Vendor: Cisco

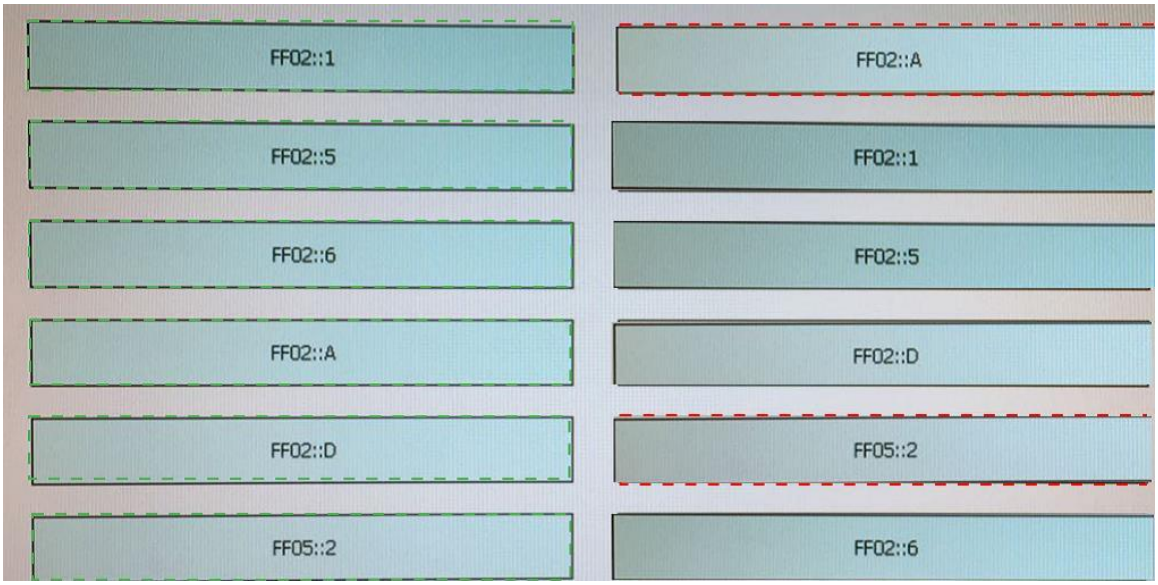
Exam Code: 200-125

Exam Name: CCNA Cisco Certified Network Associate CCNA (v3.0)

Version: DEMO

QUESTION 1
Drag and Drop Question
Drag and drop the correct address space on the left to the IPv6 multicast feature or protocol on the right.

Answer:



Exlanation:
FF01::1 ———— All nodes (node-local)
FF01::2 ———— All routers (node-local)
FF02::1 ———— All nodes (link-local)
FF02::2 ———— All routers (link-local)
FF02::5 ———— OSPFv3 routers
FF02::6 ———— OSPFv3 designated routers
FF02::9 ———— Routing Information Protocol (RIPng)
FF02::A ———— EIGRP routers

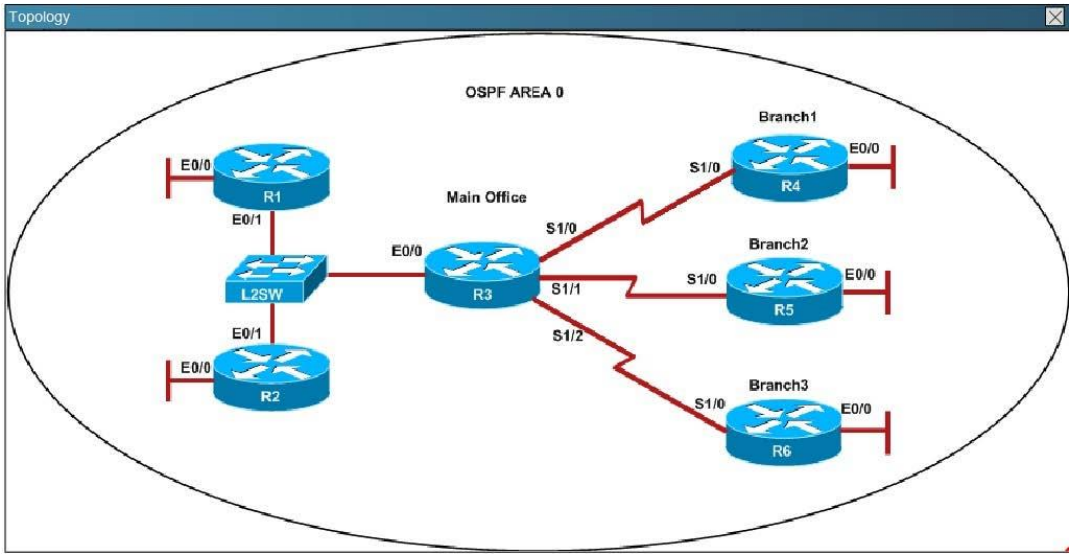
FF02::B ———— Mobile agents
FF02::C ———— SSDP
FF02::D ———— All PIM routers
FF05::2 ———— All routers (site-local)
Extra Choice ———— DHCP servers/relay agents (FF05::1:3)

QUESTION 2
Which option describes a difference between EIGRP for IPv4 and IPv6?

A. Only EIGRP for IPv6 advertises all connected networks.
B. Only EIGRP for IPv6 requires a router ID to be configured under the routing process-
C. AS numbers are configured in EIGRP but not in EIGRPv3.
D. Only EIGRP for IPv6 is enabled in the global configuration mode.

Answer: B
Explanation:
Router ID - Both EIGRP for IPv4 and EIGRP for IPv6 use a 32-bit number for the EIGRP router ID. The 32-bit router ID is represented in dotted-decimal notation and is commonly referred to as an IPv4 address. If the EIGRP for IPv6 router has not been configured with an IPv4 address, the eigrp router-id command must be used to configure a 32-bit router ID. The process for determining the router ID is the same for both EIGRP for IPv4 and IPv6.

QUESTION 3
Hotspot Questions
Scenario
Refer to the topology. Your company has decided to connect the main office with three other remote branch offices using point-to-point serial links.
You are required to troubleshoot and resolve OSPF neighbor adjacency issues between the main office and the routers located in the remote branch offices.




```
R1# show running-config
interface Loopback0
description ***Loopback***
ip address 192.168.1.1 255.255.255.255
ip ospf 1 area 0
```

```
!
interface Ethernet0/0
description **Connected to R1-LAN**
ip address 10.10.110.1 255.255.255.0
ip ospf 1 area 0
!
interface Ethernet0/1
description **Connected to L2SW**
ip address 10.10.230.1 255.255.255.0
ip ospf hello-interval 25
ip ospf 1 area 0
!
log-adjacency-changes
```

R2# show running-config

```
R2
!
interface Loopback0
description **Loopback**
ip address 192.168.2.2 255.255.255.255
ip ospf 2 area 0
!
interface Ethernet0/0
description **Connected to R2-LAN**
ip address 10.10.120.1 255.255.255.0
ip ospf 2 area 0
!
interface Ethernet0/1
description **Connected to L2SW**
ip address 10.10.230.2 255.255.255.0
ip ospf 2 area 0
!
router ospf 2
log-adjacency-changes
```

R3# show running-config

```
R3
username R6 password CISCO36
!
interface Loopback0
description **Loopback**
ip address 192.168.3.3 255.255.255.255
ip ospf 3 area 0
!
interface Ethernet0/0
description **Connected to L2SW**
ip address 10.10.230.3 255.255.255.0
ip ospf 3 area 0
!
interface Serial1/0
description **Connected to R4-Branch1 office**
ip address 10.10.240.1 255.255.255.252
encapsulation ppp
ip ospf 3 area 0
!
interface Serial1/1
```

```
description **Connected to R5-Branch2 office**
ip address 10.10.240.5 255.255.255.252
encapsulation ppp
ip ospf hello-interval 50
ip ospf 3 area 0
!
interface Serial1/2
description **Connected to R6-Branch3 office**
ip address 10.10.240.9 255.255.255.252
encapsulation ppp
ip ospf 3 area 0
ppp authentication chap
!
router ospf 3
router-id 192.168.3.3
!
```

R4# show running-config

```
R4
!
interface Loopback0
description **Loopback**
ip address 192.168.4.4 255.255.255.255
ip ospf 4 area 2
!
interface Ethernet0/0
ip address 172.16.113.1 255.255.255.0
ip ospf 4 area 2
!
interface Serial1/0
description **Connected to R3-Main Branch office**
ip address 10.10.240.2 255.255.255.252
encapsulation ppp
ip ospf 4 area 2
!
router ospf 4
log-adjacency-changes
```

R5# show running-config

```
R5
!
interface Loopback0
description **Loopback**
ip address 192.168.5.5 255.255.255.255
ip ospf 5 area 0
!
interface Ethernet0/0
ip address 172.16.114.1 255.255.255.0
ip ospf 5 area 0
!
interface Serial1/0
description **Connected to R3-Main Branch office**
ip address 10.10.240.6 255.255.255.252
encapsulation ppp
ip ospf 5 area 0
!
router ospf 5
```

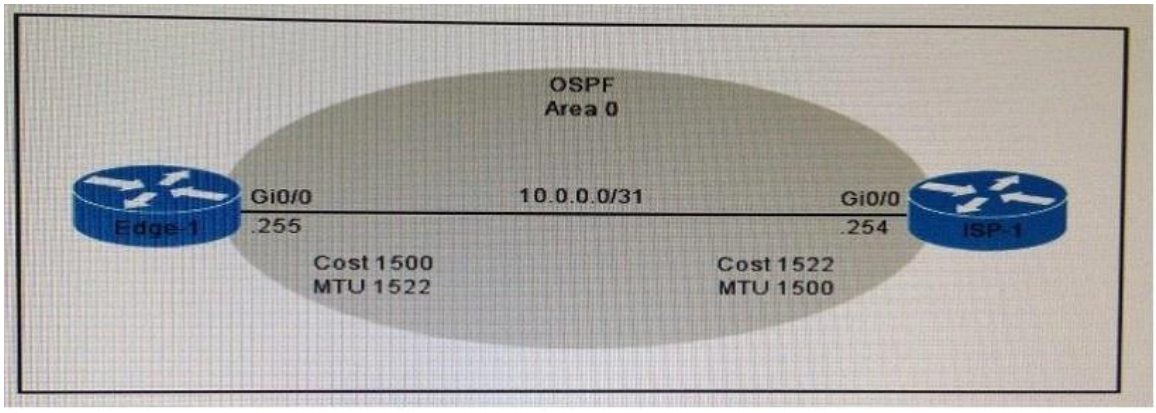
```
log-adjacency-changes

R6# show running-config
R6
username R3 password CISCO36
!
interface Loopback0
description **Loopback**
ip address 192.168.6.6 255.255.255.255
ip ospf 6 area 0
!
interface Ethernet0/0
ip address 172.16.115.1 255.255.255.0
ip ospf 6 area 0
!
interface Serial1/0
description **Connected to R3-Main Branch office**
ip address 10.10.240.10 255.255.255.252
encapsulation ppp
ip ospf 6 area 0
ppp authentication chap
!
router ospf 6
router-id 192.168.3.3
!
```

An OSPF neighbor adjacency is not formed between R3 in the main office and R6 in the Branch3 office. What is causing the problem?

A. There is an area ID mismatch.
B. There is a PPP authentication issue; the username is not configured on R3 and R6.
C. There is an OSPF hello and dead interval mismatch.
D. The R3 router ID is configured on R6.

Answer: D

QUESTION 4
Refer to the exhibit. Router edge-1 is unable to establish OSPF neighbor adjacency with router ISP-1. Which two configuration changes can you make on edge-1 to allow the two routers to establish adjacency? (Choose two.)



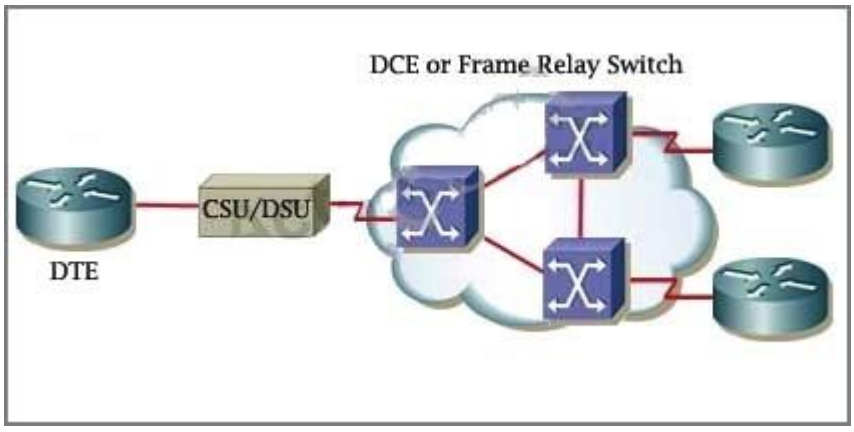
A. Set the subnet mask on edge-1 to 255 255.255.252.
B. Reduce the MTU on edge-1 to 1514.
C. Set the OSPF cost on edge-1 to 1522.
D. Reduce the MTU on edge-1 to 1500.
E. Configure the ip ospf mtu-ignore command on the edge-1 Gi0/0 interface.

Answer: DE
Explanation:
A situation can occur where the interface MTU is at a high value, for example 9000, while the real value of the size of packets that can be forwarded over this interface is 1500.
If there is a mismatch on MTU on both sides of the link where OSPF runs, then the OSPF adjacency will not form because the MTU value is carried in the Database Description (DBD) packets and checked on the other side.

QUESTION 5
Which of the following describes the roles of devices in a WAN? (Choose three.)

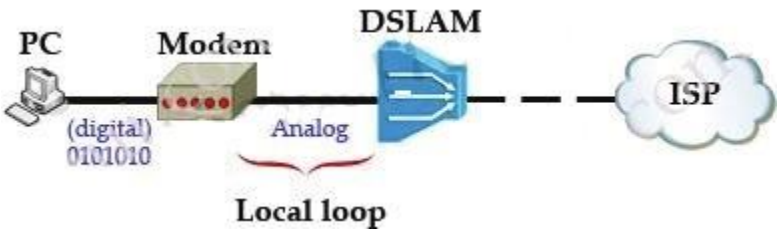
A. A CSU/DSU terminates a digital local loop.
B. A modem terminates a digital local loop.
C. A CSU/DSU terminates an analog local loop.
D. A modem terminates an analog local loop.
E. A router is commonly considered a DTE device.
F. A router is commonly considered a DCE device.

Answer: ADE
Explanation:
The idea behind a WAN is to be able to connect two DTE networks together through a DCE network. The network's DCE device (includes CSU/DSU) provides clocking to the DTE-connected interface (the router's serial interface).

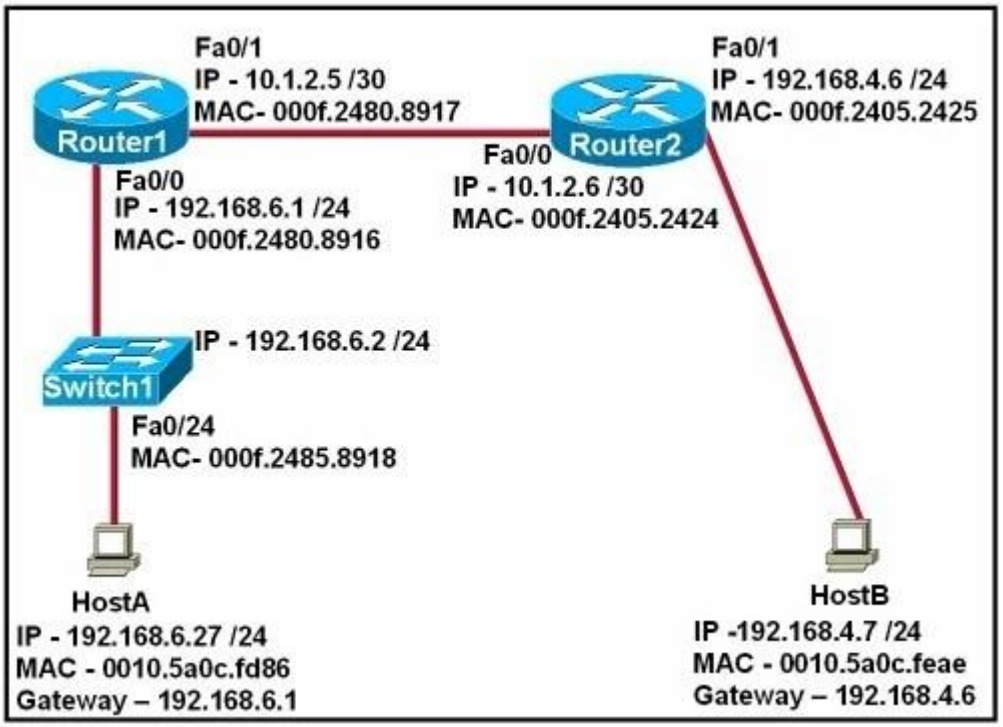


A modem modulates outgoing digital signals from a computer or other digital device to analog signals for a conventional copper twisted pair telephone line and demodulates the incoming analog signal and converts it to a digital signal for the digital device. A CSU/DSU is used between two digital lines -
For more explanation of answer D, in telephony the local loop (also referred to as a subscriber line) is the physical link or circuit that connects from the demarcation point of the customer premises to the edge of the carrier or telecommunications service provider's network. Therefore a

modem terminates an analog local loop is correct.



QUESTION 6
Refer to the exhibit. Refer to the exhibit. After HostA pings HostB, which entry will be in the ARP cache of HostA to support this transmission?



A.

Interface Address	Physical Address	Type
192.168.4.7	000f.2480.8916	dynamic

B.

Interface Address	Physical Address	Type
192.168.4.7	0010.5a0c.feae	dynamic

C.

Interface Address	Physical Address	Type
192.168.6.1	0010.5a0c.feae	dynamic

D.

Interface Address	Physical Address	Type
192.168.6.1	000f.2480.8916	dynamic

E.

Interface Address	Physical Address	Type
192.168.6.2	0010.5a0c.feae	dynamic

F.

Interface Address	Physical Address	Type
192.168.6.2	000f.2485.8918	dynamic

Answer: A
Explanation:
When a host needs to reach a device on another subnet, the ARP cache entry will be that of the Ethernet address of the local router (default gateway) for the physical MAC address. The destination IP address will not change, and will be that of the remote host (HostB).

QUESTION 7
A network administrator is verifying the configuration of a newly installed host by establishing an FTP connection to a remote server. What is the highest layer of the protocol stack that the network administrator is using for this operation?

A. application
B. presentation
C. session
D. transport
E. internet
F. data link

Answer: A
Explanation:
FTP belongs to Application layer and it is also the highest layer of the OSI model.

QUESTION 8
A network interface port has collision detection and carrier sensing enabled on a shared twisted pair network. From this statement, what is known about the network interface port?

A. This is a 10 Mb/s switch port.
B. This is a 100 Mb/s switch port.
C. This is an Ethernet port operating at half duplex.
D. This is an Ethernet port operating at full duplex.
E. This is a port on a network interface card in a PC.

Answer: C
Explanation:
Modern Ethernet networks built with switches and full-duplex connections no longer utilize CSMA/CD. CSMA/CD is only used in obsolete shared media Ethernet (which uses repeater or hub).

QUESTION 9
A receiving host computes the checksum on a frame and determines that the frame is damaged. The frame is then discarded. At which OSI layer did this happen?

A. session
B. transport
C. network
D. data link
E. physical

Answer: D
Explanation:
The Data Link layer provides the physical transmission of the data and handles error notification, network topology, and flow control. The Data Link layer formats the message into pieces, each called a data frame, and adds a customized header containing the hardware destination and source address. Protocols Data Unit (PDU) on Datalink layer is called frame. According to this question the frame is damaged and discarded which will happen at the Data Link layer.

QUESTION 10
Which two types of NAT addresses are used in a Cisco NAT device? (Choose two.)

A. inside local
B. inside global
C. inside private
D. outside private
E. external global
F. external local

Answer: AB

QUESTION 11
What is the danger of the permit any entry in a NAT access list?

A. It can lead to overloaded resources on the router.
B. It can cause too many addresses to be assigned to the same interface.
C. It can disable the overload command.
D. It prevents the correct translation of IP addresses on the inside network.

Answer: A

QUESTION 12
Refer to the exhibit. Which statement describes the effect of this configuration?

```
Router# configure terminal
Router (config)# vlan 10
Router (config-vlan)# do show vlan
```

A. The VLAN 10 VTP configuration is displayed.

B. VLAN 10 spanning-tree output is displayed.
C. The VLAN 10 configuration is saved when the router exits VLAN configuration mode.
D. VLAN 10 is added to the VLAN database.

Answer: D

QUESTION 13
Hotspot Question - RIPv2 Troubleshooting

```
- Router R1 connects the main office to internet, and routers R2 and R3
are internal routers
- NAT is enabled on Router R1
- The routing protocol that is enabled between R1, R2 and R3 is RIPv2
- R1 sends default route into RIPv2 for internal routers to forward
internet traffic to R1
- Server1 and Server 2 are placed in VLAN 100 and 200 respectively, and
are still running on stick Configuration with router R2.
```

You have console access on R1, R2, R3 and L2SW1 devices.
Use only show commands to troubleshoot the issues.

Server1 and Server2 are unable to communicate with the rest of the network. Your initial check with system administrators shows that IP address settings are correctly configured on the server side. What could be an issue?

A. The VLAN encapsulation is misconfigured on the router subinterfaces.
B. The Router is missing subinterface configuration.
C. The Trunk is not configured on the L2SW1 switch.
D. The IP address is misconfigured on the primary router interface.

Answer: A
Explanation:
Check the configuration of the interface that is connected to Server1 and Server2 on R2 with "show running-config" command.

```
R2#show running-config

<output omitted>
interface Ethernet0/1.100
 description Link to Server1 Segment
 encapsulation dot1Q 200
 ip address 192.168.100.1 255.255.255.0
!
interface Ethernet0/1.200
 description Link to Server2 Segment
 encapsulation dot1Q 100
 ip address 192.168.200.1 255.255.255.0
!
```

We see that subinterface E0/1.100 has been configured with VLAN 200 (via "encapsulation dot1Q 200" command) while Server1 belongs to VLAN 100. Therefore this configuration is not

correct. It should be “encapsulation dot1Q 100” instead. The same thing for interface E0/1.200, it should be “encapsulation dot1Q 200” instead.

QUESTION 14
Hotspot Question - DHCP
Examine the DHCP configuration between R2 and R3,R2 is configured as the DHCP server and R3 as the client. What is the reason R3 is not receiving the IP address via DHCP?

A. On R3,DHCP is not enabled on the interface that is connected to R2.
B. On R3,the interface that is connected to R2 is in shutdown condition.
C. On R2, the interface that is connected to R3 is in shutdown condition.
D. On R2, the network statement in the DHCP pool configuration is incorrectly configured

Answer: A
Explanation:
First we should check which interface on R3 that is connected to R2 via the “show run” command.

```
R3#show running-config

<output omitted>
interface Ethernet0/1
 description Link to R2
 no ip address
!
```

From the description we learn interface E0/1 is connected to R2. Use the “show ip interface brief” command to verify the IP address of this interface.

```
R3#show ip interface brief

Interface      IP-Address      OK? Method Status                Protocol
Ethernet0/0    10.100.10.1     YES manual up                    up
Ethernet0/1    unassigned      YES unset  up                    up
Ethernet0/2    10.100.11.1     YES manual up                    up
Ethernet0/3    unassigned      YES unset  administratively down down
Loopback0      192.168.250.3   YES manual up                    up
```

Therefore we can conclude this interface does not have any IP address and there is no configuration on this interface (except the “description Link to R2” line).

If R3 wants to receive an IP address from R2 via DHCP, interface E0/1 should be configured with the command “ip address dhcp” so the answer “DHCP is not enabled on this interface” is correct.

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