

Describe WAN access connectivity options

References:

#### **QUESTION 51**

Refer to the following sample output: