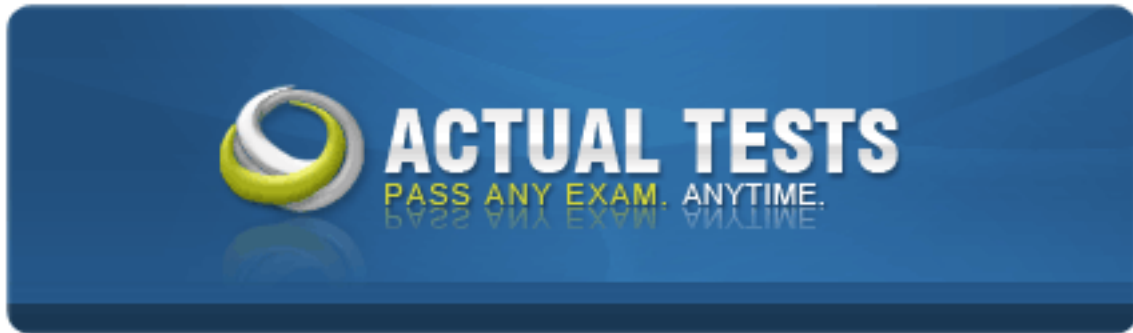


Cisco 640-822



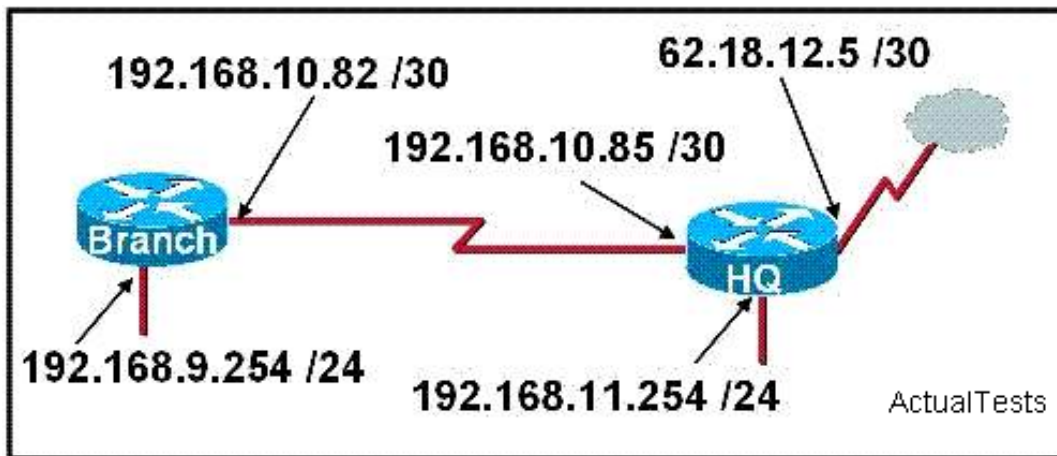
**Cisco 640-822 Interconnecting Cisco Networking
Devices Part 1**

Practice Test

Version 2.36

QUESTION NO: 1

After the router interfaces shown in the diagram have been configured, it is discovered that hosts in the Branch LAN cannot access the Internet. Further testing reveals additional connectivity issues. What will fix this problem?

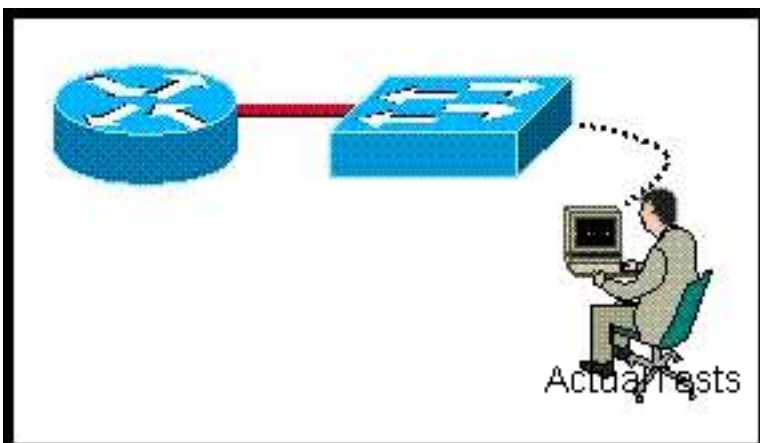


- A. Change the address of the HQ router LAN interface.
- B. Change the subnet mask of the HQ router LAN interface.
- C. Change the address of the Branch router LAN interface.
- D. Change the address of the HQ router interface to the Internet.
- E. Change the address of the Branch router WAN interface.
- F. Change the subnet mask of the HQ router interface to the Internet.

Answer: E

QUESTION NO: 2

Refer to the graphic. A Cisco router and a Catalyst switch are connected as shown. The technician is working on a computer that is connected to the management console of the switch. In order to configure the default gateway for the switch, the technician needs to learn the IP address of the attached router interface. Which IOS command will provide this information in the absence of Layer 3 connectivity?



- A. showcdp neighbors detail
- B. pingrouter_ip_address
- C. showip neighbors
- D. pingswitch_ip_address
- E. showdhcp-config
- F. showip rarp

Answer: A

Explanation:

To display detailed information about neighboring devices discovered using Cisco Discovery Protocol (CDP), use the show cdp neighbors privileged EXEC command.

Detail - (Optional) Displays detailed information about a neighbor (or neighbors) including network address, enabled protocols, hold time, and software version.

The following is sample output for the show cdp neighbors detail command.

```
router# show cdp neighbors detail
```

```
-----
```

```
Device ID: lab-7206
```

```
Entry address(es):
```

```
IP address: 172.19.169.83
```

```
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.
```

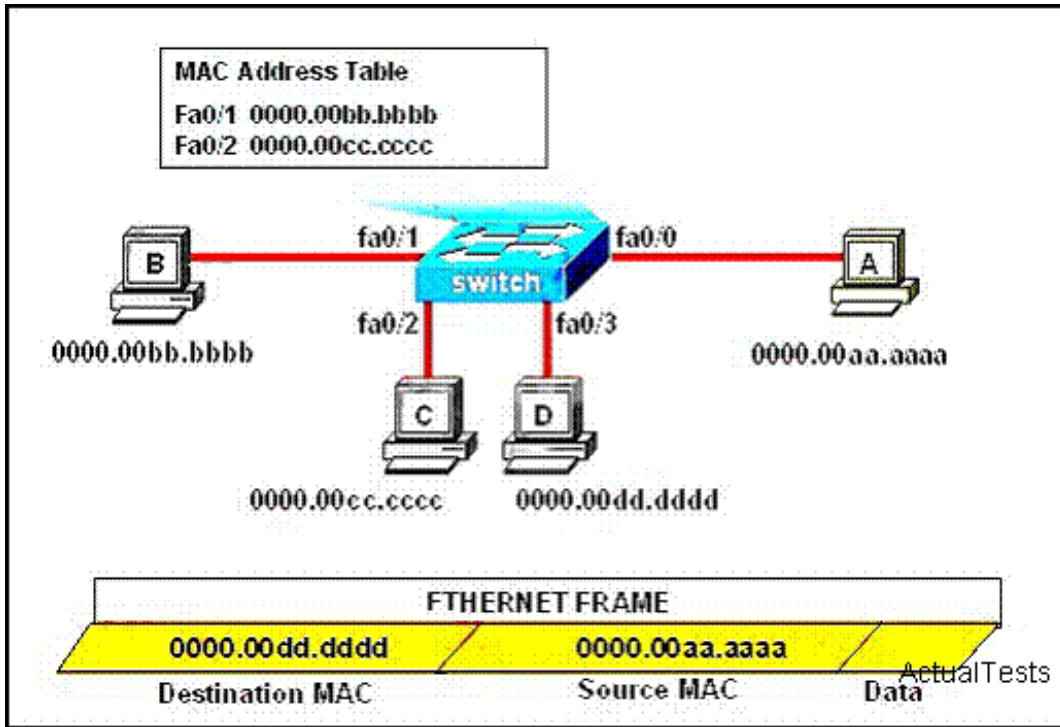
```
advertisement version: 2
```

```
Duplex: half
```

QUESTION NO: 3

Refer to the exhibit. The ports that are shown are the only active ports on the switch. The MAC address table is shown in its entirety. The Ethernet frame that is shown arrives at the switch.

What two operations will the switch perform when it receives this frame? (Choose two.)

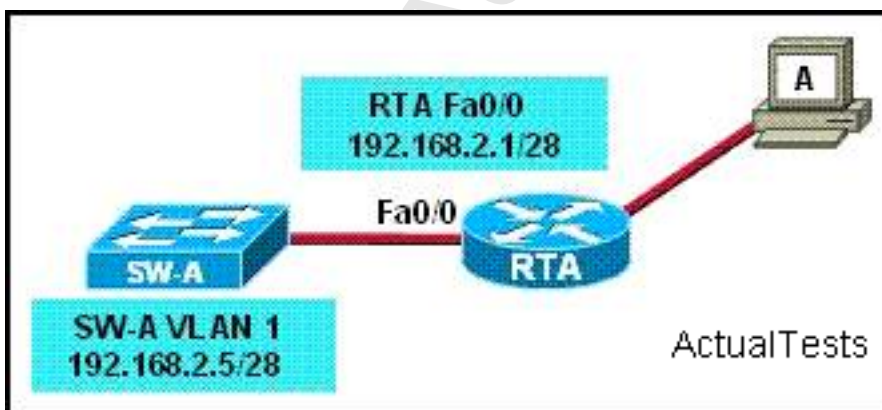


- A. The frame will be forwarded out port fa0/3 only.
- B. The frame will be forwarded out fa0/1, fa0/2, and fa0/3.
- C. The frame will be forwarded out all the active ports.
- D. The MAC address of 0000.00dd.dddd will be added to the MAC address table.
- E. The MAC address of 0000.00aa.aaaa will be added to the MAC address table.

Answer: B,E

QUESTION NO: 4

Refer to the exhibit. Workstation A must be able to telnet to switch SW-A through router RTA for management purposes. What must be configured for this connection to be successful?



- A. IP routing on SW-A
- B. default gateway on SW-A
- C. VLAN 1 on RTA
- D. cross-over cable connecting SW-A and RTA

Answer: B

Explanation:

Configure a default gateway on SW-A.

In order for a switch to send traffic to a destination that is not located directly, as is the case in our example, a default gateway must be configured on the switch. This will enable it to send the traffic to router RTA where it can be routed to host A.

QUESTION NO: 5

What does the "Inside Global" address represent in the configuration of NAT?

- A. a globally unique, private IP address assigned to a host on the inside network
- B. the summarized address for all of the internal subnetted addresses
- C. a registered address that represents an inside host to an outside network
- D. the MAC address of the router used by inside hosts to connect to the Internet

Answer: C

Explanation:

With NAT, Cisco defines 4 different types of addresses as follows:

Inside local address - The IP address assigned to a host on the inside network. This is the address configured as a parameter of the computer's OS or received via dynamic address allocation protocols such as DHCP. The address is likely not a legitimate IP address assigned by the Network Information Center (NIC) or service provider.

Inside global address - A legitimate IP address assigned by the NIC 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 appears to the inside network. Not necessarily a legitimate address, it is allocated from an address space routable on the inside.

Outside global address - The IP address assigned to a host on the outside network by the host's owner. The address is allocated from a globally routable address or network space.

The above definitions still leave a lot to be interpreted. For this example, this document redefines these terms by first defining "local address" and "global address." Keep in mind that the terms "inside" and "outside" are NAT definitions. Interfaces on a NAT router are defined as "inside" or "outside" with the NAT configuration commands, `ip nat inside` and `ip nat outside`. Networks to which these interfaces connect can then be thought of as "inside" networks or "outside" networks, respectively.

Local address - A local address is any address that appears on the "inside" portion of the network.

Global address - A global address is any address that appears on the "outside" portion of the network.

QUESTION NO: 6

Refer to the exhibit. What does the address 192.168.2.167 represent?

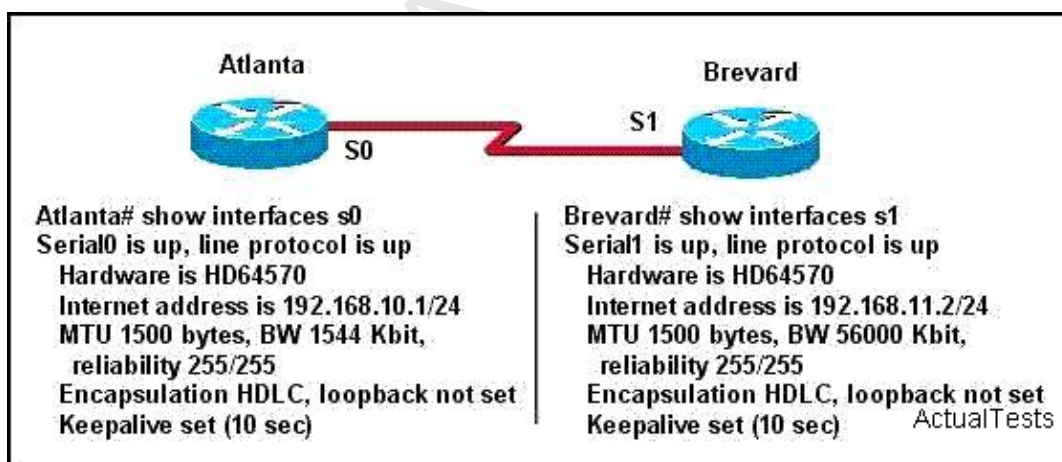
```
Router# copy startup-config tftp
Address or name of remote host []? 192.168.2.167
Destination filename [router-config]?
!!!!!!!
1476 bytes copied in 0.080 secs (5950 bytes/sec)
Router#
```

- A. the router to which the file startup-config is being transferred
- B. the TFTP server from which the file router-config is being transferred
- C. the TFTP server to which the file router-config is being transferred
- D. the TFTP server from which the file startup-config is being transferred
- E. the router from which the file startup-config is being transferred
- F. the router to which the file router-config is being transferred

Answer: C

QUESTION NO: 7

Two routers named Atlanta and Brevard are connected by their serial interfaces as shown in the exhibit, but there is no data connectivity between them. The Atlanta router is known to have a correct configuration. Given the partial configurations shown in the exhibit, what is the problem on the Brevard router that is causing the lack of connectivity?



- A. The bandwidth setting is incompatible with the connected interface.
- B. The maximum transmission unit (MTU) size is too large.

- C. The subnet mask is incorrect.
- D. The serial line encapsulations are incompatible.
- E. A loopback is not set.
- F. The IP address is incorrect.

Answer: F

QUESTION NO: 8

The administrator is unable to establish connectivity between two Cisco routers. Upon reviewing the command output of both routers, what is the most likely cause of the problem?

RtrA# show running-config	RtrB# show running-config
<some output text omitted>	<some output text omitted>
enable password cisco	enable password cisco1
!	!
hostname RtrA	hostname RtrB
username RtrB password cisco	username RtrA password cisco1
!	!
interface serial 0/0	interface serial 0/0
ip address 10.0.8.1 255.255.248.0	ip address 10.0.15.2 255.255.248.0
encapsulation ppp	encapsulation ppp
ppp authentication chap	ppp authentication chap

- A. Username/password is incorrectly configured.
- B. Router names are incorrectly configured.
- C. Serialip addresses
- D. Authentication needs to be changed to PAP for both routers.

Answer: A

Explanation:

When setting up local password database in CHAP, configure commands username username password password in overall configuration mode to add note to local password database. Note that the username here should be the router name on the opposite side. And the password should be the same as that in the password database of CHAP authentication server. The above graphic shows different password.

QUESTION NO: 9

Which of the following are types of flow control? (Choose three.)

- A. cut-through
- B. load balancing
- C. congestion avoidance
- D. buffering
- E. windowing

Answer: C,D,E

QUESTION NO: 10 DRAG DROP

Drop

Match the terms on the left with the appropriate OSI layer on the right. (Not all options are used.)

bits
packets
UDP
IP addresses
segments
MAC addresses
windowing
routing
switching

Network Layer

Transport Layer

ActualTests

Answer:

Match the terms on the left with the appropriate OSI layer on the right. (Not all options are used.)

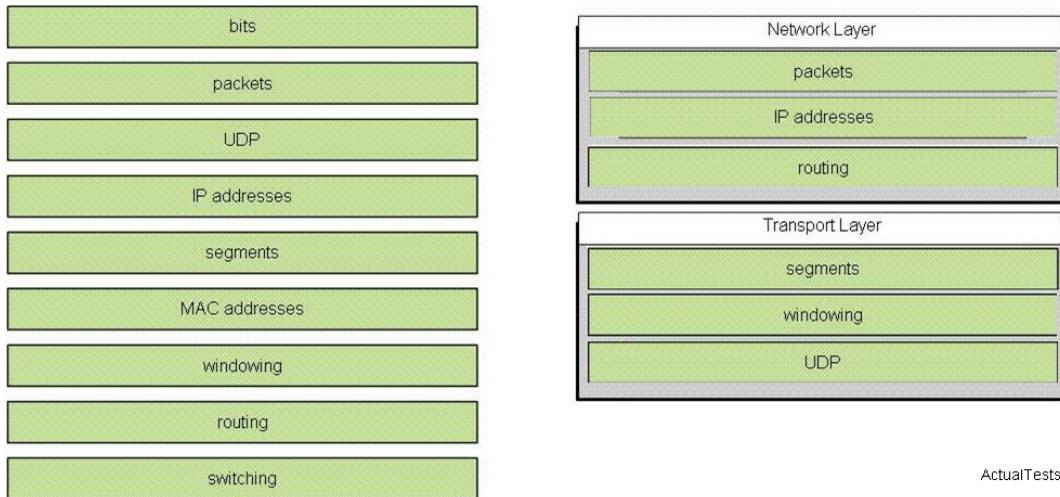
bits
packets
UDP
IP addresses
segments
MAC addresses
windowing
routing
switching

Network Layer
packets
IP addresses
routing

Transport Layer
segments
windowing
UDP

ActualTests

Explanation:

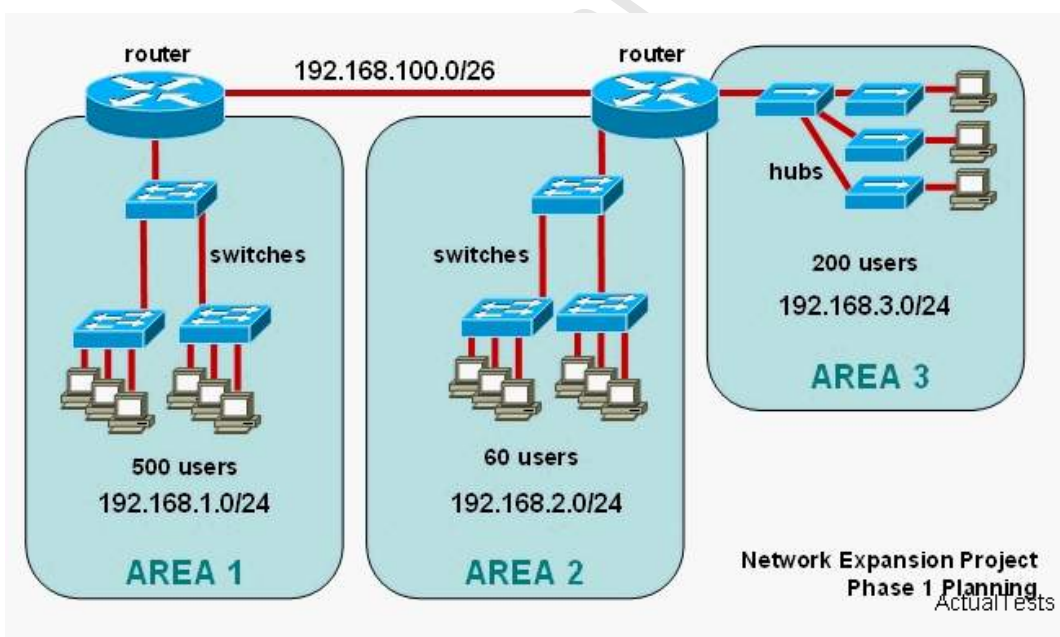
**QUESTION NO: 11**

Refer to the exhibit. The junior network support staff provided the diagram as a recommended configuration for the first phase of a four-phase network expansion project. The entire network expansion will have over 1000 users on 14 network segments and has been allocated this IP address space:

192.168.1.1 through 192.168.5.255

192.168.100.1 through 198.168.100.255

What are three problems with this design? (Choose three.)



- A. The AREA 3 IP address space is inadequate for the number of users.
- B. The network address space that is provided requires a single network-wide mask.
- C. The router-to-router connection is wasting address space.

- D. AREA 2 could use a mask of /25 to conserve IP address space.
- E. The AREA 1 IP address space is inadequate for the number of users.
- F. The broadcast domain in AREA 1 is too large for IP to function.

Answer: C,D,E

Explanation:

Besides network address and broadcast address, network 192.168.1.0/24 allows only 254 hosts. Thus it is evident that AREA 1 IP address space is inadequate for 500 users.

If AREA 2 uses a mask of /25, i.e. 255.255.255.128, it will be able to accommodate IP space of 128 ($256-128=128$), which is adequate for 60 users. And as the two routers need only two IP, to use 192.168.100.0/26 is a waste of address space.

So the answer would be A ,C and E.

* Since there are only 60 users on this LAN, a /25 could be used as that will provide for up to 128 IP addresses (126 usable). In fact, since there are only 60 users, a /26 could be used as that will provide for up to 62 usable IP addresses. However, this would not accommodate any kind of growth and could cause problems in the future.

* On point to point serial router links, a /30 is generally used as this will allow for only 2 usable IP addresses, which is all that is needed. In this case, a /26 has been assigned.

* In this area, there are 500 users, but a /24 will only provide for 254 usable IP addresses. A /23 or larger will be needed to accommodate this many users.

QUESTION NO: 12

Which type of attack is characterized by a flood of packets that are requesting a TCP connection to a server?

- A. brute force
- B. Trojan horse
- C. denial of service
- D. reconnaissance

Answer: C

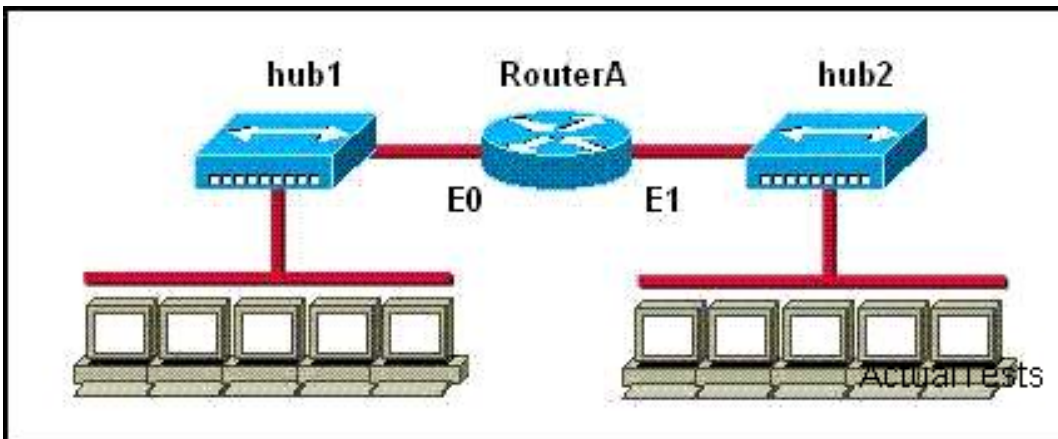
Explanation:

A denial-of-service attack (DoS attack) is an attempt to make a computer resource unavailable to its intended users. Although the means to, motives for and targets of a DoS attack may vary, it generally comprises the concerted, malevolent efforts of a person or persons to prevent an Internet site or service from functioning efficiently or at all, temporarily or indefinitely. Among these are Network connectivity attacks.

These attacks overload the victim with TCP packets so that its TCP/IP stack is not able to handle any further connections, and processing queues are completely full with nonsense malicious packets. As a consequence of this attack, legitimate connections are denied. One classic example of a network connectivity attack is a SYN Flood

QUESTION NO: 13

Refer to the graphic. How many collision domains are shown?



- A. two
- B. four
- C. six
- D. fourteen
- E. three
- F. one

Answer: A

Explanation:

The multi-segment configuration guidelines apply only to a single Ethernet "collision domain." A collision domain is formally defined as a single CSMA/CD network in which there will be a collision if two computers attached to the system transmit at the same time. An Ethernet system composed of a single segment or multiple segments linked with repeaters is a network that functions as a single collision domain.

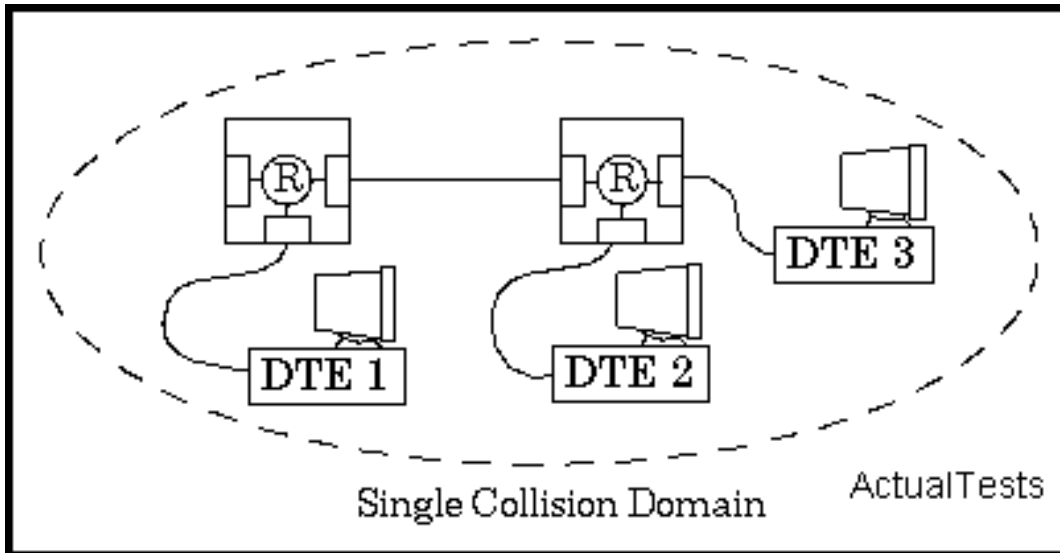


FIGURE 1 Repeater hubs create a single collision domain

The figure shows two repeater hubs connecting three computers. Since only repeater connections are used between segments in this network, all of the segments and computers are in the same collision domain.

In the next figure, the repeaters and DTEs are instead separated by a router (packet switch) and are therefore in separate collision domains, since routers do not forward collision signals from one segment to another. Routers contain multiple Ethernet interfaces and are designed to receive a packet on one Ethernet port and transmit the data onto another Ethernet port in a new packet.

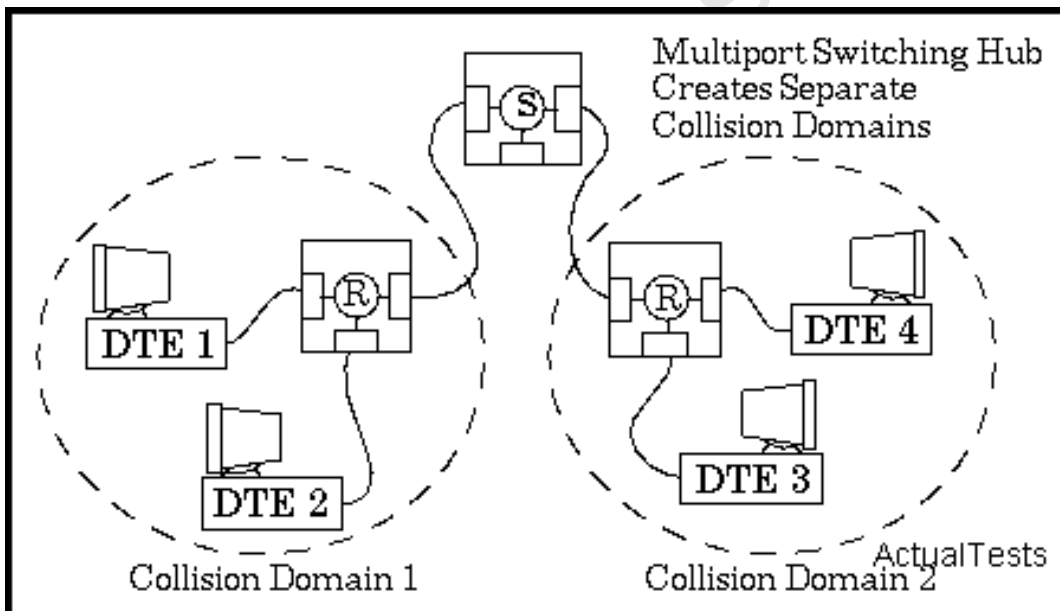


FIGURE 2 Routers creates separate collision domains

Instead of propagating collision signals between Ethernet segments, routers interrupt the collision domain and allow the Ethernets they link to operate independently. Therefore, you can use packet switching hubs to build larger network systems by interconnecting individual Ethernet systems.

QUESTION NO: 14 DRAG DROP

Drop

Construct the command sequence to configure an IP address on a serial interface. (Not all options are used.)

Hub# interface s0/0	enter global configuration mode
Hub(config)# interface s0/0	enter interface configuration mode
Hub(config-if)# no shutdown	configure the interface IP address
Hub(config)# ip address 172.16.20.21 255.255.255.0	enable the interface
Hub(config-if)# ip address 10.8.5.255 255.255.252.0	label the interface
Hub(config-if)# enable interface	
Hub(config-if)# ip address 198.18.2.63 255.255.255.224	
Hub(config-if)# description T1 to WAN	
Hub(config)# banner motd ! T1 to WAN !	
Hub# configure terminal	

ActualTests

Answer:

Construct the command sequence to configure an IP address on a serial interface. (Not all options are used.)

Hub# interface s0/0	Hub# configure terminal
Hub(config)# interface s0/0	Hub(config)# interface s0/0
Hub(config-if)# no shutdown	Hub(config-if)# ip address 10.8.5.255 255.255.252.0
Hub(config)# ip address 172.16.20.21 255.255.255.0	Hub(config-if)# no shutdown
Hub(config-if)# ip address 10.8.5.255 255.255.252.0	Hub(config-if)# description T1 to WAN
Hub(config-if)# enable interface	
Hub(config-if)# ip address 198.18.2.63 255.255.255.224	
Hub(config-if)# description T1 to WAN	
Hub(config)# banner motd ! T1 to WAN !	
Hub# configure terminal	

ActualTests

QUESTION NO: 15

A network administrator has subnetted the 172.16.0.0 network using a subnet mask of 255.255.255.192. A duplicate IP address of 172.16.2.120 has accidentally been configured on a workstation in the network. The technician must assign this workstation a new IP address within that same subnetwork. Which address should be assigned to the workstation?

- A. 172.16.2.127
- B. 172.16.2.80

- C. 172.16.2.128
- D. 172.16.1.64
- E. 172.16.1.80
- F. 172.16.2.64

Answer: B

Explanation:

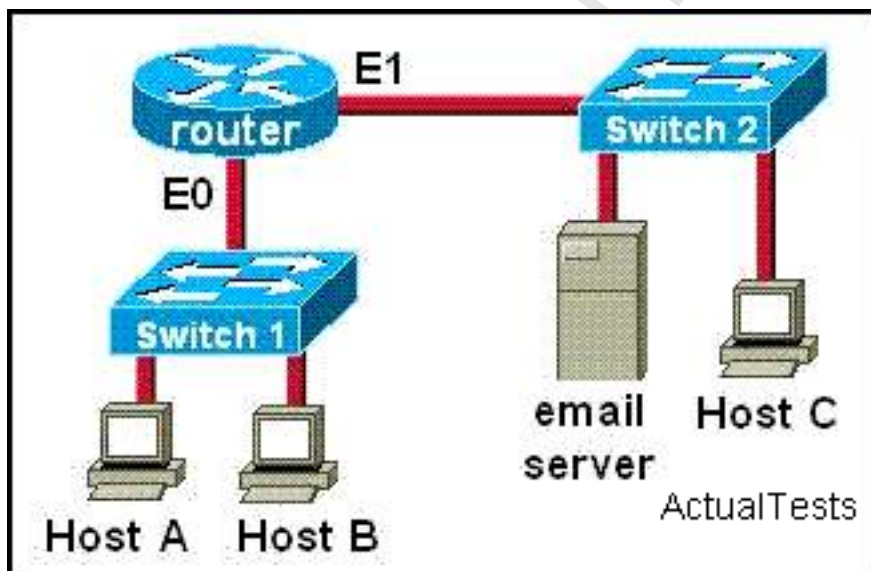
A subnet mask of 255.255.255.192 (/26) will provide us with 4 subnet (2 usable) each with 62 usable hosts per network. So in our example the four networks will be:

- 172.16.2.1-62
- 172.16.2.65-126
- 172.16.2.129-190
- 172.16.2.193-254

Since we know that the host must be in the same IP subnet as 172.16.2.120, only choice C is correct.

QUESTION NO: 16

Host A needs to communicate with the email server shown in the graphic. What address will be placed in the destination address field of the frame when it leaves Host A?



- A. the MAC address of the email server
- B. the MAC address of E1 of the router
- C. the MAC address of Switch 1
- D. the MAC address of E0 of the router
- E. the MAC address of Switch 2

F. the MAC address of Host A

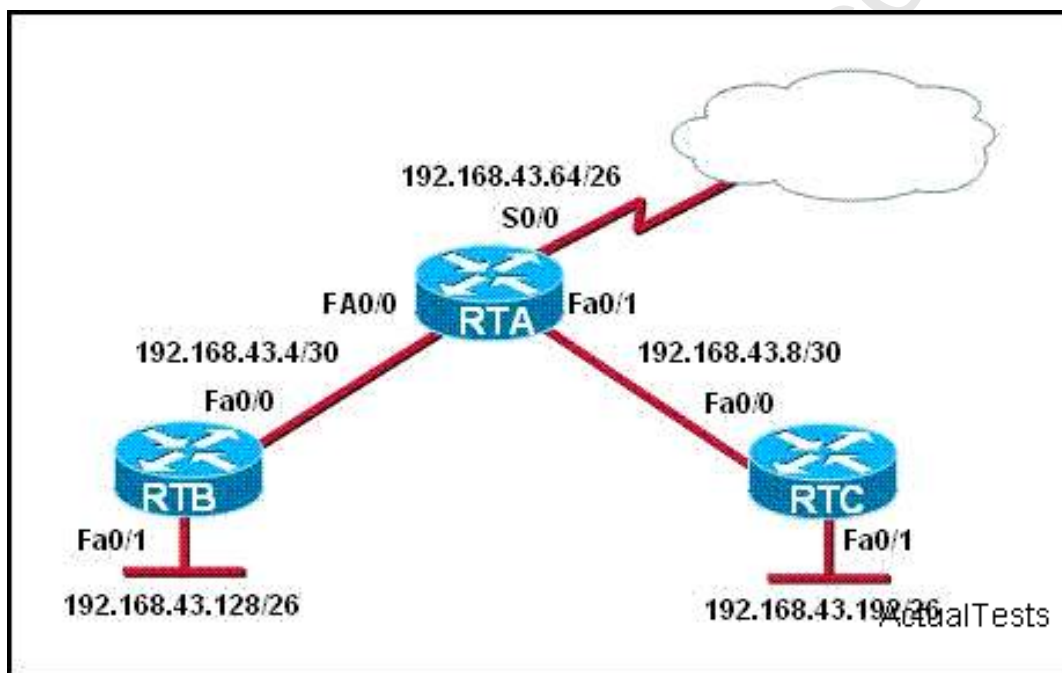
Answer: D

Explanation:

Since the email server resides on a different IP subnet than the host A, the host will send the frame to its default gateway. In this case, the router C is acting as the default gateway for all hosts on the LAN, so the frame will be sent to its Ethernet interface so that it can be routed to the email server.

QUESTION NO: 17

Refer to the exhibit. For security reasons, information about RTA, including platform and IP addresses, should not be accessible from the Internet. This information should, however, be accessible to devices on the internal networks of RTA. Which command or series of commands will accomplish these objectives?



- A. RTA(config)#interface s0/0
RTA(config-if)#no cdp enable
- B. RTA(config)#no cdp run
- C. RTA(config)#interface s0/0
RTA(config-if)#no cdp run
- D. RTA(config)#no cdp enable

Answer: A

Explanation:

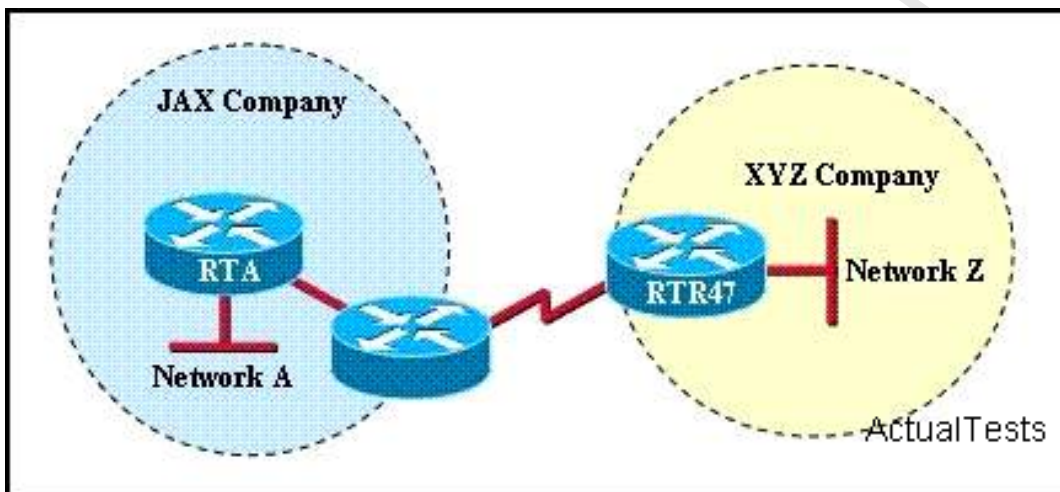
S0/0 interface of RTA is connected to Internet. So we only need to cut this connection.

CDP is a proprietary protocol designed by Cisco to help administrators collect information about both locally attached and remote devices. By using CDP, you can gather hardware and protocol information about neighbor devices which is useful info for troubleshooting and documenting the network.

To disable the CDP on particular interface use the "no cdp enable" command. To disable CDP on the entire router use the "no cdp run" in global configuration mode.

QUESTION NO: 18

Refer to the exhibit. A person is trying to send a file from a host on Network A of the JAX Company to a server on Network Z of the XYZ Company. The file transfer fails. The host on Network A can communicate with other hosts on Network A. Which command, issued from router RTA, would be the most useful for troubleshooting this problem?



- A. show version
- B. show flash:
- C. show interfaces
- D. show history
- E. show controllers serial

Answer: C

Explanation:

This problem is most likely due to a communication problem with the ftp server. Using the show interface command can be used to verify the IP address, speed, errors, configuration, etc. One of the first steps in troubleshooting any connectivity issue is to issue the "show interfaces" command to ensure that all of the interfaces are up and active.

QUESTION NO: 19

Which line from the output of the show ip interface command indicates that there is a Layer 1 problem?

- A. Serial0/1 is up, line protocol is up
- B. Serial0/1 is up, line protocol is down
- C. Serial0/1 is administratively down, line protocol is down
- D. Serial0/1 is down, line protocol is down

Answer: D

Explanation:

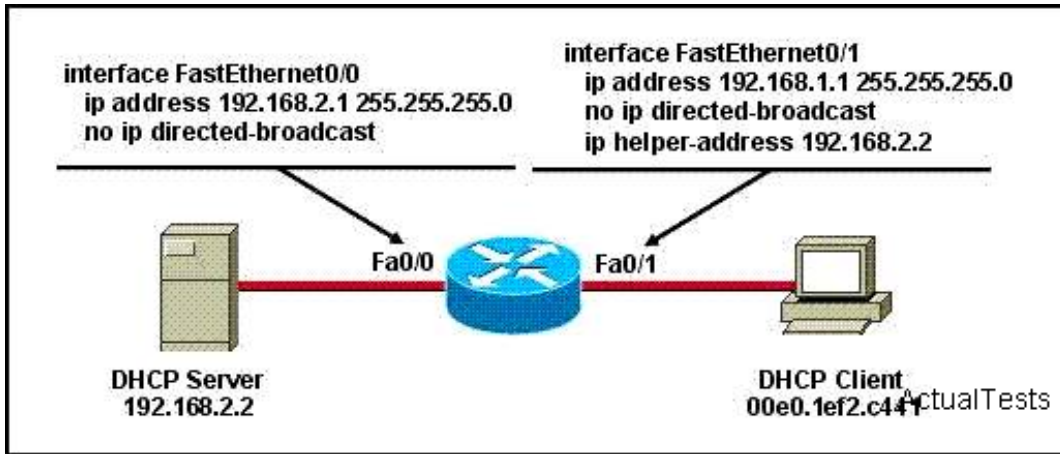
When the physical interface itself is down, then the problem is related to layer 1. When it is up, but the line protocol is down, then the problem is related to layer 2.

Status Line Condition	Possible Problem	Solution
Serial x is down, line protocol is down (DTE mode)	The router is not sensing a CD signal (that is, the CD is not active). A telephone company problem has occurred—line is down or is not connected to CSU/DSU. Cabling is faulty or incorrect. Hardware failure has occurred (CSU/DSU).	1. Check the LEDs on the CSU/DSU to see whether the CD is active, or insert a breakout box on the line to check for the CD signal. 2. Verify that you are using the proper cable and interface (see your hardware installation documentation). 3. Insert a breakout box and check all control leads. 4. Contact your leased-line or other carrier service to see whether there is a problem. 5. Swap faulty parts. 6. If you suspect faulty router hardware, change the serial line to another port. If the connection comes up, the previously connected interface has a problem.

Reference: http://www.cisco.com/univercd/cc/td/doc/cisintwk/itg_v1/tr1915.htm

QUESTION NO: 20

Refer to the exhibit. The DHCP settings have recently been changed on the DHCP server and the client is no longer able to reach network resources. What should be done to correct this situation?



- A. Verify that the DNSserver address is correct in the DHCP pool.
- B. Clear all DHCP leases on the router to prevent address conflicts.
- C. Issue the ipconfig command with the /release and /renew options in a command window.
- D. Use the tracert command on the DHCP client to first determine where the problem is located.
- E. Ping the default gateway to populate the ARP cache.

Answer: C

Explanation:

ipconfig is a command line utility available on all versions of Microsoft Windows starting with Windows NT. ipconfig is designed to be run from the Windows command prompt. This utility allows you to get the IP address information of a Windows computer. It also allows some control over active TCP/IP connections. ipconfig is an alternative to the older 'winipcfg' utility. Using the release and renew options will force the PC to try to obtain an IP address again from the DHCP server.

ipconfig /release

This option terminates any active TCP/IP connections on all network adapters and releases those IP addresses for use by other applications. 'ipconfig /release' can be used with specific Windows connection names. In this case, the command will affect only the specified connections and not all. The command accepts either full connection names or wildcard names.

ipconfig /renew

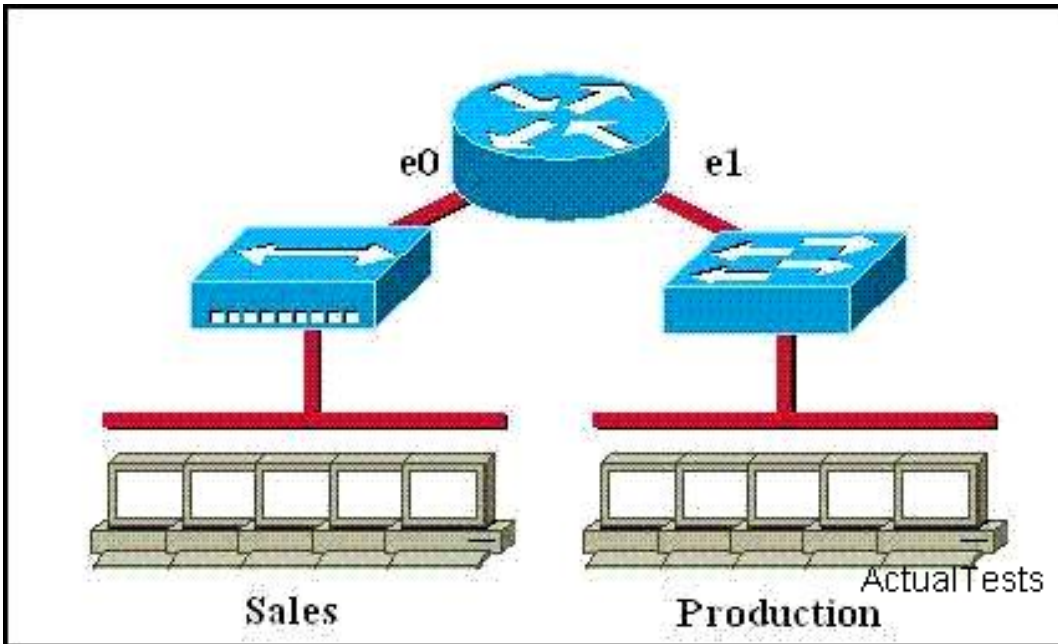
This option re-establishes TCP/IP connections on all network adapters. As with the release option, ipconfig /renew takes an optional connection name specifier.

Both /renew and /release options only work on clients configured for dynamic (DHCP) addressing.

Reference: <http://compnetworking.about.com/od/workingwithipaddresses/a/ipconfig.htm>

QUESTION NO: 21

Which of the following statements describe the network shown in the graphic? (Choose two.)



- A. There are two broadcast domains in the network.
- B. There are five collision domains in the network.
- C. There are four broadcast domains in the network.
- D. There are four collision domains in the network.
- E. There are seven collision domains in the network.
- F. There are six broadcast domains in the network.

Answer: A,E

Explanation:

HUB is in itself a broadcast domain, a collision domain.

Switch is a broadcast domain, each interface being a collision domain

Each interface of Router is a broadcast domain.

So in this graphic,

Broadcast domains are:

Both E0 and E1 interface of Router are broadcast domain.

Collision domains are:

1. The HUB connected to Router E0 interface is a collision domain.
2. The Switch connected to Router E1 interface has a collision domain.
3. Five pc are connected to the Switch separately, so there are five collision domains.

QUESTION NO: 22

From where does a small network get its IP network address?

- A. Internet Architecture Board (IAB)
- B. Internet Assigned Numbers Authority (IANA)
- C. Internet Domain Name Registry (IDNR)

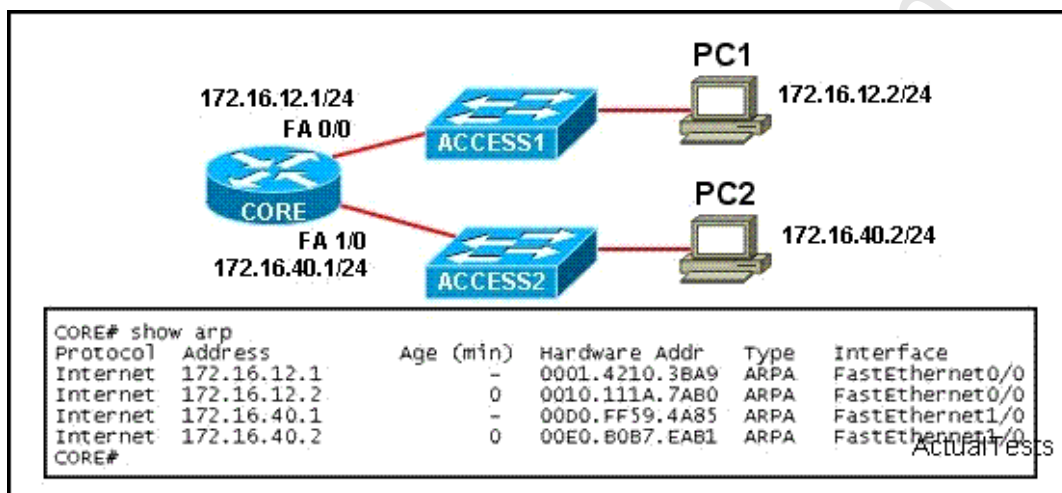
D. Internet Service Provider (ISP)

Answer: D**Explanation:**

Normally a small network will be assigned a number of IP addresses from their ISP, or in some cases, such as DSL and cable modem, a single dynamic IP address will be assigned by the ISP. Only very large networks requiring a large IP block (normally more than a /20) will register with IANA, RIPE, or ARIN (American Registry of Internet Numbers) to obtain their IP addresses.

QUESTION NO: 23

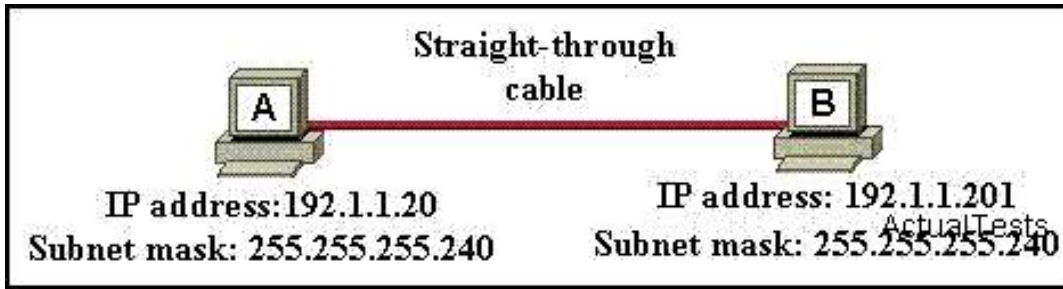
Refer to the exhibit. PC1 pings PC2. What three things will CORE router do with the data that is received from PC1? (Choose three.)



- A. CORE router will place the MAC address of PC2 in the destination MAC address of the frames.
- B. CORE router will replace the destination IP address of the packets with the IP address of PC2.
- C. CORE router will put the MAC address of the forwarding FastEthernet interface in the place of the source MAC address.
- D. CORE router will put the IP address of the forwarding FastEthernet interface in the place of the source IP address in the packets.
- E. The data frames will be forwarded out interface FastEthernet0/1 of CORE router.
- F. The data frames will be forwarded out interface FastEthernet1/0 of CORE router.

Answer: A,C,F**QUESTION NO: 24**

A network administrator is connecting PC hosts A and B directly through their Ethernet interfaces as shown in the graphic. Ping attempts between the hosts are unsuccessful. What can be done to provide connectivity between the hosts? (Choose two.)



- A. A rollover cable should be used in place of the straight-through cable
- B. The subnet masks should be set to 255.255.255.0.
- C. A crossover cable should be used in place of the straight-through cable.
- D. The hosts must be reconfigured to use private IP addresses for direct connections of this type.
- E. A default gateway needs to be set on each host.
- F. The subnet masks should be set to 255.255.255.192.

Answer: B,C

Explanation:

This problem is due to the misconfiguration of subnet mask as well as the fact that a straight-through cable is used to connect the two devices. To ensure connectivity, the correct subnet mask needs to be used so that the two devices are in the same subnet and when connecting two PC's back to back a crossover cable should be used.

QUESTION NO: 25

What are two recommended ways of protecting network device configuration files from outside network security threats? (Choose two.)

- A. Use a firewall to restrict access from the outside to the network devices.
- B. Always use Telnet to access the device command line because its data is automatically encrypted.
- C. Prevent the loss of passwords by disabling password encryption.
- D. Allow unrestricted access to the console or VTY ports.
- E. Use SSH or another encrypted and authenticated transport to access device configurations.

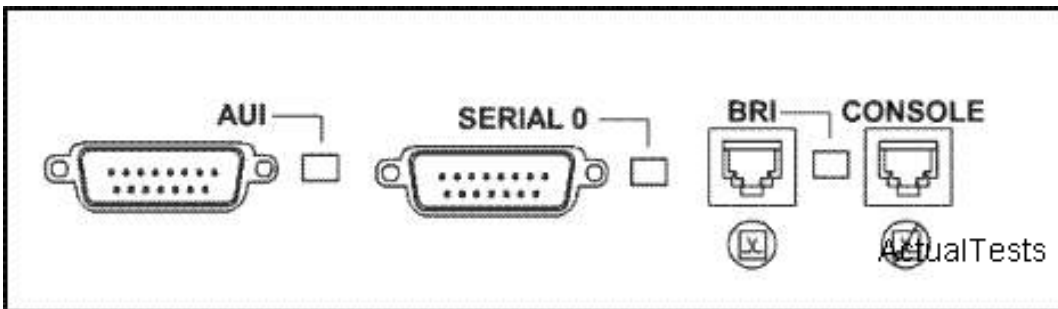
Answer: A,E

Explanation:

Whenever the trusted (inside) part of the network connects to an untrusted (outside, or internet) network, the use of a firewall should be implemented to ensure only legitimate traffic is allowed within the enterprise. SSH is a secure alternative to telnet that encrypts the traffic so that data carried within can not be "sniffed." It is always recommended to use SSH over telnet whenever possible.

QUESTION NO: 26

This graphic shows some common router ports. Which port can be used for a WAN T1 connection?



- A. BRI
- B. Console
- C. Serial 0
- D. AUI

Answer: C

Explanation:

Serial is usually used when connecting router and WAN.

From the choices above, only the serial connection can be used for a data T1. In this case, the serial interface would connect to an external CSU/DSU.

QUESTION NO: 27

Which two statements best describe the wireless security standard that is defined by WPA? (Choose two.)

- A. It specifies use of a static encryption key that must be changed frequently to enhance security.
- B. It specifies the use of dynamic encryption keys that change each time a client establishes a connection.
- C. It requires that all access points and wireless devices use the same encryption key.
- D. It includes authentication by PSK.
- E. It requires use of an open authentication method.

Answer: B,D

Explanation:

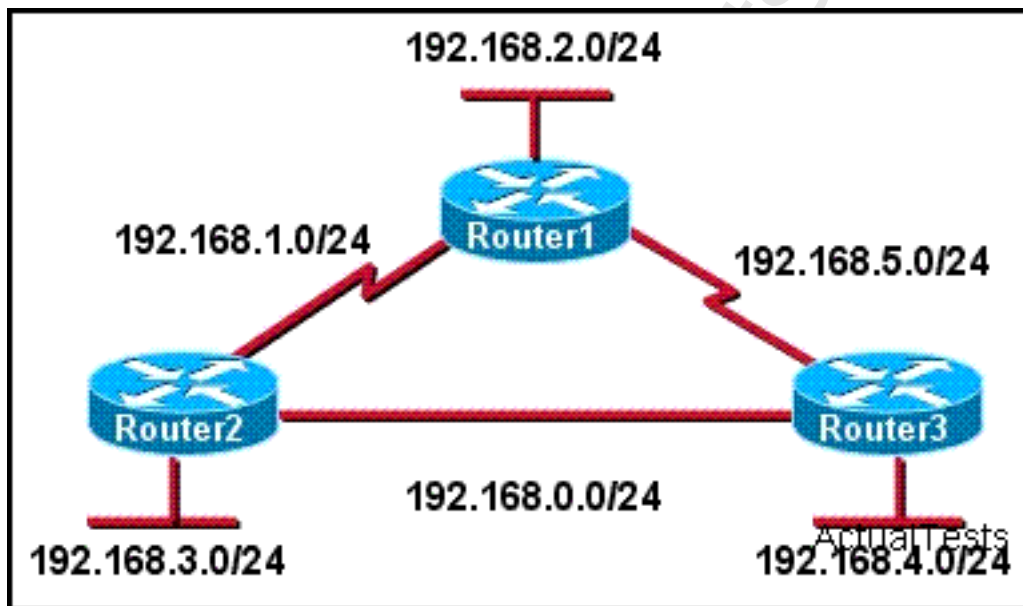
WPA is a more powerful security technology for Wi-Fi networks than WEP. It provides strong data protection by using encryption as well as strong access controls and user authentication. WPA utilizes 128-bit encryption keys and dynamic session keys to ensure your wireless network's privacy and enterprise security. There are two basic forms of WPA: WPA Enterprise (requires a

Radius server) WPA Personal (also known as WPA-PSK) Either can use TKIP or AES for encryption. Not all WPA hardware supports AES. WPA-PSK is basically an authentication mechanism in which users provide some form of credentials to verify that they should be allowed access to a network. This requires a single password entered into each WLAN node (Access Points, Wireless Routers, client adapters, bridges). As long as the passwords match, a client will be granted access to a WLAN. Encryption mechanisms used for WPA and WPA-PSK are the same. The only difference between the two is in WPA-PSK, authentication is reduced to a simple common password, instead of user-specific credentials. The Pre-Shared Key (PSK) mode of WPA is considered vulnerable to the same risks as any other shared password system - dictionary attacks for example. Another issue may be key management difficulties such as removing a user once access has been granted where the key is shared among multiple users, not likely in a home environment.

Reference: http://www.dslreports.com/faq/wifisecurity/2.2_WPA

QUESTION NO: 28

Refer to the exhibit. Router1 and Router3 are already configured with RIPv2. What are the minimum network commands that are required on Router2 for all networks to converge?



- A. (config-router)# network 192.168.0.0
- B. (config-router)# network 192.168.0.0
(config-router)# network 192.168.1.0
(config-router)# network 192.168.3.0
- C. (config-router)# network 192.168.0.0
(config-router)# network 192.168.1.0
- D. (config-router)# network 192.168.2.0
(config-router)# network 192.168.3.0
(config-router)# network 192.168.4.0

Answer: B

QUESTION NO: 29

What are two advantages of Layer 2 Ethernet switches over hubs? (Choose two.)

- A. increasing the size of broadcast domains
- B. allowing simultaneous frame transmissions
- C. filtering frames based on MAC addresses
- D. increasing the maximum length of UTP cabling between devices
- E. decreasing the number of collision domains

Answer: B,C

Explanation:

The advantages of Layer 2 switches over hub are: switch allows not only simultaneous frame transmissions, data amplification and modification, but can also filter frames and fragments.

QUESTION NO: 30

Which two statements describe the IP address 10.16.3.65/23? (Choose two.)

- A. The last valid host address in the subnet is 10.16.2.254 255.255.254.0
- B. The broadcast address of the subnet is 10.16.3.255 255.255.254.0.
- C. The lowest host address in the subnet is 10.16.2.1 255.255.254.0.
- D. The subnet address is 10.16.3.0 255.255.254.0.
- E. The network is not subnetted.

Answer: B,C

Explanation:

A subnet mask of /23 translates to 255.255.254.0 and will provide for up to 512 IP addresses. If we take the 10.16.X.X network using the /23 subnet mask, the first network available is 10.16.0.0/23, which will provide host address from 10.16.0.1 to 10.16.2.254, with 10.16.2.255 being the broadcast address. The next available network in the 10.16.X.X covers our example in this question of 10.16.3.66.

In this case, the first useable IP address is (10.16.2.1 choice E), and the broadcast address is 10.16.3.255 (choice A).

In closing, the partial reference table on IPv4 subnets:

CIDR | Net mask | Addresses

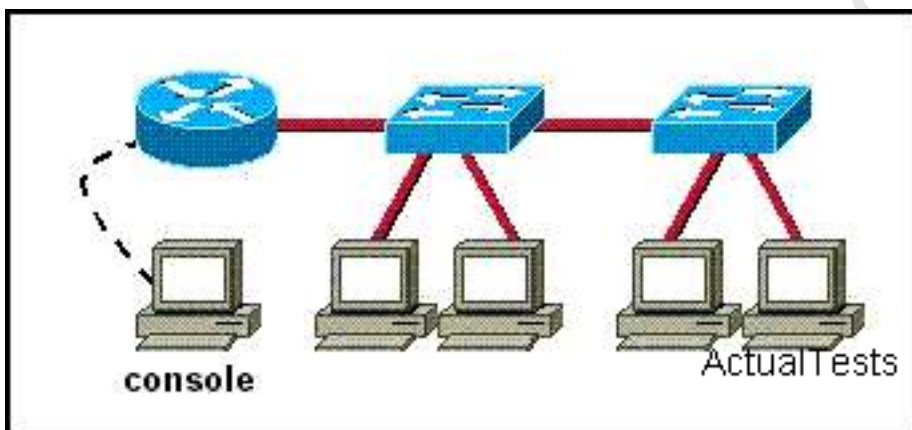
-----+-----+-----

/ 18 | 255.255.192.0 | 16384

/ 19 | 255.255.224.0 | 8192
/ 20 | 255.255.240.0 | 4096
/ 21 | 255.255.248.0 | 2048
/ 22 | 255.255.252.0 | 1024
/ 23 | 255.255.254.0 | 512
/ 24 | 255.255.255.0 | 256
/ 25 | 255.255.255.128 | 128
/ 26 | 255.255.255.192 | 64
/ 27 | 255.255.255.224 | 32
/ 28 | 255.255.255.240 | 16

QUESTION NO: 31

Which types of cables are required to interconnect the devices shown in the graphic? (Choose three.)



- A. straight-through cable
- B. crossover cable
- C. USB cable
- D. RJ-11 cable
- E. rollover cable
- F. V.35 cable

Answer: A,B,E

Explanation:

Straight-through cables are used to connect routers and switches; crossover cables are used to connect switches; Straight-through cables are used to connect hosts and switches; and rollover cables are used to connect hosts and consols .

Crossover Cables are used to Connect:
Host to Host (Peer to Peer) Networking

Switch to Switch

Hub to Hub

Computer to Router's Ethernet Port

Straight through Cable are used for:

Host to Switch

Host to Hub

Switch to Router

Serial Cables are for:

Router's Serial Port to Serial Port

Rollover Cable:

To connect Router/Switch Console port.

In this example, one switch is connected with another switch using a crossover cable. The switch connected with the router uses a straight through cable and the PC Connects to the router's console port using the console rollover cable.

QUESTION NO: 32

A network administrator is having difficulty in establishing a serial link between a Cisco router and a router from another vendor. Both routers are configured for HDLC encapsulation. Which statements are true regarding this configuration? (Choose two.)

- A. There is a mismatch in the HDLC authentication password configurations.
- B. PPP encapsulation is recommended for serial links between equipment from multiple vendors.
- C. The HDLC vendor type must be enabled on the Cisco router.
- D. Usernames must be configured at both ends of the HDLC serial link
- E. The Cisco HDLC frame uses a proprietary "Type" field that may not be compatible with equipment of other vendors.
- F. HDLC requires a clock rate to be configured on the routers at both ends of the serial link.

Answer: B,E

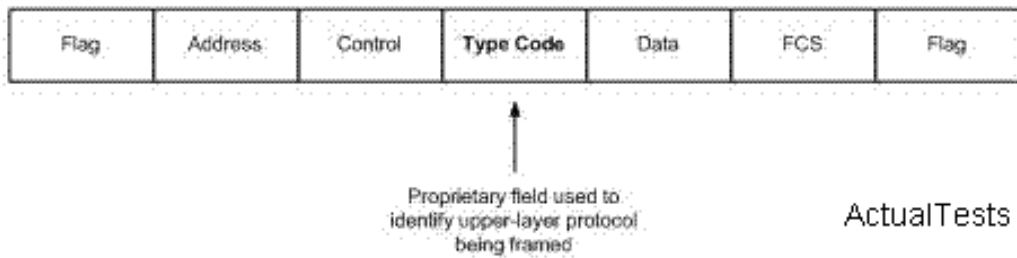
Explanation:

The High Level Data Link Control protocol (HDLC) is the default encapsulation used on the synchronous serial interfaces of a Cisco router.

HDLC is a Data Link layer protocol used to encapsulate and transmit packets over point-to-point links. It handles the transfer of data in full duplex, as well as link management functions. As an OSI standard, many vendors implement the HDLC protocol in their equipment. Unfortunately, these implementations are usually not interoperable. The reason is that when the HDLC frame format was defined, it did not include a field to identify the Network layer protocol that it was framing. As such, the OSI version of HDLC assumes that any link using HDLC is running only a single Network layer protocol like IP. Of course, many networks run IP, IPX, and other Layer 3

protocols simultaneously. This has led vendors (including Cisco) to implement HDLC using a proprietary frame format that includes a type code field, thus allowing the Network layer protocol within a frame to be properly identified.

The Cisco HDLC frame is illustrated in the figure below.

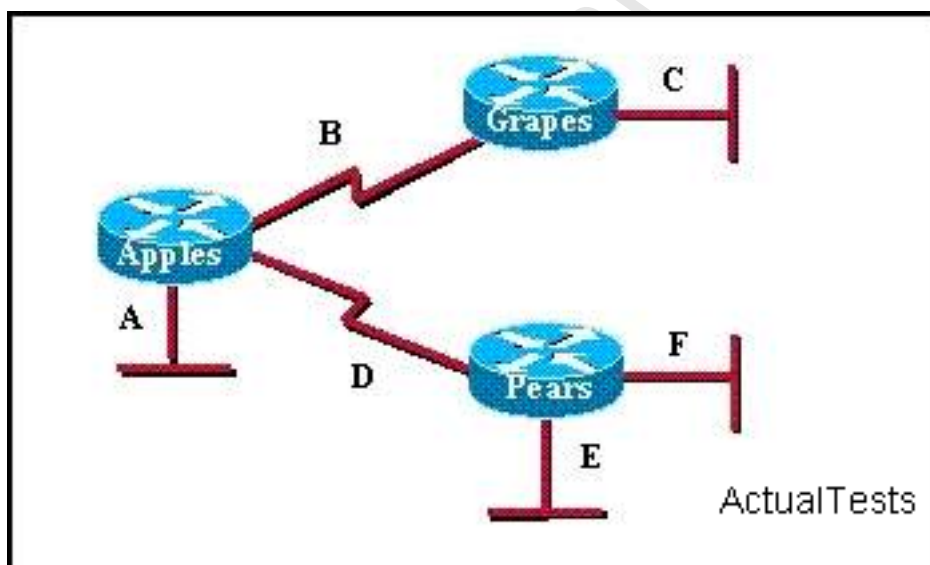


Because of the proprietary nature of vendor HDLC implementations, you should only use HDLC framing on point-to-point links when the router at each end of a link is from the same vendor. In cases where you want to connect equipment from different vendors over a leased line, the Point-to-Point Protocol (PPP) should be used. Always remember that the router on both sides of a point-to-point link must be using the same data framing method in order to communicate.

Reference: <http://www.2000trainers.com/cisco-ccna-11/ccna-hdlc/>

QUESTION NO: 33

The RIP network shown in the graphic has been fully operational for two days. Each routing table is complete. Which networks will be included in the next routing update from the Apples router to the Pears router?



- A. B,D
- B. A,C
- C. A,B,C,D,E,F
- D. A,B,C,D
- E. D,E,F

F. A,B,C

Answer: F**Explanation:**

This is something about RIP route updating. RIP router will send out route updating every 30 seconds (updating contains the whole router). When time for update comes, RIP node will generate a series of package containing the entire routing table. These packages will broadcast to every neighbor node. Thus every RIP router will receive update from neighbor RIP node every 30 seconds. So the above Grapes will learn about the routing update between A and F through node Apple.

QUESTION NO: 34 DRAG DROP

Drop

Match the command on the left with its use on the right. (Not all options are used.)

R1# copy flash tftp

replace the IOS image

R1# copy tftp flash

backup the current IOS image

R1# copy flash running-config

make a backup copy of the configuration in RAM

R1# copy running-config tftp

make the configuration in RAM the configuration the router will use on startup

R1# copy tftp running-config

merge a backup configuration with the configuration in RAM

R1# copy running-config startup-config

ActualTests

Answer:

Match the command on the left with its use on the right. (Not all options are used.)

R1# copy flash tftp

R1# copy tftp flash

R1# copy tftp flash

R1# copy flash tftp

R1# copy flash running-config

R1# copy running-config tftp

R1# copy running-config tftp

R1# copy running-config startup-config

R1# copy tftp running-config

R1# copy tftp running-config

R1# copy running-config startup-config

ActualTests

Explanation:

Answer :

Match the command on the left with its use on the right. (Not all options are used.)

R1# copy flash tftp

R1# copy tftp flash

R1# copy flash running-config

R1# copy running-config tftp

R1# copy tftp running-config

R1# copy running-config startup-config

R1# copy tftp flash

R1# copy flash tftp

R1# copy running-config tftp

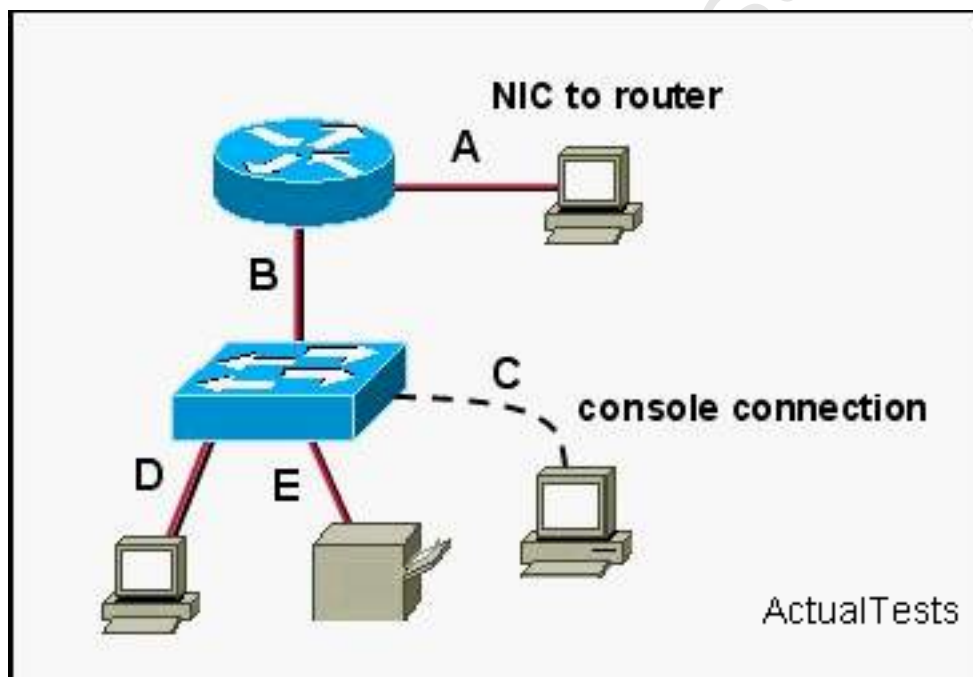
R1# copy running-config startup-config

R1# copy tftp running-config

ActualTests

QUESTION NO: 35

Refer to the exhibit. What types of cables are recommended to make the connections that are shown?



- A. A-rollover
- B-straight-through
- C-straight-through
- D-rollover
- E-crossover
- B. A-straight-through
- B-straight-through

C-rollover
D-straight-through
E-straight-through
C. A-crossover
B-straight-through
C-rollover
D-straight-through
E-straight-through
D. A-straight-through
B-crossover
C-rollover
D-straight-through
E-straight-through
E. A-crossover
B-straight-through
C-crossover
D-straight-through
E-crossover

Answer: C

Explanation:

Crossover Cables are Used to Connect :

Host to Host (Peer to Peer) Networking

Switch to Switch

Hub to Hub

Computer to Router's Ethernet Port

Straight through Cable:

Host to Switch

Host to Hub

Switch to Router

Serial Cable:

Router's Serial Port to Serial Port

Rollover Cable :

To connect Router/ Switch Console port.

QUESTION NO: 36

What are two characteristics of Telnet? (Choose two.)

A. It is more secure than SSH.

- B. It requires that the destination device be configured to support Telnet connections.
- C. It requires an enterprise license in order to be implemented.
- D. It is no longer supported on Cisco network devices.
- E. It sends data in clear text format.

Answer: B,E

QUESTION NO: 37

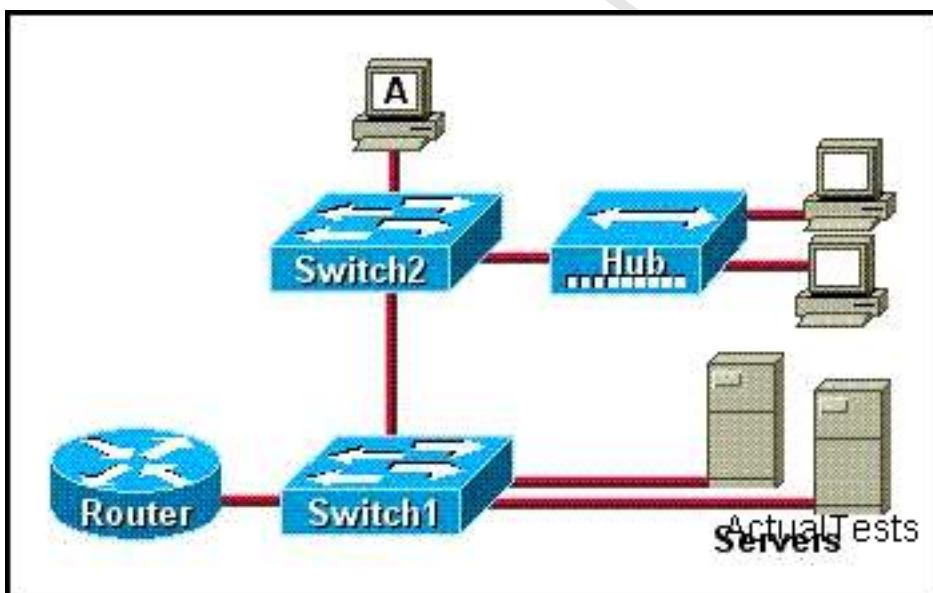
Which command is used on a Cisco router to reach the global configuration mode?

- A. Router# configure terminal
- B. Router# setup
- C. Router> enable
- D. Router# interface
- E. Router# router

Answer: A

QUESTION NO: 38

Refer to the exhibit. Host A has been added to the network. Which type of cable should be used between Switch2 and host A?



- A. straight-through cable
- B. crossover cable
- C. rollover cable
- D. console cable

Answer: A

Explanation:

Straight-through cables are used to connect hosts to a switch (or hub) and routers to a switch (or hub). See the table below:

	Hub	Switch	Router	Workstation
Hub	Crossover	Crossover	Straight	Straight
Switch	Crossover	Crossover	Straight	Straight
Router	Straight	Straight	Crossover	Crossover
Workstation	Straight	Straight	Crossover	Crossover

QUESTION NO: 39

The router console screen is rapidly displaying line after line of output similar to what is shown in the exhibit. The help desk has called to say that users are reporting a slowdown in the network. What will solve this problem while not interrupting network operation?

```
00:34:43: RIP: received v1 update from 192.168.11.2 on Serial0/0
00:34:43:      192.168.12.0 in 1 hops
00:34:43: RIP: Update contains 1 routes
00:34:50: Serial0/0: HDLC myseq 179, mineseen 179*, yourseen 180, line up
00:35:00: Serial0/0: HDLC myseq 180, mineseen 180*, yourseen 181, line up
00:35:00: IP: s=192.168.11.1 (local), d=192.168.11.2 (Serial0/0), len 50, sending
00:35:00: IP: s=192.168.11.2 (Serial0/0), d=192.168.11.1 (Serial0/0), len 40, rcvd 3
00:35:00: tcp2: I ESTAB 192.168.11.2:11003 192.168.11.1:23 seq 4063973382
      ACK 4061200175 WIN 4049
```

- A. Enter the no debug all command.
- B. Save the configuration and reboot the router.
- C. Enter the terminal monitor command.
- D. Use the show processes command.
- E. Press the CTRL+C keys.

Answer: A

Explanation:

The output shown in this example is a result of one or more debug commands that have been used to troubleshoot an issue. Using debug commands might slow down traffic on busy networks. To see the current debug command settings, enter the show debug command. To stop the debug output, enter the no debug command. To stop all debug messages from being displayed, enter the no debug all command.

QUESTION NO: 40

Refer to the exhibit. After configuring two interfaces on the HQ router, the network administrator notices an error message. What must be done to fix this error?

```
HQ# configure terminal
HQ(config)# interface fastethernet 0/0
HQ(config-if)# ip address 192.168.1.17 255.255.255.0
HQ(config-if)# no shutdown
HQ(config-if)# interface serial 0/0
HQ(config-if)# ip address 192.168.1.65 255.255.255.240
HQ(config-if)# no shutdown
% 192.168.1.0 overlaps with FastEthernet0/0 ActualTests
```

- A. The serial interface must be configured first.
- B. The serial interface must use the address 192.168.1.2.
- C. The subnet mask of the serial interface should be changed to 255.255.255.0.
- D. The address of the FastEthernet interface should be changed to 192.168.1.66.
- E. The subnet mask of the FastEthernet interface should be changed to 255.255.255.240.

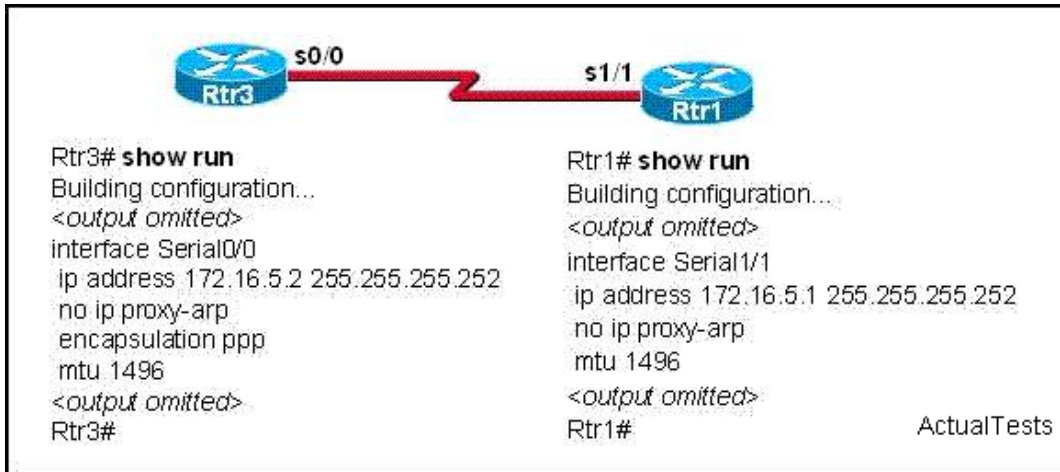
Answer: E

Explanation:

Cisco routers will not allow you to configure two interfaces that belong to the same IP subnet. In this case, by giving the serial 0/0 interface an IP address of 192.168.1.65, it would belong to this /28 subnet but it would also belong to the 192.168.1.17/24 subnet. You need to ensure that two interfaces are given IP addresses and subnet masks so that they belong to different subnets, and given the options only the option of changing the mask of the FE interface to an /28 will accomplish this.

QUESTION NO: 41

Refer to the exhibit. A network administrator is troubleshooting a connectivity problem on the serial interfaces. The output from the show interfaces command on both routers shows that the serial interface is up, line protocol is down. Given the partial output for the show running-config in the exhibit, what is the most likely cause of this problem?



- A. The MTU is incorrectly configured.
- B. The IP addresses are not in the same subnet.
- C. The Layer 2 framing is misconfigured.
- D. The serial cable is bad.

Answer: C

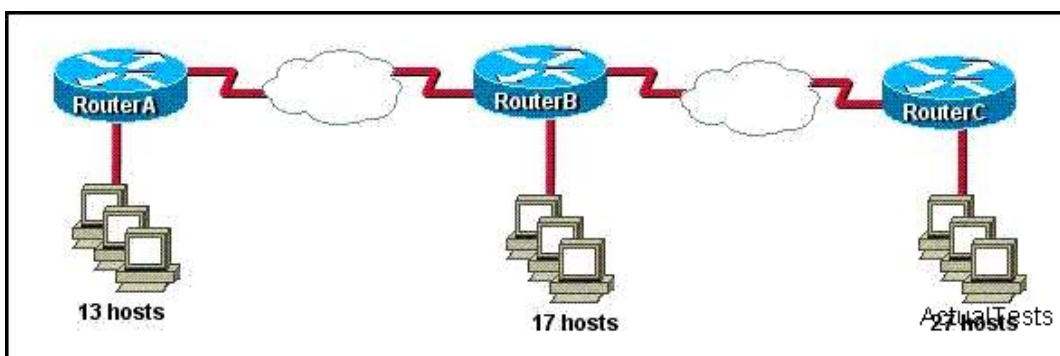
Explanation:

HDLC and PPP are layer 2 protocols. HDLC is actually the default protocol on all Cisco serial interfaces. If you do a show running- config on a Cisco router, your serial interfaces (by default) won't have any encapsulation. This is because they are configured to the default of HDLC. If you do a show interface serial 0/0, you'll see that you are running HDLC. This is the case with router Rtr1, as the default encapsulation is used.

In router Rtr3, we see that the serial interface has been set to use PPP. Since both sides of a point to point circuit must match, the layer 2 framing is the most likely cause of the problem.

QUESTION NO: 42

Refer to the exhibit. The internetwork is using subnets of the address 192.168.1.0 with a subnet mask of 255.255.255.224. The routing protocol in use is RIP version 1. Which address could be assigned to the FastEthernet interface on RouterA?



- A. 192.168.1.31

- B. 192.168.1.64
- C. 192.168.1.127
- D. 192.168.1.190
- E. 192.168.1.192

Answer: D

Explanation:

255.255.255.224 = 1111 1111.1111 1111.1111 1111.11 1 0 0000 (binary form)

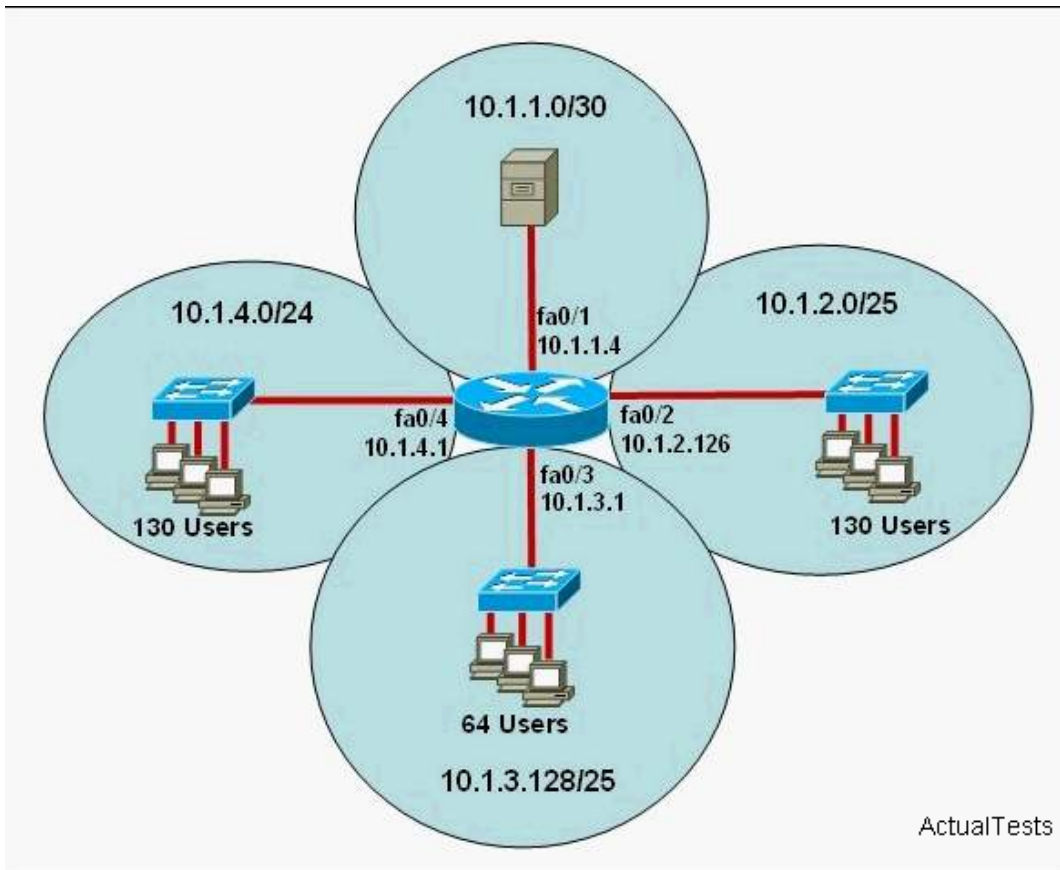
Increment: 32

First subnetwork : 192.168.1.0 -> 192.168.1.31 (A is incorrect because 192.168.1.31 is a broadcast address) Second subnetwork : 192.168.1.32 -> 192.168.1.63 Third subnetwork : 192.168.1.64 -> 192.168.1.95 (B is incorrect because 192.168.1.64 is a network address) Fourth subnetwork : 192.168.1.96 -> 192.168.1.127 (C is incorrect because 192.168.1.127 is a broadcast address) Fifth subnetwork : 192.168.1.128 -> 192.168.1.159 Sixth subnetwork : 192.168.1.160 -> 192.168.1.191 (D is correct because 192.168.1.190 is the last assignable host address of this subnetwork) Seventh subnetwork : 192.168.1.192 -> 192.168.1.224 (E is incorrect because 192.168.1.192 is a network address)

QUESTION NO: 43

Refer to the exhibit. The goal of this network design is to provide the most efficient use of IP address space in a network expansion. Each circle defines a network segment and the number of users required on that segment. An IP subnetwork number and default gateway address are shown for each segment.

What are three problems with the network design as shown? (Choose three.)



ActualTests

- A. Interface fa0/2 has an invalid IP address for the subnet on which it resides.
- B. Interface fa0/1 has an invalid IP address for the subnet on which it resides.
- C. Network 10.1.2.0/25 requires more user address space.
- D. The IP subnet 10.1.1.0/30 is invalid for a segment with a single server.
- E. Network 10.1.3.128/25 requires more user address space.
- F. Interface fa0/3 has an IP address that overlaps with network 10.1.1.0/30.

Answer: B,C,F

Explanation:

- * A /25 will provide for 128 IP addresses (126 usable) so a larger subnet mask should be used. A /24 will provide for up to 254 usable addresses.
- * The 10.1.1.0/30 network will allow for only 2 usable IP addresses. In this network, 10.1.1.0 is reserved for the network address, and 10.1.1.3 is the broadcast address, so only 10.1.1.1 or 10.1.1.2 can be used for the fa0/1 IP address.
- * The 10.1.3.1 IP address is in the 10.1.3.0/25 network, not the 10.1.3.128/25 network. A more appropriate IP address for this interface would be 10.1.3.129

QUESTION NO: 44

WAN data link encapsulation types include which of the following? (Choose two.)

- A. ISDN

- B. T1
- C. Frame Relay
- D. DSL
- E. PPP

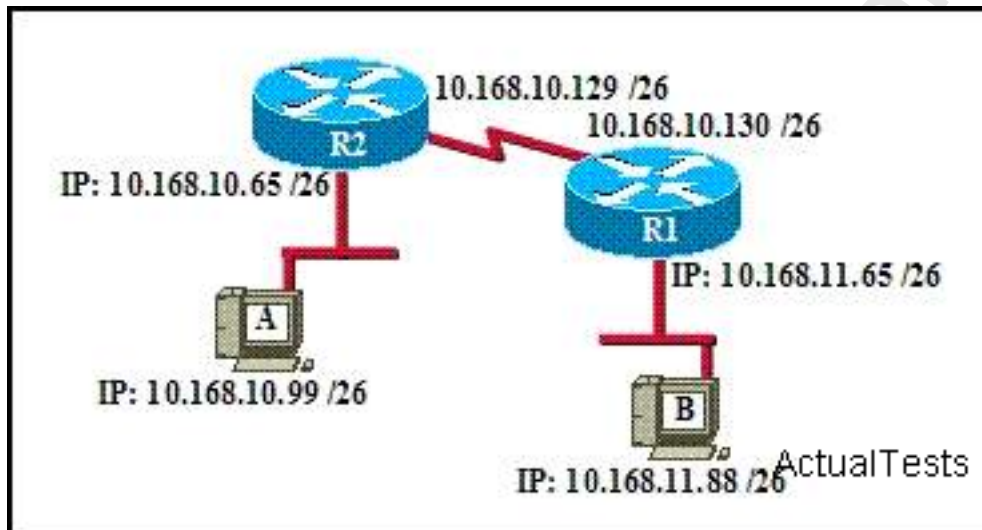
Answer: C,E

Explanation:

WAN supports: frame relay, ISDN?? LAPB ??HDLC??PPP ??and ATM.

QUESTION NO: 45

Refer to the exhibit. Host A has established a communication session with host B for the first time. What enabled R1 to forward this traffic in the appropriate direction to reach the network to which host B is attached?



- A. DNS
- B. TCP/IP
- C. a default gateway
- D. DHCP
- E. a Layer 4 protocol
- F. a routing protocol

Answer: F

Explanation:

Routing is the process of selecting paths in a network along which to send data or physical traffic. In order for routers to know how to forward traffic to the correct destinations located on other IP networks, a routing protocol must be enabled, either via the use of a dynamic routing protocol such as RIP or EIGRP, or through the use of static routes.

QUESTION NO: 46

The command `ip route 192.168.100.160 255.255.255.224 192.168.10.2 20` was issued on a router. No routing protocols or other static routes are configured on the router. Which statement is true about this command?

- A. The interface with IP address 192.168.10.2 is on this router.
- B. The number 20 indicates the number of hops to the destination network.
- C. Packets that are destined for host 192.168.100.190 will be sent to 192.168.10.2.
- D. The command sets a gateway of last resort for the router.
- E. The command creates a static route for all IP traffic with the source address 192.168.100.180.

Answer: C

QUESTION NO: 47

Which command will set the default gateway to 192.168.12.1 on a Cisco switch?

- A. `Switch(config)# ip route 192.168.12.1 0.0.0.0`
- B. `Switch(config)# ip route-default 192.168.12.1`
- C. `Switch(config)# ip default-network 192.168.12.1`
- D. `Switch(config)# ip default-gateway 192.168.12.1`

Answer: D

QUESTION NO: 48

Which two practices help secure the configuration utilities on wireless access points from unauthorized access? (Choose two.)

- A. configuring traffic filtering
- B. changing the default SSID value
- C. configuring a new administrator password
- D. changing the mixed mode setting to single mode
- E. assigning a private IP address to the AP

Answer: B,C

QUESTION NO: 49

What two actions must a router take in order to route incoming packets? (Choose two.)

- A. Identify the destination network address of each packet.
- B. Inspect the routing table to select the best path to the destination network address.
- C. Inspect the ARP table to verify a legitimate source MAC address for each packet.
- D. Verify the receipt of routed packets by the next hop router.
- E. Validate sources of routing information.
- F. Identify the source network address of each packet.

Answer: A,B

Explanation:

Router will inspect the routing table to select source network and destination network when transmitting data among routers.

The router decides how to forward an incoming packet by finding the routes that "match" the destination address of the packet, and then forwarding it according to the most narrowly applicable one. A packet matches a route in the following way: a packet has (among other things) a destination address in its header, a route contains either a network or a host address, a network mask (netmask), and instructions on how to forward a packet using the route. The packet matches the route if its destination address is part of the address subspace defined by the network address or exactly matches the host address of the route. A route is more narrowly applicable than another if the address subspace defined by its network address contains fewer actual addresses than the other, which is indicated by the netmask . An entry with a host address, rather than a network address, is the narrowest kind.

QUESTION NO: 50

What is the purpose of a default route?

- A. It is a route manually configured for a specific remote network for which a routing protocol is not configured.
- B. It is used to send traffic to a stub network.
- C. It is a route to be used when the routing protocol fails.
- D. It is a route configured by an ISP that sends traffic into a corporate network.
- E. It is a route used when a packet is destined for a remote network that is not listed in the routing table.

Answer: E

Explanation:

Default route is a special static route. When a package is sent to remote route, but the destined address is not listed in the routing table, default route should be configured so that route can choose the right route.

Every IP host needs to have a default route either manually configured or dynamically learned. Default routes provide end hosts a way out of their local subnet and routers with a router of last resort if no other route (specifically relating to the destination) exists in the routers route table. Routers use default routing as a last resort when all other methods (directly connected, static, or dynamic) have been exhausted. Routers inspect received datagrams to identify the logical Network layer address of the ultimate destination. If a directly connected static or dynamic route exists within the router's route table, it forwards the datagram.

If the destination remains unknown, that is, no method of routing has resulted in a learned route; it forces the router to use a default route. Typically, administrators implement default routes on point-to-point (a link with only two routers) or dial-up connections, linking certpaper.com's network to the outside work.

Reference: <http://www.informit.com/articles/article.asp?p=26129&seqNum=4&rl=1>

QUESTION NO: 51

Refer to the exhibit. SwitchA receives the frame with the addressing shown. According to the command output also shown in the exhibit, how will SwitchA handle this frame?

SwitchA# **show mac-address-table**
 < non-essential output omitted >

Destination Address	Address Type	VLAN	Destination Port
00b0.d056.fe4d	Dynamic	1	FastEthernet0/3
00b0.d043.ac2e	Dynamic	1	FastEthernet0/4
00b0.d0fe.ac32	Dynamic	1	FastEthernet0/5
00b0.d0da.cb56	Dynamic	1	FastEthernet0/6

Frame received by SwitchA:

Source MAC	Destination MAC	Source IP	Destination IP
00b0.d056.fe4d	00b0.d0da.895a	192.168.40.5	192.168.40.6

- A. It will forward the frame out port Fa0/3 only.
- B. It will flood the frame out all ports except Fa0/3.
- C. It will drop the frame.
- D. It will flood the frame out all ports.

Answer: B

Explanation:

Switch 1 receives the frame with the source MAC being 00b0.d056.fe4d, destination MAC being 00b0.d0da.895a. Check its MAC addressing table, and finds that the MAC address is not existed in MAC addressing table. When switch receives unknown uni -cast, group-cast and broadcast, it will flood the frame out all ports except the port that receives data. Thus in this case, Switch 1 will flood the frame out all ports except Fa0/3.

Switches learn the MAC addresses of PCs or workstations that are connected to their switch ports by examining the source address of frames that are received on that port.

Machines may have been removed from a port, turned off, or moved to another port on the same switch or a different switch.

This could cause confusion in frame forwarding.

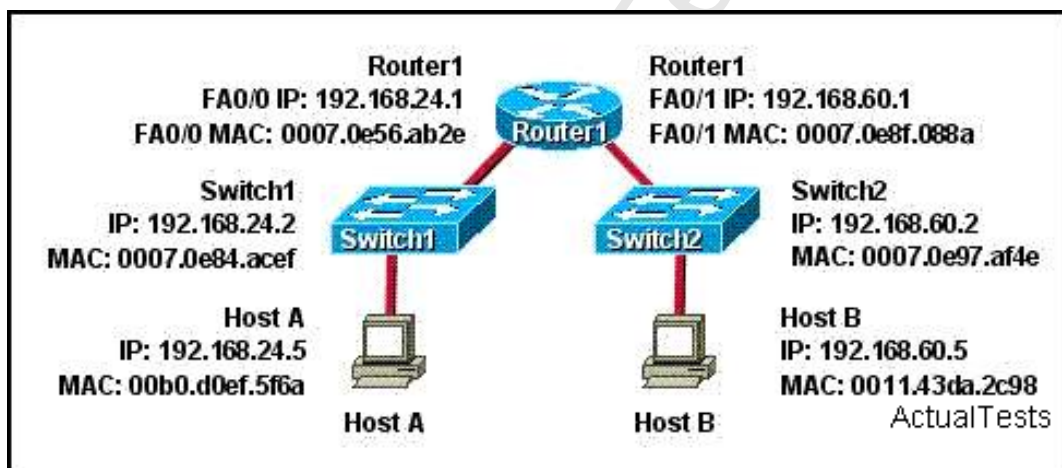
The MAC address entry is automatically discarded or aged out after 300 seconds

If there is not MAC address of destination host in MAC table, switch sends broadcast to all ports except the source to find out the destination host.

In the output there is no MAC address of the given host so the switch will flood to all ports except the source port, which is port fa 0/3.

QUESTION NO: 52

Refer to the exhibit. Host A needs to send data to Host B. Which Layer 2 and Layer 3 destination addresses will be used to send the data from Host A to Host B?



- A. 192.168.24.1 and 0007.0e56.ab2e
- B. 192.168.60.5 and 0011.43da.2c98
- C. 192.168.24.2 and 0007.0e84.acef
- D. 192.168.60.5 and 0007.0e56.ab2e

Answer: D

Explanation:

First let's look at the sending process: Host A send: source ip : 192.168.24.5, destination ip : 192.168.60.5 , Source mac:00b0.doef.5f6a , destination mac : 0007.0e56.ab2e, Switch1 receives

and look for mac table, no modification occurs, and data is sent to Router 1. Router 1 then sends: source ip 192.168.24.5, destination ip : 192.168.60.5 ??Source mac : 0007.0e8f.088a, destination mac:0011.43da.2c98.

When packets leave from the host, the packets contains the source MAC and IP of the host address. The source and destination IP address will not change. Because the host knows that the destination is on another subnet, it will forward the packet to the default gateway device, so the destination MAC address will be of the default gateway, which is the FA0/0 interface of router 1.

QUESTION NO: 53

A single 802.11g access point has been configured and installed in the center of a square office. A few wireless users are experiencing slow performance and drops while most users are operating at peak efficiency. What are three likely causes of this problem? (Choose three.)

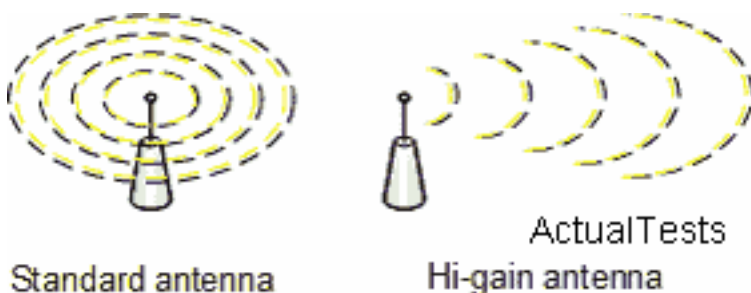
- A. antenna type or direction
- B. cordless phones
- C. mismatched SSID
- D. metal file cabinets
- E. null SSID
- F. mismatched TKIP encryption

Answer: A,B,D

Explanation:

* If you have cordless phones or other wireless electronics in your home or office, your computer might not be able to "hear" your router over the noise from the other wireless devices. To quiet the noise, avoid wireless electronics that use the 2.8GHz frequency. Instead, look for cordless phones that use the 5.8GHz or 900MHz frequencies.

* The antennas supplied with your router are designed to be omni-directional, meaning they broadcast in all directions around the router. If your router is near an outside wall, half of the wireless signals will be sent outside your office, and much of your router's power will be wasted.

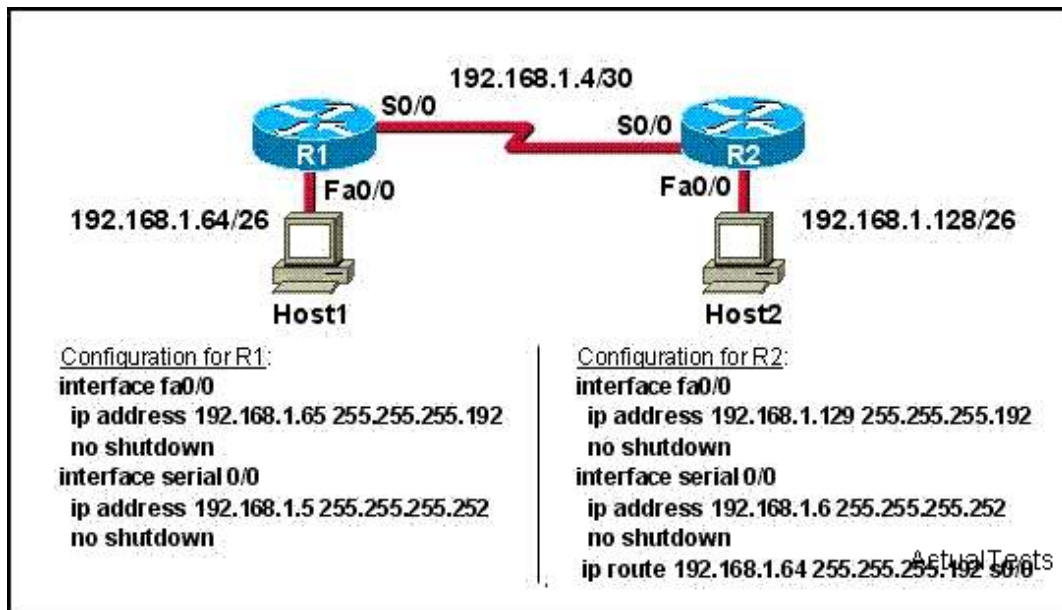


Since most users operate at peak efficiency in our example, it could be that a few of the users are simply placed too far from the antenna, or the antenna is not placed in the center of the office.

* Metal, walls, and floors will interfere with your router's wireless signals. The closer your router is to these obstructions, the more severe the interference, and the weaker your connection will be.

QUESTION NO: 54

Refer to the exhibit. A technician pastes the configurations in the exhibit into the two new routers shown. Otherwise, the routers are configured with their default configurations. A ping from Host1 to Host2 fails, but the technician is able to ping the S0/0 interface of R2 from Host1. The configurations of the hosts have been verified as correct. What could be the cause of the problem?



- A. The interfaces on R2 are not configured properly.
- B. The IP addressing scheme has overlapping subnetworks.
- C. The serial cable on R1 needs to be replaced.
- D. Theip subnet-zero command must be configured on both routers.
- E. R1 has no route to the 192.168.1.128 network.

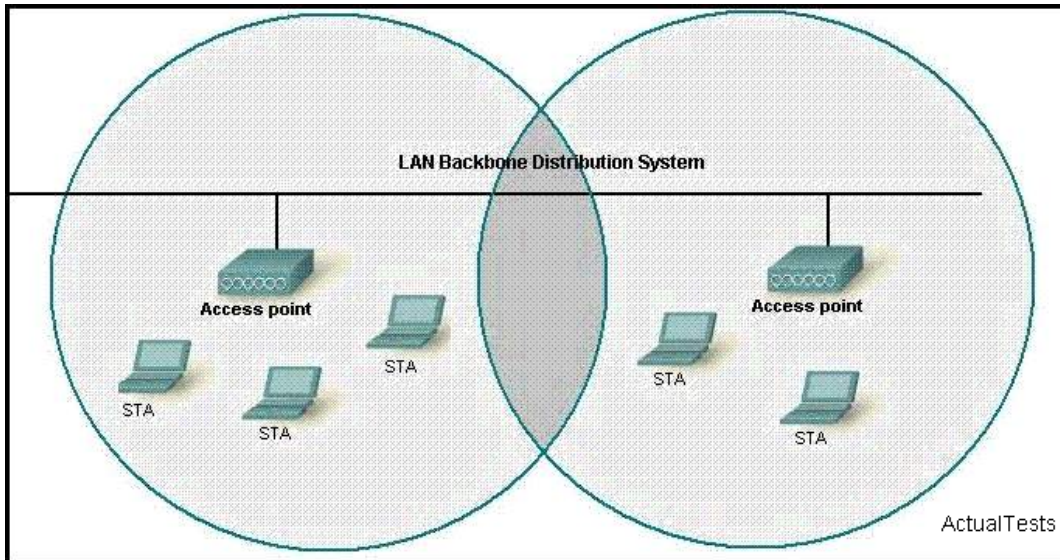
Answer: E

Explanation:

Host 1 fails to ping Host 2, but the technician is able to ping the S0/0 interface of R2, this shows that R1 has no route to the 192.168.1.128 network.

QUESTION NO: 55

Refer to the exhibit. What two facts can be determined from the WLAN diagram? (Choose two.)



- A. The two APs should be configured to operate on different channels.
- B. The area of overlap must be less than 10% of the area to ensure connectivity.
- C. The network diagram represents an extended service set (ESS).
- D. The area of overlap of the two cells represents a basic service set (BSS).
- E. Access points in each cell must be configured to use channel 1.

Answer: A,C

Explanation:

One or more BSS are defined as extended service set (ESS). The area of overlap can be configured to operate on different channels.

QUESTION NO: 56

Refer to the exhibit. Why was this message received?

```
WG1R2#telnet 10.3.1.2
Trying 10.3.1.2 ... Open

Password required, but none set

[Connection to 10.3.1.2 closed by foreign host]
WG1R2#_
```

- A. The login command has not been set on CON 0.
- B. No console password has been set.
- C. No enable secret password has been set.
- D. The login command has not been set on the VTY ports.
- E. No VTY password has been set.
- F. No enable password has been set.

Answer: E

Explanation:

This error is generated due to no telnet being set. For security reasons, the Cisco router will not allow telnet access until a password has been set. You need to set the telnet password using the following example:

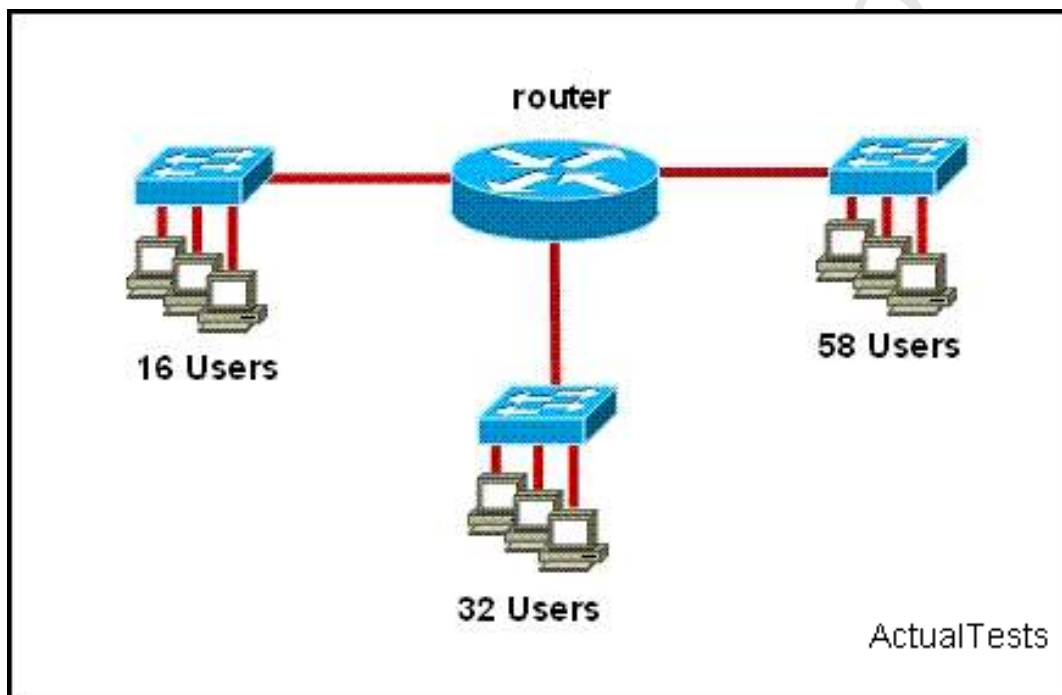
```
Router( config )#line vty 0 4
```

```
Router( config -line)#password telnet
```

```
Router( Config -line)#login
```

QUESTION NO: 57

Refer to the exhibit. The IP address space of 128.107.7.0/24 has been allocated for all devices on this network. All devices must use the same subnet mask and all subnets are usable. Which subnet mask is required to apply the allocated address space to the configuration that is shown?



- A. 255.255.255.0
- B. 255.255.255.224
- C. 255.255.255.128
- D. 255.255.255.192
- E. 255.255.254.0

Answer: D

Explanation:

As it requires that all hosts use the same subnet mask, the maximum number of hosts accommodated would be 58, $58 < 64$, $256 - 64 = 192$, so we need 26 bit subnet mask, i.e. 255.255.255.192. The correct answer is D.

In this example the requirement is that the company needs 3 subnets and at least 58 hosts per subnet. Referring to the following formula we see that 6 bits of subnet masking is needed. With 6 bits used for the subnet portion, we get will get 4 different subnets with 62 usable IP addresses in each. The subnet mask for this /28 network translates to 255.255.255.192.

QUESTION NO: 58

Which statements are true regarding ICMP packets? (Choose two.)

- A. They can provide hosts with information about network problems.
- B. They guarantee datagram delivery.
- C. They are encapsulated within IPdatagrams.
- D. They are encapsulated within UDPdatagrams.
- E. They acknowledge receipt of TCP segments.

Answer: A,C

Explanation:

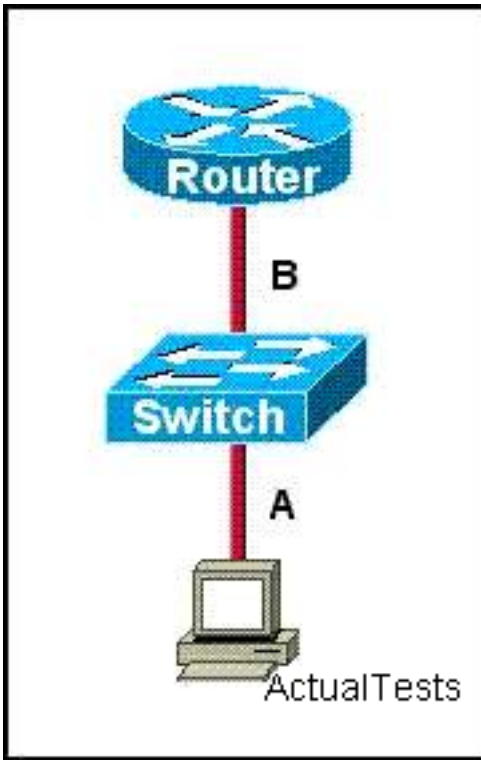
ping may be used to find out whether the local machines are connected to the network or whether a remote site is reachable. This tool is a common network tool for determining the network connectivity which uses ICMP protocol instead of TCP/IP and UDP/IP. This protocol is usually associated with the network management tools which provide network information to network administrators, such as ping and traceroute (the later also uses the UDP/IP protocol).

ICMP is quite different from the TCP/IP and UDP/IP protocols. No source and destination ports are included in its packets. Therefore, usual packet-filtering rules for TCP/IP and UDP/IP are not applicable. Fortunately, a special "signature" known as the packet's Message type is included for denoting the purposes of the ICMP packet. Most commonly used message types are namely, 0, 3, 4, 5, 8, 11, and 12 which represent echo reply, destination unreachable, source quench, redirect, echo request, time exceeded, and parameter problem respectively.

In the ping service, after receiving the ICMP "echo request" packet from the source location, the destination

QUESTION NO: 59

Refer to the exhibit. The two connected ports on the switch are not turning orange or green. What would be the most effective steps to troubleshoot this physical layer problem? (Choose three.)



- A. Ensure the switch has power.
- B. Ensure cable A is plugged into a trunk port.
- C. Reboot all of the devices.
- D. Reseat all cables.
- E. Ensure that cables A and B are straight-through cables.
- F. Ensure that the Ethernet encapsulations match on the interconnected router and switch ports.

Answer: A,D,E

Explanation:

When troubles occur on switches, we usually first check the connectivity of the physical layer, because the connection of host/router and switches needs straight-through cables. Then test whether the switch can work. And finally reset all cables to ensure flowing of cables.

So the answer would be B, D, and E.

Straight-through cables are used to connect hosts to a switch (or hub) and routers to a switch (or hub). See the table below:

	Hub	Switch	Router	Workstation
Hub	Crossover	Crossover	Straight	Straight
Switch	Crossover	Crossover	Straight	Straight
Router	Straight	Straight	Crossover	Crossover
Workstation	Straight	Straight	Crossover	Crossover

QUESTION NO: 60

The system LED is amber on a Cisco Catalyst 2950 series switch. What does this indicate?

- A. The system is not powered up.
- B. The system is malfunctioning.
- C. The system is forwarding traffic.
- D. The system is sensing excessive collisions.
- E. The system is powered up and operational.

Answer: B

Explanation:

While the switch powers on, it begins POST, a series of tests. POST runs automatically to verify that the switch functions properly. When the switch begins POST, the system LED is off. If POST completes successfully, the LED turns green. If POST fails, the LED turns amber.

Note : POST failures are usually fatal. Call Cisco Systems if your switch does not pass POST.

QUESTION NO: 61

Which three statements are true about the operation of a full-duplex Ethernet network? (Choose three.)

- A. Ethernet hub ports are preconfigured for full-duplex mode.
- B. In a full-duplex environment, the host network card must check for the availability of the network media before transmitting.
- C. A dedicated switch port is required for each full-duplex node.
- D. There are no collisions in full-duplex mode.
- E. The host network card and the switch port must be capable of operating in full-duplex mode.

Answer: C,D,E

Explanation:

Half-duplex Ethernet is defined in the original 802.3 Ethernet and Cisco says you only use one wire pair with a digital signal running in both directions on the wire. It also uses the CSMA/CD protocol to help prevent collisions and to permit retransmitting if a collision does occur. If a hub is attached to a switch, it must operate in half-duplex mode because the end stations must be able to detect collisions. Half-duplex Ethernet-typically 10BaseT-is only about 30 to 40 percent efficient as Cisco sees it, because a large 10BaseT network will usually only give you 3- to 4Mbps-at most. Full-duplex Ethernet uses two pairs of wires, instead of one wire pair like half duplex. Also, full duplex uses a point-to-point connection between the transmitter of the transmitting device and the receiver of the receiving device, which means that with full-duplex data transfer, you get a faster data transfer compared to half duplex. And because the transmitted data is sent on a different set of wires than the received data, no collisions occur. The reason you don't need to worry about

collisions is because now Full-duplex Ethernet is like a freeway with multiple lanes instead of the single-lane road provided by half duplex. Full- duplex Ethernet is supposed to offer 100 percent efficiency in both directions; this means you can get 20Mbps with a 10Mbps Ethernet running full duplex, or 200Mbps for FastEthernet .

QUESTION NO: 62

Three access points have been installed and configured to cover a small office. What term defines the wireless topology?

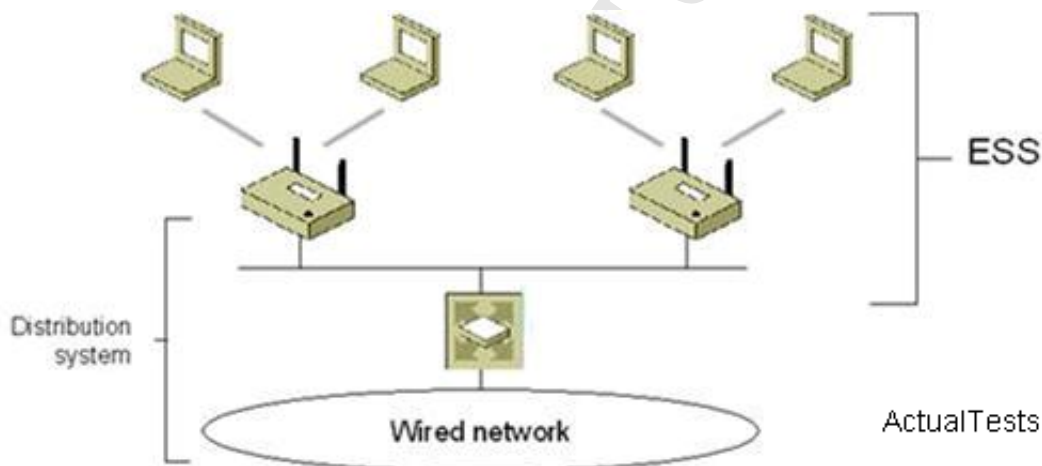
- A. BSS
- B. ESS
- C. IBSS
- D. SSID

Answer: B

Explanation:

A single wireless AP supporting one or multiple wireless clients is known as a Basic Service Set (BSS). A set of two or more wireless APs connected to the same wired network is known as an Extended Service Set (ESS). An ESS is a single logical network segment (also known as a subnet), and is identified by its SSID

See the Figure:

**QUESTION NO: 63**

What should be part of a comprehensive network security plan?

- A. Encourage users to use personal information in their passwords to minimize the likelihood of passwords being forgotten.
- B. Physically secure network equipment from potential access by unauthorized individuals.

- C. Allow users to develop their own approach to network security.
- D. Delay deployment of software patches and updates until their effect on end-user equipment is well known and widely reported.
- E. Minimize network overhead by deactivating automatic antivirus client updates.

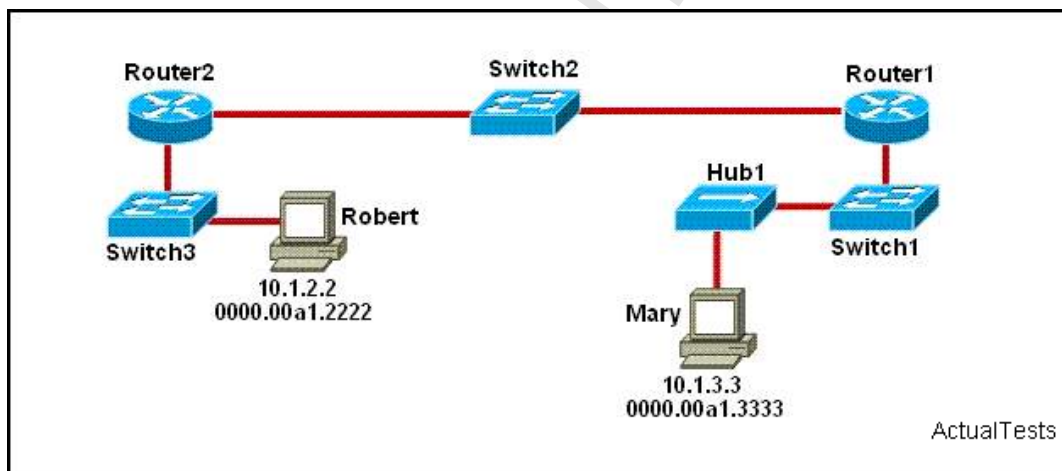
Answer: B

Explanation:

Computer systems and networks are vulnerable to physical attack; therefore, procedures should be implemented to ensure that systems and networks are physically secure. Physical access to a system or network provides the opportunity for an intruder to damage, steal, or corrupt computer equipment, software, and information. When computer systems are networked with other departments or agencies for the purpose of sharing information, it is critical that each party to the network take appropriate measures to ensure that its system will not be physically breached, thereby compromising the entire network. Physical security procedures may be the least expensive to implement but can also be the most costly if not implemented. The most expensive and sophisticated computer protection software can be overcome once an intruder obtains physical access to the network.

QUESTION NO: 64

Refer to the exhibit. As packets travel from Mary to Robert, which three devices will use the destination MAC address of the packet to determine a forwarding path? (Choose three.)



- A. Router1
- B. Hub1
- C. Router2
- D. Switch2
- E. Switch3
- F. Switch1

Answer: D,E,F

Explanation:

Switches use the destination MAC address information for forwarding traffic, while routers use the destination IP address information.

Local Area Networks employ Layer 2 Switches and Bridges to forward and filter network traffic. Switches and Bridges operate at the Data Link Layer of the Open System Interconnect Model (OSI). Since Switches and Bridges operate at the Layer 2 they operate more intelligently than hubs, which work at Layer 1 (Physical Layer) of the OSI. Because the switches and bridges are able to listen to the traffic on the wire to examine the source and destination MAC address. Being able to listen to the traffic also allows the switches and bridges to compile a MAC address table to better filter and forward network traffic.

To accomplish the above functions switches and bridges carry out the following tasks:

MAC address learning by a switch or a bridge is accomplished by the same method. The switch or bridge listens to each device connected to each of its ports and scan the incoming frame for the source MAC address. This creates a MAC address to port map that is cataloged in the switches/bridge MAC database. Another name for the MAC address table is content addressable memory or CAM table.

When a switch or bridge is listening o the network traffic, it receives each frame and compares it to the MAC address table. By checking the MAC table the switch/ bridge are able o determine which port the frame came in on. If the frame is on the MAC table the frame is filtered or transmitted on only that port. If the switch determines that the frame is not on the MAC table, the frame is forwarded out to all ports except the incoming port.

QUESTION NO: 65

If an ethernet port on a router was assigned an IP address of 172.16.112.1/20, what is the maximum number of hosts allowed on this subnet?

- A. 2046
- B. 4096
- C. 8190
- D. 4094
- E. 1024

Answer: D

Explanation:

172.16.112.1/20 is in default B class address.

The number of hosts that B class address can accommodate is: $32-16=16$ $2^{16}=65536$ $65536-2=65534$

Here 172.16.112.1 is subnetted , which can accommodate hosts number being: $32-20=12$ $2^{12}=4096$ $4096-2=4094$

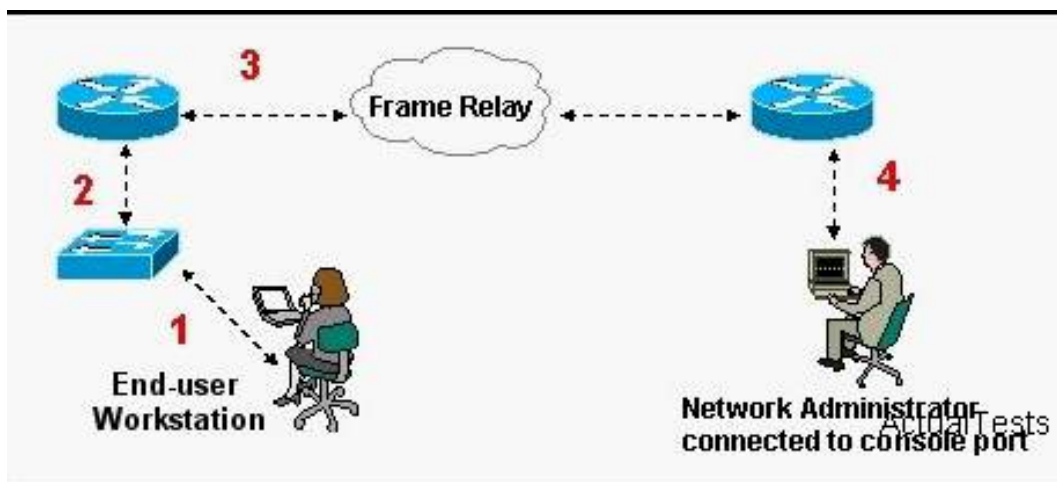
Because host parts all 0s or all 1s should not be used as host address, two addresses are

excluded.

Since a /20 equates to 12 bits used for the subnet mask, 4094 hosts can be uniquely addressed.

QUESTION NO: 66

Refer to the exhibit. What kind of cable should be used to make each connection that is identified by the numbers shown?



- A. 1 - Ethernet straight-through cable
- 2 - Ethernet straight-through cable
- 3 - serial cable
- 4 - rollover cable
- B. 1 - Ethernet rollover cable
- 2 - Ethernet crossover cable
- 3 - serial cable
- 4 - null modem cable
- C. 1 - Ethernet straight-through cable
- 2 - Ethernet crossover cable
- 3 - serial cable
- 4 - rollover cable
- D. 1 - Ethernet crossover cable
- 2 - Ethernet straight-through cable
- 3 - fiber optic cable
- 4 - rollover cable
- E. 1 - Ethernet straight-through cable
- 2 - Ethernet crossover cable
- 3 - serial cable
- 4 - Ethernet straight-through cable

Answer: A

Explanation:

When connecting other devices to a switch, such as a router or workstations, a straight through cable is used. The only exception to this rule is when you are connecting another switch to a switch, in which case a cross over cable should be used. For a serial connection to another router or to a WAN, a serial cable should be used. Finally, when connecting directly to the console port of a Cisco device, a rollover cable should be used. This cable is also commonly referred to as a console cable.

QUESTION NO: 67 DRAG DROP

Drop

Drag the commands on the left to the appropriate functions on the right. (Not all options are used.)

ping 10.0.0.1	displays PC network configuration
ping 127.0.0.1	displays the list of routers on a path to a network destination
tracert	tests VTY configuration
ipconfig /all	tests TCP/IP protocol stack
arp -a	displays IP to MAC address mappings on a Windows PC
telnet	

ActualTests

Answer:

Drag the commands on the left to the appropriate functions on the right. (Not all options are used.)

ping 10.0.0.1	ipconfig /all
ping 127.0.0.1	tracert
tracert	telnet
ipconfig /all	ping 127.0.0.1
arp -a	arp -a
telnet	

ActualTests

Explanation:

Drag the commands on the left to the appropriate functions on the right. (Not all options are used.)

ping 10.0.0.1	ipconfig /all
ping 127.0.0.1	tracert
tracert	telnet
ipconfig /all	ping 127.0.0.1
arp -a	arp -a
telnet	

ActualTests

QUESTION NO: 68

Which two statements describe the operation of the CSMA/CD access method? (Choose two.)

- A. After a collision, the station that detected the collision has first priority to resend the lost data.
- B. After a collision, all stations involved run an identical backoff algorithm and then synchronize with each other prior to transmitting data.
- C. After a collision, all stations run a random backoff algorithm. When the backoff delay period has expired, all stations have equal priority to transmit data.
- D. In a CSMA/CD collision domain, stations must wait until the media is not in use before transmitting.
- E. The use of hubs to enlarge the size of collision domains is one way to improve the operation of the CSMA/CD access method.
- F. In a CSMA/CD collision domain, multiple stations can successfully transmit data simultaneously.

Answer: C,D

Explanation:

CSMA/CD working principle: in a collision domain, stations must wait until the media is not in use before transmitting. It will keep monitoring when transmitting data, and stop transmitting immediately when monitors some collision, and retry again after some time. After a collision, all stations run a random backoff algorithm to figure out a backoff internal time so that each station going with a different internal time. When the backoff delay period has expired, all stations will transmit data again.

Ethernet networking uses Carrier Sense Multiple Access with Collision Detect (CSMA/CD), a protocol that helps devices share the bandwidth evenly without having two devices transmit at the

same time on the network medium. CSMA/CD was created to overcome the problem of those collisions that occur when packets are transmitted simultaneously from different nodes. And trust me, good collision management is crucial, because when a node transmits in a CSMA/CD network, all the other nodes on the network receive and examine that transmission. Only bridges and routers can effectively prevent a transmission from propagating throughout the entire network! So, how does the CSMA/CD protocol work? Like this: when a host wants to transmit over the network, it first checks for the presence of a digital signal on the wire. If all is clear (no other host is transmitting), the host will then proceed with its transmission. But it doesn't stop there. The transmitting host constantly monitors the wire to make sure no o hosts begin transmitting. If the host detects another signal on the wire, it sends out an extended jam signal that causes all nodes on the segment to stop sending data (think, busy signal). The nodes respond to that jam signal by waiting a while before attempting to transmit again. Backoff algorithms determine when the colliding stations can retransmit. If collisions keep occurring after 15 tries, the nodes attempting to transmit will then time out.

QUESTION NO: 69

Which of the following describe private IP addresses? (Choose two.)

- A. addresses licensed to enterprises or ISPs by an Internet registry organization
- B. a scheme to conserve public addresses
- C. addresses that cannot be routed through the public Internet
- D. addresses chosen by a company to communicate with the Internet
- E. addresses that can be routed through the public Internet

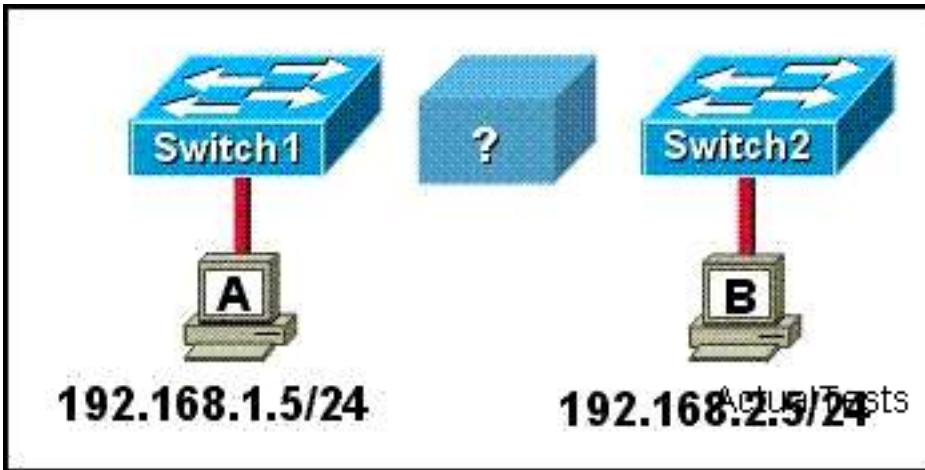
Answer: B,C

Explanation:

Private IP address space has been allocated via RFC 1918. This means the addresses are available for any use by anyone and therefore the same private IP addresses can be reused. However they are defined as not routable on the public Internet. They are used extensively in private networks due to the shortage of publicly registered IP address space and therefore network address translation is required to connect those networks to the Internet.

QUESTION NO: 70

Refer to the exhibit. What is needed to allow host A to ping host B?



- A. a CSU/DSU connected to the switches with straight-through cables
- B. a straight-through cable connecting the switches
- C. a backbone switch connecting the switches with either fiber optic or straight-through cables
- D. a router connected to the switches with straight-through cables
- E. a crossover cable connecting the switches

Answer: D

Explanation:

Routers are Layer 3 devices used for inter-network communication. In this scenario there are two different networks, so both switches need to connect to a router using straight-through cables. A straight-through cable is used to connect two different devices like, switch to router, host to switch. Since we need to insert a router for communication between the two switches, straight through cables will be used between the switches and the router.

QUESTION NO: 71 DRAG DROP

Drop

Construct the command sequence to configure an IP address on a serial interface. (Not all options are used.)

Hub# interface s0/0	enter global configuration mode
Hub(config)# interface s0/0	enter interface configuration mode
Hub(config-if)# no shutdown	configure the interface IP address
Hub(config)# ip address 172.16.20.21 255.255.255.0	enable the interface
Hub(config-if)# ip address 10.8.5.255 255.255.252.0	label the interface
Hub(config-if)# enable interface	
Hub(config-if)# ip address 198.18.2.63 255.255.255.224	
Hub(config-if)# description T1 to WAN	
Hub(config)# banner motd ! T1 to WAN !	
Hub# configure terminal	

ActualTests

Answer:

Construct the command sequence to configure an IP address on a serial interface. (Not all options are used.)

Hub# interface s0/0
 Hub(config)# interface s0/0
 Hub(config-if)# no shutdown
 Hub(config)# ip address 172.16.20.21 255.255.255.0
 Hub(config-if)# ip address 10.8.5.255 255.255.252.0
 Hub(config-if)# enable interface
 Hub(config-if)# ip address 198.18.2.63 255.255.255.224
 Hub(config-if)# description T1 to WAN
 Hub(config)# banner motd ! T1 to WAN !
 Hub# configure terminal

Hub# configure terminal
 Hub(config)# interface s0/0
 Hub(config-if)# ip address 10.8.5.255 255.255.252.0
 Hub(config-if)# no shutdown
 Hub(config-if)# description T1 to WAN

ActualTests

Explanation:

Construct the command sequence to configure an IP address on a serial interface. (Not all options are used.)

Hub# interface s0/0
 Hub(config)# interface s0/0
 Hub(config-if)# no shutdown
 Hub(config)# ip address 172.16.20.21 255.255.255.0
 Hub(config-if)# ip address 10.8.5.255 255.255.252.0
 Hub(config-if)# enable interface
 Hub(config-if)# ip address 198.18.2.63 255.255.255.224
 Hub(config-if)# description T1 to WAN
 Hub(config)# banner motd ! T1 to WAN !
 Hub# configure terminal

Hub# configure terminal
 Hub(config)# interface s0/0
 Hub(config-if)# ip address 10.8.5.255 255.255.252.0
 Hub(config-if)# no shutdown
 Hub(config-if)# description T1 to WAN

ActualTests

QUESTION NO: 72

What is the result of adding this command to a router that is already configured for dynamic routing?

ip route 0.0.0.0 0.0.0.0 192.168.1.2

- A. It configures the router to send all packets to IP address 192.168.1.2 if the packets match no other entry in the routing table.
- B. It configures the router as a firewall, blocking all packets from IP address 192.168.1.2.
- C. It configures the router to drop all packets for which the destination network is unknown.

- D. It configures the router to send all packets to IP address 192.168.1.2.
- E. It configures the router to block routing updates from being sent to IP address 192.168.1.2.

Answer: A

Explanation:

There is a special kind of static route called a default route, which is what this example is showing. Sometimes a default route is called a "zero / zero" route. This is because the network and subnet you are specifying, as the destination for the traffic it would match, are all zeros. A default route says "for any traffic that does not match a specific route in the routing table, send that traffic to this destination". In other words, a default route is a "catch-all".

QUESTION NO: 73

Refer to the exhibit. What is the effect of the configuration that is shown?

```
line vty 0 4
password 7 030752180500
login
transport input ssh
```

- A. It configures SSH globally for all logins.
- B. It configures a Cisco network device to use the SSH protocol on incoming communications via the virtual terminal ports.
- C. It tells the router or switch to try to establish anSSH connection first and if that fails to use Telnet.
- D. It configures the virtual terminal lines with the password 030752180500.
- E. It allows seven failed login attempts before the VTY lines are temporarily shutdown.

Answer: B

Explanation:

Secure Shell (SSH) is a protocol which provides a secure remote access connection to network devices. Communication between the client and server is encrypted in both SSH version 1 and SSH version 2. If you want to prevent non-SSH connections, add the "transport input ssh" command under the lines to limit the router to SSH connections only. Straight (non-SSH) Telnets are refused.

Reference: www.cisco.com/warp/public/707/ssh.shtml

QUESTION NO: 74

Which of the following are found in a TCP header, but not in a UDP header? (Choose three.)

- A. sequence number
- B. window size
- C. source port
- D. acknowledgment number
- E. destination port
- F. checksum

Answer: A,B,D

Explanation:

TCP packet format:

TCP source port (16 bit) TCP destination port (16 bit)

Sequence number (32 bit)

Acknowledgment number (32 bit)

Header length (4 bit) Reserved (6 bit) tag (8 bit) window (16 bit)

Checksum (16 bit) Urgent (16 bit)

Option + fill in

Data (max 1460 bytes)

UDP packet format:

UDP source port (16 bit) UDP destination port (16 bit)

Packet length (16 bit) UDP checksum (16 bit)

Data (max 1460 bytes)

Thus we get the answer: A, B, and E.

The Figure below illustrates the fields and overall format of a TCP packet.

Twelve fields comprise a TCP packet.

Source port		Destination port	
Sequence number			
Acknowledgment number			
Data offset	Reserved	Flags	Window
Checksum			Urgent pointer
Options (+ padding)			
Data (variable)			

Actual Tests

BT3444

TCP Packet Field Descriptions

The following descriptions summarize the TCP packet fields illustrated in Figure 30-10 :

Source Port and Destination Port -Identifies points at which upper-layer source and destination processes receive TCP services.

Sequence Number- Usually specifies the number assigned to the first byte of data in the current message. In the connection-establishment phase, this field also can be used to identify an initial sequence number to be used in an upcoming transmission.

Acknowledgment Number- Contains the sequence number of the next byte of data the sender of the packet expects to receive.

Data Offset-Indicates the number of 32-bit words in the TCP header.

Reserved-Remains reserved for future use.

Flags- Carries a variety of control information, including the SYN and ACK bits used for connection establishment, and the FIN bit used for connection termination.

Window-Specifies the size of the sender's receive window (that is, the buffer space available for incoming data).

Checksum- Indicates whether the header was damaged in transit.

Urgent Pointer-Points to the first urgent data byte in the packet.

Options-Specifies various TCP options.

Data-Contains upper-layer information.

User Datagram Protocol (UDP)

The User Datagram Protocol (UDP) is a connectionless transport-layer protocol (Layer 4) that belongs to the Internet protocol family. UDP is basically an interface between IP and upper-layer processes. UDP protocol ports distinguish multiple applications running on a single device from one another.

Unlike the TCP, UDP adds no reliability, flow-control, or error-recovery functions to IP. Because of UDP's simplicity, UDP headers contain fewer bytes and consume less network overhead than TCP.

UDP is useful in situations where the reliability mechanisms of TCP are not necessary, such as in

cases where a higher-layer protocol might provide error and flow control.

UDP is the transport protocol for several well-known application-layer protocols, including Network File System (NFS), Simple Network Management Protocol (SNMP), Domain Name System (DNS), and Trivial File Transfer Protocol (TFTP).

The UDP packet format contains four fields, as shown in the figure below. These include source and destination ports, length, and checksum fields.

A UDP packet consists of four fields.



Source and destination ports contain the 16-bit UDP protocol port numbers used to demultiplex datagrams for receiving application-layer processes. A length field specifies the length of the UDP header and data. Checksum provides an (optional) integrity check on the UDP header and data.

Reference: http://www.cisco.com/univercd/cc/td/doc/cisintwk/ito_doc/ip.htm#xtocid21

QUESTION NO: 75

LAB

Topology

Instructions

To configure the router (**Apopka**) click on the console host icon that is connected to a router by a serial console cable (shown in the diagram as a dashed black line).

You can click on the buttons below to view the different windows.

Each of the windows can be minimized by clicking on the [-]. You can also reposition a window by dragging it by the title bar.

The "Tab" key and most commands that use the "Control" or "Escape" keys are not supported and are not necessary to complete this simulation. The **help** command does not display all commands of the help system.

Scenario

Central Florida Widgets recently installed a new router in their Apopka office. Complete the network installation by performing the initial router configurations and configuring RIPv2 routing using the router command line interface (CLI) on the Apopka router.

Configure the router per the following requirements:

- Name of the router is **Apopka**
- Enable-secret password is **ish555ana**
- The password to access user EXEC mode using the console is **New2Rtr**
- The password to allow telnet access to the router is **sir890us**
- IPv4 addresses must be configured as follows:
 - Ethernet network **209.165.201.0/27** - router has **second** assignable host address in subnet.
 - Serial network is **192.0.2.128/28** - router has **last** assignable host address in the subnet.
- Interfaces should be enabled.
- Routing protocol is **RIPv2**.

Explanation:

```
Router>enable
Router#config terminal
Router( config )#hostname Apopka
```

2) Enable-secret password (cisco10):

```
Apopka( config )#enable secret cisco10
```

3) Set the console password to RouterPass :

```
Apopka( config )#line console 0
Apopka( config -line)#password RouterPass
Apopka( config -line)#login
Apopka( config -line)#exit
```

4) Set the Telnet password to scan90:

```
Apopka( config )#line vty 0 4
Apopka( config -line)#password scan90
Apopka( config -line)#login
Apopka( config -line)#exit
```

5) Configure Ethernet interface (on the right) of router Apopka:

The subnet mask of the Ethernet network 209.165.201.0 is 27. From this subnet mask, we can find out the increment by converting it into binary form, that is /27 = 1111 1111.1111 1111.1111 1111.1110 0000. Pay more attention to the last bit 1 because it tells us the increment, using the formula:

Increment = 2^{place of the last bit 1} (starts counting from 0 ,from right to left), in this case increment = 2⁵ = 32. Therefore:

Increment: 32

Network address: 209.165.201.0

Broadcast address: 209.165.201.31 (because 209.165.201.32 is the second subnetwork , so the previous IP - 209.165.201.31 - is the broadcast address of the first subnet).

-> The second assignable host address of this subnetwork is 209.165.201.2/27

Assign the second assignable host address to Fa0/0 interface of Apopka router:

```
Apopka( config )#interface Fa0/0
Apopka( config -if)# ip address 209.165.201.2 255.255.255.224
```

```
Apopka( config -if)#no shutdown
```

```
Apopka( config -if)#exit
```

6) Configure Serial interface (on the left) of router Apopka:

Using the same method to find out the increment of the Serial network:

Serial network 192.0.2.128/28:

Increment: 16 (/28 = 1111 1111.1111 1111.1111 1111.1111 0000)

Network address: 192.0.2.128 (because $8 * 16 = 128$ so 192.0.2.128 is also the network address of this subnet)

Broadcast address: 192.0.2.143

-> The last assignable host address in this subnet is 192.0.2.142/28.

Assign the last assignable host address to S0/0/0 interface of Apopka router:

```
Apopka( config )#interface S0/0/0 (or use interface S0/0 if not successful)
```

```
Apopka( config -if)# ip address 192.0.2.142 255.255.255.240
```

```
Apopka( config -if)#no shutdown
```

```
Apopka( config -if)#exit
```

7) Configure RIP v2 routing protocol:

```
Apopka( config )#router rip
```

```
Apopka( config -router)#version 2
```

```
Apopka( config -router)#network 209.165.201.0
```

```
Apopka( config -router)#network 192.0.2.128
```

```
Apopka( config -router)#end
```

Save the configuration:

```
Apopka#copy running- config startup- config
```

Finally, you should use the ping command to verify all are working properly!

QUESTION NO: 76

What are two effects on network performance of configuring a switch to store an entire frame before forwarding it to the destination? (Choose two.)

- A. propagation of corrupted or damaged frames
- B. filtering of collision fragments only
- C. increased latency
- D. decreased latency
- E. increase in switch operating speed
- F. filtering of all frame errors

Answer: C,F

Explanation:

Switches that store the entire frame before forwarding to the destination are using the store and forward process. This mode copies the entire frame into memory, computes the Cyclic Redundancy Check (CRC) for errors, and then looks up the destination MAC address and forwards the frame. This is slow but offers the best solution for error correction without affecting the entire backbone in retransmission. This gives us the best method for filtering errors from traversing the network, but at a cost of higher latency.

QUESTION NO: 77

Which of the following commands will configure a default route to any destination network in the routing table?

- A. Router(config)# ip default-route 0.0.0.0 s0
- B. Router(config)# ip default-route 0.0.0.0 255.255.255.255 s0
- C. Router(config)# ip route 0.0.0.0 0.0.0.0 s0
- D. Router(config)# ip route any any e0
- E. Router(config)# ip route 0.0.0.0 255.255.255.255 s0

Answer: C

Explanation:

Choice D is the correct syntax for configuring a gateway of last resort. Note that an alternative way is to specify the IP address of the next hop router, for example, " ip route 0.0.0.0 0.0.0.0 10.1.1.1."

QUESTION NO: 78 DRAG DROP

Drop

Drag the commands on the left to the appropriate functions on the right. (Not all options are used.)

ping 10.0.0.1
ping 127.0.0.1
tracert
ipconfig /all
arp -a
telnet

displays PC network configuration
displays the list of routers on a path to a network destination
tests VTY configuration
tests TCP/IP protocol stack
displays IP to MAC address mappings on a Windows PC

ActualTests

Answer:

Drag the commands on the left to the appropriate functions on the right. (Not all options are used.)

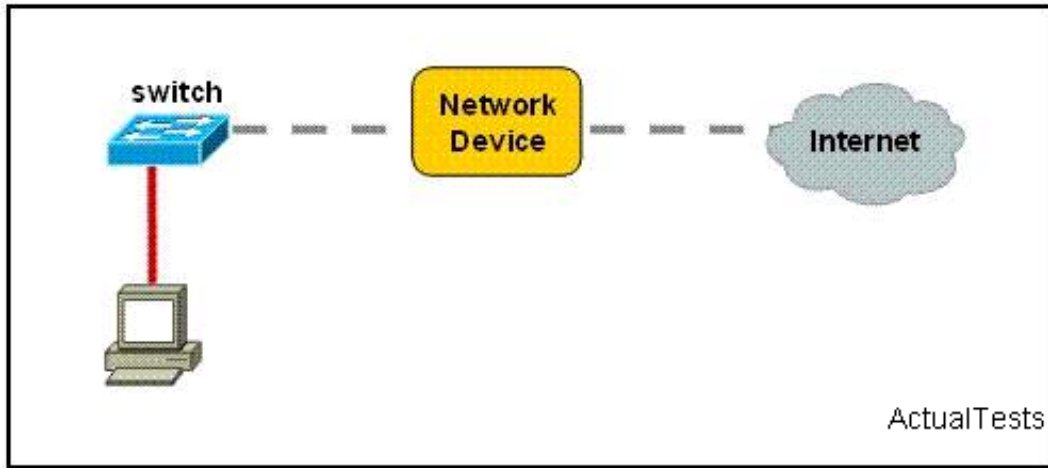
ping 10.0.0.1
ping 127.0.0.1
tracert
ipconfig /all
arp -a
telnet

ipconfig /all
tracert
telnet
ping 127.0.0.1
arp -a

ActualTests

QUESTION NO: 79

Refer to the exhibit. A network device needs to be installed in the place of the icon labeled Network Device to accommodate a leased line attachment to the Internet. Which network device and interface configuration meets the minimum requirements for this installation?



- A. a router with two Ethernet interfaces
- B. a switch with one Ethernet and one serial interface
- C. a router with one Ethernet and one serial interface
- D. a switch with two Ethernet interfaces
- E. a router with one Ethernet and one modem interface

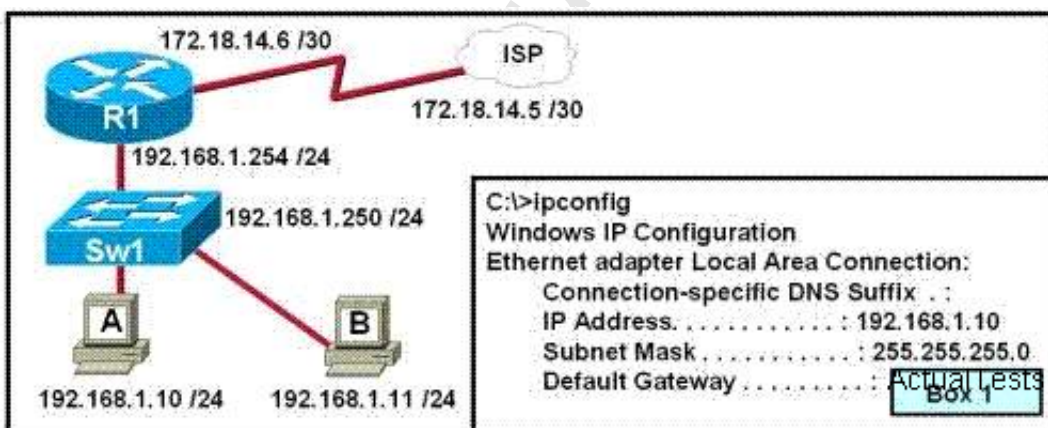
Answer: C

Explanation:

In order that the Switch can communicate with internet, only one router is enough, Ethernet interface in connection with Switch, serial interface in connection with internet.

QUESTION NO: 80

Refer to the exhibit. What value should be displayed in Box 1 of the ipconfig output of host A?



- A. 192.168.1.10
- B. 192.168.1.254
- C. 172.18.14.5
- D. 192.168.1.11
- E. 192.168.1.250
- F. 172.18.14.6

Answer: B

Explanation:

The default gateway setting, which creates the default route in the IP routing table, is a critical part of the configuration of a TCP/IP host. The role of the default gateway is to provide the next-hop IP address and interface for all destinations that are not located on its subnet. Without a default gateway, communication with remote destination is not possible, unless additional routes are added to the IP routing table. The default gateway must be the router's interface that is on the same IP subnet as the hosts. In this case it router R1 is the default gateway router, and it's LAN interface with IP address 192.168.1.254 would be used.

QUESTION NO: 81

Refer to the exhibit. What could be possible causes for the "Serial0/0 is down" interface status? (Choose two.)

```
Router1#show interfaces serial 0/0
```

```
Serial0/0 is down, line protocol is down
Hardware is MK5025
Serial Internet address is 10.1.1.2/24
MTU 1500 bytes, BW 1544 Kbits, DLY 20000 usec, rely 255/255, load 9/255
Encapsulation PPP, loopback not set, keepalive set (10 sec) ActualTests
<some output omitted>
```

- A. A protocol mismatch exists.
- B. The bandwidth is set too low.
- C. An incorrect cable is being used.
- D. A Layer 1 problem exists.
- E. There is an incorrect IP address on the Serial 0/0 interface.

Answer: C,D

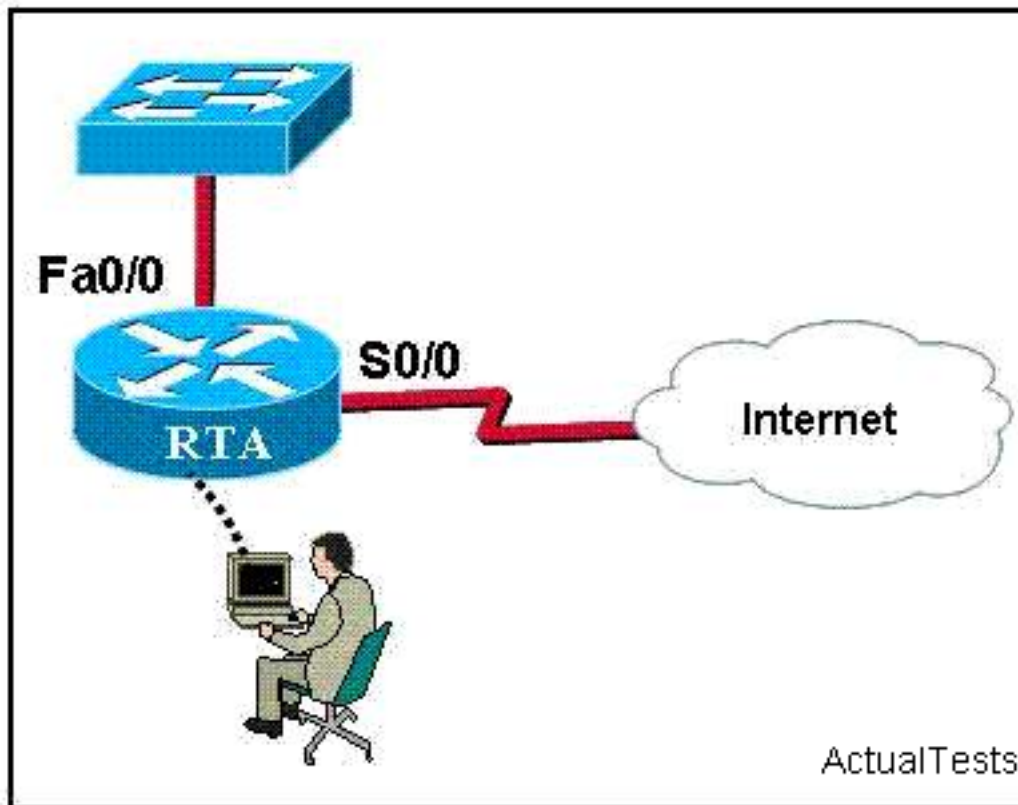
Explanation:

Status Line Condition	Possible Problem	Solution
Serial x is up, line protocol is up	—	This is the proper status line condition. No action is required.
Serial x is down, line protocol is down (DTE mode)	The router is not sensing a CD signal (that is, the CD is not active). A telephone company problem has occurred—line is down or is not connected to CSU/DSU. Cabling is faulty or incorrect. Hardware failure has occurred (CSU/DSU).	1. Check the LEDs on the CSU/DSU to see whether the CD is active, or insert a breakout box on the line to check for the CD signal. 2. Verify that you are using the proper cable and interface (see your hardware installation documentation). 3. Insert a breakout box and check all control leads. 4. Contact your leased-line or other carrier service to see whether there is a problem. 5. Swap faulty parts. 6. If you suspect faulty router hardware, change the serial line to another port. If the connection comes up, the previously connected interface has a problem.

Reference: http://www.cisco.com/univercd/cc/td/doc/cisintwk/itg_v1/tr1915.htm

QUESTION NO: 82

Refer to the exhibit. The network administrator is configuring RTA to connect to a non-Cisco network. Which two commands would be applied to the S0/0 WAN interface, but not to the Fa0/0 LAN interface? (Choose two.)



- A. authentication pap
- B. no shutdown
- C. encapsulation ppp
- D. ip address
- E. speed

Answer: A,C

Explanation:

Configure PPP encapsulation on RTA, and then apply PAP authentication.

Since we are connecting to a non Cisco device, we must use PPP on the serial interface. PAP authentication is an optional parameter that can also be used on this interface.

QUESTION NO: 83

When files are transferred between a host and an FTP server, the data is divided into smaller pieces for transmission. As these pieces arrive at the destination host, they must be reassembled to reconstruct the original file. What provides for the reassembly of these pieces into the correct order?

- A. the Start Frame Delimiter in the 802.3 Preamble
- B. the frame check sequence in the Ethernet frame trailer
- C. the TTL in the IP header

- D. the sequence number in the TCP header
- E. the acknowledgement number in the segment header

Answer: D

Explanation:

The Transport layer can provide reliable networking via acknowledgments, sequencing, and flow control.

Acknowledgments Delivered segments are acknowledged to the sender. If they are not acknowledged, the sender will retransmit.

Sequencing Data segments are sequenced into their original order when they arrive at the destination.

Flow Control Provides buffer controls that prevent packet flooding to the destination host. Buffers store bursts of data for processing when the transmission is complete.

Layer 4 protocols include the following:

Transmission Control Protocol (TCP)

User Datagram Protocol (UDP)

Sequenced Packet Exchange (SPX)A reliable communications protocol created by Novell NetWare

QUESTION NO: 84

In the configuration of NAT, what does the keyword overload signify?

- A. If the number of available IP addresses is exceeded, excess traffic will use the specified address pool.
- B. Multiple internal hosts will use one IP address to access external network resources.
- C. When bandwidth is insufficient, some hosts will not be allowed to access network translation.
- D. The pool of IP addresses has been exhausted.

Answer: B

QUESTION NO: 85

What is the effect of using the service password-encryption command?

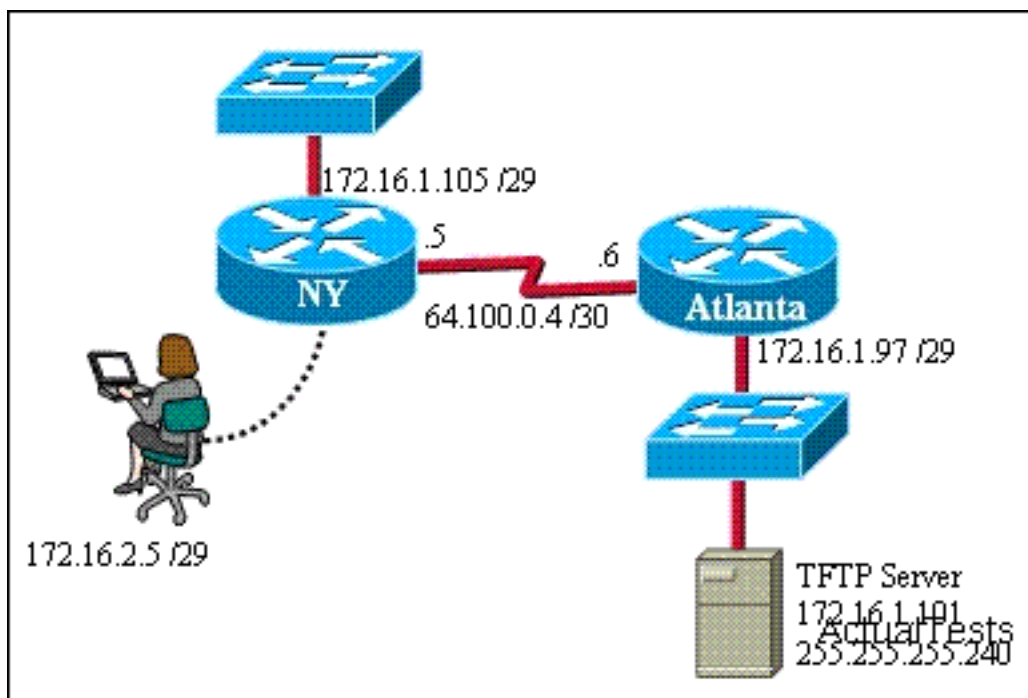
- A. It will encrypt the secret password and remove the enable secret password from the configuration.
- B. Only the enable secret password will be encrypted.
- C. Only passwords configured after the command has been entered will be encrypted.
- D. Only the enable password will be encrypted.

E. It will encrypt all current and future passwords.

Answer: E

QUESTION NO: 86

Refer to the exhibit. A network administrator has recently installed a new router in the NY office and has established a console connection with the new router. The administrator is unable to backup the configuration file and IOS to a TFTP server that is located in the Atlanta office. What is the cause of this problem?



- A. The network administrator computer has an incorrect IP address.
- B. The TFTP server has an incorrect subnet mask.
- C. The NY router has an incorrect subnet mask.
- D. The Ethernet port on the NY router has an incorrect IP address.
- E. The Ethernet port on the Atlanta router has an incorrect IP address.
- F. The TFTP server has an incorrect IP address.

Answer: B

QUESTION NO: 87

By which prompt is the global configuration mode on a Cisco router identified?

- A. Router>
- B. Router(config-router)#

- C. Router(config-line)#
- D. Router(config)#
- E. Router(config-if)#
- F. Router#

Answer: D

Explanation:

There are many different configuration modes. Each of these makes changes to the device configuration. To ensure that those configuration changes are not lost if the router reboots, you must copy the running configuration to the startup configuration. The type and number of configuration submodes depends on the type of router, the Cisco IOS version, and the components installed on the router:

- Global configuration mode- The command for accessing the global configuration mode is `configure terminal`. In the global configuration mode, the router continues to display its host name followed by (`config`) and the # symbol:

```
RouterA#configure terminal
```

```
RouterA ( config )#
```

The global configuration mode is where you can make "global" changes to the configuration of the router. A common example of a global configuration is the creation of an access list. From the global configuration mode, you can move to a position that enables you to configure specific components of the router, such as the router interfaces; virtual private network (VPN) components (sump, crypto, and so on); CLI connections (line); authentication, authorization, and accounting (AAA) server groups; and many more. To exit to the privileged global configuration mode, use the key combination Ctrl-Z or type the command "end."

QUESTION NO: 88

What is the subnet address of 172.16.159.159/22?

- A. 172.16.192.0
- B. 172.16.159.0
- C. 172.16.156.0
- D. 172.16.159.128
- E. 172.16.0.0
- F. 172.16.128.0

Answer: C

Explanation:

Subnet mask is 22 bit, i.e. 255.255.252.0, IP address that can be accommodated is $256-253=4$, host number= $2^{(32-22)}=1024$. Network address with such mask should be multiples of 4, while network address starts with subnet address and ends with broadcast address, among the valid

host addresses, the one that is smaller than 159 and is also multiply of 4 is 156. so the network address is 172.16.156.0.

In this question there are a total of 6 bits borrowed from the host portion with the subnet mask 255.255.252.0. This will leave us 64 networks with 1022 and the IP subnets for each will be a multiple of 4. Some of the networks are as follows:

/22 172.16.148.0 - 255.255.252.0 - 1022 hosts
/22 172.16.152.0 - 255.255.252.0 - 1022 hosts
/22 172.16.156.0 - 255.255.252.0 - 1022 hosts
/22 172.16.160.0 - 255.255.252.0 - 1022 hosts
/22 172.16.164.0 - 255.255.252.0 - 1022 hosts
/22 172.16.168.0 - 255.255.252.0 - 1022 hosts
/22 172.16.172.0 - 255.255.252.0 - 1022 hosts
/22 172.16.176.0 - 255.255.252.0 - 1022 hosts

QUESTION NO: 89

Which IP address is a private address?

- A. 172.20.14.36
- B. 172.33.194.30
- C. 12.0.0.1
- D. 168.172.19.39
- E. 192.169.42.34

Answer: A

Explanation:

RFC 1918 Private Address Space:

QUESTION NO: 90

Why would a network administrator configure port security on a switch?

- A. to prevent unauthorized Telnet access to a switch port
- B. to limit the number of Layer 2 broadcasts on a particular switch port
- C. to protect the IP and MAC address of the switch and associated ports
- D. to block unauthorized access to the switch management interfaces over common TCP ports
- E. to prevent unauthorized hosts from accessing the LAN

Answer: E

Explanation:

To configure port security on a switch is to prevent unauthorized hosts from accessing the LAN.

You can use the port security feature to restrict input to an interface by limiting and identifying MAC addresses of the stations allowed to access the port. When you assign secure MAC addresses to a secure port, the port does not forward packets with source addresses outside the group of defined addresses. If you limit the number of secure MAC addresses to one and assign a single secure MAC address, the workstation attached to that port is assured the full bandwidth of the port.

If a port is configured as a secure port and the maximum number of secure MAC addresses is reached, when the MAC address of a station attempting to access the port is different from any of the identified secure MAC addresses, a security violation occurs. Also, if a station with a secure MAC address configured or learned on one secure port attempts to access another secure port, a violation is flagged.

Reference:

http://www.cisco.com/en/US/products/hw/switches/ps628/products_configuration_guide_chapter09186a00800d6a38.html#86378

QUESTION NO: 91

At which layer of the OSI model does the protocol that provides the information displayed by the show cdp neighbors command operate?

- A. application
- B. transport
- C. network
- D. physical
- E. data link

Answer: E

Explanation:

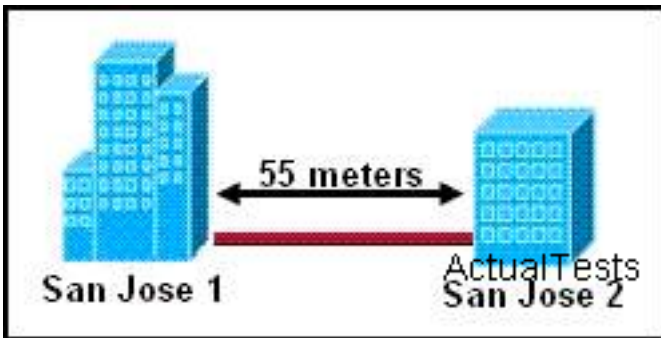
CDP is a protocol of layer 2. "show cdp neighbors" can be used to check the connectivity of layer 2 and to inspect the IP address of layer 3. So we can use CDP to check whether troubles occur in layer 2 when some connection troubles occur, and we can also check the IP address of neighbor devices.

CDP is a device discovery protocol that runs over Layer 2 (the data link layer) on all Cisco-manufactured devices (routers, bridges, access servers, and switches) and allows network management applications to discover Cisco devices that are neighbors of already known devices.

With CDP, network management applications can learn the device type and the Simple Network Management Protocol (SNMP) agent address of neighboring devices running lower-layer, transparent protocols.

QUESTION NO: 92

Refer to the exhibit. Two buildings on the San Jose campus of a small company must be connected to use Ethernet with a bandwidth of at least 100 Mbps. The company is concerned about possible problems from voltage potential differences between the two buildings. Which media type should be used for the connection?



- A. coaxial cable
- B. STP cable
- C. fiber optic cable
- D. UTP cable

Answer: C

Explanation:

Current Ethernet technology typically comes via either copper UTP or fiber cables. In this scenario the distance between the buildings is only 55 meters so either copper or fiber could be used, as the distance limitation for 100M UTP Ethernet is 100 meters. However, fiber would be a better fit as it is not prone to errors that could occur due to the voltage potential differences. Because fiber is a dielectric material, it's not susceptible to electrical interference. FO-product vendors also claim that fiber systems make secure communications easier. Interference immunity and lack of emissions are givens in FO systems and in the fiber medium itself.

QUESTION NO: 93

The Hub and Spoke routers are directly connected through their serial interfaces for purposes of testing. Based on the output shown in the exhibit, what must be done to make the serial line operational?

```
Hub# show controllers s0/0
Interface Serial0/0
Hardware is PowerQUICC MPC860
DTE V.35 clocks stopped.
idb at 0x81DE2098, driver data structure at 0x81DE4DF4
SCC Registers:
```

```
Hub# show ip interface s0/0
Serial0/0 is up, line protocol is down
Internet address is 192.168.1.2/24
Broadcast address is 255.255.255.255
```

<some output omitted>



ActualTests

- A. Use the no shutdown command on the Hub router.
- B. Replace the broken cable between the two devices.
- C. Start the clock on the Hub router.
- D. Configure the serial 0/0 interface on the Spoke router with a clock rate.
- E. Change the IP address on the Spoke router.

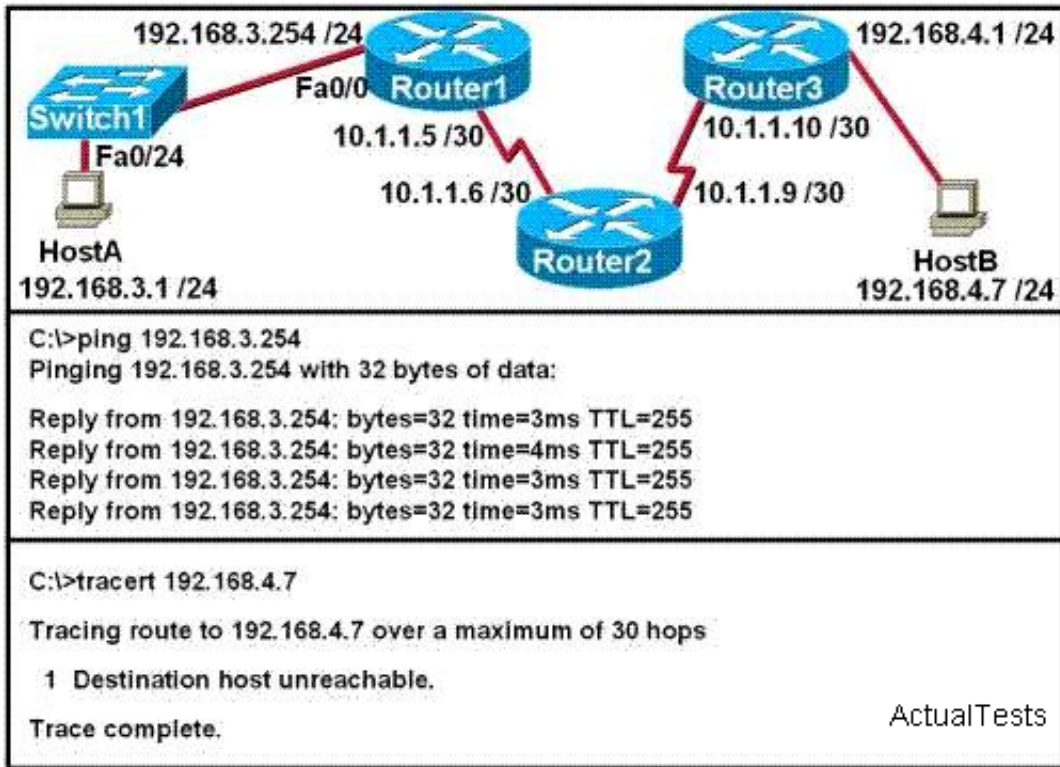
Answer: D

Explanation:

From the graphic we know that the Hub interface is normal, but the line protocol is down, while Hub as a DTE device need no clockrate configuration, so we need to configure the serial 0/0 interface on the Spoke router with a clockrate .

QUESTION NO: 94

Refer to the exhibit. A technician is testing connection problems in the internetwork. What is the problem indicated by the output from HostA?



- A. The gateway address of HostA is incorrect or not configured.
- B. The Fa0/24 interface of Switch1 is down.
- C. An access list is applied to an interface of Router3.
- D. The routing on Router2 is not functioning properly.

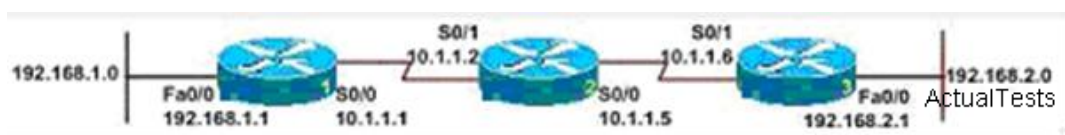
Answer: A

Explanation:

Since pings sent to router Router1 are successful, we know that basic connectivity exists at least to the first hop toward the destination. However, when we perform a traceroute to the destination, the first hop does not show up at all. This is due to the fact that the host does not have a default gateway specified, and therefore does not know where to send traffic with a destination address in a different subnet.

QUESTION NO: 95

Refer to the exhibit. The network shown in the exhibit is running the RIPv2 routing protocol. The network has converged, and the routers in this network are functioning properly. The FastEthernet0/0 interface on R1 goes down. In which two ways will the routers in this network respond to this change? (Choose two.)



- A. Because of the split-horizon rule, router R2 will be prevented from sending erroneous information to R1 about connectivity to the 192.168.1.0 network.

- B. All routers will reference their topology database to determine if any backup routes to the 192.168.1.0 network are known.
- C. When router R2 learns from R1 that the link to the 192.168.1.0 network has been lost, R2 will respond by sending a route back to R1 with an infinite metric to the 192.168.1.0 network.
- D. R1 will send LSAs to R2 and R3 informing them of this change, and then all routers will send periodic updates at an increased rate until the network again converges.
- E. Routers R2 and R3 mark the route as inaccessible and will not accept any further routing updates from R1 until their hold-down timers expire.

Answer: A,C

Explanation:

Because of the split-horizon rule, router R2 will be prevented from sending any information to R1 concerning 192.168.1.0 network.

When router R2 learns from R1 that the link to the 192.168.1.0 network has been lost, R2 will respond by sending a route back to R1 with an infinite metric to the 192.168.1.0 network to restrain pervasion of such trouble.

RIP version 2 will send triggered updates when the topology changes like when a link goes down.

The following are the key characteristics of RIPv2 pertaining to this question:

Split horizon - RIP doesn't advertise routes back out the interface in which they came. Or put another way, a router won't tell a neighbor about routes that the neighbor presumably already knows about. That would be silly, and could cause a loop in certain circumstances.

Triggered update - RIP will send an update out just as soon as the routing table changes. He won't wait for the Update timer to expire.

Route poisoning- RIP will tell other routers that a failed route is junk by advertising it with an infinite metric (which is 16 for RIP), effectively poisoning it.

Reference: <http://www.ethanbanks.net/?m=200702>

QUESTION NO: 96

What is the purpose of flow control?

- A. to reassemble segments in the correct order at the destination device
- B. to ensure data is retransmitted if an acknowledgment is not received
- C. to provide a means for the receiver to govern the amount of data sent by the sender
- D. to regulate the size of each segment

Answer: C

Explanation:

Flow control paces the transmission of data between a sending device and a receiving device. Flow control ensures that the receiving device can absorb the data sent to it before the sending device sends more. When the buffers on the receiving device are full, a message is sent to the sending device to suspend transmission until the data in the buffers has been processed.

QUESTION NO: 97

Which of the following protocols uses both TCP and UDP ports?

- A. Telnet
- B. FTP
- C. DNS
- D. SMTP

Answer: C

Explanation:

The following port numbers for the protocols listed above are as follows:

FTP: TCP Port 20 and 21

SMTP: TCP Port 25

Telnet: TCP Port 23

DNS: both TCP and UDP Port 53

QUESTION NO: 98

Refer to the exhibit. Which statement describes the operational state of the FastEthernet 0/0 interface?

```

Internal-router# show Interfaces FastEthernet 0/0
FastEthernet0/0 is up, line protocol is up
Hardware is PQICC_FEC, address is 000d.bd64.98f1 (bia 000d.bd64.98f1)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec, reliability 253/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set Keepalive set (10 sec)
Half-duplex, 100Mb/s, 100BaseTX/FX Internet address is 192.168.88.254/25
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:00, output 00:00:00, output hang never
Last clearing of "show interface" counters never
Queueing strategy: fifo
Output queue 0/40, 1105 drops; input queue 27/75, 10274 drops
5 minute input rate 1530000 bits/sec, 201 packets/sec
5 minute output rate 673000 bits/sec, 173 packets/sec
 404737363 packets input, 2387517953 bytes, 11 no buffer
Received 12083011 broadcasts, 0 runts, 0 giants
 0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
 0 input packets with dribble condition detected
401877661 packets output, 2769220540 bytes, 0 underruns
 0 output errors, 5768297 collisions, 0 interface resets
 0 babbles, 0 late collision, 2174742 deferred
 0 lost carrier, 0 no carrier
 0 output buffer failures, 0 output buffers swapped out

```

ActualTests

- A. The interface has failed because of a media error.
- B. The interface is operational and currently handling traffic.
- C. The interface requires a no shutdown command to be issued.
- D. The interface is generating protocol errors.

Answer: B

Explanation:

The interface is up indicates whether the interface hardware is currently active and whether it has been taken down by an administrator. "Disabled" indicates that the router has received more than 5,000 errors in a keepalive interval, which is 10 seconds, by default.

The line protocol indicates whether the software processes that handle the line protocol believe that the interface is usable (that is, whether keepalives are successful) or if it has been taken down by an administrator.

For a complete list of the field descriptions of this command as well as troubleshooting information for Ethernet interfaces refer to the reference link listed below.

Reference: "Troubleshooting Ethernet"

<http://www.cisco.com/en/US/docs/internetworking/troubleshooting/guide/tr1904.html>

QUESTION NO: 99

Refer to the exhibit. Serial0/0 does not respond to a ping request from a host on the FastEthernet0/0 LAN. How can this problem be corrected?

BHM# show ip interface brief					
Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	192.168.16.1	YES	NVRAM	up	up
Serial0/0	192.168.15.2	YES	NVRAM	administratively down	down
FastEthernet0/1	192.168.17.1	YES	NVRAM	up	up
Serial0/1	unassigned	YES	NVRAM	administratively down	down

- A. Enable the Serial 0/0 interface.
- B. Correct the IP address for Serial 0/0.
- C. Enable autoconfiguration on the Serial 0/0 interface.
- D. Correct the IP address for FastEthernet 0/0.
- E. Change the encapsulation type on Serial 0/0.

Answer: A

Explanation:

The above interface information shows that Serial0/0 is down. You just need to enable the interface.

The status of the interface shows "administratively down" which means that the interface was manually shut down, or it was never enabled in the first place. This interface needs to be enabled using the "no shutdown" command under interface serial 0/0 in the configuration.

QUESTION NO: 100 DRAG DROP

Drop

Drag the appropriate command on the left to the configuration task it accomplishes. (Not all options are used.)

login password cantCome1n

enable password uwi11NeverNo

service password-encryption

line console 0
password friendS0nly

enable secret noWay1n4u

line vty 0 4
password 2hard2Guess

encrypt all clear text passwords

protect access to the user mode prompt

set privileged mode encrypted password

set password to allow Telnet connections

set privileged mode clear text password

ActualTests

Answer:

Drag the appropriate command on the left to the configuration task it accomplishes. (Not all options are used.)

login password cantCome1n
enable password uwi11NeverNo
service password-encryption
line console 0 password friendS0nly
enable secret noWay1n4u
line vty 0 4 password 2hard2Guess

service password-encryption
line console 0 password friendS0nly
enable secret noWay1n4u
line vty 0 4 password 2hard2Guess
enable password uwi11NeverNo

ActualTests

Explanation:

Drag the appropriate command on the left to the configuration task it accomplishes. (Not all options are used.)

login password cantCome1n
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service password-encryption
line console 0 password friendS0nly
enable secret noWay1n4u
line vty 0 4 password 2hard2Guess
enable password uwi11NeverNo

ActualTests

QUESTION NO: 101

Assuming a subnet mask of 255.255.248.0, which three addresses are valid host addresses?
(Choose three.)

- A. 172.16.9.0
- B. 172.16.20.0
- C. 172.16.8.0
- D. 172.16.24.0

E. 172.16.16.0

F. 172.16.31.0

Answer: A,B,F**Explanation:**

The subnet mask is 255.255.248.0, $256-248=8$. So the network address with such mask should be multiplies of 8. Network address starts the subnet IP address, and broadcast address ends it, so the valid host addresses belongs to this scope. The valid host addresses are those which are not multiplies of 8.

For the 255.255.248.0 subnet mask the following is true.

$2-2=30$ subnets

$2-2=2,046$ hosts per subnet

$256-248=8.0, 16.0, 24.0, 32.0, 40.0, 48.0, 56.0, 64.0$, etc.

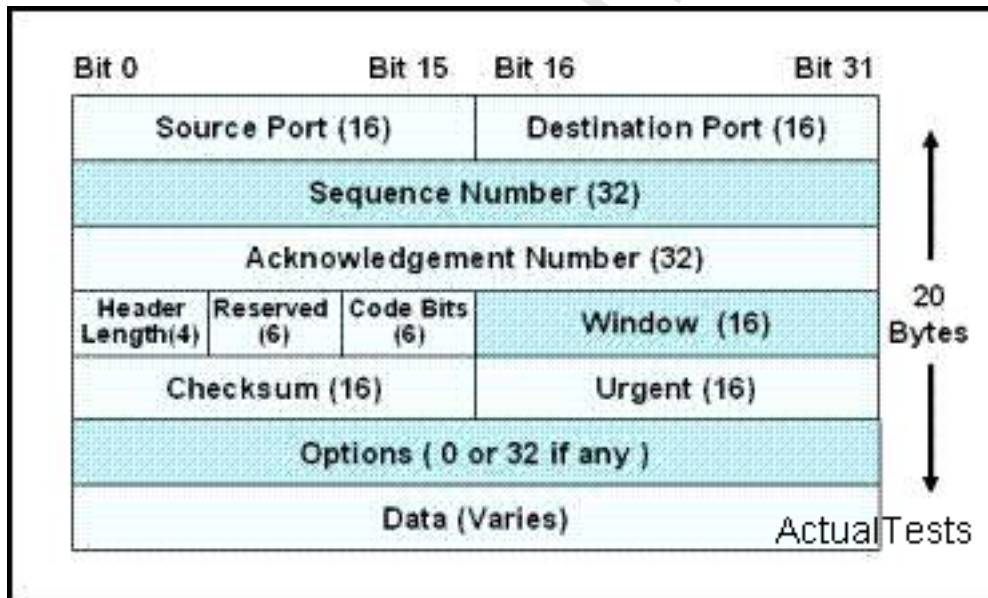
Broadcast for the 8.0 subnet is 15.255. Broadcast for the 16.0 subnet is 23.255, etc.

The valid hosts are:

Reference: <http://articles.techrepublic.com.com/5100-6350-5033673.html>

QUESTION NO: 102

What data structure is described in the graphic?



- A. Ethernet frame
- B. FDDI frame
- C. Token Ring frame
- D. UDP datagram
- E. TCP segment

F. IP datagram

Answer: E**Explanation:**

TCP packet format:

TCP source port (16 bit) TCP destination port (16 bit)

Sequence number (32 bit)

Acknowledgment number (32 bit)

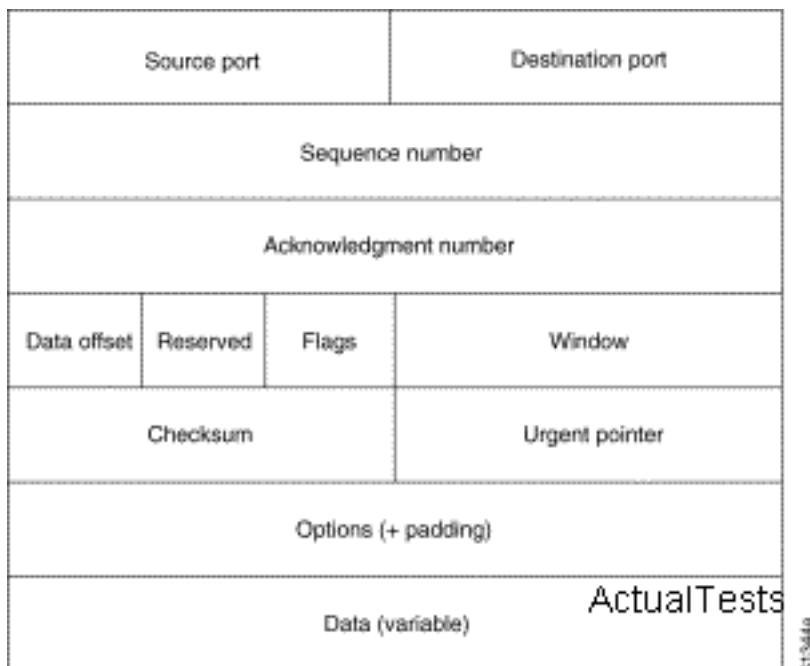
Header length (4 bit) Reserved (6 bit) tag (8 bit) window (16 bit)

Checksum (16 bit) Urgent (16 bit)

Option + fill in

Data (max 1460 bytes)

The Figure below illustrates the fields and overall format of a TCP packet.
Twelve fields comprise a TCP packet.



The following descriptions summarize the TCP packet fields illustrated above.

Source Port and Destination Port - Identifies points at which upper-layer source and destination processes receive TCP services.

Sequence Number - Usually specifies the number assigned to the first byte of data in the current message. In the connection-establishment phase, this field also can be used to identify an initial sequence number to be used in an upcoming transmission.

Acknowledgment Number - Contains the sequence number of the next byte of data the sender of the packet expects to receive.

Data Offset - Indicates the number of 32-bit words in the TCP header.

Reserved - Remains reserved for future use.

Flags - Carries a variety of control information, including the SYN and ACK bits used for connection establishment, and the FIN bit used for connection termination.

Window-Specifies the size of the sender's receive window (that is, the buffer space available for incoming data).

Checksum- Indicates whether the header was damaged in transit.

Urgent Pointer-Points to the first urgent data byte in the packet.

Options-Specifies various TCP options.

Data-Contains upper-layer information.

QUESTION NO: 103

How many simultaneous Telnet sessions does a Cisco router support by default?

- A. 3
- B. 1
- C. 2
- D. 4
- E. 5
- F. 6

Answer: E

Explanation:

Telnet sessions use virtual terminal sessions, which are configured under the "line vty " portion of the configuration. There are 5 total vty sessions that can be configured, numbered 0-4.

QUESTION NO: 104 HOTSPOT

Hotspot

Instructions

This item contains several questions that you must answer. You can view these questions by clicking on the corresponding button to the left. Changing questions can be accomplished by clicking the numbers to the left of each question. In order to complete the questions, you will need to refer to the topology.

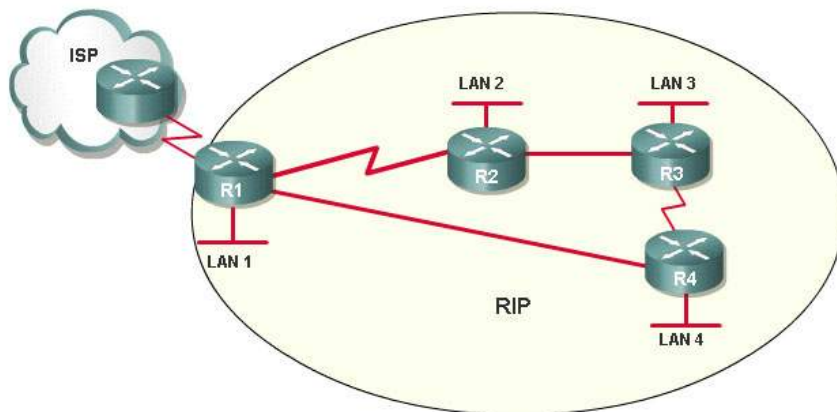
To gain access to the topology, click on the topology button at the bottom of the screen. When you have finished viewing the topology, you can return to your questions by clicking on the Questions button to the left.

Each of the windows can be minimized by clicking on the [-]. You can also reposition a window by dragging it by the title bar.

Scenario

Refer to the topology. Using the information shown, answer the five questions shown on the Questions tab.

Topology



ActualTests

Question #1

On which router should a default route be configured?

- ☐ on the ISP router
- ☐ on R1
- ☐ on R2
- ☐ on R3
- ☐ on R4

Question #2

With all links operational and all routers converged, which of the following describes the messaging between routers?

- ☐ Hellos are sent every five seconds.
- ☐ Multicasts are sent every 60 seconds.
- ☐ Broadcasts are sent every 30 seconds.
- ☐ No messaging unless the topology changes.

Question #3

Which of the following describes the route update process if the interface from R4 connected to LAN 4 goes down?

- ☐ No updates occur
- ☐ R4 tells both R1 and R3 the network not accessible. Both R3 and R1 update R2.
- ☐ R4 tells only R1 the network is not accessible. R1 updates R2 and R2 updates R3.
- ☐ R4 tells only R3 the network is not accessible. R3 updates R2 and R2 updates R1.

ActualTests

Answer:**Question #1**

On which router should a default route be configured?

- ☐ on the ISP router
- ☒ on R1
- ☐ on R2
- ☐ on R3
- ☐ on R4

Question #2

With all links operational and all routers converged, which of the following describes the messaging between routers?

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- ☐ R4 tells only R1 the network is not accessible. R1 updates R2 and R2 updates R3.
- ☐ R4 tells only R3 the network is not accessible. R3 updates R2 and R2 updates R1.

Explanation:

Question #1

On which router should a default route be configured?

- ☐ on the ISP router
- ☒ on R1
- ☐ on R2
- ☐ on R3
- ☐ on R4

Question #2

With all links operational and all routers converged, which of the following describes the messaging between routers?

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- ☐ R4 tells only R1 the network is not accessible. R1 updates R2 and R2 updates R3.
- ☐ R4 tells only R3 the network is not accessible. R3 updates R2 and R2 updates R1.

QUESTION NO: 105 HOTSPOT

Hotspot

Instructions

This item contains several questions that you must answer. You can view these questions by clicking on the corresponding button to the left. Changing questions can be accomplished by clicking the numbers to the left of each question. In order to complete the questions, you will need to refer to the topology.

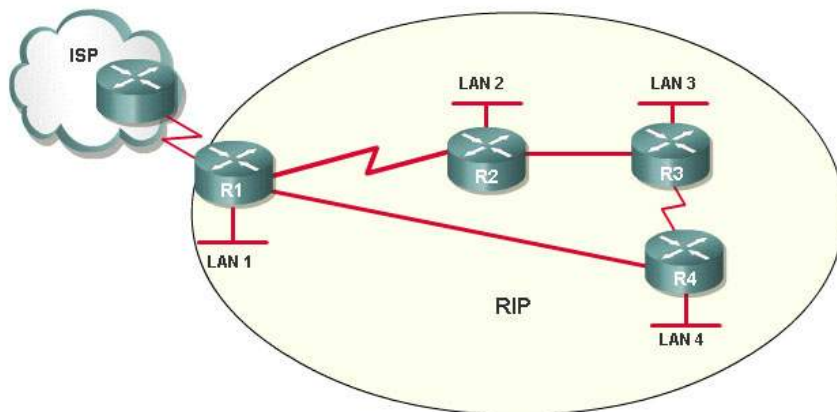
To gain access to the topology, click on the topology button at the bottom of the screen. When you have finished viewing the topology, you can return to your questions by clicking on the Questions button to the left.

Each of the windows can be minimized by clicking on the [-]. You can also reposition a window by dragging it by the title bar.

Scenario

Refer to the topology. Using the information shown, answer the five questions shown on the Questions tab.

Topology



ActualTests

Question #4

Why would RIP be used rather than static routes on R1, R2, R3, and R4?

- ☐ RIP creates more accurate than static routes.
- ☐ RIP uses less network resources than do static routes.
- ☐ RIP is supported by more different vendors equipment than static routes.
- ☐ RIP requires less configuration to automatically adjust when links go down than static routes.

Question #5

On which router should a static route be configured?

- ☐ on the ISP router
- ☐ on R1
- ☐ on R2
- ☐ on R3
- ☐ on R4

ActualTests

Answer:

Question #4

Why would RIP be used rather than static routes on R1, R2, R3, and R4?

- ☐ RIP creates more accurate than static routes.
- ☐ RIP uses less network resources than do static routes.
- ☐ RIP is supported by more different vendors equipment than static routes.
- ☒ RIP requires less configuration to automatically adjust when links go down than static routes.

Question #5

On which router should a static route be configured?

- ☒ on the ISP router
- ☐ on R1
- ☐ on R2
- ☐ on R3
- ☐ on R4

ActualTests

Explanation:

Question #4

Why would RIP be used rather than static routes on R1, R2, R3, and R4?

- ☐ RIP creates more accurate than static routes.
- ☐ RIP uses less network resources than do static routes.
- ☐ RIP is supported by more different vendors equipment than static routes.
- ☒ RIP requires less configuration to automatically adjust when links go down than static routes.

Question #5

On which router should a static route be configured?

- ☒ on the ISP router
- ☐ on R1
- ☐ on R2
- ☐ on R3
- ☐ on R4

ActualTests

QUESTION NO: 106

Which form of NAT maps multiple private IP addresses to a single registered IP address by using different ports?

- A. overloading
- B. port loading

- C. overlapping
- D. static NAT
- E. dynamic NAT

Answer: A

Explanation:

To map multiple private IP addresses to a single registered IP address by using different ports, the method adopted would be NAT configuration--overloading, that is PAT.

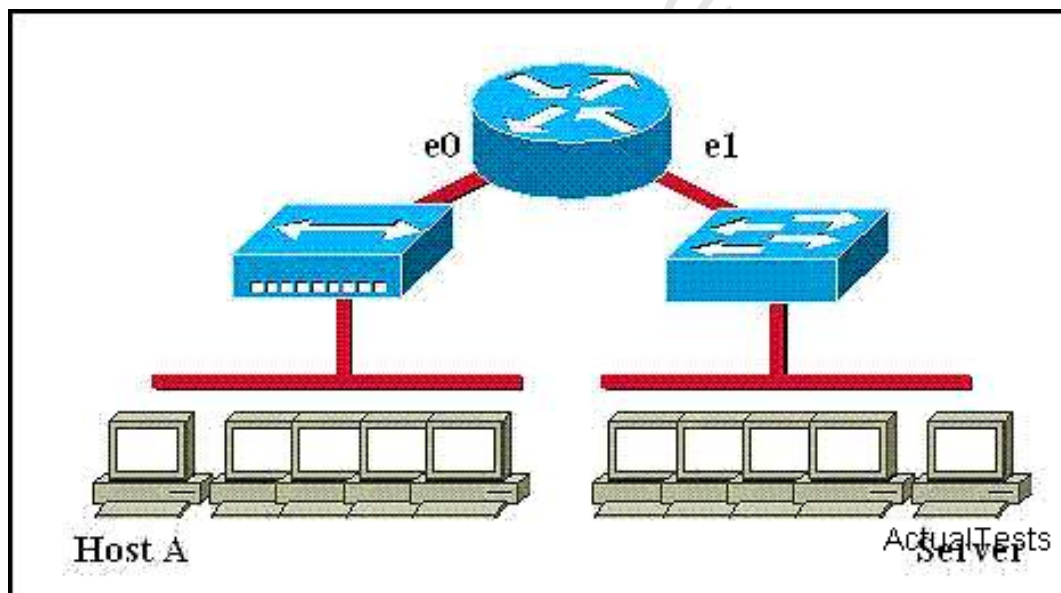
Port address translation, or NAT overloading, uses transport layer port information to dynamically create NAT entries. This is also known as one to many network address translation.

Incorrect Answers:

- B: This is the incorrect term, and is not used.
- D: This is the incorrect term, and is not used.

QUESTION NO: 107

Refer to the graphic. Host A is communicating with the server. What will be the source MAC address of the frames received by Host A from the server?

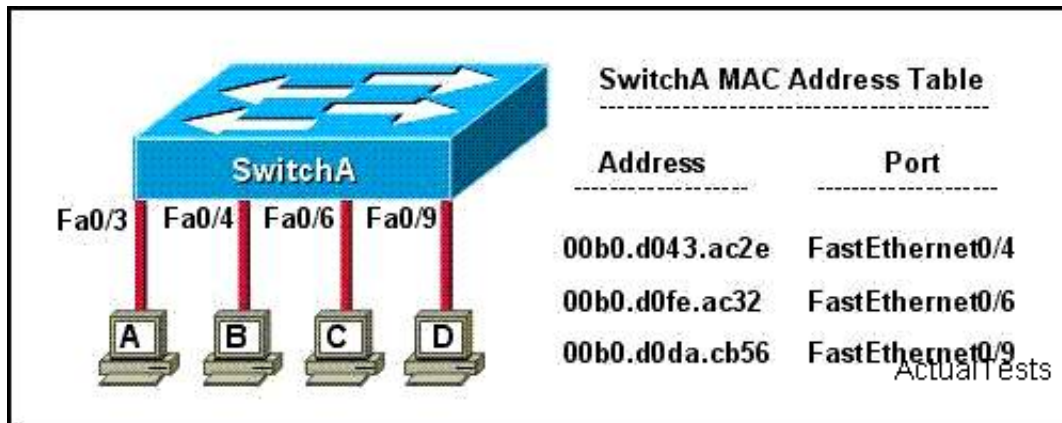


- A. the MAC address of host A
- B. the MAC address of router interface e1
- C. the MAC address of the server network interface
- D. the MAC address of router interface e0

Answer: D

QUESTION NO: 108

Refer to the topology and MAC address table shown in the exhibit. Host A sends a data frame to host D. What will the switch do when it receives the frame from host A?



- A. The switch will add the source address and port to the MAC address table and forward the frame to host D.
- B. The switch will flood the frame out of all ports except for port Fa0/3.
- C. The switch will discard the frame and send an error message back to host A.
- D. The switch will add the destination address of the frame to the MAC address table and forward the frame to host D.

Answer: A

Explanation:

When switch receives the data frame from the host not having the MAC address already in the MAC table, it will add the MAC address to the source port on the MAC address table and sends the data frame. If the switch already has the MAC address in it's table for the destination, as it is in this case, it will forward the frame directly to the destination port. If it was not already in it's MAC table, then they frame would have been flooded out all ports except for the port that it came from.

QUESTION NO: 109

Refer to the exhibit. Switch-1 needs to send data to a host with a MAC address of 00b0.d056.efa4. What will Switch-1 do with this data?

Switch-1# **show mac address-table**

```
Dynamic Addresses Count:      3
Secure Addresses (User-defined) Count: 0
Static Addresses (User-defined) Count: 0
System Self Addresses Count:  41
Total Mac addresses:         50
```

Non-static Address Table:

Destination Address	Address Type	VLAN	Destination Port
0010.0de0.e289	Dynamic	1	FastEthernet0/1
0010.7b00.1540	Dynamic	2	FastEthernet0/3
0010.7b00.1545	Dynamic	2	FastEthernet0/2

- A. Switch-1 will forward the data to its default gateway.
- B. Switch-1 will flood the data out all of its ports except the port from which the data originated.
- C. Switch-1 will send an ARP request out all its ports except the port from which the data originated.
- D. Switch-1 will drop the data because it does not have an entry for that MAC address.

Answer: B

Explanation:

Switches work as follows:

Switches learn the MAC addresses of PCs or workstations that are connected to their switch ports by examining the source address of frames that are received on that port.

Machines may have been removed from a port, turned off, or moved to another port on the same switch or a different switch.

This could cause confusion in frame forwarding.

The MAC address entry is automatically discarded or aged out after 300 seconds

If there is not MAC address of destination host in MAC table, switch sends broadcast to all ports except the source to find out the destination host.

In output there is no MAC address of give host so switch floods to all ports except the source port.

QUESTION NO: 110

Which encryption type does WPA2 use?

- A. PSK
- B. PPK via IV
- C. TKIP/MIC
- D. AES-CCMP

Answer: D

Explanation:

In 2004, the IEEE 802.11i task group responsible for Wi-Fi security for the WLAN provided a series of recommendations to fix known problems with Wireless Equivalent Privacy (WEP). Its recommendations included using encryption techniques known as Advanced Encryption Standard Counter-Mode Cipher Block Chaining (AES-CCMP) or AES for short.

AES is not the end of the story, as the industry had a problem when it moved from WEP to AES. What could be done, for example, about legacy devices that could not support the upgrade to AES? The IEEE 802.11i task group recommended using the Temporal Key Integrity Protocol (TKIP). As a patch, TKIP is not as secure as AES, but it protects against all currently known attacks.

The urgent need to fix WEP caused the Wi-Fi Alliance to develop security patch recommendations for Wi-Fi Protected Access (WPA) before the IEEE finalized standards. WPA was drawn from an early draft of the IEEE 802.11i standard, and there are significant differences between WPA and TKIP. What is similar is that neither the WPA patch for WEP nor the TKIP patch is as secure as AES.

The Wi-Fi Alliance later came out with a new security recommendation-WPA, version 2 (WPA2)-to make WPA consistent with IEEE 802.11i standards. One improvement to WPA2 was the recommendation to use AES-CCMP encryption mode . WPA2 has thus become synonymous with AES.

The table below summarizes the different encryption algorithms used for WLAN privacy.

Reference: <http://www.convergedigest.com/bp-bbw/bp1.asp?ID=465&ctgy=Mesh>

QUESTION NO: 111

Refer to the exhibit. A network technician is attempting to use HyperTerminal to configure a new router using the settings shown. What is the reason the technician is unable to connect to the router?

Port Settings

Bits per second:	19200	▼
Data bits:	8	▼
Parity:	None	▼
Stop bits:	1	▼
Flow control:	None	▼

ActualTests

- A. Flow control should be set to hardware.
- B. The data bits should be set to 6.
- C. The stop bits should be set to 2.
- D. Parity should be set to mark.
- E. The bits per second should be set to 9600.

Answer: E

QUESTION NO: 112 DRAG DROP

LAB

You have to click the terminal of the HOME Router (under the HOME Router and show as PC), then you will get the command prompt on the right as following:

Home>

In this mode enter the command:

enable

and will enter privilege mode, the command prompt as following:

Home#

You have to check the information of the interface IP configuration of the HOME Router and the neighbors information. Please enter following command to get the details.

Home#show run

Home#show cdp neighbors

You have been hired by PC Consultants Incorporated to document the layout of the network. Complete the following tasks:

? Complete the network topology shown in the graphic by dragging the labels below with the appropriate router types, interface types, and IP addresses to the graphic. Find the information you need by using the router console attached to the Home router.

The diagram shows a central 'HOME' router connected to four other routers. The connections are as follows:

- Top-left router (Fa0/0) to HOME (Fa0/0) with IP 192.168.47.2/24
- Top-right router (S0/0) to HOME (S0/0) with IP 192.168.238.2/24
- Bottom-left router (Fa0/1) to HOME (Fa0/1) with IP 192.168.235.2/24
- Bottom-right router (S0/1) to HOME (S0/1) with IP 192.168.39.2/24

The CiscoTerminal window shows the 'HOME' router console with the message 'Home con0 is now available' and 'Press RETURN to get started.' The interface types and IP addresses are listed in the bottom panel.

Answer:

You have been hired by PC Consultants Incorporated to document the layout of the network. Complete the following tasks:

? Complete the network topology shown in the graphic by dragging the labels below with the appropriate router types, interface types, and IP addresses to the graphic. Find the information you need by using the router console attached to the Home router.

The diagram shows the completed network topology. The connections are as follows:

- Top-left router (2620, Fa0/1) to HOME (Fa0/0) with IP 192.168.47.2/24
- Top-right router (2514, S1) to HOME (S0/0) with IP 192.168.238.2/24
- Bottom-left router (2621, Fa0/0) to HOME (Fa0/1) with IP 192.168.235.2/24
- Bottom-right router (2501, S0) to HOME (S0/1) with IP 192.168.39.2/24

The CiscoTerminal window shows the 'HOME' router console with the message 'Home con0 is now available' and 'Press RETURN to get started.' The interface types and IP addresses are listed in the bottom panel.

Explanation:

You have been hired by Specialty Hardware Incorporated to document the layout of the network. Complete the following tasks: Complete the network topology shown in the graphic by dragging the labels below with the appropriate router types, interface types, and IP addresses to the graphic. Find the information you need by using the router console attached to the P4S-R router.

Available Labels:

- Router types: 2620, 2621, 2501, 2514
- IP addresses: 192.168.237.2/24, 192.168.66.2/24, 192.168.107.2/24, 192.168.220.2/24
- Interface types: S0, S1, S0/0, S0/1, E0, E1, Fa0/0, Fa0/1

P4S-R# show cdp neighbor

Device ID	Local Interface	Holdtime	Capability	Platform	Port ID
Birmingham	Fas 0/0	151	R S	2514	E1
ReImap	Fas 0/1	150	R S	2621	Fa0/0
Boaz	Ser 0/0	137	R S	2501	S0
Atlanta	Ser 0/1	126	R S	2620	S0/1

P4S-R# show run

```

interface FastEthernet0/0
 ip address 192.168.237.1 255.255.255.0
 duplex auto
 speed auto

interface FastEthernet0/1
 ip address 192.168.107.1 255.255.255.0
 duplex auto
 speed auto

interface Serial0/0
 ip address 192.168.66.1 255.255.255.0

interface Serial0/1
 ip address 192.168.220.1 255.255.255.0
  
```

QUESTION NO: 113 HOTSPOT

Hotspot

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.

In order to begin communicating with the server, host F sends out an ARP request. How will the devices exhibited in the topology respond to this request?

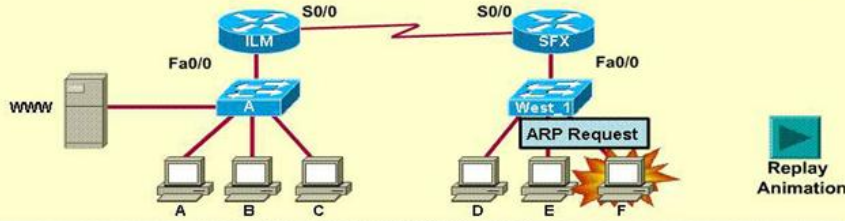
Question 1 of 4

- ☐ Switch West_1 will reply with the MAC address of the server.
- ☐ Hosts D and E will respond that the destination is not on the local LAN.
- ☐ Router SFX will forward the ARP request to the ILM router.
- ☐ Switch West_1 will block the request since the server is not on the LAN.
- ☐ The ILM router will respond with the IP address of the WWW server.
- ☐ Router SFX will respond with the MAC address of its Fa0/0 interface.

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



In order to begin communicating with the server, host F sends out an ARP request. How will the devices exhibited in the topology respond to this request?

Question 1 of 4

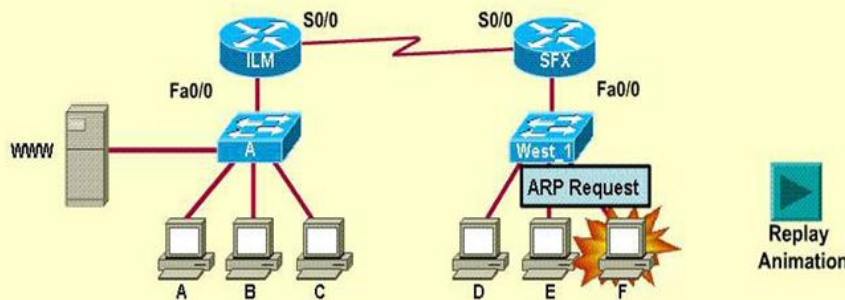
- ☐ Switch West_1 will reply with the MAC address of the server.
- ☐ Hosts D and E will respond that the destination is not on the local LAN.
- ☐ Router SFX will forward the ARP request to the ILM router .
- ☐ Switch West_1 will block the request since the server is not on the LAN.
- ☐ The ILM router will respond with the IP address of the WWW server.
- ☒ Router SFX will respond with the MAC address of its Fa0/0 interface.

ActualTests

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



In order to begin communicating with the server, host F sends out an ARP request. How will the devices exhibited in the topology respond to this request?

Question 1 of 4

- ☐ Switch West_1 will reply with the MAC address of the server.
- ☐ Hosts D and E will respond that the destination is not on the local LAN.
- ☐ Router SFX will forward the ARP request to the ILM router .
- ☐ Switch West_1 will block the request since the server is not on the LAN.
- ☐ The ILM router will respond with the IP address of the WWW server.
- ☒ Router SFX will respond with the MAC address of its Fa0/0 interface.

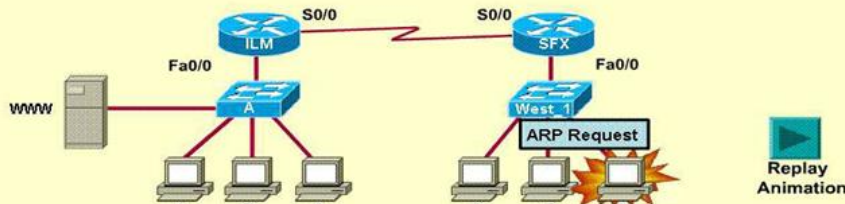
ActualTests

QUESTION NO: 114 HOTSPOT

HOTSPOT

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The ARP reply has been received by host F, which needs to build the packet. What information will be placed in the header of the packet that leaves host F if host F is to communicate with the WWW server? (Choose two.)

- ☐ The destination address will be the IP address of interface Fa0/0 of the ILM router .
- ☐ The destination address will be the IP address of the WWW server.
- ☐ The destination address will be the IP address of interface Fa0/0 of router SFX.
- ☐ The source address will be the IP address of host F.
- ☐ The source address will be the IP address of interface Fa0/0 of router SFX.
- ☐ The destination address will be the IP address of interface Fa0/0 of router SFX.

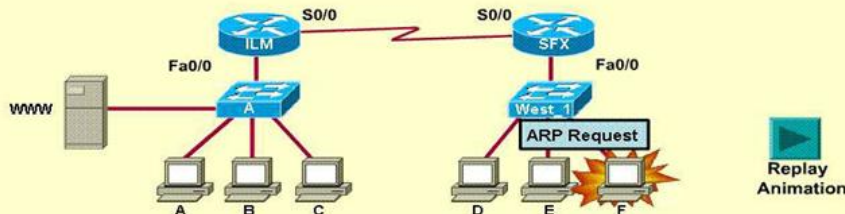
ActualTests

Question 1 of 4

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The ARP reply has been received by host F, which needs to build the packet. What information will be placed in the header of the packet that leaves host F if host F is to communicate with the WWW server? (Choose two.)

- ☐ The destination address will be the IP address of interface Fa0/0 of the ILM router .
- ☒ The destination address will be the IP address of the WWW server.
- ☐ The destination address will be the IP address of interface Fa0/0 of router SFX.
- ☐ The source address will be the IP address of host F.
- ☒ The source address will be the IP address of interface Fa0/0 of router SFX.
- ☐ The destination address will be the IP address of interface Fa0/0 of router SFX.

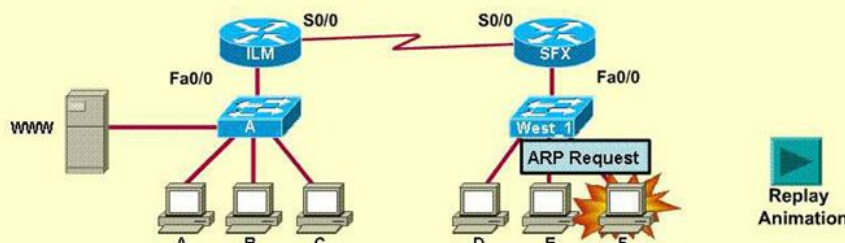
ActualTests

Question 1 of 4

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The frame has been received by the ILM router and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by the ILM router ? (Choose two.)

- ☐ The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of the ILM router .
- ☒ The destination address will be the MAC address of the WWW server.
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
- ☐ The source address will be the MAC address of host F.
- ☒ The source address will be the MAC address of interface Fa0/0 of the ILM router .
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.

ActualTests

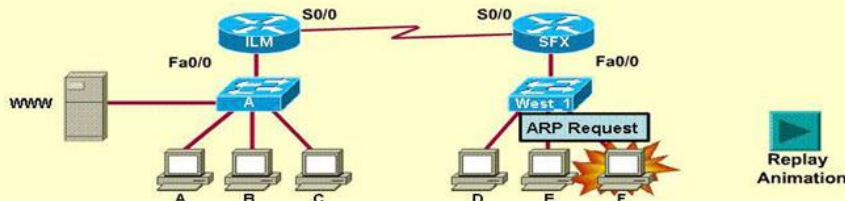
Question 1 of 4

QUESTION NO: 115 HOTSPOT

HOTSPOT

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The frame has been received by the ILM router and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by the ILM router ? (Choose two.)

Question 1 of 4

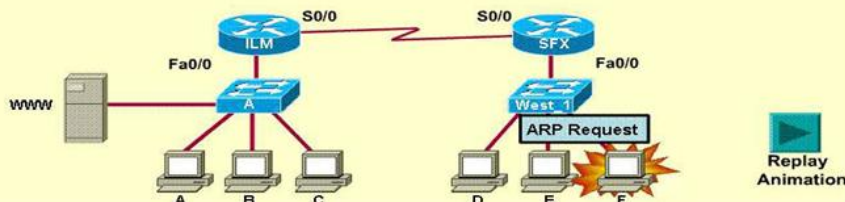
- ☐ The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of the ILM router .
- ☐ The destination address will be the MAC address of the WWW server.
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
- ☐ The source address will be the MAC address of host F.
- ☐ The source address will be the MAC address of interface Fa0/0 of the ILM router .
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.

ActualTests

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The frame has been received by the ILM router and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by the ILM router ? (Choose two.)

Question 1 of 4

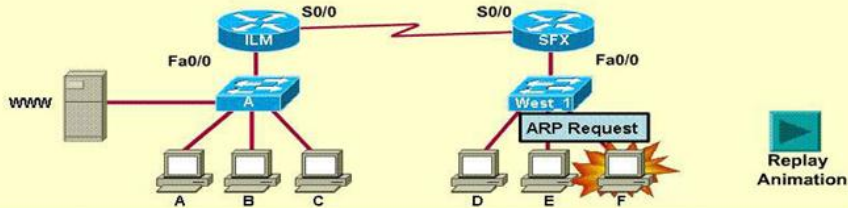
- ☐ The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of the ILM router .
- ☒ The destination address will be the MAC address of the WWW server.
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
- ☐ The source address will be the MAC address of host F.
- ☒ The source address will be the MAC address of interface Fa0/0 of the ILM router .
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.

ActualTests

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



Replay Animation

The frame has been received by the ILM router and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by the ILM router? (Choose two.)

- ☐ The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of the ILM router.
- ☒ The destination address will be the MAC address of the WWW server.
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
- ☐ The source address will be the MAC address of host F.
- ☒ The source address will be the MAC address of interface Fa0/0 of the ILM router.
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.

ActualTests

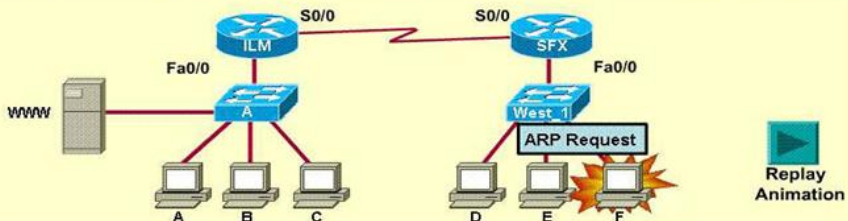
Question 1 of 4

QUESTION NO: 116 HOTSPOT

HOTSPOT

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



Replay Animation

Host F is displaying two World Wide Web documents from the WWW server in two browser windows at the same time. How did the data find its way to the correct browser windows?

- ☐ The IP source addresses of the packets will be used to direct the data to the correct browser window.
- ☐ The browsers track the data by the URL.
- ☐ TCP port numbers are used to direct the data to the correct application window.
- ☐ The OSI application layer tracks the conversations and directs them to the correct browser.

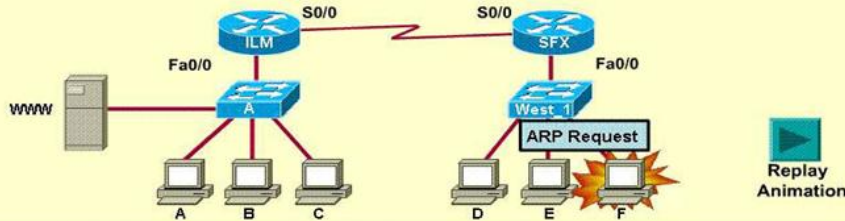
ActualTests

Question 1 of 4

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



Host F is displaying two World Wide Web documents from the WWW server in two browser windows at the same time. How did the data find its way to the correct browser windows?

Question 1 of 4

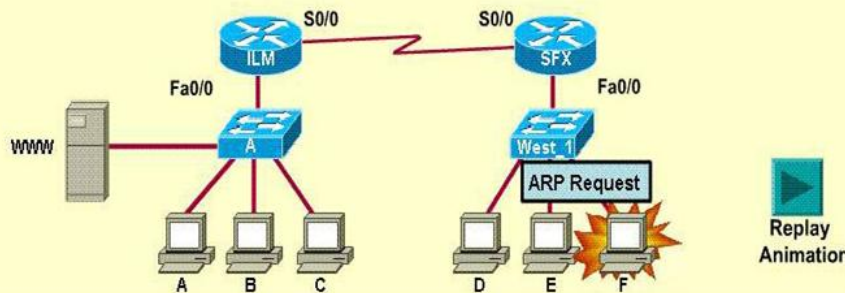
- ☐ The IP source addresses of the packets will be used to direct the data to the correct browser window.
- ☐ The browsers track the data by the URL.
- ☒ TCP port numbers are used to direct the data to the correct application window.
- ☐ The OSI application layer tracks the conversations and directs them to the correct browser.

ActualTests

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host F and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



Host F is displaying two World Wide Web documents from the WWW server in two browser windows at the same time. How did the data find its way to the correct browser windows?

Question 1 of 4

- ☐ The IP source addresses of the packets will be used to direct the data to the correct browser window.
- ☐ The browsers track the data by the URL.
- ☒ TCP port numbers are used to direct the data to the correct application window.
- ☐ The OSI application layer tracks the conversations and directs them to the correct browser.

ActualTests

QUESTION NO: 117 HOTSPOT

Hotspot

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

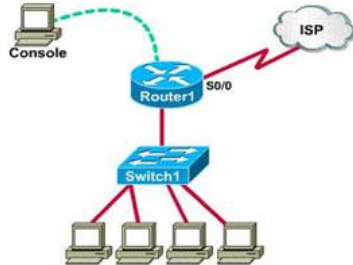
NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01



- 1 What is the subnet broadcast address of the LAN connected to Router1?
- 2
- 3
- 4
- 5
- ☐ 192.168.136.15
 - ☐ 192.168.136.31
 - ☐ 192.168.136.63
 - ☐ 192.168.136.127
 - ☐ 255.255.255.255

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Answer:

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

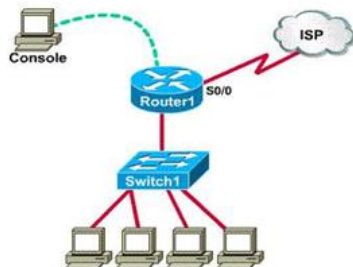
NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01



- 1 What is the subnet broadcast address of the LAN connected to Router1?
- 2
- 3
- 4
- 5
- ☐ 192.168.136.15
 - ☒ 192.168.136.31
 - ☐ 192.168.136.63
 - ☐ 192.168.136.127
 - ☐ 255.255.255.255

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Explanation:

- 1 What is the subnet broadcast address of the LAN connected to Router1?
- 2
- 3
- 4
- 5
- ☐ 192.168.136.15
 - ☒ 192.168.136.31
 - ☐ 192.168.136.63
 - ☐ 192.168.136.127
 - ☐ 255.255.255.255

ActualTests

QUESTION NO: 118 HOTSPOT

HOTSPOT

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

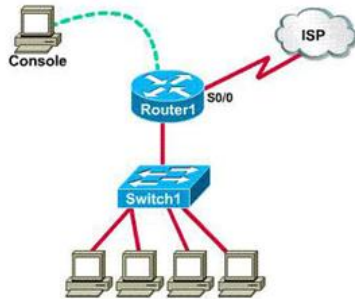
To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01

CiscoTerminal



1 What is the bandwidth on the WAN interface of Router1?

- 2
- 3
- 4
- 5
- ☐ 16 Kbit/sec
 - ☐ 32 Kbit/sec
 - ☐ 64 Kbit/sec
 - ☐ 128 Kbit/sec
 - ☐ 512 Kbit/sec
 - ☐ 1544 Kbit/sec

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Answer:

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

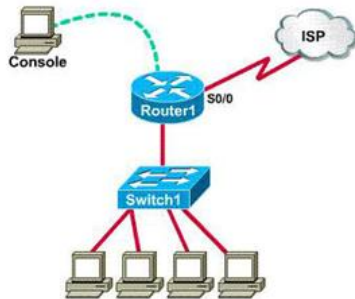
To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01

CiscoTerminal



1 What is the bandwidth on the WAN interface of Router1?

- 2
- 3
- 4
- 5
- ☐ 16 Kbit/sec
 - ☐ 32 Kbit/sec
 - ☐ 64 Kbit/sec
 - ☐ 128 Kbit/sec
 - ☒ 512 Kbit/sec
 - ☐ 1544 Kbit/sec

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Explanation:

1

What is the bandwidth on the WAN interface of Router1?

2

3

4

5

- ☐ 16 Kbit/sec
- ☐ 32 Kbit/sec
- ☐ 64 Kbit/sec
- ☐ 128 Kbit/sec
- ☒ 512 Kbit/sec
- ☐ 1544 Kbit/sec

ActualTests

QUESTION NO: 119 HOTSPOT

HOTSPOT

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

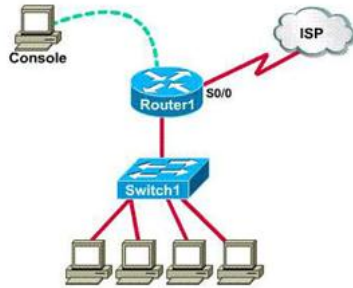
NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01



1 What interfaces on Router1 have not had any configurations applied? (Choose two.)

- 2 ☐ Ethernet 0
 3 ☐ FastEthernet 0/0
 4 ☐ FastEthernet 0/1
 5 ☐ Serial 0
☐ Serial 0/0
☐ Serial 0/1

CiscoTerminal

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Answer:

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

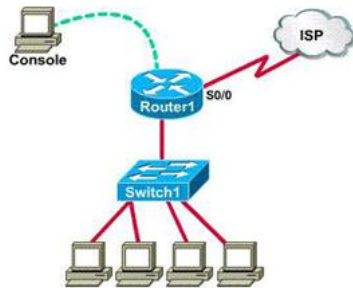
NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01



1 What interfaces on Router1 have not had any configurations applied? (Choose two.)

- 2 ☐ Ethernet 0
 3 ☒ FastEthernet 0/0
 4 ☐ FastEthernet 0/1
 5 ☒ Serial 0
☐ Serial 0/0
☐ Serial 0/1

CiscoTerminal

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Explanation:

1 What interfaces on Router1 have not had any configurations applied? (Choose two.)

- 2 ☐ Ethernet 0
 3 ☒ FastEthernet 0/0
 4 ☐ FastEthernet 0/1
 5 ☐ Serial 0
☒ Serial 0/0
☐ Serial 0/1

ActualTests

QUESTION NO: 120 HOTSPOT

HOTSPOT

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

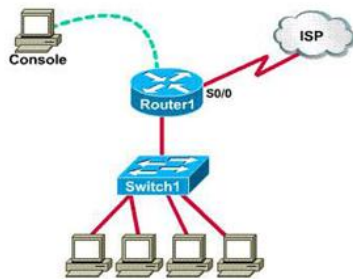
NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01



1 Including the address on the Router1 FastEthernet interface, how many hosts can have IP addresses on the LAN to which Router1 is connected?

- 2
3
4
5
- ☐ 6
☐ 14
☐ 62
☐ 126

CiscoTerminal

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Answer:

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

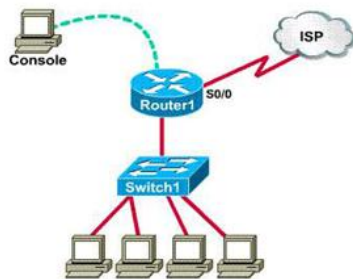
NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01



1 Including the address on the Router1 FastEthernet interface, how many hosts can have IP addresses on the LAN to which Router1 is connected?

- 2
3
4
5
- ☐ 6
☒ 14
☐ 62
☐ 126

CiscoTerminal

Router1 con0 is now available.

Press RETURN to get started.

ActualTests

Explanation:

1 Including the address on the Router1 FastEthernet interface, how many hosts can have IP addresses on the LAN to which Router1 is connected?

- 2
3
4
5
- ☐ 6
☒ 14
☐ 62
☐ 126

ActualTests

QUESTION NO: 121 HOTSPOT

HOTSPOT

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

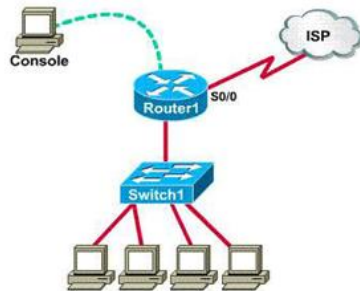
To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01

CiscoTerminal



- 1 The hosts in the LAN are not able to connect to the Internet. Which commands will correct this issue?
- 2 ☐ Router1(conf)# interface fa0/0
Router1(conf-if)# no shutdown
- 3 ☐ Router1(conf)# interface fa0/1
Router1(conf-if)# no shutdown
- 4 ☐ Router1(conf)# interface s0/0
Router1(conf-if)# no shutdown
- 5 ☐ Router1(conf)# interface s0/1
Router1(conf-if)# no shutdown
- ☐ Router1(conf)# interface s0/1
Router1(conf-if)# no shutdown
- ☐ Router1(conf)# interface s0/0
Router1(conf-if)# no shutdown
- ☐ Router1(conf-if)# ip address 10.11.12.13 255.255.255.252
- ☐ Router1(conf)# interface s0/1
Router1(conf-if)# ip address 10.11.12.13 255.255.255.252

Router1 con0 is now available

Press RETURN to get started.

ActualTests

Answer:

This task requires the use of various **show** commands from the CLI of Router1 to answer 5 multiple-choice questions. This does **not** require any configuration.

NOTE: The show running-configuration and the show startup-configuration commands have been disabled in this simulation.

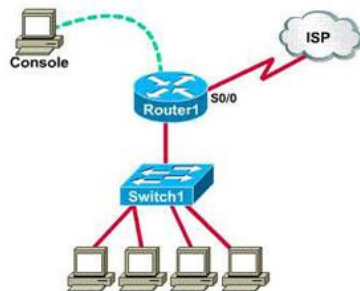
To access the multiple-choice questions, click on the numbered boxes on the right of the top panel.

There are 5 multiple-choice questions with this task. Be sure to answer all 5 questions before leaving this item.

eSim Professional v1.0.1.9

00:00:01

CiscoTerminal



- 1 The hosts in the LAN are not able to connect to the Internet. Which commands will correct this issue?
- 2 ☐ Router1(conf)# interface fa0/0
Router1(conf-if)# no shutdown
- 3 ☐ Router1(conf)# interface fa0/1
Router1(conf-if)# no shutdown
- 4 ☐ Router1(conf)# interface s0/0
Router1(conf-if)# no shutdown
- 5 ☒ Router1(conf)# interface s0/0
Router1(conf-if)# no shutdown
- ☐ Router1(conf)# interface s0/1
Router1(conf-if)# no shutdown
- ☐ Router1(conf)# interface s0/1
Router1(conf-if)# no shutdown
- ☐ Router1(conf)# interface s0/0
Router1(conf-if)# no shutdown
- ☐ Router1(conf-if)# ip address 10.11.12.13 255.255.255.252
- ☐ Router1(conf)# interface s0/1
Router1(conf-if)# ip address 10.11.12.13 255.255.255.252

Router1 con0 is now available

Press RETURN to get started.

ActualTests

Explanation:

1 The hosts in the LAN are not able to connect to the Internet. Which commands will correct this issue?

- 2 ☐ Router1(conf)# interface fa0/0
- 3 ☐ Router1(conf-if)# no shutdown
- 4 ☐ Router1(conf)# interface fa0/1
- 5 ☐ Router1(conf-if)# no shutdown
- ☒ Router1(conf)# interface s0/0
- ☐ Router1(conf-if)# no shutdown
- ☐ Router1(conf)# interface s0/1
- ☐ Router1(conf-if)# no shutdown
- ☐ Router1(conf)# interface s0/0
- ☐ Router1(conf-if)# ip address 10.11.12.13 255.255.255.252
- ☐ Router1(conf)# interface s0/1
- ☐ Router1(conf-if)# ip address 10.11.12.13 255.255.255.252

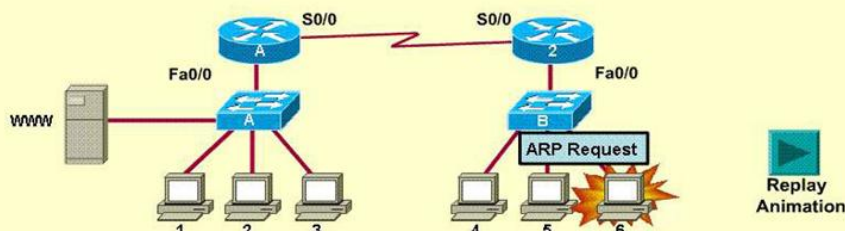
ActualTests

QUESTION NO: 122 HOTSPOT

Hotspot

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



In order to begin communicating with the server, host 6 sends out an ARP request. How will the devices exhibited in the topology respond to this request?

Question 1 of 4

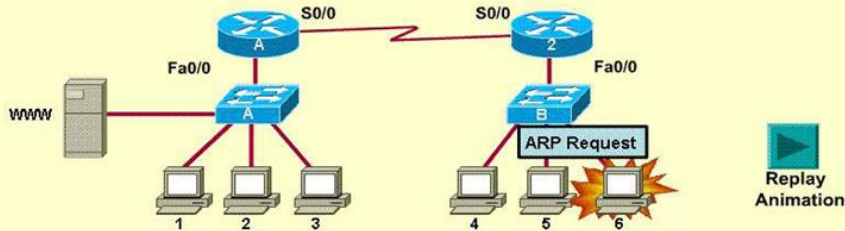
- ☐ Switch B will reply with the MAC address of the server.
- ☐ Hosts 4 and 5 will respond that the destination is not on the local LAN.
- ☐ Router 2 will forward the ARP request to router A.
- ☐ Switch B will block the request since the server is not on the LAN.
- ☐ Router A will respond with the IP address of the WWW server.
- ☐ Router 2 will respond with the MAC address of its Fa0/0 interface.

ActualTests

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



In order to begin communicating with the server, host 6 sends out an ARP request. How will the devices exhibited in the topology respond to this request?

Question 1 of 4

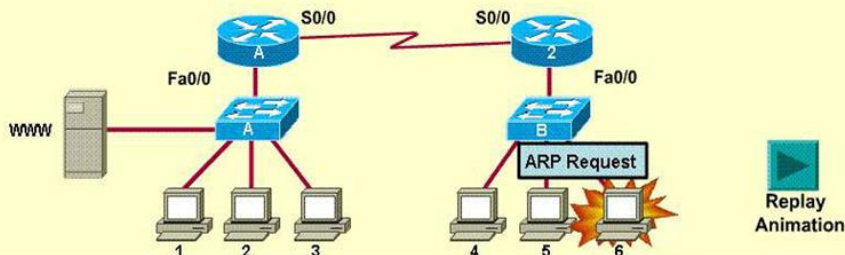
- ☐ Switch B will reply with the MAC address of the server.
- ☐ Hosts 4 and 5 will respond that the destination is not on the local LAN.
- ☐ Router 2 will forward the ARP request to router A.
- ☐ Switch B will block the request since the server is not on the LAN.
- ☐ Router A will respond with the IP address of the WWW server.
- ☒ Router 2 will respond with the MAC address of its Fa0/0 interface.

ActualTests

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



In order to begin communicating with the server, host 6 sends out an ARP request. How will the devices exhibited in the topology respond to this request?

Question 1 of 4

- ☐ Switch B will reply with the MAC address of the server.
- ☐ Hosts 4 and 5 will respond that the destination is not on the local LAN.
- ☐ Router 2 will forward the ARP request to router A.
- ☐ Switch B will block the request since the server is not on the LAN.
- ☐ Router A will respond with the IP address of the WWW server.
- ☒ Router 2 will respond with the MAC address of its Fa0/0 interface.

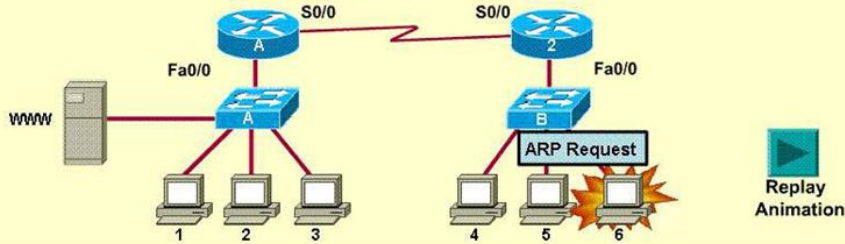
ActualTests

QUESTION NO: 123 HOTSPOT

Hotspot

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The ARP reply has been received by host 6, which needs to build the packet. What information will be placed in the header of the packet that leaves host 6 if host 6 is to communicate with the WWW server? (Choose two.)

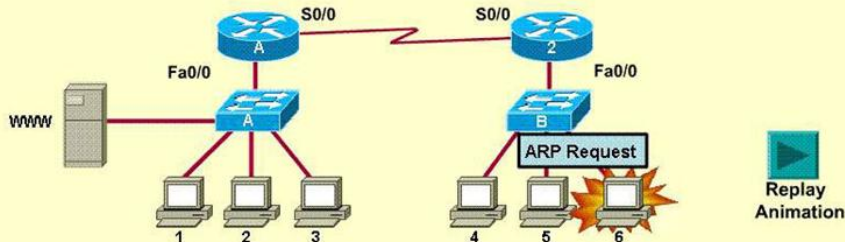
- ☐ The destination address will be the IP address of interface Fa0/0 of router A.
- ☐ The destination address will be the IP address of the WWW server.
- ☐ The destination address will be the IP address of interface Fa0/0 of router 2.
- ☐ The source address will be the IP address of host 6.
- ☐ The source address will be the IP address of interface Fa0/0 of router 2.
- ☐ The destination address will be the IP address of interface Fa0/0 of router 2.

ActualTests

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The ARP reply has been received by host 6, which needs to build the packet. What information will be placed in the header of the packet that leaves host 6 if host 6 is to communicate with the WWW server? (Choose two.)

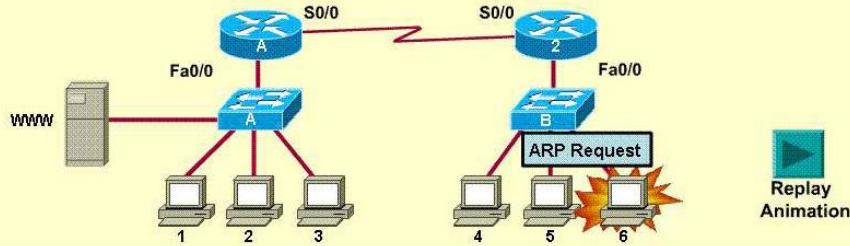
- ☐ The destination address will be the IP address of interface Fa0/0 of router A.
- ☒ The destination address will be the IP address of the WWW server.
- ☐ The destination address will be the IP address of interface Fa0/0 of router 2.
- ☒ The source address will be the IP address of host 6.
- ☐ The source address will be the IP address of interface Fa0/0 of router 2.
- ☐ The destination address will be the IP address of interface Fa0/0 of router 2.

ActualTests

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The ARP reply has been received by host 6, which needs to build the packet. What information will be placed in the header of the packet that leaves host 6 if host 6 is to communicate with the WWW server? (Choose two.)

- ☐ The destination address will be the IP address of interface Fa0/0 of router A.
- ☒ The destination address will be the IP address of the WWW server.
- ☐ The destination address will be the IP address of interface Fa0/0 of router 2.
- ☒ The source address will be the IP address of host 6.
- ☐ The source address will be the IP address of interface Fa0/0 of router 2.
- ☐ The destination address will be the IP address of interface Fa0/0 of router 2.

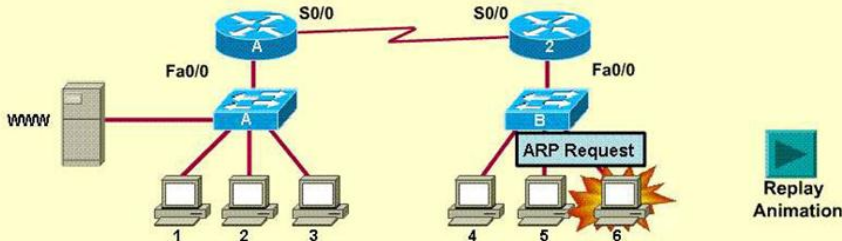
ActualTests

QUESTION NO: 124 HOTSPOT

Hotspot

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The frame has been received by router A and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by router A? (Choose two.)

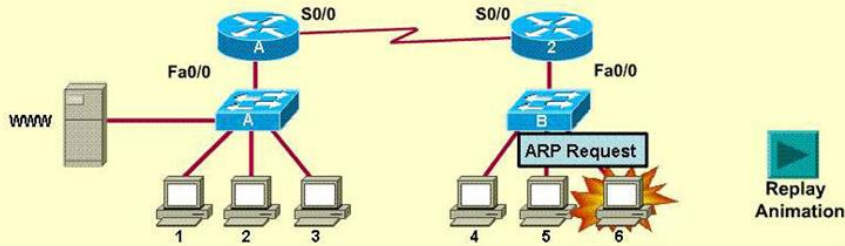
- ☐ The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of router A.
- ☐ The destination address will be the MAC address of the WWW server.
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
- ☐ The source address will be the MAC address of host 6.
- ☐ The source address will be the MAC address of interface Fa0/0 of router A.
- ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.

ActualTests

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



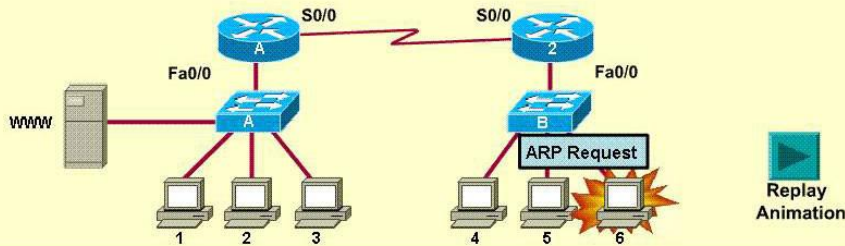
The frame has been received by router A and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by router A? (Choose two.)

- Question 1 of 4
- ☐ The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of router A.
 - ☒ The destination address will be the MAC address of the WWW server.
 - ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
 - ☐ The source address will be the MAC address of host 6.
 - ☒ The source address will be the MAC address of interface Fa0/0 of router A.
 - ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
- ActualTests

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



The frame has been received by router A and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by router A? (Choose two.)

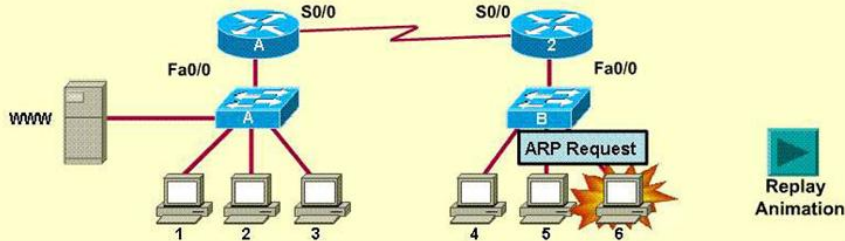
- Question 1 of 4
- ☐ The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of router A.
 - ☒ The destination address will be the MAC address of the WWW server.
 - ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
 - ☐ The source address will be the MAC address of host 6.
 - ☒ The source address will be the MAC address of interface Fa0/0 of router A.
 - ☐ The destination address will be the MAC address of the A switch port attached to the WWW server.
- ActualTests

QUESTION NO: 125 HOTSPOT

Hotspot

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



Host 6 is displaying two World Wide Web documents from the WWW server in two browser windows at the same time. How did the data find its way to the correct browser windows?

Question 1 of 4

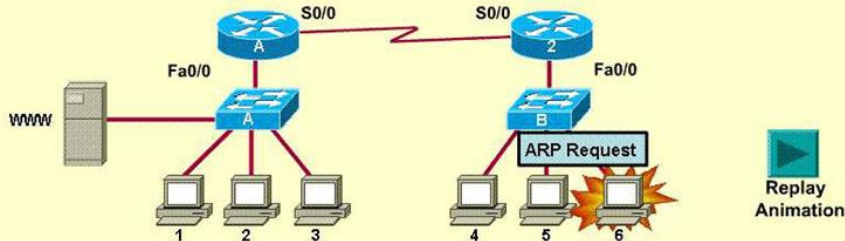
- ☐ The IP source addresses of the packets will be used to direct the data to the correct browser window.
- ☐ The browsers track the data by the URL.
- ☐ TCP port numbers are used to direct the data to the correct application window.
- ☐ The OSI application layer tracks the conversations and directs them to the correct browser.

ActualTests

Answer:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



Host 6 is displaying two World Wide Web documents from the WWW server in two browser windows at the same time. How did the data find its way to the correct browser windows?

Question 1 of 4

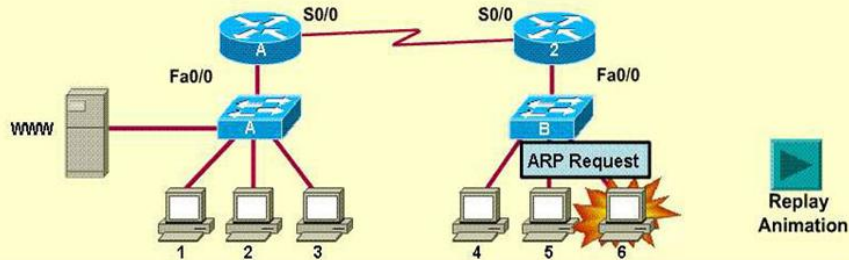
- ☐ The IP source addresses of the packets will be used to direct the data to the correct browser window.
- ☐ The browsers track the data by the URL.
- ☒ TCP port numbers are used to direct the data to the correct application window.
- ☐ The OSI application layer tracks the conversations and directs them to the correct browser.

ActualTests

Explanation:

This is a testlet. The testlet consists of 4 questions that relate to the scenario below.

Directions: Refer to the exhibit. This testlet consists of four questions that address steps in the process of data communication between host 6 and the server named "WWW" on another LAN. You are free to move back and forth between the questions to review your answers.



Host 6 is displaying two World Wide Web documents from the WWW server in two browser windows at the same time. How did the data find its way to the correct browser windows?

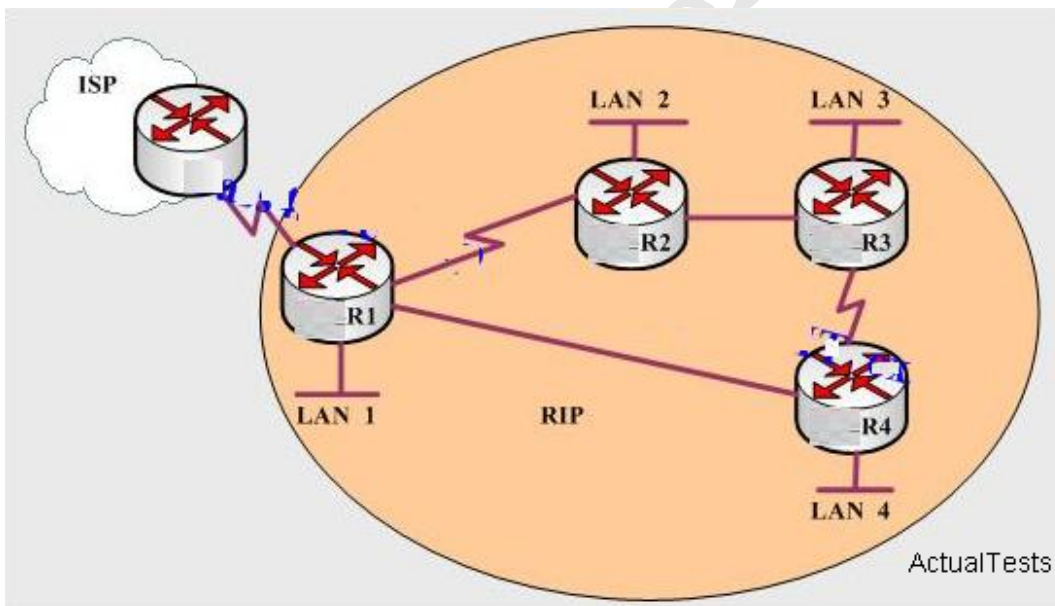
Question 1 of 4

- ☐ The IP source addresses of the packets will be used to direct the data to the correct browser window.
- ☐ The browsers track the data by the URL.
- ☒ TCP port numbers are used to direct the data to the correct application window.
- ☐ The OSI application layer tracks the conversations and directs them to the correct browser.

ActualTests

QUESTION NO: 126

You are a network administrator. You are required to configure a default route on a router. Which router should you choose?

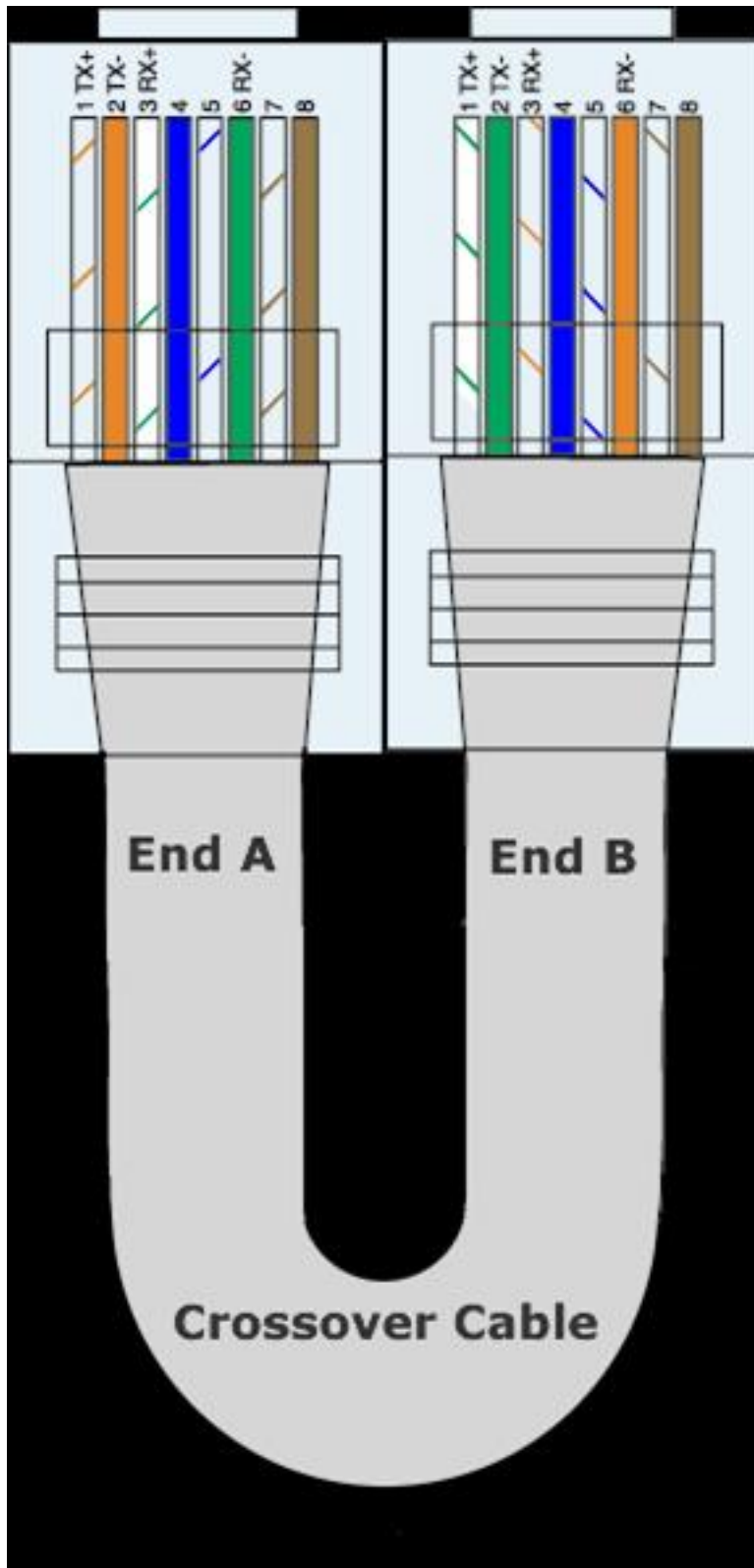


- A. R1
- B. ISP router
- C. R2
- D. R3

Answer: A

QUESTION NO: 127

You work as a network technician. The displayed wire scheme is terminated at each end with an RJ-45 connector. Which type of cables does the wire diagram represent?



- A. a rollover cable
- B. an Ethernet crossover cable
- C. a serial crossover cable

D. an Ethernet straight-through cable

Answer: B

QUESTION NO: 128

Match the corresponding command and configuration task. (Not all options are used.)

1. login password certpaper1
 2. enable password certpaper2
 3. enable secret certpaper4
 4. service password-encryption
 5. line vty 0 4 password certpaper5
 6. line console 0 password certpaper3
-
- a. encrypt all clear text passwords
 - b. protect access to the user mode prompt
 - c. set privileged mode encrypted password
 - d. set password to allow Telnet connections
 - e. set privileged mode clear text password
-
- A. a-4,b-3,c-5,d-2,e-6
 - B. a-4,b-5,c-3,d-2,e-6
 - C. a-4,b-6,c-3,d-5,e-2
 - D. a-4,b-6,c-5,d-3,e-2

Answer: C

QUESTION NO: 129

For the following items, which signaling standard is in charge of managing the connection and maintaining status between the router and the local Frame Relay switch?

- A. FECN
- B. LMI
- C. DLCI
- D. CIR

Answer: B

QUESTION NO: 130

A PC is attached to the console port of a new Cisco router. The router is powered on. If the PC has been configured correctly for a console connection, what will the router display after it powers up?

- A. Router>
- B. an option to execute the show running-config command
- C. a series of prompts to run various POST tests
- D. the option to enter initial system configuration information

Answer: D

QUESTION NO: 131

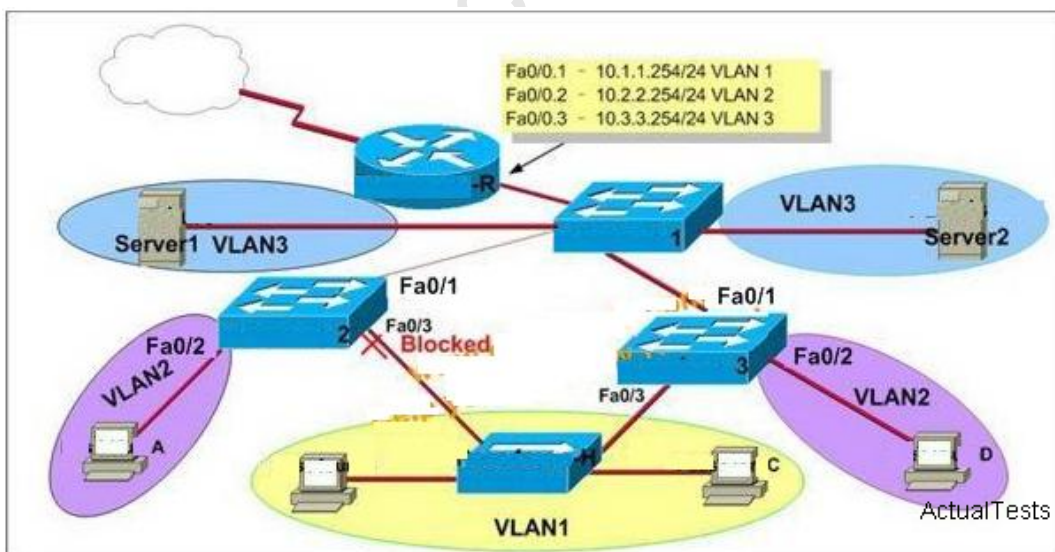
Attaching an Ethernet cable to a PC NIC and then attaching to a switch port. The PC power is turned on and the switch port link LED becomes green. Which two conditions does the link light indicate? (Choose two.)

- A. Traffic is being sent from the switch to the PC.
- B. If flashing, the green LED indicates port speed of 100 Mb/s.
- C. The Layer 1 media is functioning between the PC and switch.
- D. Layer 2 communication has been established between the PC and switch.

Answer: C,D

QUESTION NO: 132

The part of Certpaper network is shown below:



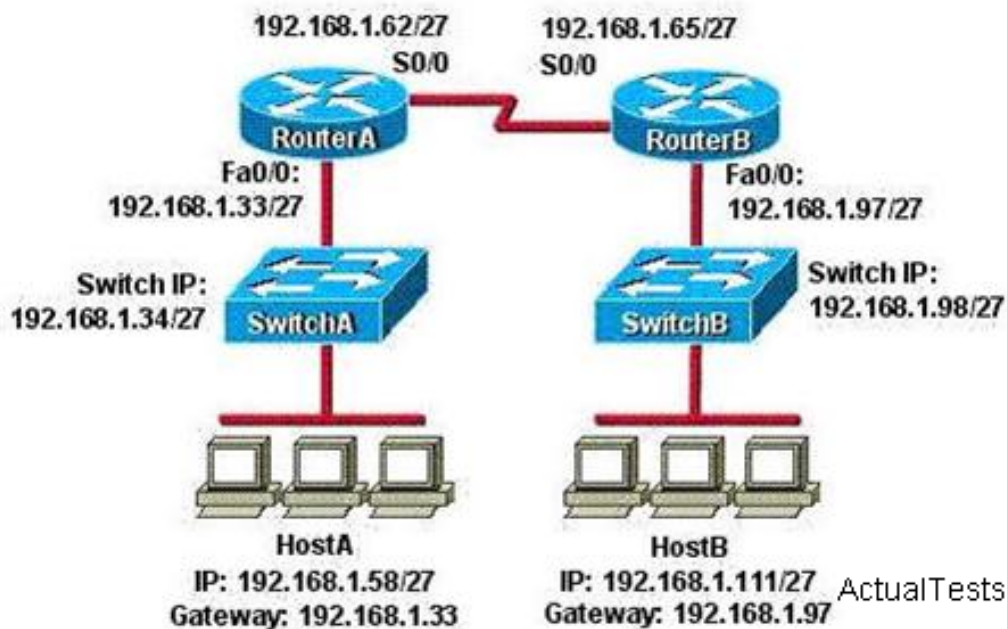
According to the diagram, which of the following is true about the internetwork?

- A. No collisions can occur in traffic between Cpu B and Cpu C.
- B. Cpu D and Server 1 are in the same network.
- C. 2 is the root bridge.
- D. Spanning Tree is not running.
- E. If Fa0/0 is down on R, CpuA cannot access Server 1

Answer: E

QUESTION NO: 133

According to the graphic below, assuming routing is correctly configured, HostA is not able to ping HostB. Which will be the most likely cause of this problem?

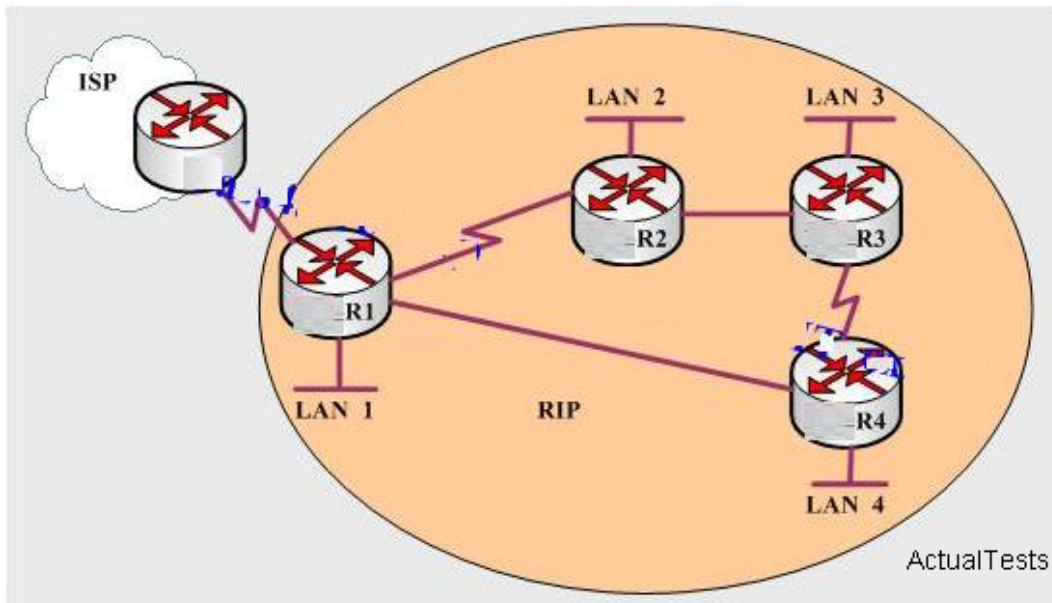


- A. The Fa0/0 interface on RA is on a subnet that can't be used.
- B. HostA is not on the same subnet as its default gateway.
- C. The serial interfaces of the routers are not on the same subnet.
- D. The address of SA is a subnet address.

Answer: C

QUESTION NO: 134

Assuming that the interface from R4 connected to LAN 4 goes down, which of the following describes the route update process?

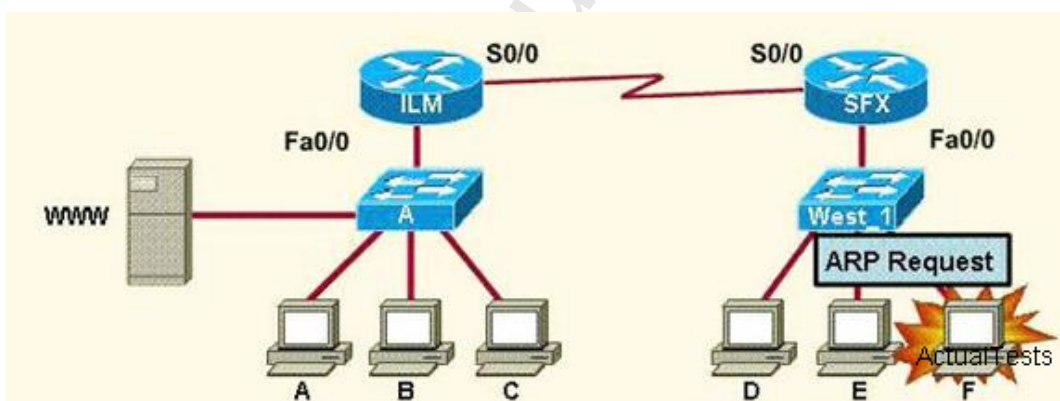


- A. No updates occur
- B. R4 tells both R1 and R3 the network not accessible. Both R3 and R1 update R2..
- C. R4 tells only R1 the network is not accessible. R1 updates R2 and R2 updates R3
- D. R4 tells only R3 the network is not accessible. R3 updates R2 and R2 updates R1.

Answer: B

QUESTION NO: 135

The ARP reply has been received by host F, which needs to build the packet. What information will be placed in the header of the packet that leaves host F if host F is to communicate with the WWW server? (Choose two)



- A. The destination address will be the IP address of interface Fa0/0 of the ILMrouter .
- B. The destination address will be the IP address of the WWW server.
- C. The destination address will be the IP address of interface Fa0/0 of router SFX.
- D. The source address will be the IP address of host F.
- E. The source address will be the IP address of interface Fa0/0 of router SFX.
- F. The destination address will be the IP address of interface Fa0/0 of router SFX.

Answer: B,D

Explanation:

After receiving ARP reply from SFX router, host F will place these fields in the header of the packets:

Source addresses: the IP address of host F and the MAC address of host F
Destination addresses: the IP address of WWW server and the MAC address of SFX server

QUESTION NO: 136

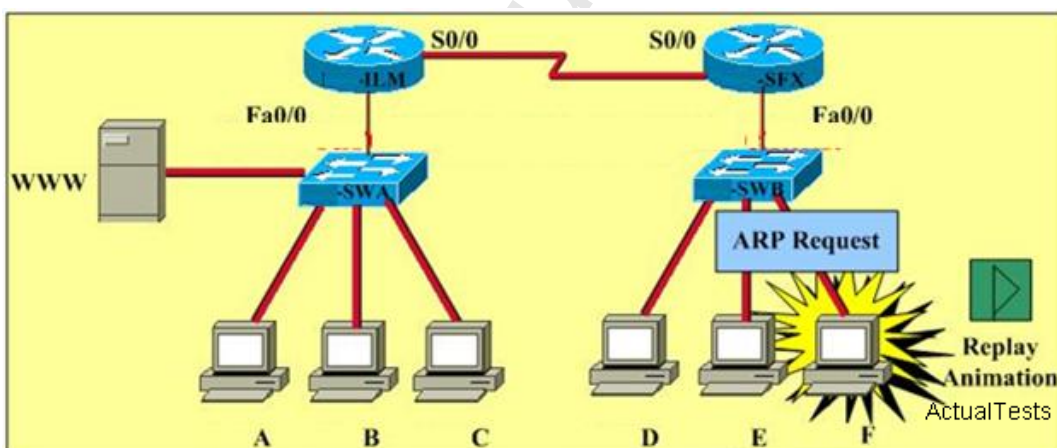
The IP address of a host computer is 192.168.43.139 and its netmask is 255.255.255.240. Then, this host resides on which logical IP network?

- A. 192.168.43.112/28
- B. 192.168.43.0/28
- C. 192.168.43.128/28
- D. 192.168.43.64/28

Answer: C

QUESTION NO: 137

As it is shown in the exhibit, two World Wide Web documents from the WWW server Host are displayed by F in two browser windows at the same time. How did the data find its way to the correct browser windows?



- A. TCP port numbers are used to direct the data to the correct application window.
- B. The browsers track the data by the URL.
- C. The IP source addresses of the packets will be used to direct the data to the correct browser window.
- D. The OSI application layer tracks the conversations and directs them to the correct browser.

Answer: A

QUESTION NO: 138

Which two statements best describe the interface configuration according to the exhibit? (Choose two.)

```
R# show interface s0
Serial0 is up, line protocol is up
Hardware is HD64570
Internet address is 10.140.1.2/24
MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, rely 255/255, load 1/255
Encapsulation PPP, loopback not set, keepalive set (10 sec)
LCP Open
Open: IPCP, CDPCP
Last input 00:00:05, output 00:00:05, output hang never
Last clearing of "show interface" counters never
Queueing strategy: fifo
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  38021 packets input, 5656110 bytes, 0 no buffer
    Received 23488 broadcasts, 0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  38097 packet output, 2135697 bytes, 0 underruns
    0 output errors, 0 collisions, 6045 interface resets
    0 output buffer failures, 0 output buffers swapped out
  482 carrier transitions
    DCD=up DSR=up DTR=up RST=up CTS=up
```

ActualTests

- A. The default serial line encapsulation is in use on this interface.
- B. The encapsulation in use on this interface is PPP.
- C. This interface is connected to a LAN.
- D. The address mask of this interface is 255.255.255.0.

Answer: B,D

QUESTION NO: 139

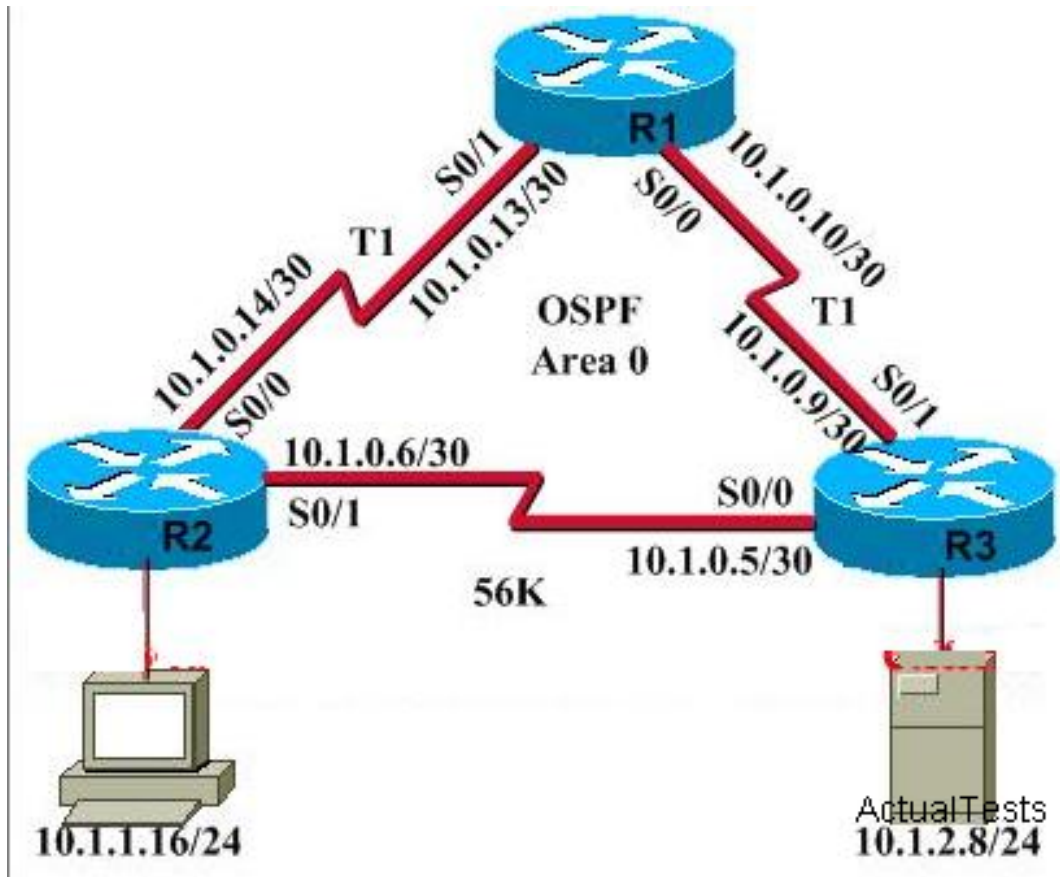
For the following Layer 4 protocols, which one is used for a Telnet connection?

- A. ICMP
- B. TCP
- C. UDP
- D. DNS

Answer: B

QUESTION NO: 140

Based on the following exhibit. The host in R2 sends a request for an HTML document to the server in R3. Which of the following addresses will be the source IP address of the packet as it leaves the R2?



- A. 10.1.1.16
- B. 10.1.2.8
- C. 10.1.0.14
- D. 10.1.0.6

Answer: A

QUESTION NO: 141

The company has required a 300-workstation expansion of its network. These workstations will be installed in a single broadcast domain. However, each workstation needs to have its own collision domain. The expansion will be as cost-effective as possible while still satisfying the requirements. Which three options can correctly fulfill the request? (Choose three).

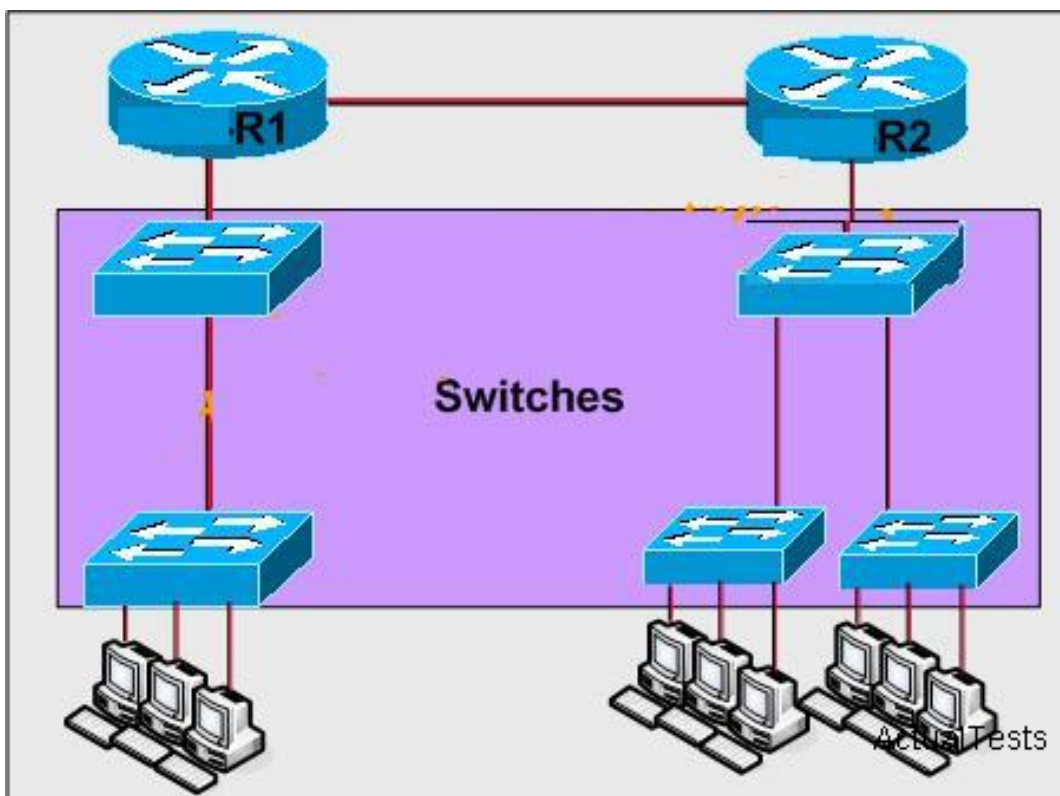
- A. seven 48-port hubs

- B. one IP subnet with a mask of 255.255.254.0
- C. one router interface
- D. seven 48-port switches

Answer: B,C,D

QUESTION NO: 142

The following exhibit displays every device attached to the network. How many collision domains are shown in this network?



- A. 3
- B. 15
- C. 6
- D. 9

Answer: B

QUESTION NO: 143

Which two functions will be performed by routers on packets? (Choose two.)

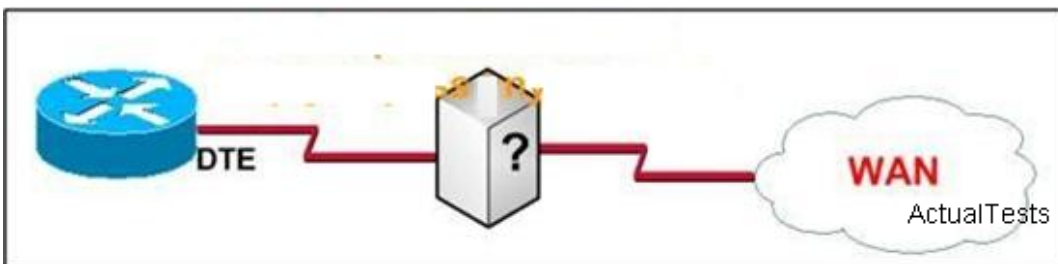
- A. examine the Layer 3 headers of inbound packets and use that information to determine the next hops for the packets

- B. update the Layer 2 headers of outbound packets with the MAC addresses of the next hops
- C. update the Layer 3 headers of outbound packets so that the packets are properly directed to their ultimate destinations
- D. examine the Layer 3 headers of inbound packets and use that information to determine the complete paths along which the packets will be routed to their ultimate destinations

Answer: A,B

QUESTION NO: 144

The WAN connection is shown below:



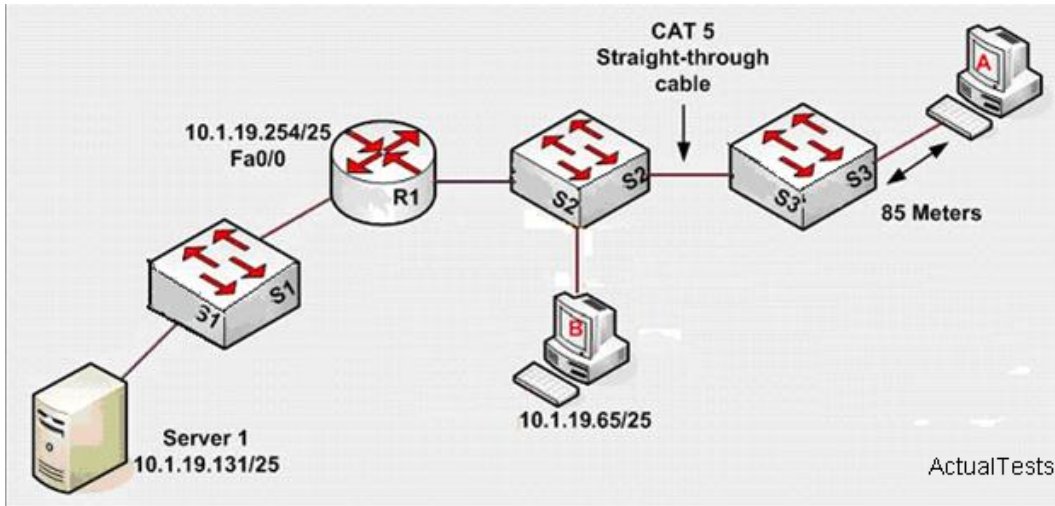
Based on this diagram shown above, which two devices can be used to complete the connection between the WAN router at the customer site and the service provider? (Choose two.)

- A. CSU/DSU
- B. ATM switch
- C. multiplexer
- D. modem

Answer: A,D

QUESTION NO: 145

The internetwork displayed in the diagram is experiencing network connectivity problems. Which is the most likely cause of this problem?



- A. The IP address of Server 1 is in the wrong subnet.
- B. The cable connecting S2 and S3 should be a crossover.
- C. The address of host B is a broadcast address.
- D. The cabling connecting host A to S3 is too long.

Answer: B

QUESTION NO: 146

A Cisco router has received a frame on an interface that is connected to a local network segment. The router has de-encapsulated the frame. What step is next in processing the packet?

- A. The router uses ARP to determine the MAC address of the next-hop router.
- B. The router encapsulates the packet into a frame appropriate for the outbound interface.
- C. The router searches the routing table to determine where to forward the packet.
- D. The router adds a frame to the packet with the next hop destination MAC address.

Answer: C

QUESTION NO: 147

Which two characteristics belong to a Frame Relay point-to-point subinterface? (Choose two.)

- A. resolves NBMA split horizon issues
- B. maps one IP subnet across multiple DLCIs
- C. requires the frame-relay map command
- D. maps one IP subnet per DLCI

Answer: A,D

QUESTION NO: 148

As the Certpaper network administrator, you need to troubleshoot an interference issue with the Certpaper wireless LAN. Which two devices can interfere with the operation of this network because they operate on similar frequencies? (choose two)

- A. cordless phone
- B. AM radio
- C. toaster
- D. microwave oven

Answer: A,D

QUESTION NO: 149

Which one of the following commands will you use to determine the type of cable attached to the Serial 0/0 interface on a router?

- A. show running-config
- B. showip interface
- C. show line serial 0/0
- D. show controllers serial 0/0

Answer: D

QUESTION NO: 150

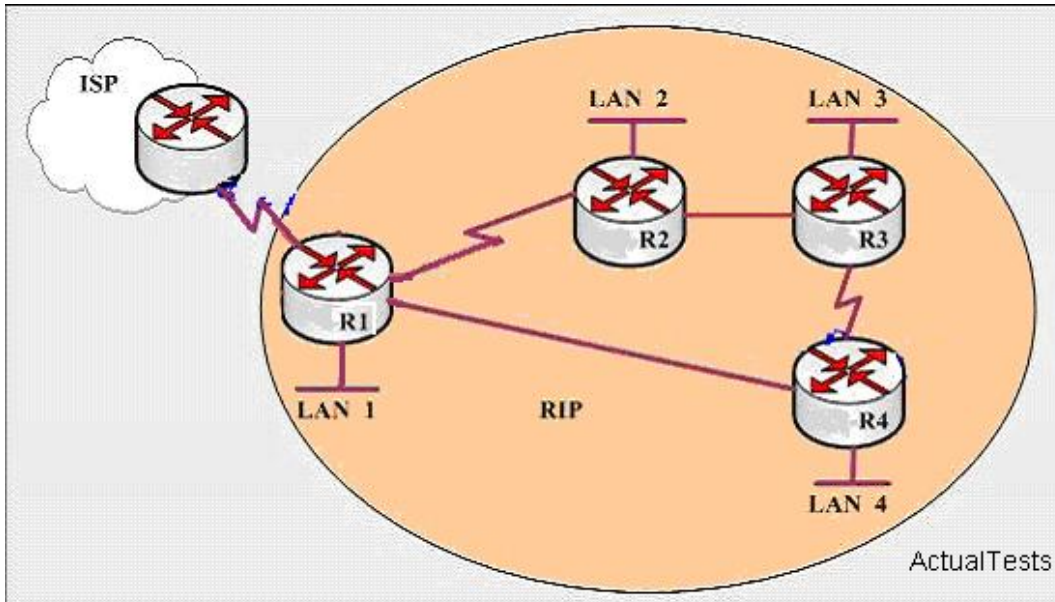
What can be drawn about traffic on the router interface from the statement "The only UDP port allowed on this router interface is 53." issued by the network manager?

- A. DNS traffic is allowed.
- B. Telnet traffic is allowed.
- C. SMTP traffic is allowed.
- D. RIP traffic is allowed.

Answer: A

QUESTION NO: 151

Instead of static routes on R1, R2, R3, and R4, RIP is used. Why?

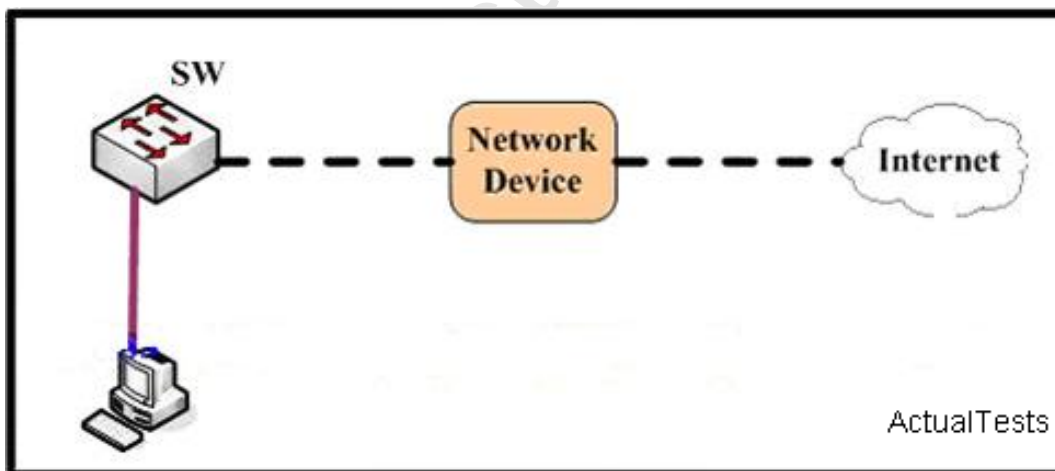


- A. RIP uses less network resources than do static routes
- B. RIP is supported by more different vendors equipment than static routes
- C. RIP creates more accurate than static routes.
- D. RIP requires fewer configurations to automatically adjust when links go down than static routes

Answer: D

QUESTION NO: 152

.Look at the following exhibit. You are a network administrator for Certpaper. You need to install a network device in the place of the icon labeled Network Device to accommodate a leased line attachment to the Internet. To meet the minimum requirements for this installation, which network device and interface configuration would you use?



- A. a switch with two Ethernet interfaces
- B. a route with two Ethernet interfaces
- C. a route with one Ethernet and one serial interface
- D. a switch with one Ethernet and one serial interface

Answer: C

QUESTION NO: 153

As a network administrator, you will need to decide on the appropriate network devices to use. Which of the following correctly describes the roles of devices in a WAN? (Choose three)

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

Answer: C,D,E

QUESTION NO: 154

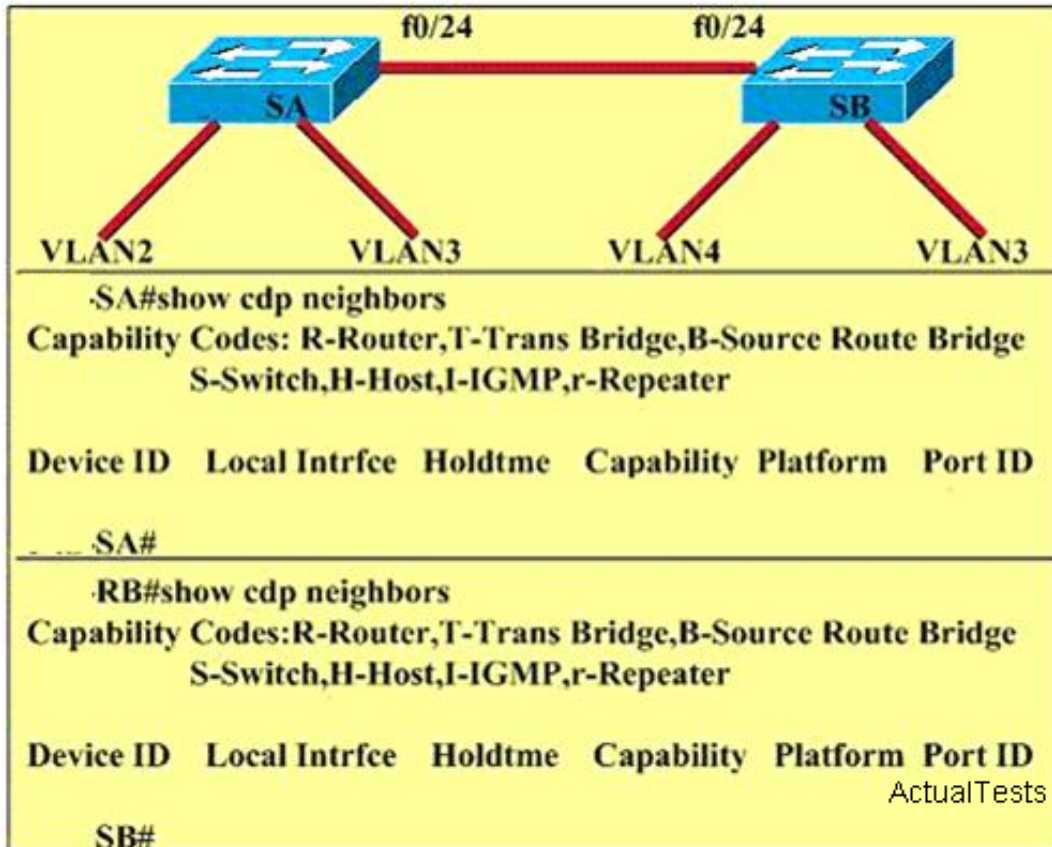
Which option is correct about the relationship between the command and its use?(Not all options are used.)

- 1.-R1#copy flash tftp
 - 2.-R1#copy tftp flash
 - 3.-R1#copy flash running-config
 - 4.-R1#copy running-config tftp
 - 5.-R1#copy tftp running-config
 - 6.-R1#copy running-config startup-config
-
- a. replace the IOS image
 - b. backup the current IOS image
 - c. make a backup copy of the configuration in RAM
 - d. make the configuration in RAM the configuration the router will use on startup
 - e. make a backup configuration with the configuration in RAM
-
- A. a-1,b-2,c-6,d-4,e-5
 - B. a-1,b-2,c-4,d-6,e-5
 - C. a-2,b-1,c-4,d-6,e-5
 - D. a-2,b-1,c-6,d-4,e-5

Answer: C

QUESTION NO: 155

Study the exhibit carefully. Two 2950 switches use a straight-through cable to connect through ports fa0/24. What can be concluded about this network according to the output provided in the exhibit and the information that is given?



- A. The switches do not share the same VTP domain.
- B. Port fa0/24 must be configured as a trunk in order for the switches to share neighbor information.
- C. An IP address and default gateway must be configured on each switch.
- D. The switches are cabled incorrectly.

Answer: D

QUESTION NO: 156

The Wi-Fi logo is a registered mark of the Wi-Fi Alliance. When the Wi-Fi logo appears on a wireless access point or client adapter, which two of these does it signify? (Choose two.)

- A. The Wi-Fi Alliance has tested this device and determined that it meets IEEE WLAN standards.
- B. The access point or client adapter has been manufactured by the Wireless Fidelity company.
- C. The Wi-Fi Alliance has verified that the device can interoperate with other devices using the same standards.
- D. The manufacturer of the equipment has paid the Wi-Fi Alliance to market its products.

Answer: A,C

QUESTION NO: 157

According to the following exhibit. Which two output fields will be helpful when you determine if a broadcast storm has occurred? (Choose two.)

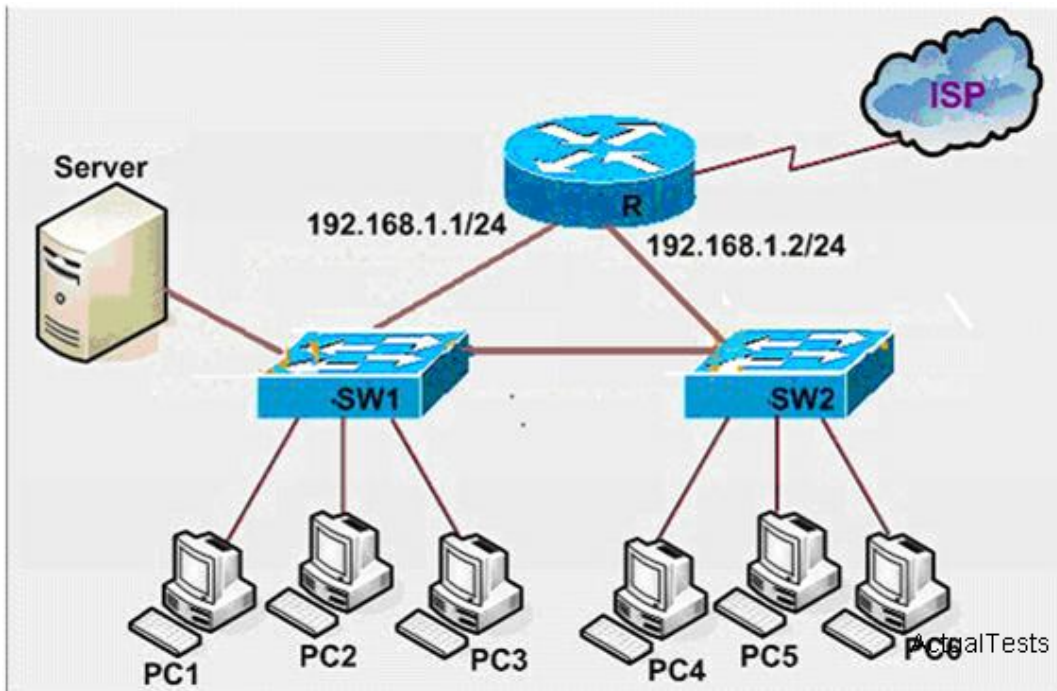
```
FastEthernet0/1 is up,line protocol is up (connected)
....
(output omitted)
....
114682 packets input,8027398 bytes,0 no buffer
Received 45853 broadcasts(0 multicast)
0 runs,0 giants,0 throttles
0 input errors,0 CRC,0 frame,0 overrun,0 ignored
0 watchdog,45853 multicast,0 pause input
0 input packets with dribble condition detected
493185 packets output,36788789 bytes,0 underruns
0 output errors,0 collisions,1 interface resets
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
```

- A. no buffer
- B. collisions
- C. ignored
- D. dribble condition

Answer: A,C

QUESTION NO: 158

Tom works as a network technician. He is tasked to design a small network with redundancy according to the exhibit below which presents this design with all hosts configured in the same VLAN. What conclusions could be drawn from this design?



- A. The router interfaces must be encapsulated with the 802.1Q protocol.
- B. The router will not accept the addressing scheme.
- C. This design will function as intended.
- D. The connection between switches should be a trunk.

Answer: B

QUESTION NO: 159

You are a network technician at Certpaper.com. Study the exhibit above carefully, as the first step in verifying a local host configuration, you perform the ipconfig/all command on a computer. Answer the following questions by using the results of the command.

```

C:\WINNT\system32\cmd.exe

Connection-specific DNS Suffix . : pass4sure.com
Description . . . . . : Intel(R) PRO/1000 MT Mobile

Physical Address. . . . . : 00-0D-60-FD-F0-34
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . : Yes
IP Address. . . . . : 172.16.236.227
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.16.236.1
DHCP Server . . . . . : 172.16.3.2
DNS Servers . . . . . : 10.4.8.1
                       : 10.5.2.22
Primary WINS Server . . . . . : 10.69.2.87
Secondary WINS Server . . . . . : 10.69.235.228
Lease Obtained. . . . . : Monday, June 11, 2007 9:26:45 AM
Lease Expires . . . . . : Thursday, June 14, 2007 9:26:45 AM

Ethernet adapter Local Area Connection:

Media State . . . . . : Cable Disconnected
Description . . . . . : Cisco Systems Wireless LAN Adapter
Physical Address. . . . . : 00-0E-9B-48-86-2A
  
```

For the following descriptions, which one is correct concerning how the router with the IP address 172.16.236.1 would send a data packet to this computer?

- A. The router encapsulates the packet in a frame addressed to the MAC address FF-FF-FF-FF-FF-FF and sends it out the interface connected to the 172.16.236.0 network.
- B. The router works at Layer3 of the OSI model and does not use Layer2 MAC addresses to send packets to the destination computer.
- C. The router uses an ARP request to obtain the correct MAC address for the computer. It then encapsulates the packet in a frame addressed to the MAC address 00-0D-60-FD-F0-34.
- D. The router encapsulates the packet in a frame addressed to the MAC address of the next hop router on the path to the computer.

Answer: C

QUESTION NO: 160

You work in a medium-sized company .The network performance of your company has slowed to the point that users are complaining. In order to resolve this problem, You are asked to determine what the users might be doing to cause the slowdown. Which two types of network services or applications most likely cause slowdown? (Choose two.)

- A. online video sites
- B. social networking web sites
- C. PC-based VoIP services
- D. blogs and other online browsing

Answer: A,C

QUESTION NO: 161

Which description is correct about the HDLC protocol?

- A. The Cisco implementation of HDLC does not include proprietary extensions.
- B. On Cisco routers it is the default encapsulation for serial interfaces.
- C. HDLC is compatible between all network vendors.
- D. It is the preferred protocol for LAN communication.

Answer: B

QUESTION NO: 162

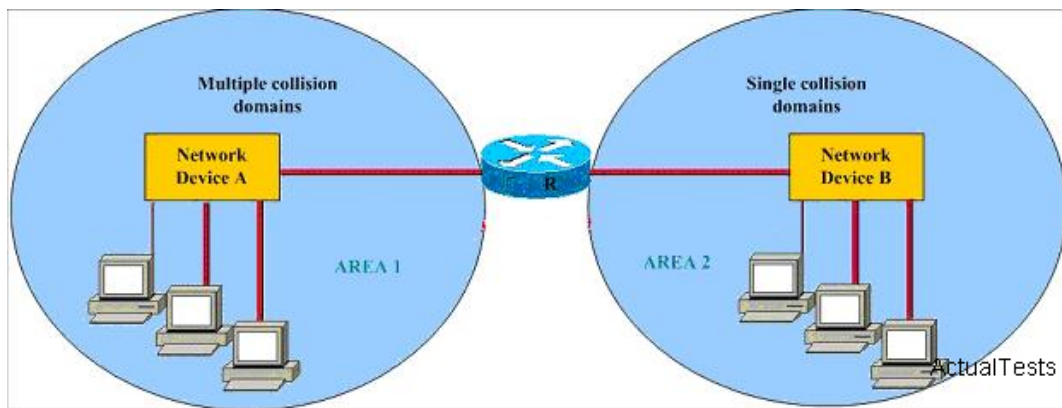
While moving from one access point to another, which wireless LAN design ensures that a mobile wireless client would not lose connectivity?

- A. configuring all access points to use the same channel
- B. utilizing MAC address filtering to allow the client MAC address to authenticate with the surrounding APs
- C. recommended overlap in cell coverage is 15 to 20%
- D. using adapters and access points manufactured by the same company

Answer: C

QUESTION NO: 163

The following exhibit shows a planned network. Which three descriptions are true about the areas and devices in the network plan? (Choose three.)



- A. Network Device B is a hub.
- B. Network Device A is a switch.
- C. Area 1 contains a Layer 2 device.
- D. Area 2 contains a Layer 2 device

Answer: A,B,C

QUESTION NO: 164

Which item is correct about the relationship between the protocol and its associated function?

- 1.ICMP
- 2.DHCP
- 3.RARP
- 4.UDP
- 5.DNS
- 6.ARP

- a.A PC sends packets to the default gateway IP address the first since the PC turned on
- b.The network administrator is checking basic IP connectivity from a workstation on a server

- c. The TCP/IP protocol stack must find an IP address for packets destined for a URL
- d. A network device will automatically assign IP addresses to workstations

- A. a-6;b-1;c-5;d-2
- B. a-6;b-1;c-4;d-2
- C. a-6;b-3;c-4;d-2
- D. a-6;b-3;c-5;d-2

Answer: A

QUESTION NO: 165

According to the following exhibit. A customer is not able to reach any web sites on the Internet, but others in the department have no problem. What most likely causes this problem?

```
C:\>ipconfig /all

Windows IP Configuration

    Host Name . . . . . : pass4sure-pc
    Primary Dns Suffix . . . . . :
    Node Type . . . . . : Hybrid
    IP Routing Enabled . . . . . : No
    WINS Proxy Enabled . . . . . : No

Ethernet adapter Local Area Connection 3:

    Connection-specific DNS Suffix . . . . . :
    Description . . . . . : Wired Network Connection
    Physical Address . . . . . : 00-13-CE-9B-33-93
    Dhcp Enabled . . . . . : No
    IP Address . . . . . : 10.10.10.2
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.10.10.1

C:\>
```

- A. NAT has not been configured on the router that connects to the Internet.
- B. A DHCP server address is not reachable by the PC.
- C. A DNS server address is not reachable by the PC.
- D. IP routing is not enabled.

Answer: C

QUESTION NO: 166

The global configuration mode on a Cisco router is identified by which prompt?

- A. router#
- B. router>
- C. router(config-if)#
- D. router(config)#

Answer: D

QUESTION NO: 167

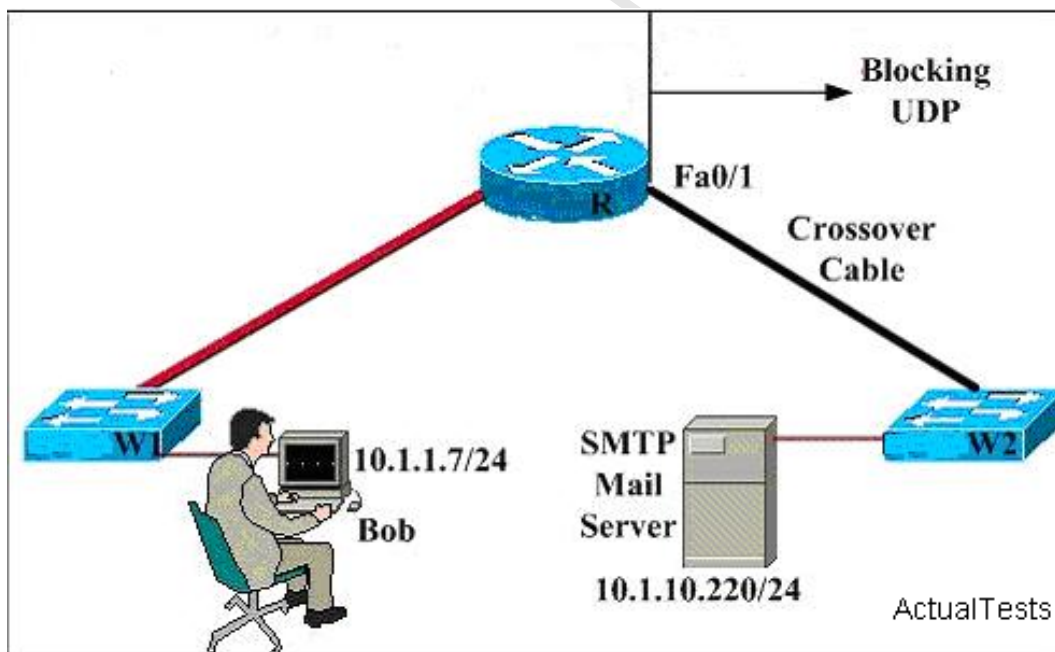
Before a workstation is able to exchange HTTP packets with a web server, what must occur?

- A. A TCP connection must be established between the workstation and the web server.
- B. A UDP connection must be established between the workstation and the web server.
- C. An ICMP connection must be established between the workstation and its default gateway.
- D. An ICMP connection must be established between the workstation and the web server.

Answer: A

QUESTION NO: 168

Your company has just installed the mail server and SW2. UDP packets are not permitted outbound on the Fa0/1 router interface due to security reasons. Bob is now examining the new installation at his workstation and can't establish SMTP communication to the mail server.



Which item is the reason for lack of communication between Bob's workstation and the mail server?

- A. The server should be directly connected to the router.
- B. UDP is blocked coming out of the Fa0/1 interface on the router.
- C. The crossover cable should be a straight-through cable.
- D. The IP addresses are all on the same network. No router is required.

Answer: C

QUESTION NO: 169

You are a network technician at Certpaper.com. Study the exhibit above carefully, as the first step in verifying a local host configuration, you perform the ipconfig/all command on a computer. Answer the following questions by using the results of the command.

```

C:\WINNT\system32\cmd.exe

Connection-specific DNS Suffix . : pass4sure.com
Description . . . . . : Intel(R) PRO/1000 MT Mobile

Physical Address. . . . . : 00-0D-60-FD-F0-34
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IP Address. . . . . : 172.16.236.227
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.16.236.1
DHCP Server . . . . . : 172.16.3.2
DNS Servers . . . . . : 10.4.8.1
                        10.5.2.22
Primary WINS Server . . . . . : 10.69.2.87
Secondary WINS Server . . . . . : 10.69.235.228
Lease Obtained. . . . . : Monday, June 11, 2007 9:26:45 AM
Lease Expires . . . . . : Thursday, June 14, 2007 9:26:45 AM

Ethernet adapter Local Area Connection:

Media State . . . . . : Cable Disconnected
Description . . . . . : Cisco Systems Wireless LAN Adapter
Physical Address. . . . . : 00-0E-9B-48-86-2A
  
```

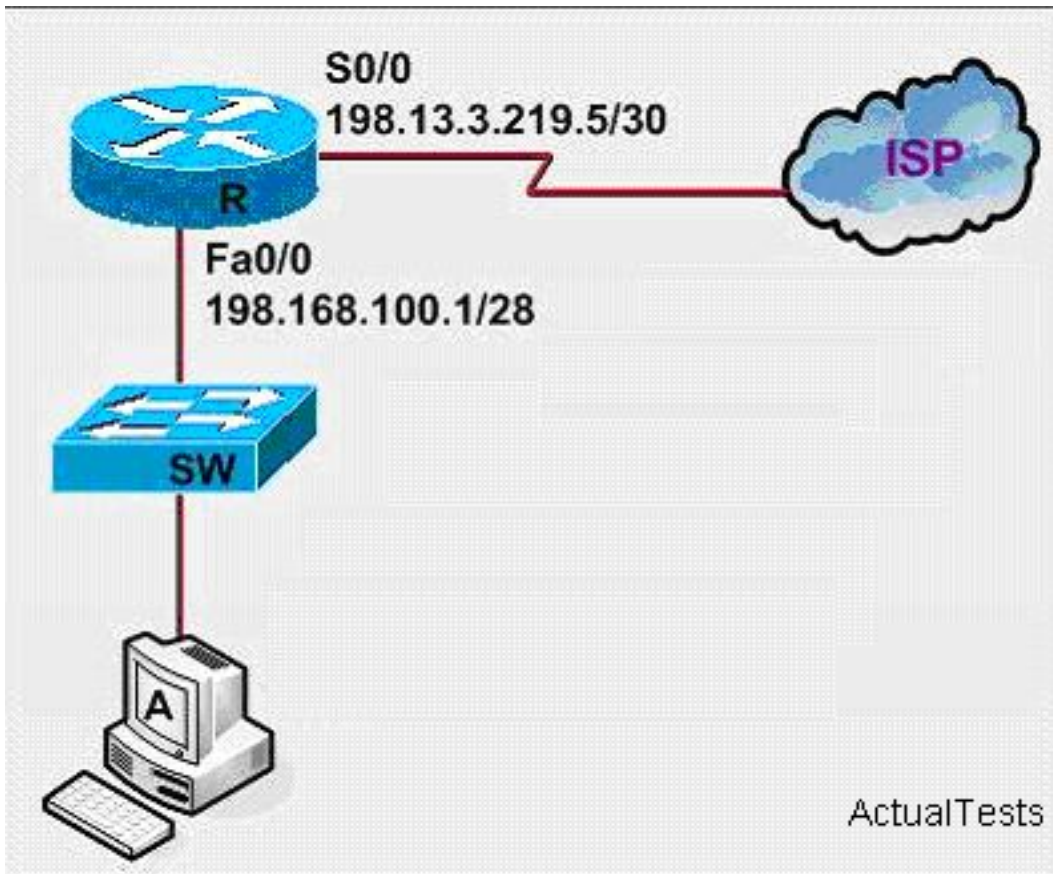
You can successfully ping to the IP address of the primary DNS server configured on the computer. What can you determine concerning the network?

- A. The router with the address 172.16.3.2 has the correct route to the 10.0.0.0 network
- B. The names of all of the routers in the path can be resolved by the configured DNS servers
- C. The DNS server is able to resolve domain names to IP addresses.
- D. The router with the address 172.16.236.1 has a route it can use to reach network of the DNS server

Answer: D

QUESTION NO: 170

On the basis of the exhibit below. After adding host A to the network, Host A is unable to communicate on the network. A ping issued on the host to address 127.0.0.1 fails. What is the problem?



- A. The remote host at 127.0.0.1 is unreachable.
- B. The IP address of host A is incorrect.
- C. The TCP/IP protocols are not loaded.
- D. The default gateway is incorrect.

Answer: C

QUESTION NO: 171

What will happen when computers on a private network try to connect to the Internet via a Cisco router running PAT?

- A. An IP address is assigned based on the priority of the computer requesting the connection.
- B. The router assigns a unique IP address from a pool of legally registered addresses for the duration of the connection.
- C. The router selects an address from a pool of one-to-one address mappings held in the lookup table.
- D. The router uses the same IP address but a different TCP source port number for each connection.

Answer: D

QUESTION NO: 172

For the following transport layer protocols, which one is most suitable for the transport of VoIP data?

- A. UDP
- B. RIP
- C. HTTP
- D. OSPF

Answer: A

QUESTION NO: 173

You are a network administrator, study the exhibit carefully. Your company has just configured a Catalyst 2950 switch for remote management by pasting into the console the configuration commands displayed in the exhibit. However, a Telnet session is not able to be successfully established from a remote host. How to fix this problem?

```
interface vlan 1
ip address 192.168.17.253 255.255.255.240
no shutdown
exit
ip default-gateway 192.168.17.1
line vty 0 15
password pass4sure
login
exit
```

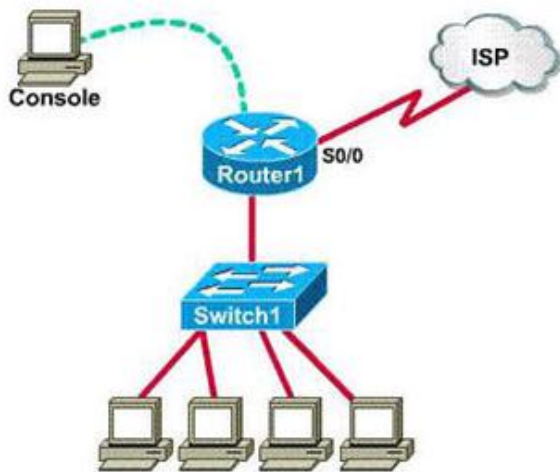
ActualTests

- A. Change the fifth line to ip default-gateway 192.168.17.241.
- B. Change the fifth line to ip route 0.0.0.0 0.0.0.0 192.168.17.1.
- C. Change the sixth line to line con 0.
- D. Change the first line to interface fastethernet 0/1.

Answer: A

QUESTION NO: 174

Choose from the following the bandwidth on the WAN interface of R.



Router1 con0 is now available

Press RETURN to get started.

ActualTests

What is the bandwidth on the WAN interface of Router1?

- A. 16 Kbit/sec
- B. 32 Kbit/sec
- C. 64 Kbit/sec
- D. 128 Kbit/sec
- E. 512 Kbit/sec
- F. 1544 Kbit/sec

Answer: E

Explanation:

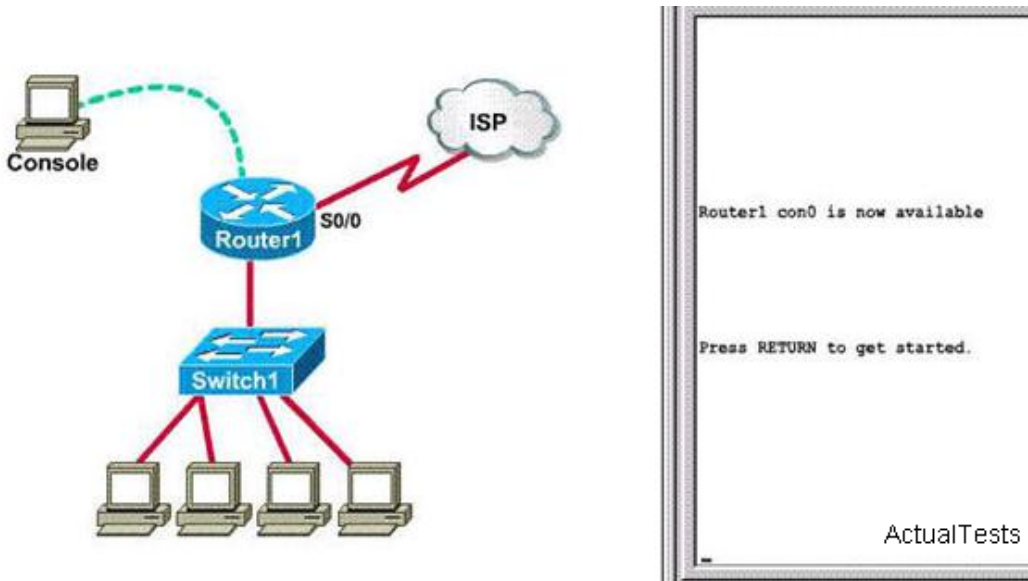
To find out the bandwidth on the WAN (serial) interface of Router1 we need to use the show interfaces serial 0/0 command:

```
Router1#show interfaces serial 0/0
Serial0/0 is administratively down, line protocol is down
Hardware is PowerQUICC Serial
Internet address is 10.11.12.13/30
MTU 1500 bytes, BW 512 Kbit DLY 20000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set
Keepalive set (10 sec)
Last input 00:00:05, output 00:00:05, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes);Total output drops: 0
```

Therefore the bandwidth on the WAN is 512 Kbit/sec.

QUESTION NO: 175

Including the address on the Router1 FastEthernet interface, how many hosts can have IP addresses on the LAN to which Router1 is connected?



- A. 6
- B. 62
- C. 126
- D. 14

Answer: D

Explanation:

The mask address of interface Fa0/0 of Router1 is /28 (as shown in question 1), which has four 0 bits (1111 1111.1111 1111.1111 1111 0000). Therefore there are $2^4 - 2 = 14$ assignable IP addresses for hosts on the LAN.

QUESTION NO: 176

You are a network technician at Certpaper.com. Study the exhibit above carefully, as the first step in verifying a local host configuration, you perform the ipconfig/all command on a computer. Answer the following questions by using the results of the command.

```
C:\WINNT\system32\cmd.exe

Connection-specific DNS Suffix  . : pass4sure.com
Description . . . . . : Intel(R) PRO/1000 MT Mobile

Physical Address. . . . . : 00-0D-60-FD-F0-34
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IP Address. . . . . : 172.16.236.227
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.16.236.1
DHCP Server . . . . . : 172.16.3.2
DNS Servers . . . . . : 10.4.8.1
                        10.5.2.22
Primary WINS Server . . . . . : 10.69.2.87
Secondary WINS Server . . . . . : 10.69.235.228
Lease Obtained. . . . . : Monday, June 11, 2007 9:26:45 AM
Lease Expires . . . . . : Thursday, June 14, 2007 9:26:45 AM

Ethernet adapter Local Area Connection:

Media State . . . . . : Cable Disconnected
Description . . . . . : Cisco Systems Wireless LAN Adapter
Physical Address. . . . . : 00-0E-9B-48-86-2A
```

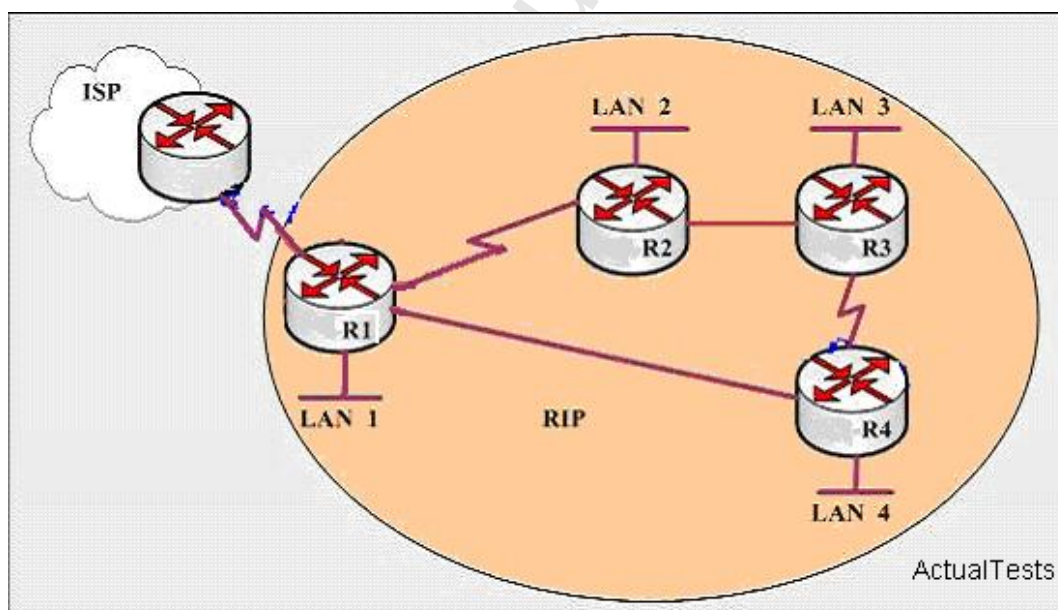
Which IP address represents the first server that this computer is trying to contact to resolve an Internet web site URL to an IP address?

- A. 10.69.2.87
- B. 10.4.8.1
- C. 172.16.236.1
- D. 172.16.3.2

Answer: A

QUESTION NO: 177

You are required to configure a static route on a router, which one would you choose?



- A. R3
- B. R2

- C. the ISP router
- D. R1

Answer: C

QUESTION NO: 178

What source and destination information can you find in the data link layer?

- A. port number
- B. IP address
- C. URL
- D. MAC address

Answer: D

QUESTION NO: 179

Which two statements best describe Cisco PAT implementation? (Choose two.)

- A. implemented to conserve public IP addresses
- B. can only be used between a private network and the Internet
- C. provides address connectivity between public and private addresses
- D. requires at least two public addresses to operate

Answer: A,C

QUESTION NO: 180

Install and configure three access points to cover a small office. Which one of the following terms defines the wireless topology?

- A. ESS
- B. IBSS
- C. SSID
- D. BSS

Answer: A

QUESTION NO: 181

You work as a network technician for Certpaper and are responsible for this network. And you have chosen WPA over WEP in their wireless network. What is one reason why WPA encryption is preferred over WEP in this network?

- A. The access point and the client are manually configured with different WPA key values.
- B. The values of WPA keys can change dynamically while the system is used.
- C. A WPA key is longer and requires more special characters than the WEP key.
- D. WPA key values remain the same until the client configuration is changed.

Answer: B

QUESTION NO: 182

A new LAN segment is allocated the network number 172.16.0.0/25. What range of addresses are available for hosts on that network?

- A. 172.16.0.1 through 172.16.0.254
- B. 172.16.0.1 through 172.16.0.126
- C. 172.16.0.129 through 172.16.0.254
- D. 172.16.0.1 through 172.16.1.254
- E. 172.16.1.1 through 172.16.1.126
- F. 172.16.1.1 through 172.16.1.254

Answer: B

QUESTION NO: 183

You are a network administrator at Certpaper.com, study the exhibit below carefully. You substitute the NIC in a desktop PC with a new NIC. The NIC in the PC configuration is set to "100 Mb Half." Now the PC has intermittent connectivity and loss of communication so you start troubleshooting on the switch. According to the switch output displayed, which is the most likely cause of the problem?

```

SW# show interface fastEthernet 0/2
FastEthernet0/2 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 0017.596d.2a02
Description: To Central Fa0/0
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:03, output 00:00:00, output hang never
Last clearing of "show interface" counters never
<output omitted>

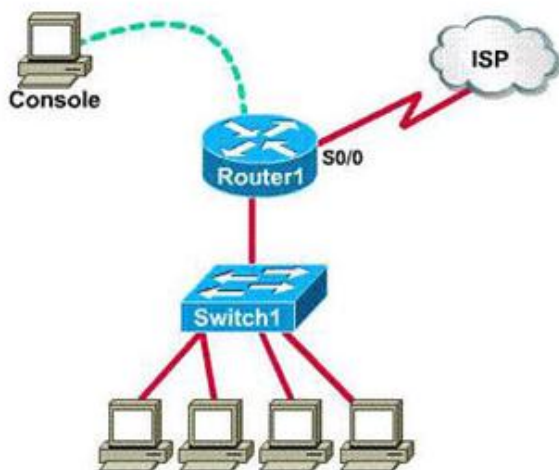
```

ActualTests

- A. Fast Ethernet is incompatible with a megabit NIC.
- B. The switch is set to full-duplex.
- C. Input flow control is off.
- D. The counters were not cleared after the hardware was replaced.

Answer: B

QUESTION NO: 184



Router1 con0 is now available

Press RETURN to get started.

ActualTests

What interfaces on Router1 have not had any configurations applied? (Choose two)

- A. Ethernet 0
- B. FastEthernet 0/0
- C. FastEthernet 0/1
- D. Serial 0

E. Serial 0/0

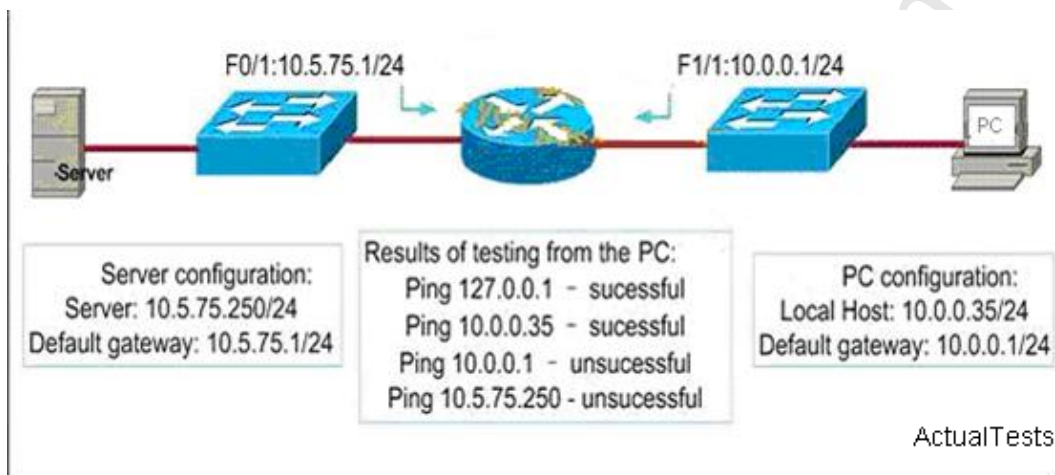
F. Serial 0/1

Answer: C,F**Explanation:**

Use the show ip interface brief to identify what interfaces Router 1 have. Notice that Router1 does not have Ethernet 0 and Serial 0 interfaces. FastEthernet 0/0 and Serial 0/0 were configured with their IP addresses therefore only FastEthernet 0/1 and Serial0/1 have not had any configurations applied.

QUESTION NO: 185

The Certpaper network topology exhibit is shown below:



Please study the exhibit carefully. A technician is troubleshooting a host connectivity problem. The host is unable to ping a server connected to Switch CertpaperA. Based on the result of the testing, what could be the problem?

- A. The host NIC is not functioning.
- B. A local physical layer problem exists.
- C. A remote physical layer problem exists.
- D. TCP/IP has not been correctly installed on the host.

Answer: B**QUESTION NO: 186**

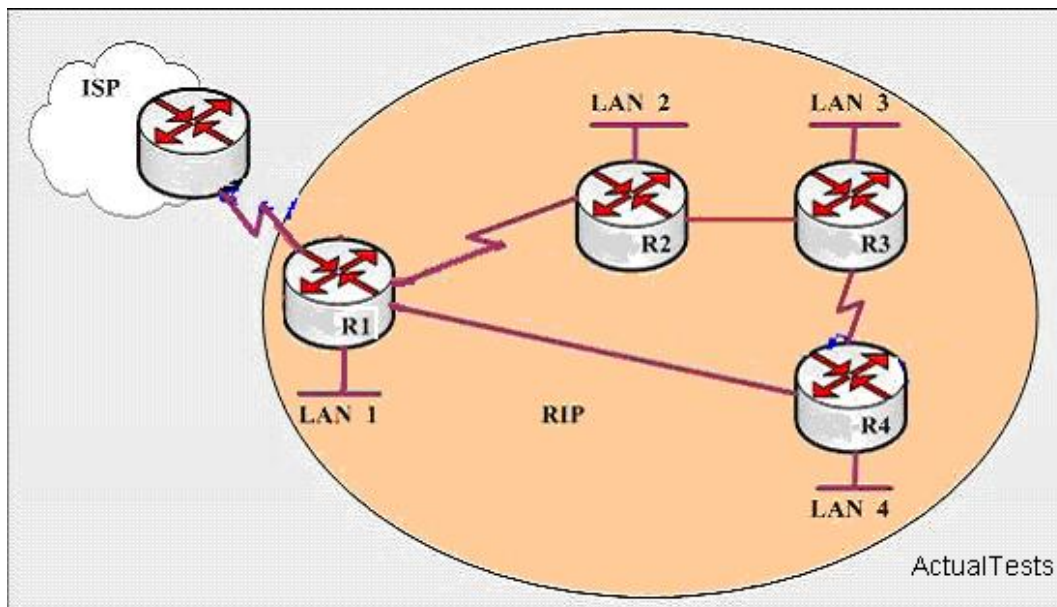
Which protocol will be used by a network host to resolve a destination IPv4 address to a destination MAC address?

- A. DNS
- B. ARP
- C. RARP
- D. DHCP

Answer: B

QUESTION NO: 187

All links are operational and all routers are converged. Choose from the following the one that correctly describes the messaging between routers.

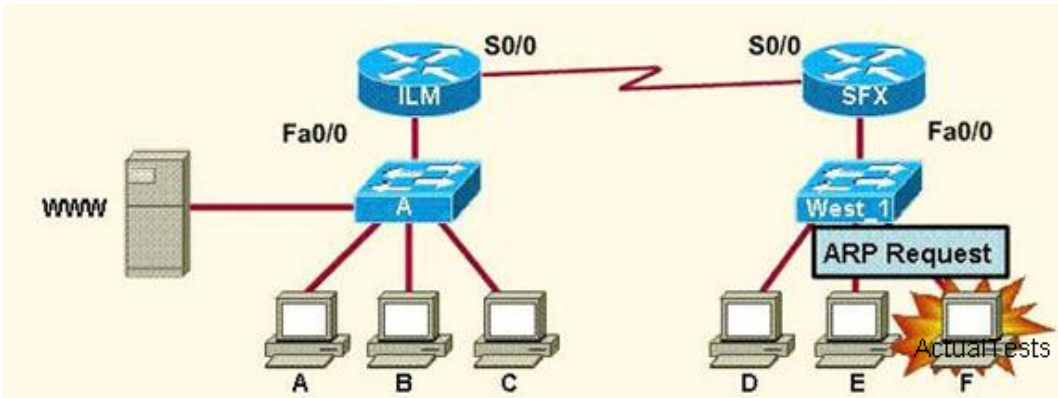


- A. Hellos are sent every five seconds
- B. Broadcasts are sent every 30 seconds
- C. No messaging unless the topology changes
- D. Multicasts are sent every 60 seconds

Answer: B

QUESTION NO: 188

In order to begin communicating with the server, host F sends out an ARP request. How will the devices exhibited in the topology respond to this request?



- A. Switch West _1 will reply with the MAC address of the server.
- B. Hosts D and E will respond that the destination is not on the local LAN.
- C. Router SFX will forward the ARP request to the ILMrouter .
- D. Switch West _1 will block the request since the server is not on the LAN.
- E. The ILM router will respond with the IP address of the WWW server.
- F. Router SFX will respond with the MAC address of its Fa0/0 interface.

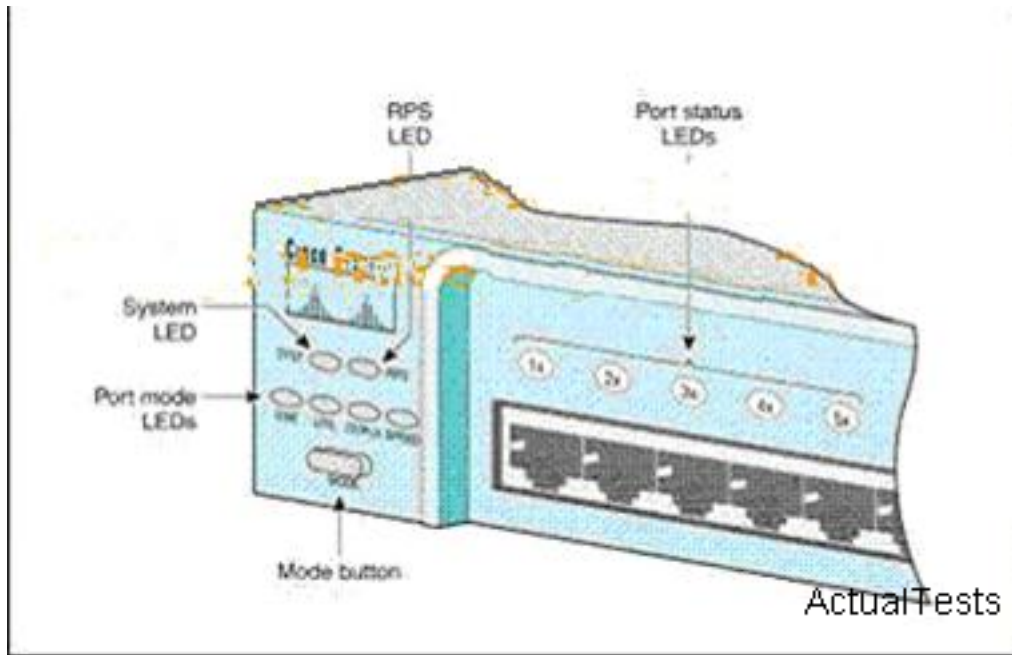
Answer: F

Explanation:

Because the server WWW is on another LAN of host F, host F knows that it has to send its packets to the default gateway. Therefore, for the first time, it will send out an ARP broadcast message asking for the MAC address of router SFX. Router SFX receives this message and replies with the MAC address of Fa0/0 interface. Later, when host F wants to send packets to WWW server, it will include the IP address of WWW server and the MAC address of Fa0/0 interface of SFX router in the "destination IP address" and "destination MAC address" fields, respectively.

QUESTION NO: 189

You work as a network technician. Study the exhibit carefully. After the power-on self test (POST), the system LED of a Cisco 2950 switch becomes amber. What is the status of the switch?

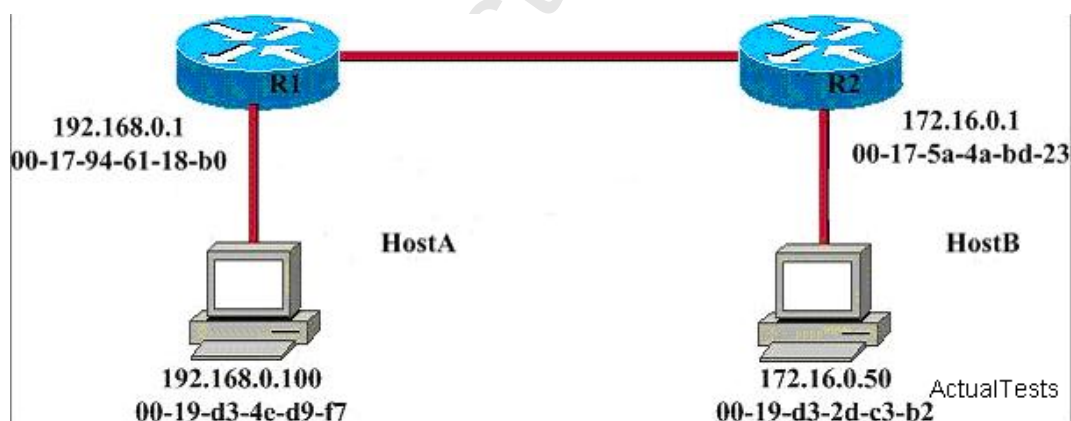


- A. The switch has experienced an internal problem but data can still be forwarded at a slower rate.
- B. The switch passed POST, but all the switch ports are busy.
- C. The POST was successful.
- D. POST failed and there is a problem that prevents the operating system of the switch from being loaded.

Answer: D

QUESTION NO: 190

Study the exhibit carefully. Host A is forwarding a packet to Host B for the first time. Which destination MAC address will be used by Host A in the ARP request?



- A. 00-17-94-61-18-b0
- B. 255.255.255.255
- C. ff-ff-ff-ff-ff-ff
- D. 00-19-d3-2d-c3-b2

Answer: C

QUESTION NO: 191

You are a network technician at Certpaper.com. Study the exhibit above carefully, as the first step in verifying a local host configuration, you perform the ipconfig/all command on a computer. Answer the following questions by using the results of the command.

```

C:\WINNT\system32\cmd.exe
Connection-specific DNS Suffix . : pass4sure.com
Description . . . . . : Intel(R) PRO/1000 MT Mobile

Physical Address. . . . . : 00-0D-60-FD-F0-34
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IP Address. . . . . : 172.16.236.227
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.16.236.1
DHCP Server . . . . . : 172.16.3.2
DNS Servers . . . . . : 10.4.8.1
                        10.5.2.22
Primary WINS Server . . . . . : 10.69.2.87
Secondary WINS Server . . . . . : 10.69.235.228
Lease Obtained. . . . . : Monday, June 11, 2007 9:26:45 AM
Lease Expires . . . . . : Thursday, June 14, 2007 9:26:45 AM

Ethernet adapter Local Area Connection:

Media State . . . . . : Cable Disconnected
Description . . . . . : Cisco Systems Wireless LAN Adapter
Physical Address. . . . . : 00-0E-9B-48-86-2A
  
```

Which two things can you determine by successfully pinging from this computer to the IP address 172.16.236.1? (Choose two)

- A. The network card on the computer is functioning correctly.
- B. The device with the IP address 172.16.236.1 is reachable over the network.
- C. The correct default gateway IP address is configured on the computer.
- D. The default static route on the gateway router is correctly configured.

Answer: A,B

QUESTION NO: 192

Which error condition could be removed at once when troubleshooting a LAN interface operating in full duplex mode?

- A. dribble condition
- B. no buffers
- C. collisions
- D. giants

Answer: C

QUESTION NO: 193

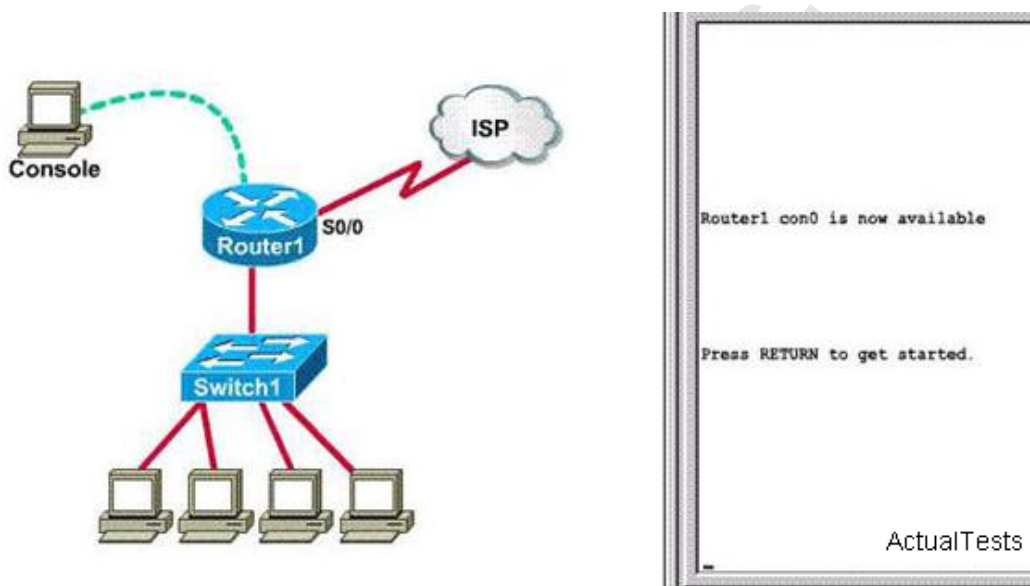
Examine the following technologies, which one will you use when a router connected to a LAN has only one WAN interface, but multiple virtual circuits are needed?

- A. DSL
- B. Cable
- C. Frame Relay
- D. ADSL

Answer: C

QUESTION NO: 194

Please study the exhibit, and answer the following question.
Choose from the following the subnet broadcast address of the LAN connected to R.



What is the subnet broadcast address of the LAN connected to Router1?

- A. 192.168.136.15
- B. 192.168.136.31
- C. 192.168.136.63
- D. 192.168.136.127
- E. 255.255.255.255

Answer: A

Explanation:

The "show running-configuration" and "show startup-configuration" have been disabled as stated above so we should use the show ip interface command to get information about the LAN network connected to Router1.

```
Router1#show ip interface
FastEthernet0/0 is up, line protocol is up (connected)
Internet address is 192.168.136.1/28
Broadcast address is 255.255.255.255
Address determined by setup command
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
Outgoing access list is not set
Inbound access list is not set

.....
<output omitted>
```

ActualTests

From the output we learn that the ip address of the FastEthernet interface of Router1 is 192.168.136.1 and the subnet mask is /28. Therefore:

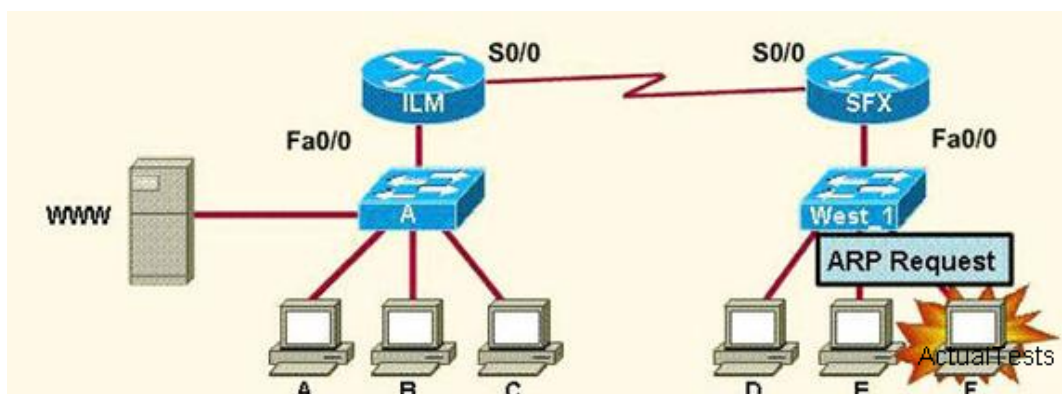
Increment: 16 (/28=1111 1111.1111 1111.1111 1111.111 1 0000) Network address:

192.168.136.0 Broadcast address: 192.168.136.15 (15 = 0 + 16 - 1)

-> The broadcast address of this subnetwork is 192.168.136.15

QUESTION NO: 195

The frame has been received by the ILM router and is to be delivered on the local LAN. Which two statements describe the addressing of the Ethernet frame that has been created by the ILM router ? (Choose two)

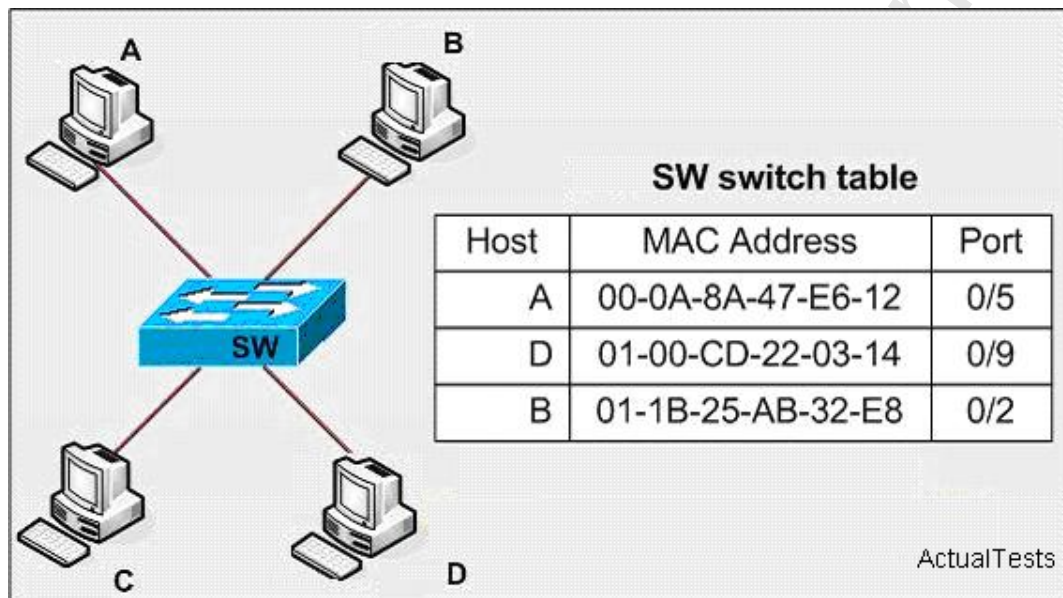


- A. The destination address will be the MAC address of the switch A port attached to the Fa0/0 interface of the ILMrouter .
- B. The destination address will be the MAC address of the WWW server.
- C. The destination address will be the MAC address of the A switch port attached to the WWW server.
- D. The source address will be the MAC address of host F.
- E. The source address will be the MAC address of interface Fa0/0 of the ILM router.

Answer: B,E

QUESTION NO: 196

The following graphic displays the topology and switching table. Host B forwards a frame to Host C.
C. What would the switch do with the frame?



- A. record the destination MAC address in the switching table and send the frame directly to Host C
- B. send the frame out all ports except port 0/2
- C. send an ICMP Host Unreachable message to Host B
- D. send an ARP request for Host C

Answer: B

QUESTION NO: 197

You are a network technician at Certpaper.com. Study the exhibit above carefully, as the first step in verifying a local host configuration, you perform the ipconfig/all command on a computer. Answer the following questions by using the results of the command.

```

C:\WINNT\system32\cmd.exe

Connection-specific DNS Suffix . : pass4sure.com
Description . . . . . : Intel(R) PRO/1000 MT Mobile

Physical Address. . . . . : 00-0D-60-FD-F0-34
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IP Address. . . . . : 172.16.236.227
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.16.236.1
DHCP Server . . . . . : 172.16.3.2
DNS Servers . . . . . : 10.4.8.1
                        10.5.2.22
Primary WINS Server . . . . . : 10.69.2.87
Secondary WINS Server . . . . . : 10.69.235.228
Lease Obtained. . . . . : Monday, June 11, 2007 9:26:45 AM
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Ethernet adapter Local Area Connection:

Media State . . . . . : Cable Disconnected
Description . . . . . : Cisco Systems Wireless LAN Adapter
Physical Address. . . . . : 00-0E-9B-48-86-2A

```

Which destination addresses does not need the use of the default gateway for a packet from this local host?

- A. 10.69.2.88
- B. 172.16.236.4
- C. 10.5.2.27
- D. 10.4.8.2

Answer: B

QUESTION NO: 198

Match the corresponding terms and OSI layer.(Not all options are used.)

- 1.bits
- 2.packets
- 3.UDP
- 4.IP addresses
- 5.segments
- 6.MAC addresses
- 7.windowing
- 8.routing
- 9.switching

- a. Network Layer
- b.Transprot Layer

- A. a(2,4,8),b(5,7,3)
- B. a(1,4,8),b(2,7,3)
- C. a(2,4,8),b(5,3,7)

D. a(2,4,9),b(5,7,3)

Answer: A

QUESTION NO: 199

Which is the correct order about the DHCP message types as they would occur between a DHCP client and a DHCP server.

- 1.DHCPACK
- 2.DHCPOFFER
- 3.DHCPDISCOVER
- 4.DHCPREQUEST

- a.Step 1
- b.Step 2
- c.Step 3
- d.Step 4

- A. a-1;b-3;c-4;d-2
- B. a-4;b-2;c-1;d-3
- C. a-3;b-2;c-4;d-1
- D. a-1;b-3;c-2;d-4

Answer: C

QUESTION NO: 200

What objective does an IDS accomplish?

- A. block suspicious network activity from entering the network
- B. hide the private IP addressing structure from outside attackers
- C. performstateful firewall functions
- D. detect malicious traffic and send alerts to a management station

Answer: D

QUESTION NO: 201

Which option is correct about the relationship between the definition and the term? Not all definitions will be used.

- 1.a protocol that converts human-readable names into machine-readable addresses
- 2.used to assign IP addresses automatically and set parameters such as subnet mask and default gateway
- 3.a protocol for using HTTP or HTTPS to exchange XML-based messages over computer networks
- 4.a connectionless service that uses UDP to transfer files between systems
- 5.a protocol used to monitor and manage network devices
- 6.a reliable. Connection-oriented service that uses TCP to transfer files between systems

- a.SNMP
- b.FTP
- c.TFTP
- d.DNS
- e.DHCP

- A. a-6;b-5;c-4;d-1;e-2
- B. a-5;b-6;c-1;d-2;e-4
- C. a-5;b-6;c-4;d-1;e-2
- D. a-6;b-5;c-4;d-2;e-1

Answer: C

QUESTION NO: 202

How many simultaneous Telnet sessions will be supported by a Cisco router by default?

- A. 4
- B. 2
- C. 5
- D. 3

Answer: C

QUESTION NO: 203

Which item gives the correct relationship between WAN connection technology and the associated communication link type?

- 1.PSTN
- 2.ATM
- 3.Leased Line
- 4.Frame Relay

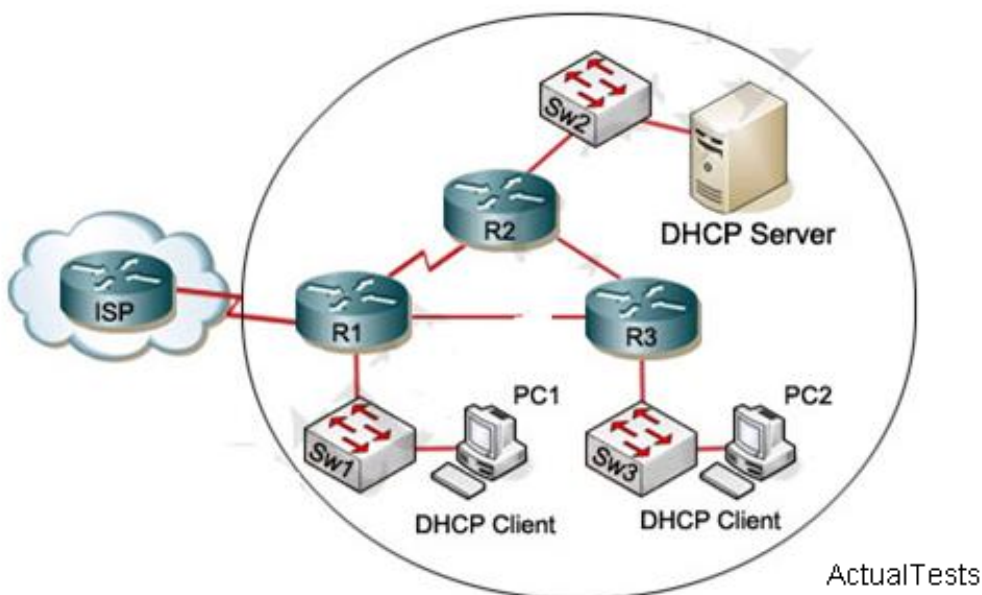
- a. Point to Point
- b. Circuit Switched
- c. Packet Switched
- d. Cell Switched

- A. a-3;b-2;c-1;d-4
- B. a-3;b-2;c-4;d-1
- C. a-3;b-1;c-2;d-4
- D. a-3;b-1;c-4;d-2

Answer: D

QUESTION NO: 204

Refer to the exhibit.



All hosts in the networks have been operational for several hours when the DHCP server goes down. What happens to the hosts that have obtained service from the DHCP server?

- A. The hosts will not be able to communicate with any other hosts.
- B. The hosts will continue to communicate normally for a period of time.
- C. The hosts will be able to communicate with hosts outside their own network
- D. The hosts will only be able to communicate with other hosts by IP address not by hostname

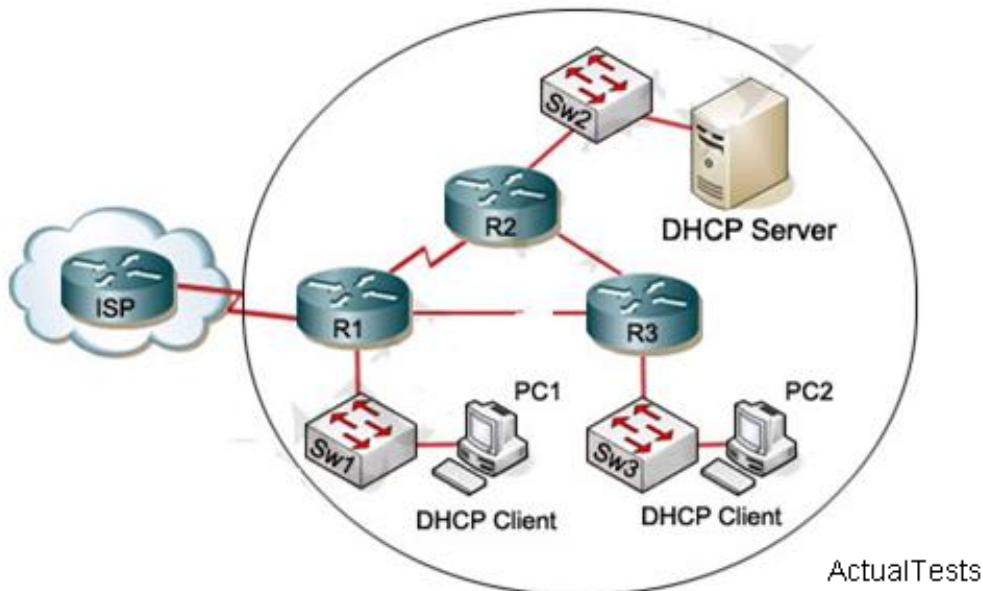
Answer: B

Explanation:

DHCP often uses dynamic allocation mechanism to save IP addresses, which assigns an IP address to a client for a limited period of time. So when the DHCP server goes down, that client can still use the allocated IP address for a period of time

QUESTION NO: 205

Refer to the exhibit.



What is the purpose of the DHCP server?

- A. to provide storage for email
- B. to translate URLs to IP addresses
- C. to translate IPv4 addresses to MAC addresses
- D. to provide an IP configuration information to hosts

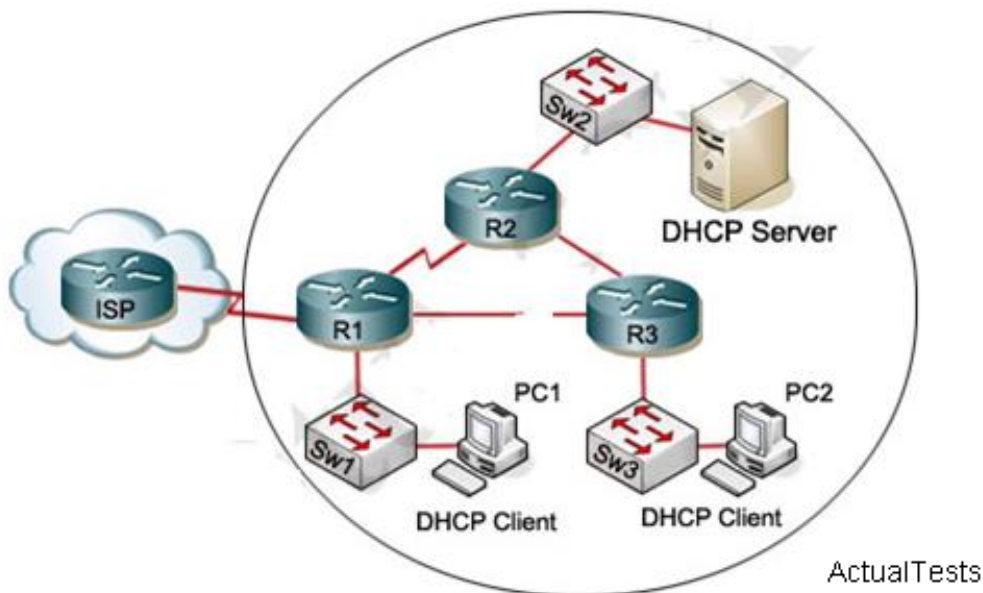
Answer: D

Explanation:

The main purpose of the DHCP server is to provide IP configuration parameters to hosts such as the default gateway, domain name, Domain Name System (DNS) server...

QUESTION NO: 206

Refer to the exhibit.



How is the message sent from a PC2 when it first powers on and attempts to contact the DHCP Server?

- A. Layer 3 unicast
- B. Layer 3 broadcast
- C. Layer 3 multicast
- D. Without any Layer 3 encapsulation

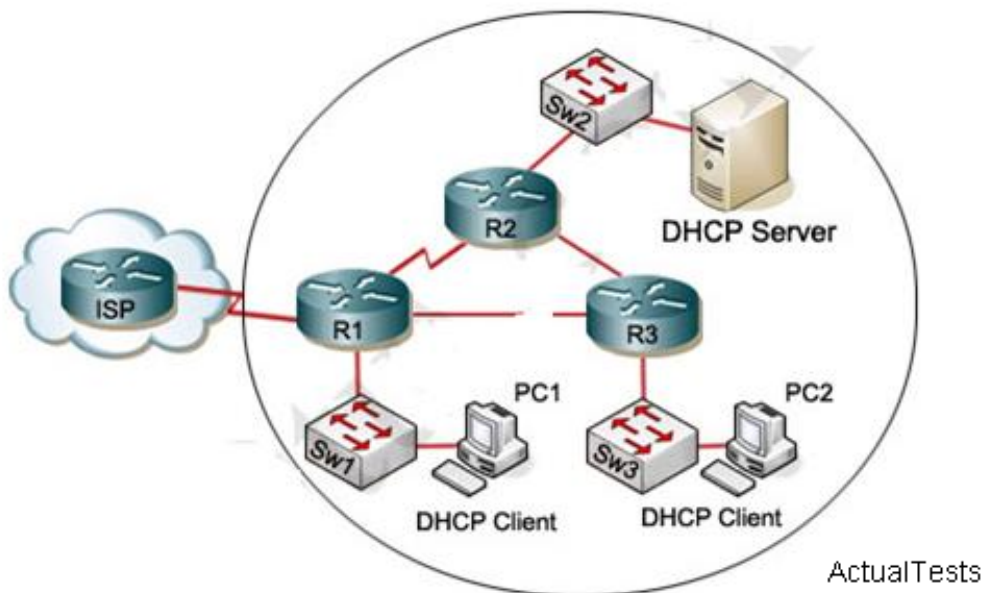
Answer: B

Explanation:

When a client boots up for the first time, it transmits a DHCPDISCOVER message on its local physical subnet. Because the client has no way of knowing the subnet to which it belongs, the DHCPDISCOVER is an all-subnets broadcast (destination IP address of 255.255.255.255, which is a layer 3 broadcast address). The client does not have a configured IP address, so the source IP address of 0.0.0.0 is used.

QUESTION NO: 207

Refer to the exhibit.



What is the default behavior of R1 when PC1 requests service from DHCP server?

- A. Drop the request
- B. Broadcast the request to R2 and R3
- C. Forward the request to R2
- D. Broadcast the request to R2, R3 and ISP

Answer: A

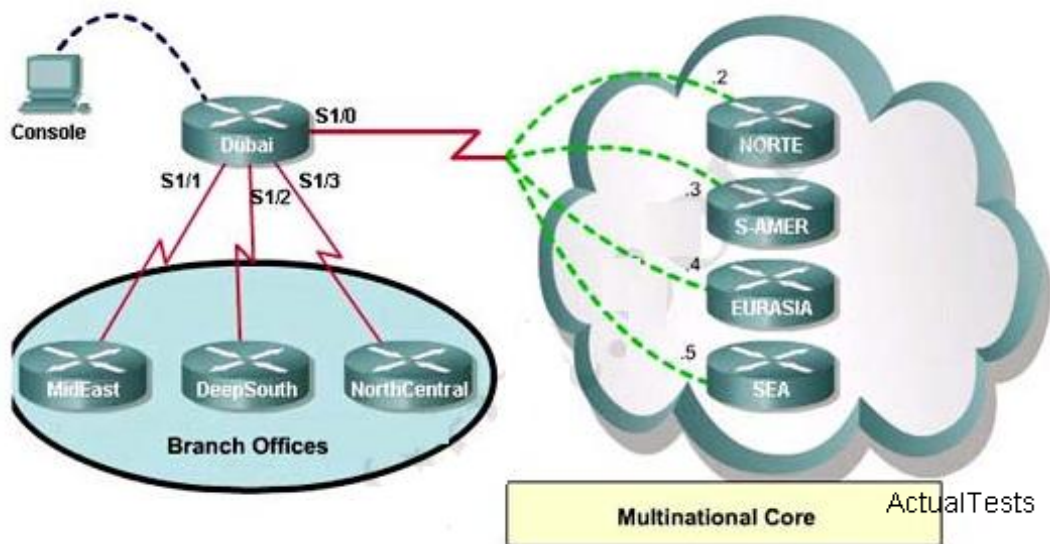
Explanation:

When PC1 requests service from DHCP server (for example, it requests an IP address), it sends a broadcast packet. But R1 router, by default, will not forward broadcast packet and drop it.

For your information, if you want to use the DHCP server from another network (like in this case) you can use the `ip helper-address` command which will make the router forward UDP broadcasts.

QUESTION NO: 208

Refer to Exhibit



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active

Dubai#sh run
interface FastEthernet0/0
  no ip address
  shutdown
!
interface Serial1/0
  ip address 172.30.0.1 255.255.255.240
  encapsulation frame-relay
  no fair-queue
!
interface Serial1/1
  ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
  ip address 192.168.0.5 255.255.255.252
  encapsulation ppp
!
interface Serial1/3
  ip address 192.168.0.9 255.255.255.252
  encapsulation ppp
  ppp authentication chap
!
router rip
  version 2
  network 172.30.0.0
  network 192.168.0.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  password Tlnet
  login
!
end
```

ActualTests

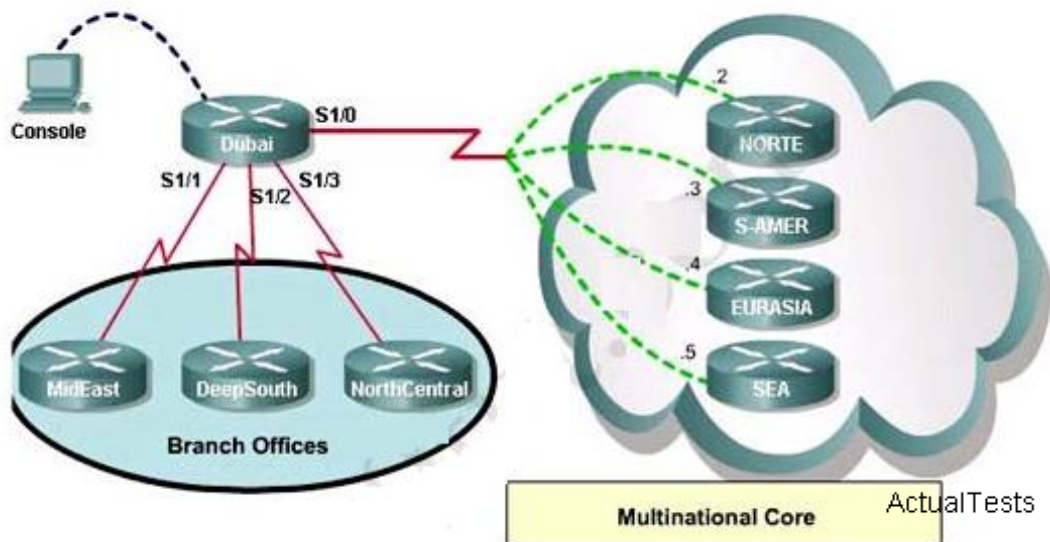
What destination Layer 2 address will be used in the frame header containing a packet for host 172.30.0.4?

- A. 704
- B. 196
- C. 702
- D. 344

Answer: C

QUESTION NO: 209

Refer to Exhibit



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active

Dubai#sh run
interface FastEthernet0/0
  no ip address
  shutdown
!
interface Serial1/0
  ip address 172.30.0.1 255.255.255.240
  encapsulation frame-relay
  no fair-queue
!
interface Serial1/1
  ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
  ip address 192.168.0.5 255.255.255.252
  encapsulation ppp
!
interface Serial1/3
  ip address 192.168.0.9 255.255.255.252
  encapsulation ppp
  ppp authentication chap
!
router rip
  version 2
  network 172.30.0.0
  network 192.168.0.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  password Tlnet
  login
!
end
```

ActualTests

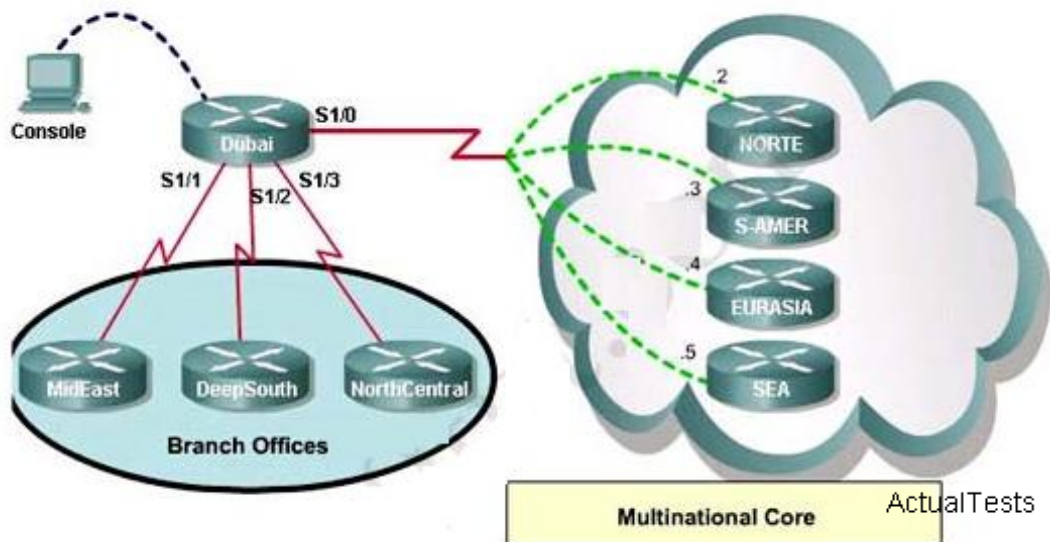
A static map to the S-AMER location is required. Which command should be used to create this map?

- A. frame-relay mapip 172.30.0.3 704 broadcast
- B. frame-relay mapip 172.30.0.3 196 broadcast
- C. frame-relay mapip 172.30.0.3 702 broadcast
- D. frame-relay mapip 172.30.0.3 344 broadcast

Answer: B

QUESTION NO: 210

Refer to Exhibit



```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
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                broadcast,, status defined, active

Dubai#sh run
interface FastEthernet0/0
  no ip address
  shutdown
!
interface Serial1/0
  ip address 172.30.0.1 255.255.255.240
  encapsulation frame-relay
  no fair-queue
!
interface Serial1/1
  ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
  ip address 192.168.0.5 255.255.255.252
  encapsulation ppp
!
interface Serial1/3
  ip address 192.168.0.9 255.255.255.252
  encapsulation ppp
  ppp authentication chap
!
router rip
  version 2
  network 172.30.0.0
  network 192.168.0.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  password Tlnet
  login
!
end
```

ActualTests

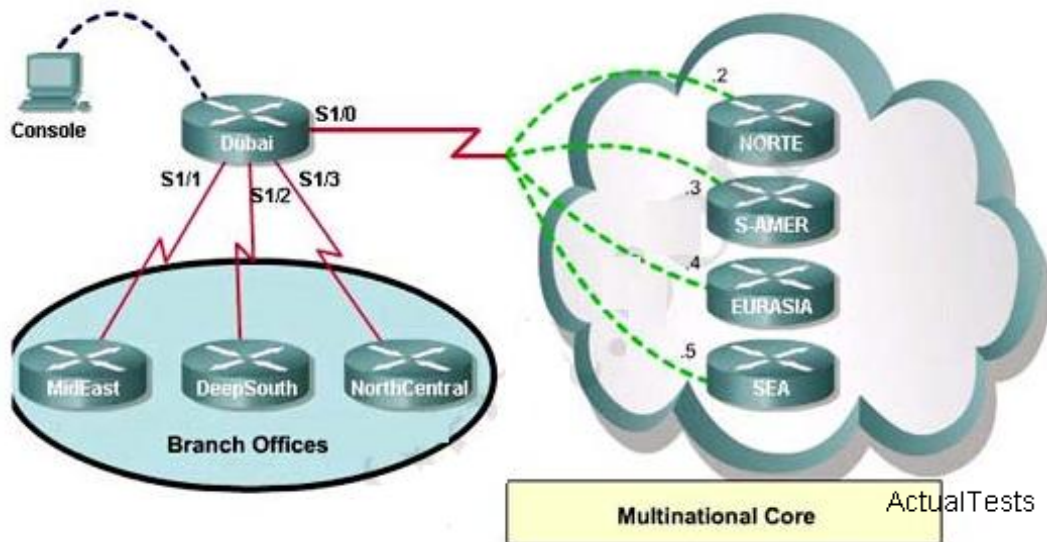
Which connection uses the default encapsulation for serial interfaces on Cisco routers?

- A. The serial connection to the MidEast branch office
- B. The serial connection to the DeepSouth branch office
- C. The serial connection to the NorthCentral branch office
- D. The serial connection to the Multinational Core

Answer: A

QUESTION NO: 211

Refer to Exhibit




```
Dubai#sh frame-relay map
Serial1/0 (up): ip 172.30.0.2 dlci 704 (0x7B,0x1CB0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.3 dlci 196 (0xEA,0x38A0), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.4 dlci 702 (0x159,0x5490), dynamic,
                broadcast,, status defined, active
Serial1/0 (up): ip 172.30.0.5 dlci 344 (0x1C8,0x7080), dynamic,
                broadcast,, status defined, active

Dubai#sh run
interface FastEthernet0/0
  no ip address
  shutdown
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interface Serial1/0
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  no fair-queue
!
interface Serial1/1
  ip address 192.168.0.1 255.255.255.252
!
interface Serial1/2
  ip address 192.168.0.5 255.255.255.252
  encapsulation ppp
!
interface Serial1/3
  ip address 192.168.0.9 255.255.255.252
  encapsulation ppp
  ppp authentication chap
!
router rip
  version 2
  network 172.30.0.0
  network 192.168.0.0
  no auto-summary
!
line con 0
  exec-timeout 0 0
line aux 0
line vty 0 4
  password Tlnet
  login
!
end
```

ActualTests

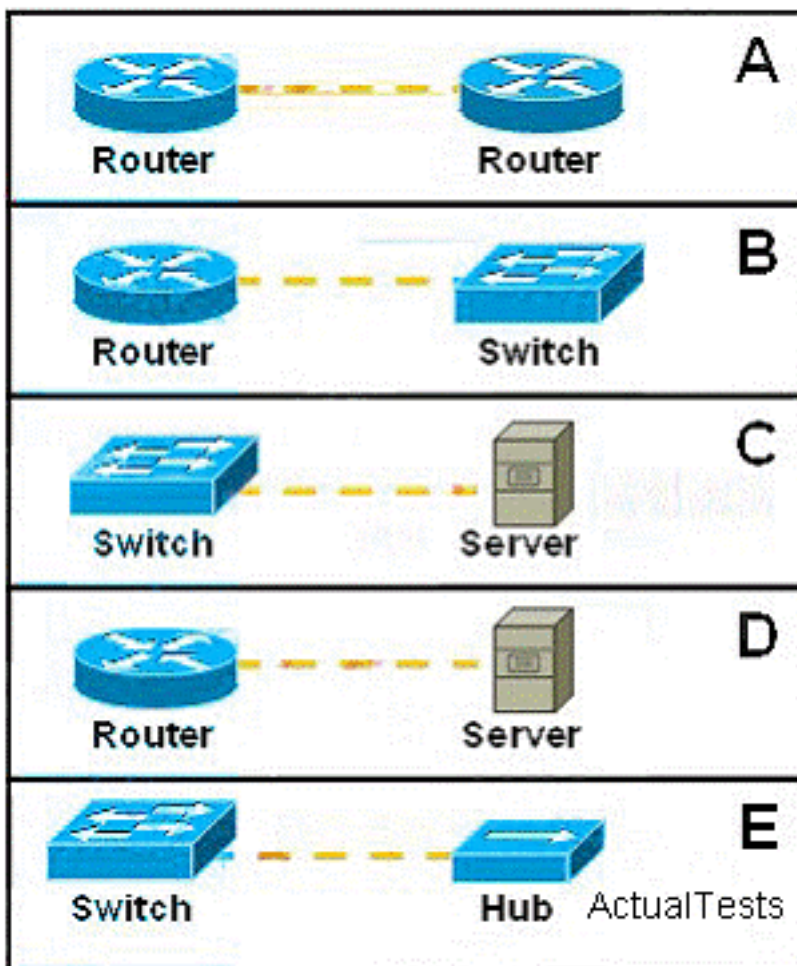
If required, what password should be configured on the router in the MidEast branch office to allow a connection to be established with the Dubai router?

- A. No password is required
- B. Enable
- C. Scr
- D. Telnet
- E. Console

Answer: D

QUESTION NO: 212

Refer to the exhibits labeled A through E. All devices are to be connected over Ethernet. Which three device-to-device configurations are likely to require the use of a crossover connection? (Choose three.)



- A. exhibit A
- B. exhibit B
- C. exhibit C
- D. exhibit D
- E. exhibit E

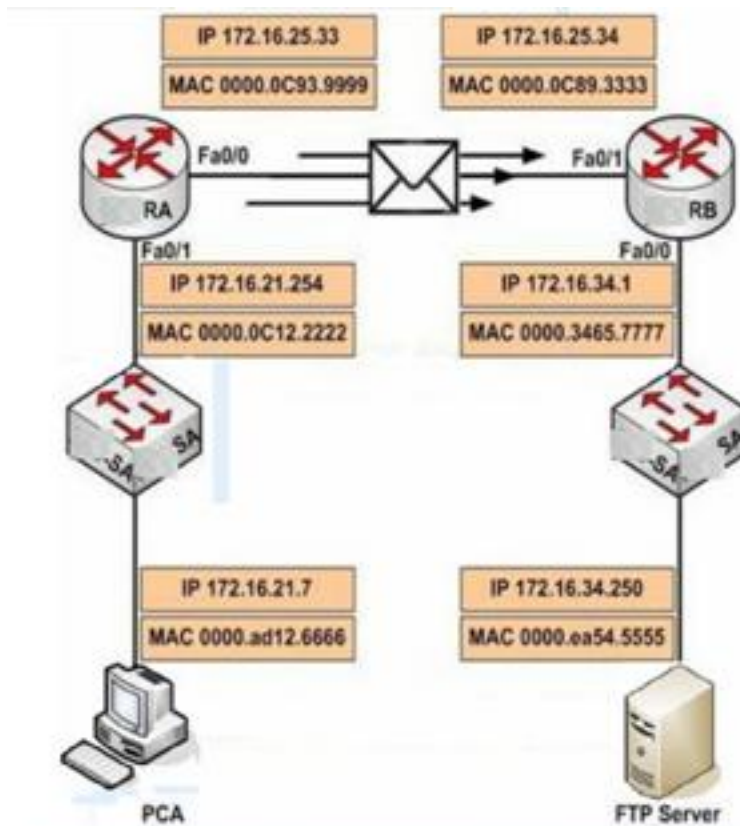
Answer: A,D,E

Explanation:

NEW QUESTIONS

QUESTION NO: 213 DRAG DROP

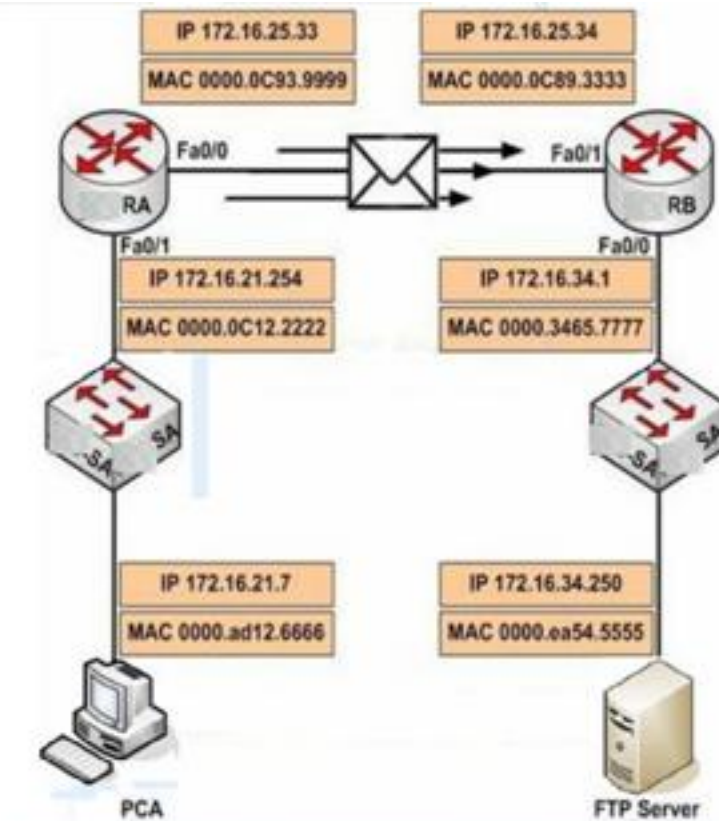
Refer to the exhibit PCA is sending packets to the FTP server. Consider the packets as they leave RA Interface Fa0/0 forwards RB. Drag the correct frame and packet address to their place in the table.



Target			
Source MAC		Source IP	
Destination MAC		Destination IP	

Source			
IP 172.16.34.250		IP 172.16.21.254	
MAC 0000.ea54.5555		MAC 0000.0c12.2222	
IP 172.16.25.34		IP 172.16.34.1	
MAC 0000.0c89.3333		MAC 0000.3465.7777	
IP 172.16.25.33		IP 172.16.21.7	
MAC 0000.0c93.9999		MAC 0000.ad12.6666	

Answer:

**Target**

MAC 0000.0C93.9999

IP 172.16.21.7

MAC 0000.0C89.3333

IP 172.16.34.250

Source

IP 172.16.34.250

MAC 0000.ea54.5555

IP 172.16.21.254

MAC 0000.0C12.2222

IP 172.16.25.34

MAC 0000.0C89.3333

IP 172.16.34.1

MAC 0000.3465.7777

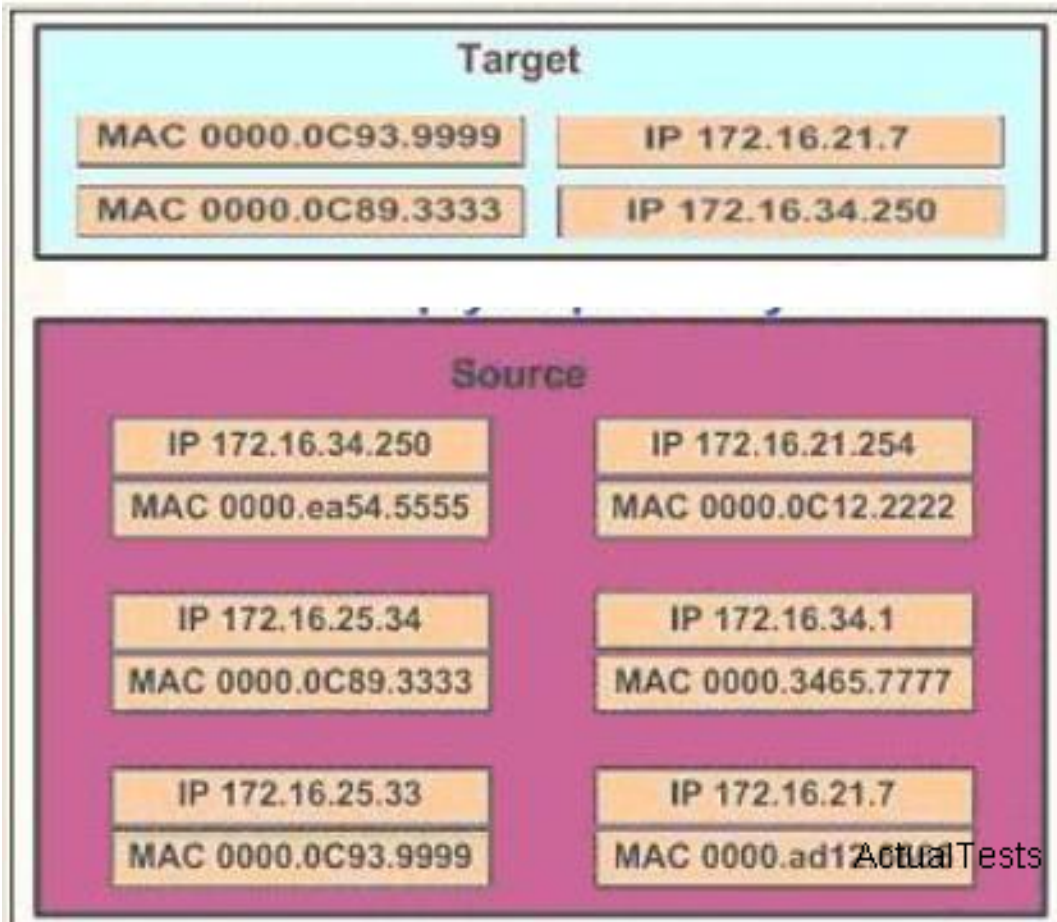
IP 172.16.25.33

MAC 0000.0C93.9999

IP 172.16.21.7

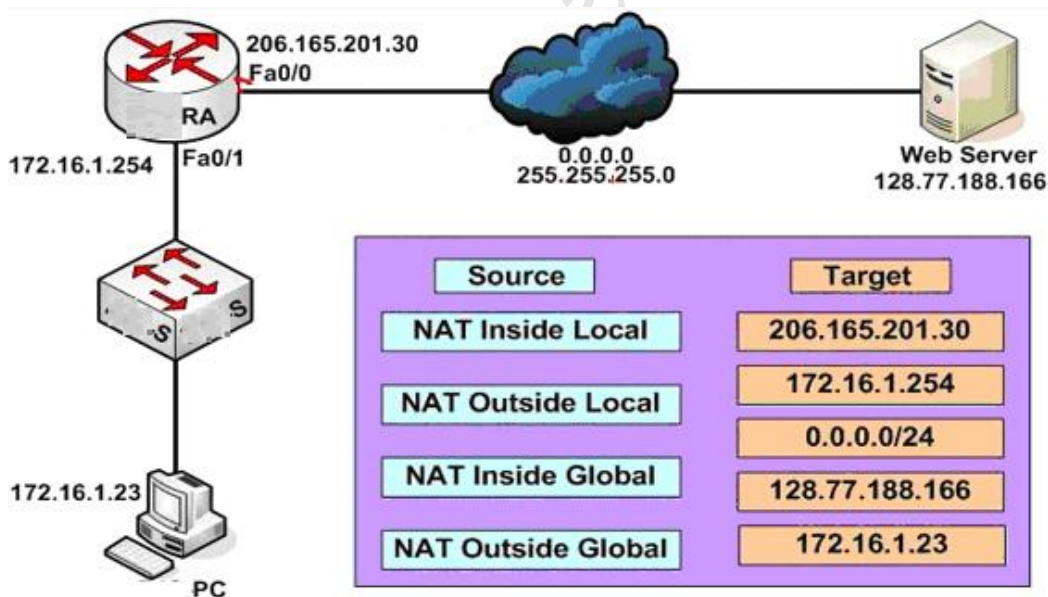
MAC 0000.ad12.6666

Explanation:



QUESTION NO: 214 DRAG DROP

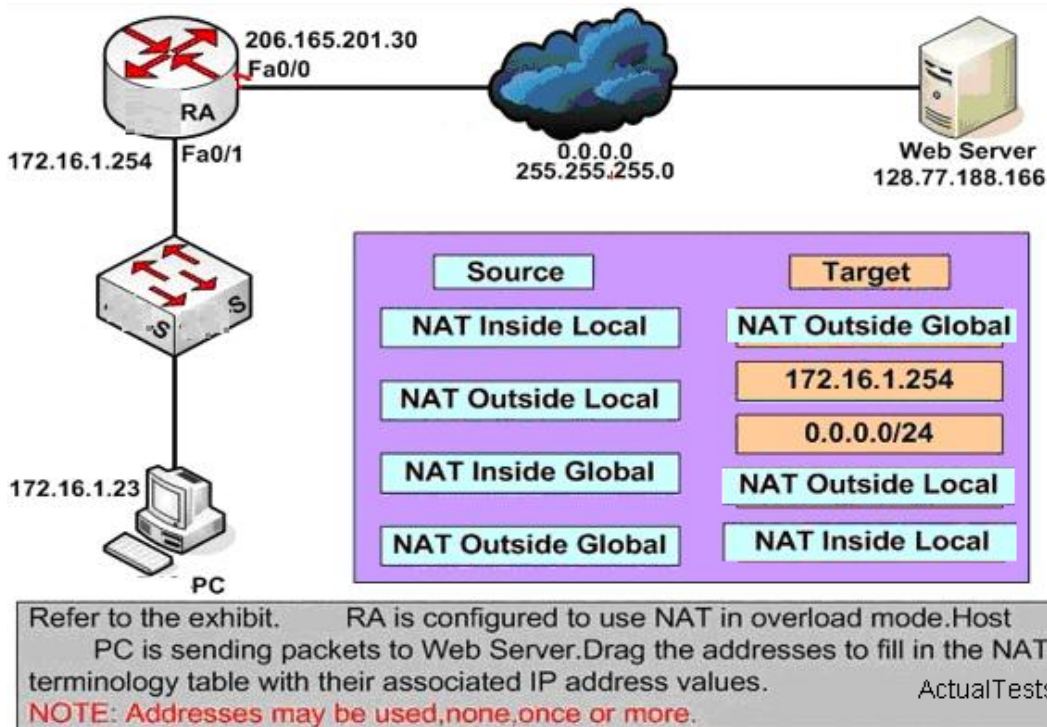
Look at the picture.



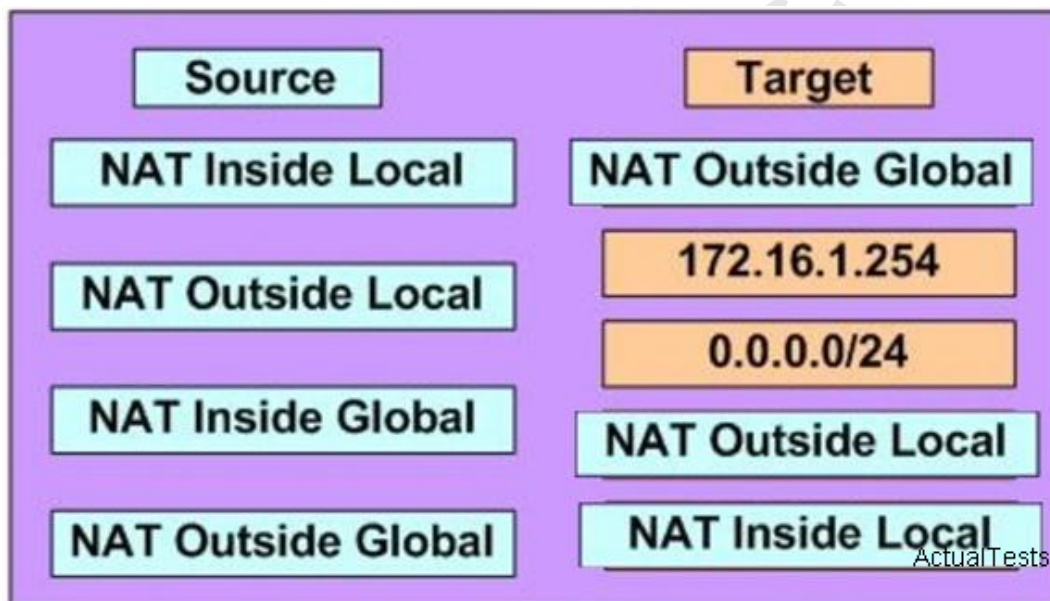
Refer to the exhibit. RA is configured to use NAT in overload mode. Host PC is sending packets to Web Server. Drag the addresses to fill in the NAT terminology table with their associated IP address values.

NOTE: Addresses may be used, none, once or more.

Answer:

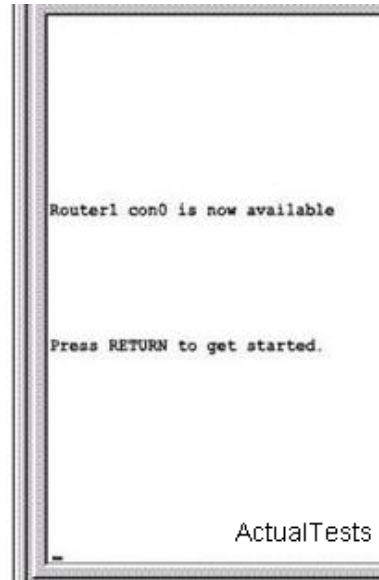
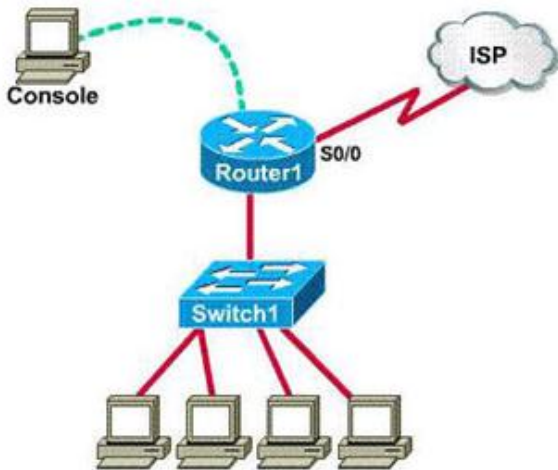


Explanation:



QUESTION NO: 215

The hosts in the LAN are not able to connect to the Internet. Which commands will correct this issue?



- A. Router1(conf)# interface fa0/0
Router1(conf-if)# no shutdown
- B. Router1(conf)# interface fa0/1
Router1(conf-if)# no shutdown
- C. Router1(conf)# interface s0/0
Router1(conf-if)# no shutdown
- D. Router1(conf)# interface s0/1
Router1(conf-if)# no shutdown
- E. Router1(conf)# interface s0/0
Router1(conf-if)# ip address 10.11.12.13 255.255.255.252
- F. Router1(conf)# interface s0/1
Router1(conf-if)# ip address 10.11.12.13 255.255.255.252

Answer: C

Explanation:

We should check the statuses of all the interfaces on Router1 with the show ip interface brief command:

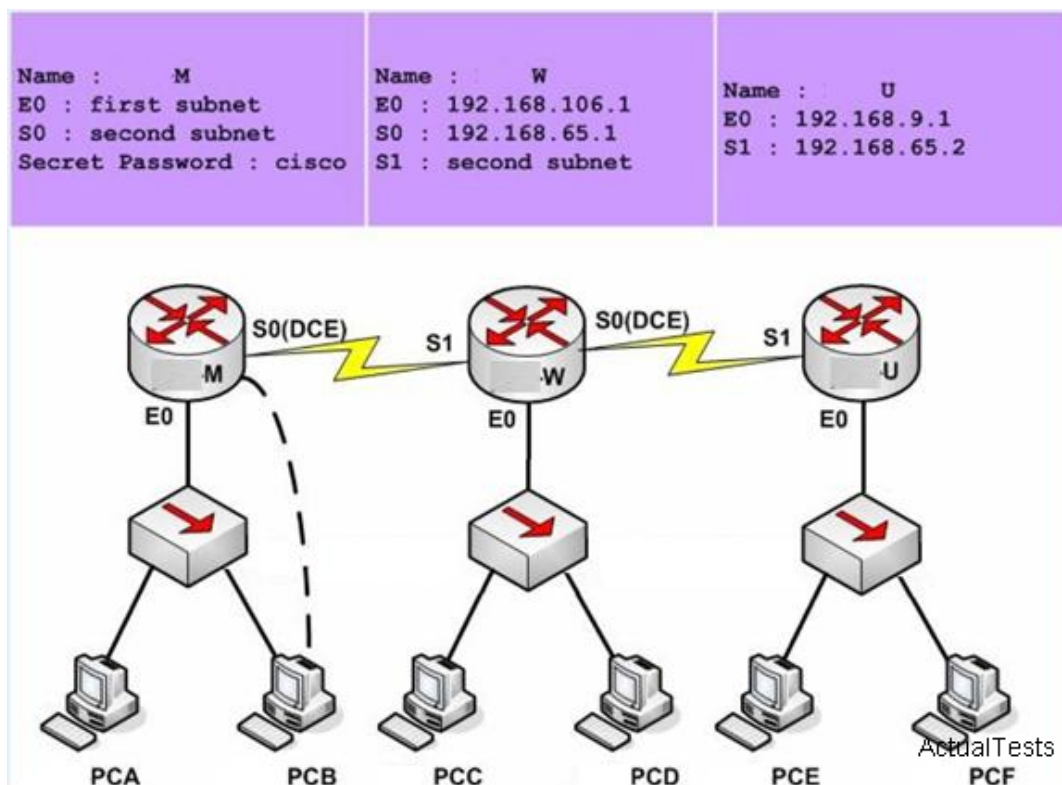
Router#show ip interface brief						
Interface	IP-Address	OK?	Method	Status	Protocol	
FastEthernet0/0	192.168.136.1	YES	manual	up	up	
FastEthernet0/1	unassigned	YES	manual	administratively down	down	
Serial0/0	10.11.12.13	YES	manual	administratively down	down	
Serial0/1	unassigned	YES	manual	administratively down	down	
Serial1/0	unassigned	YES	manual	administratively down	down	
Serial1/1	unassigned	YES	manual	administratively down	down	

ActualTests

From the output, we learn that the status of Serial0/0 interface which connects to ISP router is currently "administratively down". This status indicates this interface is shutting down so we need to turn it on.

QUESTION NO: 216

There are three locations in a school district of a large city: ROUTER -M, ROUTER -W and ROUTER -U. The network connection between two of these locations has already functioned. Configure the ROUTER -M router IP addresses on the E0 and S0 interfaces so that the E0 receives the first usable subnet while the S0 receives the second usable subnet from the network 192.168.160.0/28. Both interfaces would receive the last available ip address on the proper subnet.



Explanation:

ROUTER-M> enable

Password: Cisco

ROUTER-M# config t

ROUTER- M(config)# interface e0

ROUTER- M(config -if)# ip address 192.168.160.14 255.255.255.240

ROUTER- M(config -if)# no shutdown

ROUTER - M(config -if)# exit

ROUTER - M(config)# interface s0

ROUTER- M(config -if)# ip address 192.168.160.30 255.255.255.240

ROUTER- M(config -if)# no shutdown

ROUTER- M(config -if)# end

ROUTER-M# copy run start

QUESTION NO: 217

You have just been employed as a network engineer in a company. Your manager gives you an important new task. You are responsible for supporting the company to provide its customers and sales prospects with streaming services. In order to reach the goal, please choose two important features of the network that will help you most. (Select two.)

- A. addressing
- B. windowing
- C. bandwidth
- D. latency

Answer: C,D

QUESTION NO: 218

As a CCNA candidate, if you want to pass the CCNA exam successfully, first you should acquire the basic knowledge. DNS is a very important concept. Can you tell which service do DNS servers offer? Choose the most appropriate one from the following options.

- A. They run a spell check on host names to ensure accurate routing.
- B. They resolve domain names to IP addresses.
- C. Given an IP address, DNS servers determine the name of the host that is sought
- D. They map individual hosts to their specific IP addresses.

Answer: B

QUESTION NO: 219

You are a network administrator working in a small-sized company. Recently, you are responsible for connecting your small office/home office to an ISP. If you want to use existing telephone lines to increase efficiency, which method will you use?

- A. DSL
- B. CSU/DSU
- C. serial
- D. cable

Answer: A

QUESTION NO: 220

Look at the following two commands related to the switchport. As a CCNA candidate, you should be familiar with them. Do you know these switchport commands' function? Choose the correct description from the items listed below.

```
Switch(config-if)# switchport port-security maximum 1
```

```
Switch(config-if)# switchport port-security mac-address 0018.DE8B.4BF8
```

- A. It ensures that only the device with the MAC address 0018.DE8B.4BF8 will be able to connect to the port that is being configured.
- B. It will act like an access list and the port will filter packets that have a source or destination MAC of 0018.DE8B.4BF8.
- C. It informs the switch that traffic destined for MAC address 0018.DE8B.4BF8 should only be sent to the port that is being configured.
- D. The switch will shut down the port of any traffic with source MAC address of 0018.DE8B.4BF8.

Answer: A

QUESTION NO: 221

During your interview for a network administrator job, your interviewer gives you some statements to judge. The following options are all related to the configuration of a serial link on a Cisco router. You should point out which one is the correct. What is your answer?

- A. Cisco routers are DCE devices.
- B. The clock rate command is a requirement for DCE interfaces.
- C. If the bandwidth command is configured, then the clock rate command is required.
- D. If the clock rate command is configured, then the bandwidth command is required.

Answer: B

QUESTION NO: 222

As a CCNA candidate, you should know how to gain information from the exhibit. Look at the following exhibit and options. Please choose the right description about the results shown for the show interface s0/0/0 command.


```

RA# show interface s0/0/0
Serial0/0/0 is administratively down, line protocol is down
Hardware is GT96K Serial
Internet address is 10.12.12.1/28
MTU 1500 bytes, BW 1544 kbit, DLY 20000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation HDLC, loopback not set
Keepalive set (10sec)
Last input never, output 00:00:14, output hang never
Last clearing of "show interface" counters 5d15h
Input queue: 0/75/0/0(size/max/drops/flushes);Total output drops : 81071
Queuing strategy : fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec,0 packets/sec
5 minute output rate 0 bits/sec,0 packets/sec
    0 packets input,0 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
    145 packets output,5084 bytes,0 underruns
    0 output errors,0 collisions,4 interface resets
    0 output buffer failures,0 output buffers swapped out
    0 carrier transitions
    DCD=down DSR=up DTR=down RTS=down CTS=down

```

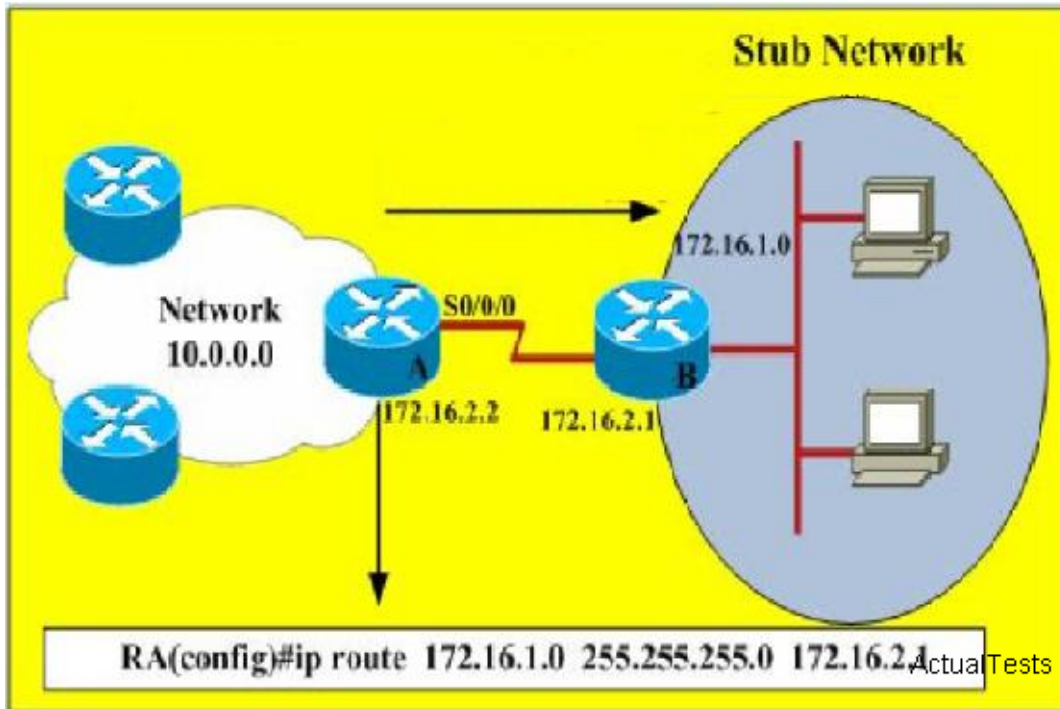
ActualTests

- A. The default encapsulation protocol for a Cisco serial interface is PPP.
- B. The subnet mask for this interface is 255.255.255.252.
- C. The IP address that is configured on s0/0/0 is a public address.
- D. This interface can be enabled by issuing a no shutdown command.

Answer: D

QUESTION NO: 223

Recently, you have sent your resume for a network engineer position to the Company. Later, you received a letter in reply, which contains a test listed below. Look at the exhibit and options carefully. Can you choose the correct description about the displayed configuration?

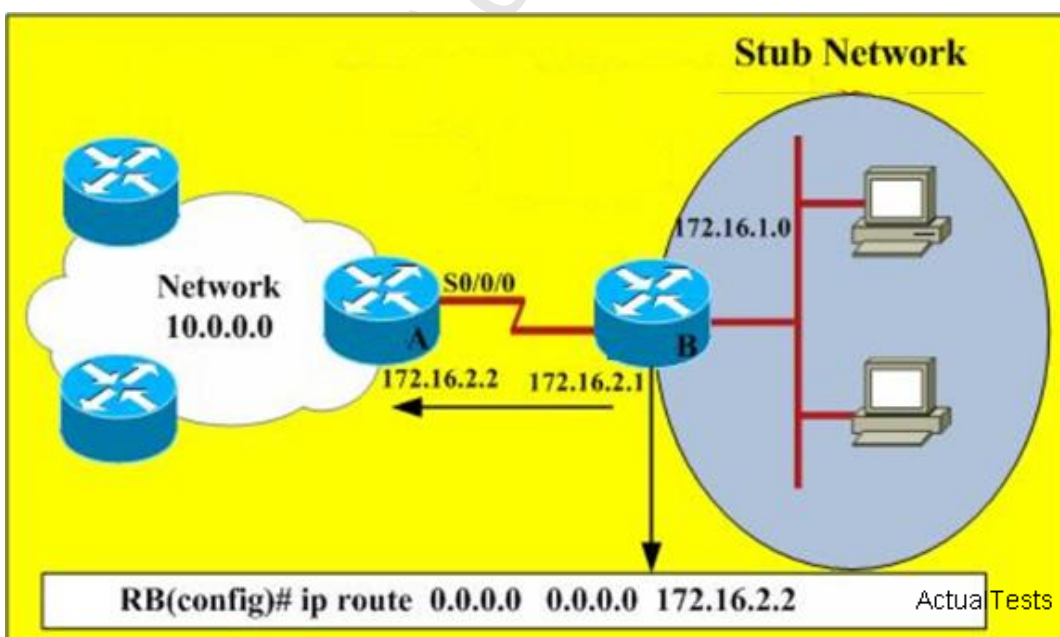


- A. What is shown as being configured would be considered a default route.
- B. This will not work as the subnet mask on serial interfaces must be /30.
- C. This configuration creates a bidirectional path between Router A and Router B.
- D. The command `ip route 172.16.1.0 255.255.255.0 s0/0/0` would provide similar routing functionality.

Answer: D

QUESTION NO: 224

Look at the following exhibit carefully. Please choose two correct descriptions from the following items. (Select two.)



- A. This is a default route.
- B. Adding the subnet mask is optional for their route command.
- C. This will allow any host on the 172.16.1.0 network to reach all known destinations beyond Router A.
- D. The same command needs to be entered on Router A so that hosts on the 172.16.1.0 network can reach network 10.0.0.0.

Answer: A,C

QUESTION NO: 225

You are a network engineer working in the Company. The following exhibit displays the Router RA configuration. During your test, you find that DNS lookups to 209.165.202.129 are unsuccessful. You can make sure that all routing is operational. Which of the following items can be the most possible reason?

```
RA# show running-config
Building configuration...

Current configuration : 1062 bytes
!
version 12.3
!
hostname RA
!
boot-start-marker
boot-end-marker
!
enable password pass
!
no aaa new-model
ip subnet-zero
ip cef
!
no ip domain lookup
ip domain name ABC.com
ip name-server 209.165.202.129
!
<output omitted>
```

ActualTests

- A. DHCP has not been enabled or configured.
- B. AAA must be configured for authentication of the DNS server.
- C. ABC.com will be incorrectly appended to all non-Cisco DNS queries.
- D. DNS queries are currently disabled.

Answer: D

QUESTION NO: 226

On your professional test for a network administrator position in Company, you are given an exhibit listed below. Look at this exhibit carefully. The telnet fails in its try to www.abc.com from Router RA. You should find out the reason. What is your reply?

```
RA# telnet www.abc.com
Translating "www.abc.com" ...domain server
(255.255.255.255)
%Unknown command or computer name, or unable to find computer
address
```

ActualTests

- A. The telnet command is not enabled on Router RA.
- B. The name www.abc.com was not spelled out correctly.
- C. A DNS name-server is not configured on Router RA,
- D. A route to www.abc.com in the Router RA routing table is missing from the routing table.

Answer: C

QUESTION NO: 227

As a CCNA candidate, you should know how to gain information from the exhibit. According to the command output displayed in the following exhibit, please point out the correct description about interface Serial 0/0/0.

```
RA# show running-config
Building configuration...

Current configuration :59 bytes

<output omitted>

interface Serial0/0/0
ip address 209.165.200.225 255.255.255.224
!
```

ActualTests

- A. The configuration is Incomplete, which will cause the interface status to be "Serial0/0/0 is down, line protocol is down"
- B. A ping to the remote address 209.165.200.226 will be successful.
- C. The configuration is incomplete, which will cause the interface status to be "Serial0/0/0 is up, line protocol is down".
- D. The interface is using Cisco HDLC for layer 2 encapsulation.

Answer: D

QUESTION NO: 228

You are a network administrator working in the communication company. One day, you find that the encapsulation has been altered by someone on a synchronous serial line and this new configuration is not the optimal one. So you attempt to return the encapsulation to the default. Which measure will you take to reach this goal?

- A. Reboot the router and allow it to reload the configuration.
- B. Configure the interface for HDLC encapsulation.
- C. Change the encapsulation to ARPA.
- D. Issue the shutdown then no shutdown commands to reset the encapsulation on the interface.

Answer: B

QUESTION NO: 229

You have recently been employed as a network administrator for a communication company. You have connected devices to a switch. Your superior tells that you should also add the MAC addresses dynamically learned from the address table to the running configuration in order to enhance the security. Do you know which of the following is the most necessary to reach this goal?

- A. Enable port security and use the keyword sticky.
- B. Use the `noswitchport port-security` command to allow MAC addresses to be added to the configuration.
- C. Use the `switchport protected` command to have the MAC addresses added to the configuration.
- D. Set the switchport mode to trunk and save the running configuration.

Answer: A

QUESTION NO: 230

You are a network engineer. One day, when you are having a dinner with your friend, he tells his recent concern and hopes to seek advices from you. He says that his company has provided a networked PC in the lobby for guests to view the corporate directory. However, the directory PC is always disconnected by someone. Then, someone will re-connect their laptop computer and will be able to visit the corporate network. What are your suggestions offered to stop this from happening? Look at the following items carefully. Choose three proper configuration steps that can be performed on the switch for the port servicing the lobby. (Select three.)

- A. Enable port security.
- B. Create the port as a trunk port.
- C. Create the port as an access port.
- D. Statically assign the MAC address to the address table.

Answer: A,C,D

QUESTION NO: 231

You are a network administrator working in the Company. After you change a 1 Gb NIC for the 10/100 Mb NIC in a desktop PC, you find that the PC cannot connect to the network. Then, you have to solve this problem. According to the switch output shown in the following exhibit, choose the most appropriate reason from the items listed below.

```
SW# show interface fastEthernet 0/2
FastEthernet0/2 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 0017.596d.2a02
Description: To Central Fa0/0
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:03, output 00:00:00, output hang never
Last clearing of "show interface" counters never
<output omitted>
```

ActualTests

- A. Speed is set to 100Mb/s.
- B. The port is administratively down.
- C. Encapsulation is set to ARPA.
- D. Input flow control is off.

Answer: A

QUESTION NO: 232

As a network administrator, you should be familiar with the usages of various cables. Otherwise, the wrong methods will bring a series of different problems. Here, if you are responsible for connecting two routers by virtue of their Fast Ethernet ports during your experiment, which type of cable will be the most appropriate to provide normal connectivity?

- A. null modem
- B. crossover
- C. straight-through
- D. rollover

Answer: B

QUESTION NO: 233

During your interview for the network administrator job, your interviewer asks you a question about the port to test your basic knowledge. A cable with a DB-60 connector should connect to some port. Can you point out the type of this port from the following items?

- A. serial port
- B. Ethernet port
- C. console port
- D. fiber optic port

Answer: A

QUESTION NO: 234

As a CCNA candidate, if you want to pass the CCNA exam successfully, you should not only acquire the basic knowledge, but also have remarkable ability to practice and operate. Suppose that you are a network administrator. A router has not been configured for RIP before. You have entered the command "Router(config)# router rip" on this router at the prompt for global configuration mode. Can you tell which state will be the router in after the execution of the command? Choose the correct description from the following options.

- A. The RIP process has started, and by default all updates are being sent RIPv1.
- B. The RIP process has started, but no updates are being sent.
- C. The RIP process has started, and by default all updates are being sent RIPv2.
- D. The router has entered router configuration mode but the RIP process has not started.

Answer: D

QUESTION NO: 235

You are a network administrator working in MS Company. Your company has two locations. Recently, you are responsible for connecting the locations together with routers and a serial connection. The network topology is learned by routers via RIP. During your connection, you find that Router RB has learned a network from Router RA; conversely, the network cannot be learned. According to the output shown in the following exhibit, you should find out the reason. Choose the most possible cause from the options listed below.

```

-----Router output from      RA-----
RA# show ip route
<text omitted>
Gateway of last resort is not set
  172.16.0.0/24 subnetted, 1 subnets
C       172.16.1.0 is directly connected, Ethernet0/1
  10.0.0.0/30 is subnetted, 1 subnets
C       10.255.255.200 is directly connected, Serial0/0
RA#
RA# show ip protocol
Routing Protocol is "rip"
  Sending updates every 30 seconds, next due in 8 seconds
  Invalid after 180 seconds, hold down 180, flushed after 240
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Redistributing : rip
  Default version control: send version 2, receive version 2
    Interface  Send  Recv  Triggered RIP  Key-chain
    Serial0/0   2    2
    Loopback0   2    2
  Automatic network summarization is in effect
  Maximum path:4
  Routing for Networks:
    10.0.0.0
    172.16.0.0
  Passive Interface(s):
    Ethernet0/1
  Routing Information Sources:
    Gateway         Distance      Last Update
    10.255.255.202   120          00:02:53
  Distance(default is 120)

RA#

```

ActualTests

- A. RIP is an Interior gateway protocol and cannot route for multiple network classes.
- B. One or more network statements are incorrect on Router RB.
- C. One or more network statements are incorrect on Router RA.
- D. The RIP versions on Router RA and Router RB are mismatched.

Answer: D

QUESTION NO: 236

As a CCNA candidate, you should know how to get information from the exhibit. Look at the output from a router displayed in the following exhibit carefully. Do you know this router's function according to the output? Choose the most possible statement from the options listed below.

```

RA# 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, 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 0.0.0.0 to network 0.0.0.0
 172.16.0.0/24 is subnetted, 1 subnets
 C    172.16.1.0 is directly connected, Ethernet0/1
 10.0.0.0/30 is subnetted, 1 subnets
 C    10.255.255.200 is directly connected, serial0/0
 S*   0.0.0.0/0 directly connected, serial0/0
RA#

```

ActualTests

- A. The HQ Internet gateway router.
- B. The WAN router at the central site.
- C. A Core router.
- D. Remote stub router at a remote site.

Answer: D

QUESTION NO: 237

Your interviewer asks you the following question to test your professional knowledge. A single LAN segment covers a specific area. In order to expand this area, you have to use some Layer 1 devices. Please choose two from the devices listed below to satisfy the requirement. (Select two.)

- A. repeater
- B. NIC

- C. router
- D. hub

Answer: A,D

QUESTION NO: 238

You have just been employed as a network administrator. In order to check the application layer connectivity between source and destination, you have to use some command. Look at the following commands carefully. Choose the most appropriate one to reach your goal.

- A. traceroute
- B. telnet
- C. ping
- D. trace

Answer: B

QUESTION NO: 239

As a CCNA candidate, you should be familiar with various commands. Some protocol can offer the best-effort delivery to the user data in a network. Can you choose this protocol from the following options?

- A. MAC
- B. TCP
- C. IP
- D. SMTP

Answer: C

QUESTION NO: 240

Look at the following addresses carefully. Suppose that the default Class A subnet mask is being used. Please identify the valid public Class A host addresses from the IP addresses listed below. (Select two.)

- A. 128.16.89.72
- B. 11.22.33.44
- C. 68.95.255.100
- D. 127.0.0.1

Answer: B,C

QUESTION NO: 241

You are a newly-employed network administrator working in a small company. Recently, you are responsible for creating eight subnets for your company's Class C network address. Furthermore, each subnet is required to contain 4~27 hosts. How will you configure the subnet mask? Choose the most appropriate one from the following options.

- A. 0.0.0.240
- B. 255.255.255.240
- C. 255.255.255.224
- D. 255.255.255.252

Answer: C

QUESTION NO: 242

The concept of subnet is very important. As a CCNA candidate, you should also master the related concepts about the IP address class. In order to create subnets, from which IP address class can 15 bits be borrowed?

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

Answer: A

QUESTION NO: 243

As a CCNA candidate, if you want to pass the CCNA exam successfully, you should acquire the basic knowledge very well. Do you know why the IP address has to be assigned to a switch? Choose the correct answer from the following options.

- A. To make sure that hosts on the same LAN can communicate with each other.
- B. To allow remote management of the switch.
- C. To allow the switch to respond to ARP requests between two hosts
- D. To provide local hosts with a default gateway address

Answer: B

QUESTION NO: 244

As a network administrator, you should be familiar with various commands. Look at the following options carefully. By virtue of which router command, you can determine the Serial 0/0's status?

- A. show s0/0 status
- B. show interfaces
- C. show ip route
- D. show version

Answer: B

QUESTION NO: 245

As a network administrator, you should be familiar with various commands. The Cisco IOS software version runs on a router. Do you know which commands can be used to show information about this software version? (Select three.)

- A. show running-config
- B. show IOS
- C. show version
- D. show flash

Answer: A,C,D

QUESTION NO: 246

The "shutdown" interface configuration command can be used to shut down the serial 0 interface manually when you are logging into a router. Then, the serial 0 interface will turn into another status after you enter the "show interface serial 0" command in exec mode. Do you know what the status will be?

- A. Serial 0 is up, line protocol is up
- B. Serial 0 is administratively down, line protocol is down.
- C. Serial 0 is down, line protocol is up
- D. Serial 0 is down, line protocol is down

Answer: B

QUESTION NO: 247

What does the ^ signify?

**ROM: System Bootstrap, Version 12.2(10r)1,RELEASE
SOFTWARE(fc1)**

Router uptime is 10 minutes

System returned to ROM by power-on

System image file is "flash:c2600-do3s-mz.121-5.T12.bin"

**cisco 2621(MPC 860)processor (revision 0x00) with
44032K/5120K bytes of memory**

Processor board ID JAD06390AR4(617842770)

M860 processor :part number 0,mask 49

Bridging software.

X.25 software, Version 3.0.0.

Basic Rate ISDN software, Version1.1.

2 FastEthernet/IEEE 802.3 interface(s)

2 Low-speed serial(sync/async)network interface(s)

1 ISDN Basic Rate interface(s)

32K bytes of non-volatile configuration memory

16384K bytes of processor board System flash (Read/Write)

Configuration register is 0x2102

R#configure terminal

Enter configuration commands, one per line.

End with CNTL/Z.

R(config)#interface e0

^

% Invalid input detected at '^' marker.

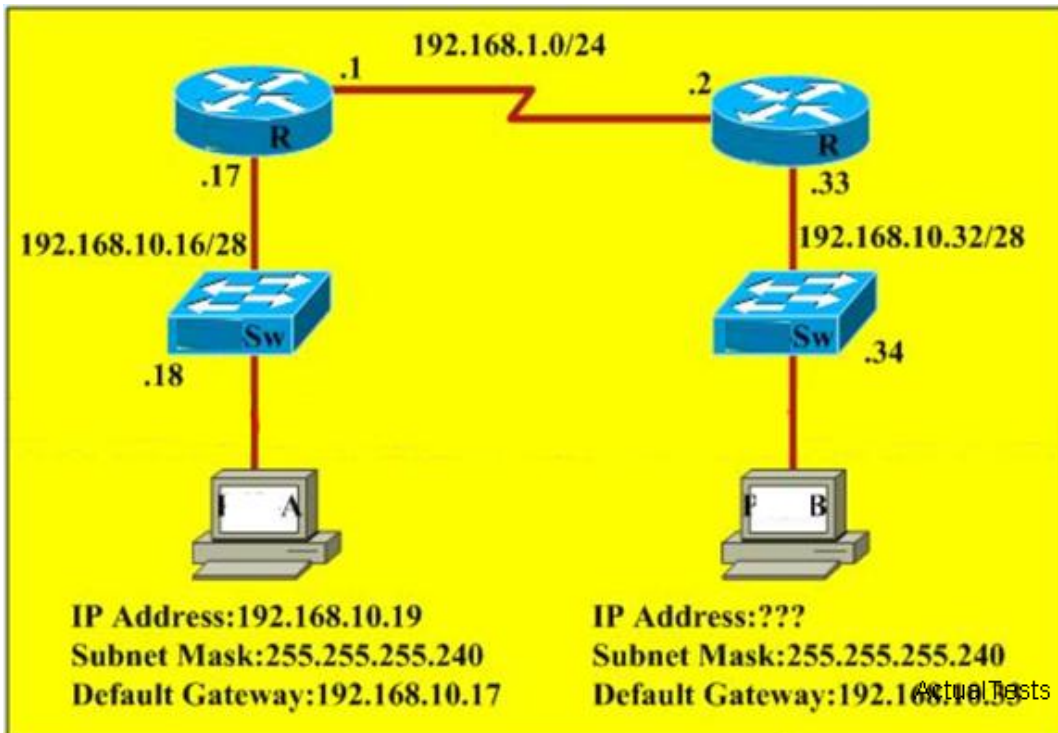
ActualTests

- A. The IOS software loaded on the router is outdated.
- B. The interface type does not exist on this router platform.
- C. The interface was already configured.
- D. The command was entered from the wrong prompt.

Answer: B

QUESTION NO: 248

During your interview for the network administrator position, you are asked the following question. You can also gain information from the given exhibit. After having been added to the network, Host B still has to get an IP address. Please point out two possible addresses that will not prevent host B from communicating with other devices in the network. (Select two.)



- A. 192.168.10.49
- B. 192.168.10.38
- C. 192.168.10.46
- D. 192.168.10.47

Answer: B,C

QUESTION NO: 249

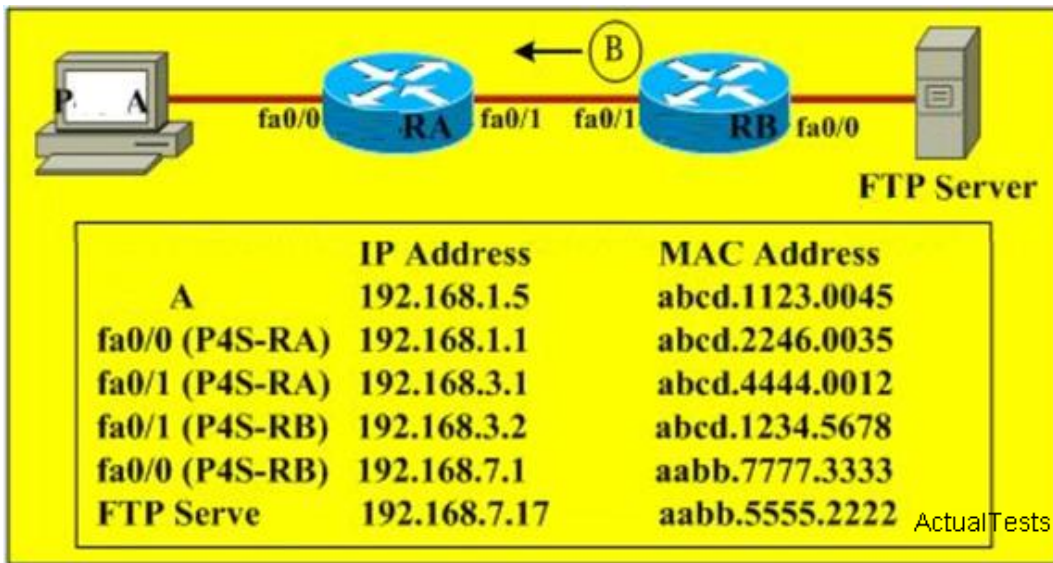
As a CCNA candidate, it is necessary for you to know the calculation of the subnet address. Here, if the IP address is 172.19.20.23/28, please identify its subnet address.

- A. 172.19.20.15
- B. 172.19.20.0
- C. 172.19.20.16
- D. 172.19.20.32

Answer: C

QUESTION NO: 250

Look at the following exhibit carefully. You can know that a file is being sent to Host A by FTP Server. B displays the frame as it leaves the RB router. According to the given information, can you point out the layer 2 destination address of the frame by the time?

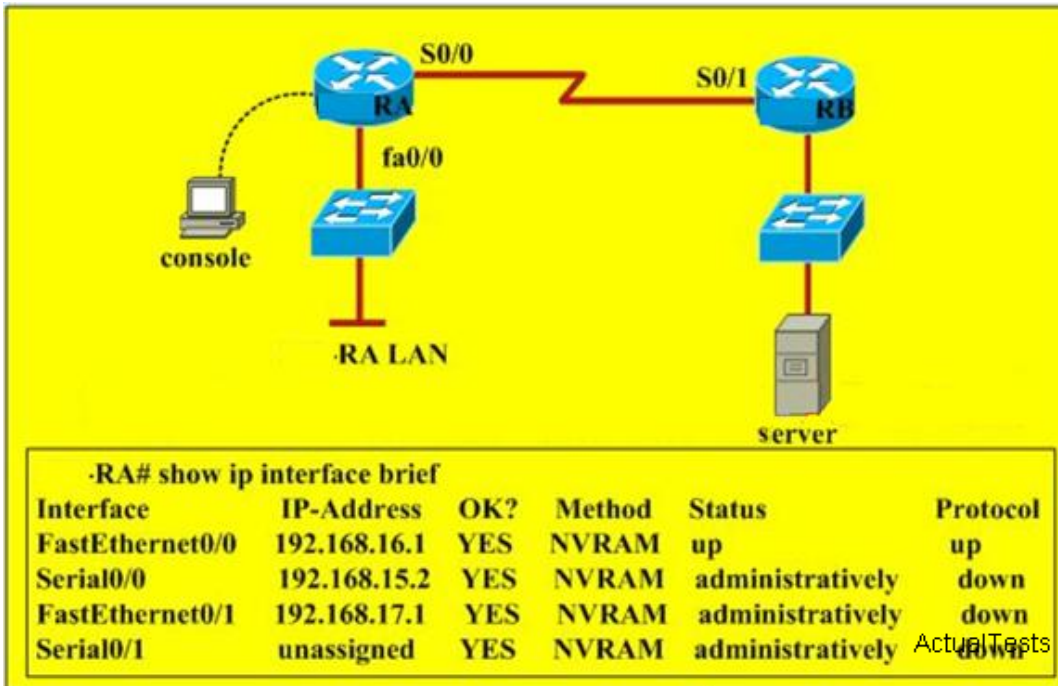


- A. abcd.2246.0035
- B. aabb.5555.2222
- C. abcd.1123.0045
- D. abcd.4444.0012

Answer: D

QUESTION NO: 251

Suppose that you are a network administrator working in Company. Look at the following exhibit carefully. The server is connected to the RB router. Recently, users on the RA LAN complain that they cannot access this server. In order to solve this problem, you have to take some measures. Please choose two correct actions from the options listed below. (Select two.)

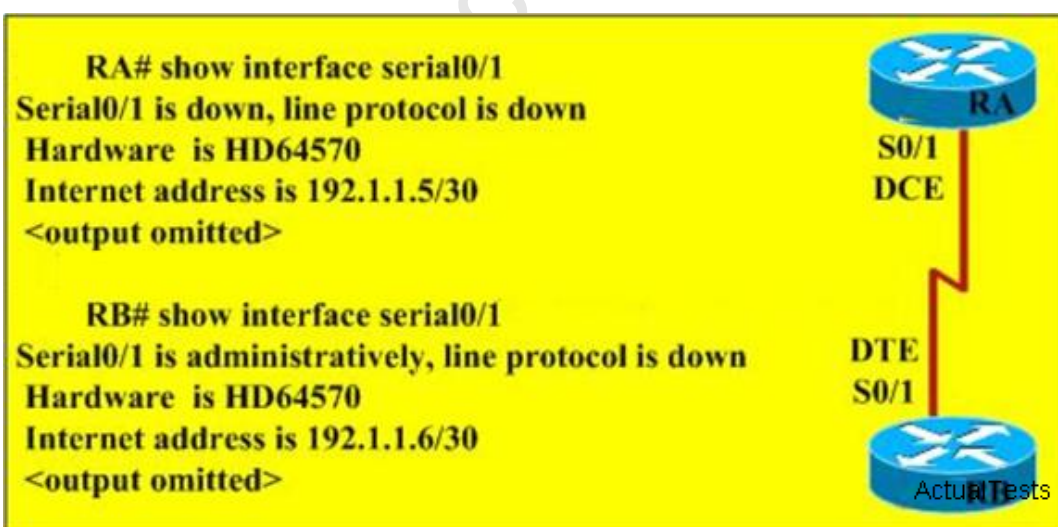


- A. Enter the configuration mode for interface fastethernet0/0.
- B. Enter the configuration mode for interface serial0/0
- C. Issue the no shutdown command.
- D. Issue the enable command.

Answer: B,C

QUESTION NO: 252

Study the following exhibit carefully. You are a network technician working in Company. One time, you fall in your attempt to ping from RA to RB. You know that you can solve this problem by virtue the show interfaces serial0/1 command. What actions will you take?



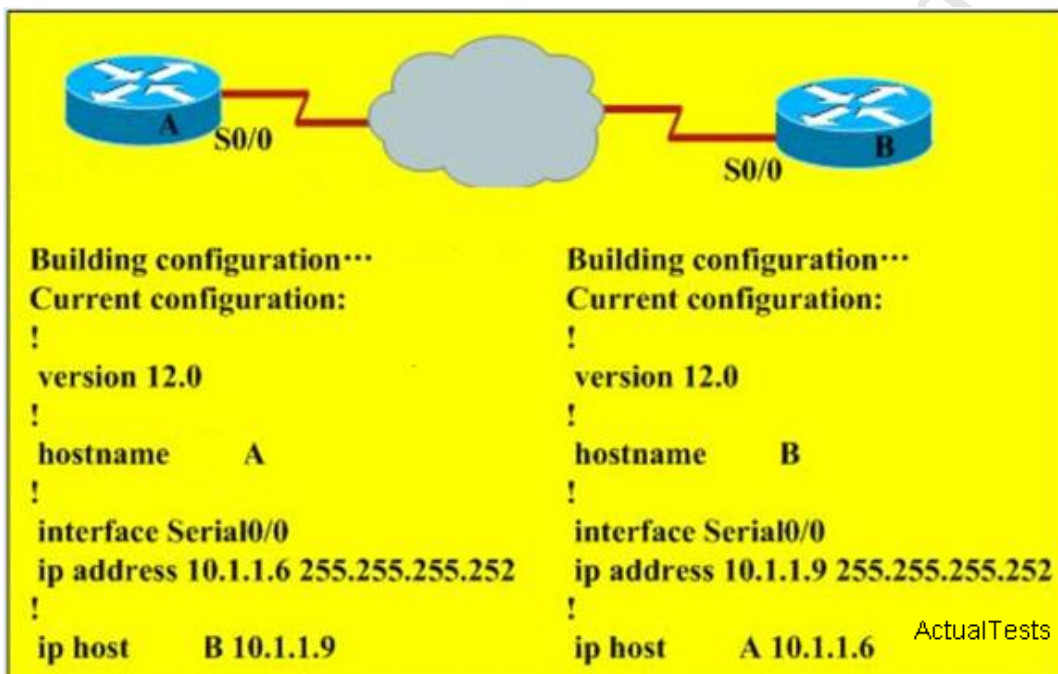
- A. Reseat the serial connectors on the RA and RB routers.
- B. Replace the serial cable between RA and RB.

- C. Configure the serial0/1 interface on RB with the no shutdown command.
 D. Configure the serial0/1 interface on RA with their address 192.1.1.7 255.255.255.252 command.

Answer: C

QUESTION NO: 253

Look at the following exhibit displaying the topology and partial configurations carefully. As a newly-employed administrator, you are not skillful at your regular work. One day, after finishing configuring the A and B routers, you fail in your attempt to ping B from the A router. In order to solve this problem, you can utilize some command. Choose the correct command or set of commands that can help you reach the goal.



- A. B(config)# interface s0/0
 B (config-if)# ip address 10.1.1.5 255.255.255.252
 A (config)# ip host B 10.1.1.5
 B. B (config)# interface s0/0
 B # (config-if)# no shut
 C. B (config)# line vty 0 4
 B (config)# login
 B (config)# password B
 D. B (config)# interface s0/0
 B (config-if)# cdp enable

Answer: A

QUESTION NO: 254 DRAG DROP

Drag the appropriate command on the left to the configuration task it accomplishes. (Not all options are used.)

- login password cantCome1n
- enable password uwi11NeverNo
- service password-encryption
- line console 0
password friendS0nly
- enable secret noWay1n4u
- line vty 0 4
password 2hard2Guess

- encrypt all clear text passwords
- protect access to the user mode prompt
- set privileged mode encrypted password
- set password to allow Telnet connections
- set privileged mode clear text password

ActualTests

Answer:

Drag the appropriate command on the left to the configuration task it accomplishes. (Not all options are used.)

- login password cantCome1n
- enable password uwi11NeverNo
- service password-encryption
- line console 0
password friendS0nly
- enable secret noWay1n4u
- line vty 0 4
password 2hard2Guess

- service password-encryption
- line console 0
password friendS0nly
- enable secret noWay1n4u
- line vty 0 4
password 2hard2Guess
- enable password uwi11NeverNo

ActualTests

Explanation:

Drag the appropriate command on the left to the configuration task it accomplishes. (Not all options are used.)

- login password cantCome1n
- enable password uwi11NeverNo
- service password-encryption
- line console 0
password friendS0nly
- enable secret noWay1n4u
- line vty 0 4
password 2hard2Guess

- service password-encryption
- line console 0
password friendS0nly
- enable secret noWay1n4u
- line vty 0 4
password 2hard2Guess
- enable password uwi11NeverNo

ActualTests

QUESTION NO: 255

A company wants to provide streaming video services to its customers and sales prospects. Which two characteristics of the network are the most critical to achieving this goal? (Choose two.)

- A. addressing
- B. authentication
- C. bandwidth
- D. latency
- E. security
- F. windowing

Answer: C,D

QUESTION NO: 256

Which two protocols does DNS use from the TCP/IP layer? (Choose two.)

- A. ARP
- B. ICMP
- C. IP
- D. SCTP
- E. TCP
- F. UDP

Answer: E,F

QUESTION NO: 257

Refer to the exhibit. Why did the telnet attempt to www.cisco.co from RouterA fail?

```
RouterA# telnet www.cisco.co
Translating "www.cisco.co"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer
address
```

- A. A route to www.cisco.co in the RouterA routing table is missing from the routing table.
- B. The name www.cisco.co was not spelled out correctly.
- C. A DNS name-server is not configured on RouterA.
- D. The telnet command is not enabled on RouterA.

Answer: C

QUESTION NO: 258

What is the purpose of assigning an IP address to a switch?

- A. provides local hosts with a default gateway address
- B. allows remote management of the switch
- C. allows the switch to respond to ARP requests between two hosts
- D. ensures that hosts on the same LAN can communicate with each other

Answer: B

QUESTION NO: 259

After the shutdown command has been issued on the serial 0/0 interface, what will be displayed when the show interface serial 0/0 command is issued by the administrator?

- A. Serial0/0 is administratively down, line protocol is down
- B. Serial0/0 is down, line protocol is down
- C. Serial0/0 is up, line protocol is down
- D. Serial0/0 is administratively down, line protocol is administratively down
- E. Serial0/0 is up, line protocol is up
- F. Serial0/0 is down, line protocol is up

Answer: A

QUESTION NO: 260

Which three statements about networks are accurate? (Choose three.)

- A. Networks are used to transmit data in many kinds of environments, including homes, small businesses, and large enterprises. A main office can have hundreds or even thousands of people who depend on network access to do their jobs.
- B. A network is a connected collection of devices that can communicate with each other.
- C. A main office usually has one large network to connect all users.
- D. The purpose of a network is to create a means to provide all workers with access to all information and components that are accessible by the network.
- E. Remote locations cannot connect to a main office through a network.

Answer: A,B,C

QUESTION NO: 261

What is the purpose of a router?

- A. to interconnect networks and choose the best paths between them
- B. to provide the connection points for the media
- C. to serve as the end point in the network, sending and receiving data
- D. to provide the means by which the signals are transmitted from one networked device to another

Answer: A

QUESTION NO: 262

What is the purpose of a switch?

- A. to connect separate networks and filter the traffic over those networks so that the data is transmitted through the most efficient route to choose the path over which data is sent
- B. to its destination
- C. to serve as the end point in the network, sending and receiving data
- D. to provide network attachment to the end systems and intelligent switching of the data within the local network

Answer: D

QUESTION NO: 263

What is the purpose of network interconnections?

- A. to connect separate networks and filter the traffic over those networks so that the data is transmitted through the most efficient route
- B. to choose the path over which data is sent to its destination
- C. to provide a means for data to travel from one point to another in the network
- D. to provide network attachment to the end systems and intelligent switching of the data within the local network

Answer: C

QUESTION NO: 264

Which resource is not sharable on a network?

- A. memory

- B. applications
- C. peripherals
- D. storage devices

Answer: A

QUESTION NO: 265

Which three of the following are common network applications? (Choose three.)

- A. e-mail
- B. collaboration
- C. graphics creation
- D. database
- E. word processing
- F. spreadsheets

Answer: A,B,D

QUESTION NO: 266

Which of the following network characteristic determines how easily users can access the network?

- A. Speed
- B. Cost
- C. Security
- D. Availability
- E. Scalability
- F. Reliability
- G. Topology

Answer: D

QUESTION NO: 267

Which two statements about physical networking topologies are accurate? (Choose two)

- A. A physical topology defines the way in which the computers, printers, network devices, and other devices are connected.
- B. There are three primary categories of physical topologies: bus, ring, and star.

- C. A physical topology describes the paths that signals travel from one point on a network to another.
- D. The choice of a physical topology is largely influenced by the type of data to be transmitted over the network.

Answer: A,B

QUESTION NO: 268

Which statement about logical topologies is accurate?

- A. A logical topology defines the way in which the computers, printers, network devices, and other devices are connected.
- B. A logical topology depends solely on the type of computers to be included in the network.
- C. A logical topology describes the paths that the signals travel from one point on a network to another.
- D. A network cannot have different logical and physical topologies.

Answer: C

QUESTION NO: 269

Which topology allows all the network devices to connect directly to each other in a linear fashion?

- A. Star
- B. Bus
- C. Mesh
- D. Ring
- E. Partial-mesh
- F. Dual-ring

Answer: B

QUESTION NO: 270

Which two statements about wireless networks are accurate? (Choose two.)

- A. Instead of cables, wireless communication uses RFs or infrared waves to transmit data.
- B. To receive the signals from the access point, a computer needs to have a wireless adapter card or wireless NIC.
- C. For wireless LANs, a key component is a router, which propagates signal distribution.

D. Wireless networks are not very common, and generally only large corporations use them.

Answer: A,B

QUESTION NO: 271

What is the main threat to a closed network?

- A. a deliberate attack from outside
- B. a deliberate or accidental attack from inside
- C. misuse by customers
- D. misuse by employees

Answer: B

QUESTION NO: 272

Which two factors have recently influenced the increase in threats from hackers? (Choose two.)

- A. Hacker tools require more technical knowledge to use.
- B. Hacker tools have become more sophisticated.
- C. The number of reported security threats has remained constant year to year.
- D. Hacker tools require less technical knowledge to use.

Answer: B,D

QUESTION NO: 273

Which of the following four attacks are classified as access attacks?

- A. password attacks
- B. DDoS
- C. Trojan horse
- D. Love Bug

Answer: A

QUESTION NO: 274

Which two statements about the purpose of the OSI model are accurate? (Choose two.)

- A. The OSI model defines the network functions that occur at each layer.
- B. The OSI model facilitates an understanding of how information travels throughout a network.
- C. The OSI model ensures reliable data delivery through its layered approach.
- D. The OSI model allows changes in one layer to affect the other layers.

Answer: A,B

QUESTION NO: 275

Which OSI layer provides connectivity and path selection between two host systems that may be located on geographically separated networks?

- A. Physical
- B. Datalink
- C. Network
- D. Transport
- E. Session
- F. Presentation
- G. Application

Answer: C

QUESTION NO: 276

The presentation layer is _____ in the encapsulation process. It adds the presentation layer header (Layer 6 header) to the data. This then becomes the data that is passed down to the session layer.

- A. Step 1
- B. Step 2
- C. Step 3
- D. Step 4
- E. Step 5
- F. Step 6
- G. Step 7
- H. Step 8

Answer: B

QUESTION NO: 277

At which layer does de-encapsulation first occur?

- A. application
- B. datalink
- C. network
- D. transport

Answer: B

QUESTION NO: 278

In a peer-to-peer communication which of the following encapsulates the packet in a frame?

- A. Network layer
- B. Datalink layer
- C. Physical layer

Answer: B

QUESTION NO: 279

What is the function of a network protocol?

- A. uses sets of rules that tell the services of a network what to do
- B. ensures reliable delivery of data
- C. routes data to its destination in the most efficient manner
- D. is a set of functions that determine how data is defined

Answer: A

QUESTION NO: 280

Which TCP/IP layer provides applications for file transfer, network troubleshooting, and Internet activities, and supports the network?

- A. Physical layer
- B. Datalink layer
- C. Internet layer
- D. Transport layer
- E. Application layer

Answer: E

QUESTION NO: 281

Which area of the OSI model and the TCP/IP stack is most diverse?

- A. network layer
- B. transport layer
- C. application layer
- D. data link layer

Answer: C

QUESTION NO: 282

How many bits are in an IPv4 address?

- A. 16
- B. 32
- C. 48
- D. 64
- E. 128

Answer: B

QUESTION NO: 283

In a Class B address, which of the octets are the host address portion and are assigned locally?

- A. The first octet is assigned locally.
- B. The first and second octets are assigned locally.
- C. The second and third octets are assigned locally.
- D. The third and fourth octets are assigned locally.

Answer: D

QUESTION NO: 284

The address 172.16.128.17 is of which class?

- A. Class A

- B. Class B
- C. Class C
- D. Class D

Answer: B

QUESTION NO: 285

Which of the following statements is true of a directed-broadcast address?

- A. A broadcast address is an address that has all 0s in the host field.
- B. Any IP address in a network can be used as a broadcast address.
- C. A directed broadcast address is an address that has all 1s in the host field.
- D. None of the above is correct.

Answer: C

QUESTION NO: 286

Which two of these addresses are private IP addresses? (Choose two.)

- A. 10.215.34.124
- B. 127.16.71.43
- C. 172.17.10.10
- D. 225.200.15.10

Answer: A,C

QUESTION NO: 287

Which three statements about IP are accurate? (Choose three.)

- A. IP is a connectionless protocol.
- B. IP uses relational addressing.
- C. IP delivers data reliably
- D. IP operates at Layer 2 of the TCP/IP stack and OSI model.
- E. IP does not provide any recovery functions.
- F. IP delivers data on a best-effort basis.

Answer: A,E,F

QUESTION NO: 288

Which three statements about TCP are accurate? (Choose three.)

- A. TCP operates at Layer 3 of the TCP/IP stack.
- B. TCP is a connection-oriented protocol.
- C. TCP provides no error checking.
- D. TCP packets are numbered and sequenced so that the destination can reorder packets and determine if a packet is missing.
- E. TCP provides no recovery service.
- F. Upon receipt of one or more TCP packets, the receiver returns an acknowledgement to the sender indicating that it received the packets.

Answer: B,D,F

QUESTION NO: 289

In the OSI model, which characteristic is similar between TCP and UDP?

- A. operates at Layer 4 (transport layer) of the OSI model and the TCP/IP stack
- B. capable of performing a very limited form of error checking
- C. provides service on a best-effort basis and does not guarantee packet delivery
- D. provides no special features that recover lost or corrupted packets

Answer: A

QUESTION NO: 290

When a single computer with one IP address has several websites open at once, this is called _____.

- A. windowing
- B. session multiplexing
- C. segmenting
- D. connection-oriented protocol

Answer: B

QUESTION NO: 291

TCP is best for which two of the following applications? (Choose two.)

- A. E-mail
- B. voice streaming
- C. downloading
- D. video streaming

Answer: A,C

QUESTION NO: 292

Which three of the following characteristics apply to UDP? (Choose three.)

- A. Packets are treated independently.
- B. Packet delivery is guaranteed.
- C. Packet delivery is not guaranteed
- D. Lost or corrupted packets are not resent

Answer: A,C,D

QUESTION NO: 293

Which two of the following characteristics apply to TCP? (Choose two.)

- A. Packet delivery is not guaranteed.
- B. Lost or corrupted packets are not resent.
- C. Lost or corrupted packets are resent.
- D. TCP segment contains a sequence number and an acknowledgment number.

Answer: C,D

QUESTION NO: 294

Proprietary applications use which kind of port?

- A. dynamically assigned ports
- B. well-known ports
- C. registered ports

Answer: C

QUESTION NO: 295

Ports that are used only for the duration of a specific session are called _____.

- A. dynamically assigned ports
- B. well-known ports
- C. registered ports

Answer: A

QUESTION NO: 296

The source port in both a UDP header and a TCP header is a _____.

- A. 16-bit number of the called port
- B. 16-bit length of the header
- C. 16-bit sum of the header and data fields
- D. 16-bit number of the calling port

Answer: D

QUESTION NO: 297

Which field in a TCP header ensures that data arrives in correct order?

- A. acknowledgement number
- B. sequence number
- C. reserved
- D. options

Answer: B

QUESTION NO: 298

In a TCP connection setup, what is sent by the initiating device?

- A. ACK
- B. receive SYN
- C. send SYN

Answer: C

QUESTION NO: 299

Acknowledgment and windowing are two forms of _____.

- A. flow control
- B. TCP connection
- C. TCP sequencing
- D. reliable connections

Answer: A

QUESTION NO: 300

Windowing provides which of the following services?

- A. The sender can multiplex
- B. The receiver can have outstanding acknowledgments.
- C. The receiver can multiplex
- D. The sender can transmit a specified number of unacknowledged segments.

Answer: D

QUESTION NO: 301

Sequence numbers and acknowledgment numbers are found where?

- A. UDP header
- B. TCP header
- C. in the initial sequence number
- D. application layer

Answer: D

QUESTION NO: 302

What organization is responsible for Ethernet standards?

- A. ISO
- B. IEEE
- C. EIA
- D. IEC

Answer: B

QUESTION NO: 303

What are two characteristics of Ethernet 802.3? (Choose two.)

- A. based on the CSMA/CD process
- B. a standard that has been replaced by Ethernet II
- C. specifies the physical layer (Layer 1)
- D. developed in the mid-1970s
- E. specifies the MAC portion of the data link layer (Layer 2)
- F. also referred to as thick Ethernet

Answer: A,E

QUESTION NO: 304

Which statement about MAC addresses is accurate?

- A. A MAC address is a number in hexadecimal format that is physically located on the NIC.
- B. A MAC address is represented by hexadecimal digits that are organized in pairs
- C. It is not necessary for a device to have a unique MAC address to participate in the network.
- D. The MAC address can never be changed

Answer: A

QUESTION NO: 305

Which cable is recommended for use in a 1000BASE-T network?

- A. Category 3
- B. Category 5
- C. Category 5e
- D. Category 7

Answer: C

QUESTION NO: 306

Which UTP category is capable of transmitting data at speeds up to 100 Mbps?

- A. Category 1
- B. Category 2
- C. Category 3
- D. Category 4
- E. Category 5
- F. Category 5e
- G. Category 6

Answer: E

QUESTION NO: 307

Which three characteristics pertain to UTP? (Choose three.)

- A. UTP cable is an eight-pair wire.
- B. An insulating material covers each of the individual copper wires in UTP cable.
- C. The wires in each pair are wrapped around each other.
- D. Expensive to install due to use of large gauge copper conductors.
- E. Susceptible to electromagnetic interference.

Answer: B,C,E

QUESTION NO: 308

Which two statements about the functions of a hub are accurate? (Choose two.)

- A. A hub extends an Ethernet LAN.
- B. A hub reduces the size of a collision domain.
- C. Adding a hub eliminates the need for users on a network segment to compete for the same bandwidth.
- D. A hub is a data link layer device.
- E. A hub amplifies the data signal before retransmitting it.

Answer: A,E

QUESTION NO: 309

Which three statements best describe collisions? (Choose three.)

- A. Collisions occur when two or more stations on a shared media transmit at the same time.
- B. Larger segments are less likely to have collisions.

- C. In a collision, the frames are destroyed, and each station in the segment begins a random timer that must be completed before attempting to retransmit the data.
- D. Adding a hub to a network can improve collision issues.
- E. Collisions are by-products of a shared LAN.
- F. More segments on a network mean greater potential for collisions.

Answer: A,C,E

QUESTION NO: 310

Which of these choices best describes a collision domain?

- A. two or more devices trying to communicate at the same time
- B. two networks that are connected
- C. network segments that share the same bandwidth
- D. none of the above

Answer: C

QUESTION NO: 311

What type of hardware will help eliminate collisions?

- A. repeater
- B. bridge
- C. hub
- D. extender

Answer: B

QUESTION NO: 312

Which three factors are typical causes of network congestion? (Choose three.)

- A. high-bandwidth applications
- B. many network segments
- C. increasing volume of network traffic
- D. more powerful computer and network technologies
- E. few network segments
- F. greater distances for LANs

Answer: A,C,D

QUESTION NO: 313

What are four characteristics of a bridge? (Choose four.)

- A. Bridges forward but do not filter data frames between LAN segments.
- B. Bridges maintain MAC address tables.
- C. Bridges are more "intelligent" than hubs.
- D. Bridges can buffer and forward frames between two or more LAN segments.
- E. Bridges create fewer collision domains.
- F. Bridges operate at Layer 2 of the OSI model.

Answer: B,C,D,F

QUESTION NO: 314

What are two major benefits of adding a bridge to a network? (Choose two.)

- A. isolating potential network problems to specific segments
- B. increasing the speed of a network
- C. extending a LAN to cover greater distances by joining multiple segments
- D. creating fewer collision domains
- E. forwarding data frames between LAN segments

Answer: A,C

QUESTION NO: 315

If the switch determines that the destination MAC address of the frame resides on the same network segment as the source, it does not forward the frame. What switch operation is the statement describing?

- A. Flooding
- B. Filtering
- C. Forwarding

Answer: B

QUESTION NO: 316

Which three characteristics apply to a switch? (Choose three.)

- A. uses a table of MAC addresses to determine the port to which the data is to be sent
- B. connects LAN segments
- C. reduces the number of collision domains
- D. increases the number of collision domains
- E. filters data before forwarding it to its destination on the network

Answer: A,B,D

QUESTION NO: 317

Which three features differentiate switches from bridges? (Choose three.)

- A. large frame buffers
- B. use of a table of MAC addresses to determine the segment to which the data is to be sent
- C. support for mixed media rates
- D. high port densities
- E. ability to segment LANs

Answer: A,C,D

QUESTION NO: 318

Which three statements are accurate about how the network performance of a switch compares to that of a bridge? (Choose three.)

- A. Switches operate at much higher speeds than bridges.
- B. Switches operate at lower speeds than bridges.
- C. Switches support more advanced functionality than bridges.
- D. Switches support less functionality than bridges.
- E. Switches support dedicated communication between devices.
- F. Switches do not support dedicated communication between devices.

Answer: A,C,E

QUESTION NO: 319

Which three statements about microsegmentation are accurate? (Choose three.)

- A. Implementing a bridge creates microsegmentation.

- B. Microsegmentation increases bandwidth availability.
- C. Each device on a network segment is connected directly to a switch port.
- D. Microsegmentation eliminates collisions.
- E. Microsegmentation limits the number of segments on a network.
- F. Microsegmentation uses half-duplex operation.

Answer: B,C,D

QUESTION NO: 320

_____ describes a network that sends and receives data frames one at a time, but not simultaneously.

- A. Full-duplex communication
- B. Half-duplex communication

Answer: B

QUESTION NO: 321

What is the Ethernet segment length limitation for a 1000base-TX cable?

- A. 25m
- B. 100m
- C. 250m
- D. 550m if 62.5 micron

Answer: B

QUESTION NO: 322

When a Cisco device starts up, which of the following does it run to check its hardware?

- A. flash
- B. RAM
- C. POST
- D. TFTP

Answer: C

QUESTION NO: 323

When a Catalyst switch or Cisco router starts up, what is the first operation performed?

- A. The device performs system startup routes.
- B. The device performs hardware checking routines.
- C. The device attempts to locate other devices on the network.
- D. The device tries to find and apply software configuration settings.

Answer: B

QUESTION NO: 324

Upon initial installation of a Cisco switch or router, the network administrator typically configures the networking devices from a _____.

- A. CD-ROM
- B. TFTP server
- C. console terminal
- D. modem connection

Answer: C

QUESTION NO: 325

If a network administrator is supporting a remote device, the preferred method is to use a modem connection to the _____ of the device for remote configuration.

- A. LAN port
- B. uplink port
- C. console port
- D. auxiliary port

Answer: D

QUESTION NO: 326

Which access level allows a person to access all router commands and can be password protected to allow only authorized individuals to access the router?

- A. user EXEC level
- B. setup EXEC level

- C. enable EXEC level
- D. privileged EXEC level

Answer: D

QUESTION NO: 327

How do you instruct a Cisco device to parse and execute an entered command?

- A. Press the Send key
- B. Press the Enter key
- C. Add a space at end of the command
- D. Wait 5 seconds after you enter the command

Answer: B

QUESTION NO: 328

Which CLI prompt indicates that you are working in privileged EXEC mode?

- A. hostname#
- B. hostname>
- C. hostname-exec>
- D. hostname-config

Answer: A

QUESTION NO: 329

Which command would you enter in the privileged EXEC mode to list the command options?

- A. ?
- B. init
- C. help
- D. login

Answer: A

QUESTION NO: 330

_____ is the physical Catalyst switch startup process that attaches the power cable plug to the switch power supply socket.

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

Answer: B

QUESTION NO: 331

How do you start a Catalyst 2950 series switch?

- A. Press the on/off switch.
- B. Power up the redundant power supply.
- C. Connect a network cable to another switch on the network.
- D. Attach the power cable plug to the switch power supply socket.

Answer: D

QUESTION NO: 332

If the POST tests complete successfully on a Catalyst switch, what display could you see on the console?

- A. the > prompt
- B. the privileged EXEC prompt
- C. the Management Console logon screen
- D. a list of commands available on the switch

Answer: A

QUESTION NO: 333

What CLI command should you enter to display a list of commands that begin with the letter "c" on a Catalyst switch?

- A. c?
- B. ?
- C. help c
- D. help c*

Answer: A

QUESTION NO: 334

What CLI command should you enter to display the command syntax help so that you can see how to complete a command that begins with "config"?

- A. config?
- B. config ?
- C. helpconfig
- D. helpconfig*

Answer: B

QUESTION NO: 335

Which Cisco IOS command correctly configures an IP address and subnet mask on a switch?

- A. ip address
- B. ip address 196.125.243.10
- C. 196.125.243.10ip address
- D. ip address 196.125.243.10 255.255.255.0

Answer: D

QUESTION NO: 336

Which configuration mode will you use to configure a particular port on a switch?

- A. user mode
- B. global configuration mode
- C. interface configuration mode
- D. controller configuration mode

Answer: C

QUESTION NO: 337

When you use the show interface command to display the status and statistics for the interfaces configured on a Catalyst switch, which output field indicates the MAC address that identifies the interface hardware?

- A. MTU 1500 bytes
- B. Hardware is ... 10BaseT
- C. Address is 0050.BD73.E2C1
- D. 802.1dSTP State: Forwarding

Answer: C

QUESTION NO: 338

Which show command requires that you have privileged EXEC mode access?

- A. showip
- B. show version
- C. show running
- D. show interfaces

Answer: C

QUESTION NO: 339

How should you power up a Cisco router?

- A. Press the Reset button.
- B. Turn the power switch to "on."
- C. Connect the fiber cable to another router.
- D. Attach the power cable plug to the router power supply socket.

Answer: B

QUESTION NO: 340

Which two of the following would be considered a physical threat? (Choose two)

- A. A user leaving their password in their desk.
- B. Someone turning off the power to the switch to block network access.
- C. Someone turning off the air conditioning system in the network closet.
- D. Someone breaking into the cabinet that contains the network documentation.

Answer: B,C

QUESTION NO: 341

Which four of the following can be protected with a password? (Choose four)

- A. Console access
- B. VTY access
- C. TTY access
- D. User level access
- E. Exec level access

Answer: A,B,C,E

QUESTION NO: 342

Which two of the following are customized text that is displayed before the username and password login prompts? (Choose two)

- A. MessageOf the Day
- B. Login Banner
- C. Access warning
- D. User Banner
- E. Warning message

Answer: A,B

QUESTION NO: 343

Which of the following is the most secure method of remotely accessing a network device?

- A. http
- B. telnet
- C. ssh
- D. rmon
- E. snmp

Answer: C

QUESTION NO: 344

Which of the following is an IOS feature that can be used to control access to the VTY ports?

- A. shutdown

- B. port security
- C. access list
- D. firewall

Answer: C

QUESTION NO: 345

Which of the following is an IOS command that can be used to control access to a switch port based upon a MAC address?

- A. shutdown
- B. port-security
- C. mac-secure
- D. firewall

Answer: B

QUESTION NO: 346

Which of the following is an IOS command that can be used to increase the security of unused switch ports?

- A. shutdown
- B. port-security
- C. mac-secure
- D. firewall

Answer: A

QUESTION NO: 347

Which problem is caused by redundant connections in a network?

- A. microsegmentation
- B. loops
- C. degradation
- D. collisions

Answer: B

QUESTION NO: 348

Which statement best describes how loops can affect performance in a switched LAN?

- A. Broadcast storms may be created when loops occur, preventing data from being transmitted over the network.
- B. Any multicast, broadcast, or unknown traffic will be flooded out to all ports.
- C. Incorrect information may be updated to the MAC address tables, resulting in inaccurate forwarding of frames.
- D. The loop removes the frame from the network.

Answer: A

QUESTION NO: 349

Which statement accurately describes Spanning-Tree Protocol?

- A. STP assigns roles to bridges and ports to ensure that only one forwarding path exists through the network at any given time.
- B. STP automatically keeps the previously inactive path inactive.
- C. STP eliminates the segments in which there are problems.
- D. STP allows ports to listen to, forward, and flood data frames.

Answer: A

QUESTION NO: 350

Which of the following is an IOS command that is the most useful when troubleshooting media issues?

- A. show controller
- B. show run
- C. show interface
- D. show counters

Answer: C

QUESTION NO: 351

Which three of the following are methods used to mitigate configuration issues? (Choose three)

- A. Secure unused ports

- B. Secure the configuration
- C. Verify changes before you save
- D. Know what you have before you start

Answer: B,C,D

QUESTION NO: 352

Which of the following is an IOS command that is the most useful when troubleshooting port access issues?

- A. show controller
- B. show run
- C. show interface
- D. show counters

Answer: C

QUESTION NO: 353

Which two statements are true of CDP? (Choose two)

- A. CDP is a proprietary protocol.
- B. CDP is an open protocol standard.
- C. CDP discovers information about directly connected Cisco devices.
- D. CDP discovers information about all devices on the network.
- E. CDP runs over the network layer.

Answer: A,C

QUESTION NO: 354

How could you obtain CDP information about a remote device that is not directly connected?

- A. Use the command showcdp neighbors address.
- B. Use the command showcdp neighbors hostname.
- C. Use the command showcdp neighbors next-hop.
- D. It is not possible to obtain CDP information about a remote device.

Answer: D

QUESTION NO: 355

Which two pieces of information are included in a CDP update packet? (Choose two.)

- A. platform
- B. routing updates
- C. device identifiers
- D. MAC Address list
- E. link speed

Answer: A,C

QUESTION NO: 356

Which command disables CDP on the device as a whole?

- A. no runcdp
- B. nocardp run
- C. nocardp enable
- D. nocardp execute

Answer: B

QUESTION NO: 357

What does the command cdp enable do?

- A. disables CDP on a specific interface
- B. enables CDP on the device as a whole
- C. enables CDP on an individual interface
- D. enables CDP on a specific type of interface

Answer: C

QUESTION NO: 358

Which Cisco IOS command produces the same result as the show cdp neighbors detail command?

- A. showcdp traffic
- B. showcdp entry *
- C. showcdp neighbors

D. showcdp interface all

Answer: B

QUESTION NO: 359

What keyword do you add to the show cdp neighbors command to obtain additional information in the output?

- A. full
- B. detail
- C. verbose
- D. complete

Answer: B

QUESTION NO: 360

Which Cisco IOS command displays the frequency at which packets are sent?

- A. showcdp entry
- B. showcdp traffic
- C. showcdp interface
- D. showcdp neighbors

Answer: C

QUESTION NO: 361

What information is included in the output of the command show cdp interface?

- A. remote port ID
- B. remote device ID
- C. encapsulation type
- D. number of CDP packets sent

Answer: C

QUESTION NO: 362

Which command displays the device platform of a directly connected device?

- A. showcdp entry *
- B. showcdp traffic
- C. showcdp interface
- D. showcdp platform

Answer: A

QUESTION NO: 363

Which command displays CDP packet checksum errors?

- A. showcdp entry *
- B. showcdp traffic
- C. showcdp interface
- D. showcdp neighbors

Answer: B

QUESTION NO: 364

Which three statements identify the primary uses of a network map? (Choose three.)

- A. tracks modifications to network design
- B. creates a software inventory
- C. tracks changes to the topology
- D. troubleshoots network problems
- E. tracks changes in protocol configurations
- F. implements new configurations

Answer: A,C,D

QUESTION NO: 365

Which stage during a Cisco router bootup occurs last?

- A. POST
- B. find and load IOS
- C. find and load bootstrap
- D. find and load configuration

Answer: D

QUESTION NO: 366

Which stage of the Cisco router bootup process verifies that all router components are operational?

- A. POST
- B. find IOS
- C. find bootstrap
- D. find configuration

Answer: A

QUESTION NO: 367

Which Cisco router component is used primarily to store the startup-config file?

- A. RAM
- B. ROM
- C. NVRAM
- D. flash memory
- E. configuration register

Answer: C

QUESTION NO: 368

Which of the following is a low-level operating system normally used for manufacturing testing and troubleshooting?

- A. POST
- B. bootstrap
- C. mini IOS
- D. ROMMON

Answer: D

QUESTION NO: 369

During the Cisco router bootup process, what does the router do if the boot field value is 0x2?

- A. runs ROM Monitor
- B. loads IOS image from flash memory
- C. loads IOS image subset from ROM
- D. checks the startup-config file for boot system commands

Answer: D

QUESTION NO: 370

What happens if the router cannot find a valid startup configuration file in NVRAM during router bootup?

- A. The router enters setup mode
- B. The router attempts to restart.
- C. The router runs ROM monitor
- D. The router performs a shutdown.

Answer: A

QUESTION NO: 371

On most routers, the Cisco IOS software is loaded into _____ to run, but on some routers, it is run directly from _____.

- A. RAM, NVRAM
- B. RAM, flash memory
- C. Flash memory; RAM
- D. NVRAM, flash memory

Answer: B

QUESTION NO: 372

The command show startup-config displays the configuration in what location?

- A. ROM
- B. RAM
- C. NVRAM
- D. flash memory

Answer: C

QUESTION NO: 373

Which bits of the configuration register value make up the boot field?

- A. lowest octet
- B. highest octet
- C. lowest 4 bits
- D. highest 4 bits

Answer: C

QUESTION NO: 374

Which Cisco IOS command is used to download a copy of the IOS image file from a TFTP server?

- A. copy IOStftp
- B. copytftp flash
- C. copy flashtftp
- D. backup flashtftp

Answer: B

QUESTION NO: 375

Given the system image file c2600-js-mz.122-21a.bin, which part of the name indicates the platform?

- A. mz
- B. js
- C. 122-21a
- D. c2600

Answer: D

QUESTION NO: 376

Which Cisco IOS command displays the amount of memory that is available where the IOS image is stored on your router?

- A. show flash
- B. shownvram
- C. show memory
- D. show running-config

Answer: A

QUESTION NO: 377

Where is the running configuration of the router usually stored?

- A. BIOS
- B. RAM
- C. NVRAM
- D. bootflash

Answer: B

QUESTION NO: 378

Which Cisco IOS command merges a configuration file from NVRAM into the configuration in RAM?

- A. copy startup running
- B. copy running-config tftp
- C. copy startup-config RAM
- D. copy NVRAM running-config

Answer: A

QUESTION NO: 379

What does the copy tftp startup command do?

- A. copies the configuration in NVRAM to a TFTP server
- B. downloads a configuration file from a TFTP file to RAM
- C. downloads a configuration file from a TFTP server to NVRAM
- D. merges the configuration in RAM with the configuration file on a TFTP server

Answer: C

QUESTION NO: 380

When you copy a configuration from another source into RAM, what happens to the previous configuration?

- A. It is overwritten.
- B. It is retained in its current state.
- C. It is merged with the new configuration, with the existing configuration taking precedence.
- D. It is merged with the new configuration, with the new configuration taking precedence.

Answer: D

QUESTION NO: 381

You should use debug commands to _____ problems, not to monitor normal network operation.

- A. test
- B. repair
- C. isolate
- D. duplicate

Answer: C

QUESTION NO: 382

Why must you be careful when using debug commands?

- A. They are destructive.
- B. They open up security holes.
- C. They prevent normal traffic processing.
- D. They can have a negative impact on performance.

Answer: D

QUESTION NO: 383

Which Cisco IOS command will add a time stamp to a debug or log message?

- A. timestamps debug
- B. debug timestamps
- C. service timestamps
- D. service debug timestamps

Answer: C

QUESTION NO: 384

Which action can lead to software reload on a Cisco device?

- A. disabling a debug privileged EXEC command on a heavily used production router
- B. enabling a debug privileged EXEC command on a heavily used production router
- C. enabling a debug privileged EXEC command on a lightly used production router
- D. disabling a debug privileged EXEC command on a lightly used production router

Answer: B

QUESTION NO: 385

Which Cisco IOS command will enable a Telnet session to receive console messages?

- A. terminal monitor
- B. terminal debug monitor
- C. terminal debug messages
- D. terminal console messages

Answer: A

QUESTION NO: 386

It is best to use debug commands during periods of _____ network traffic and _____ users.

- A. lower, more
- B. lower, fewer
- C. higher, more
- D. higher, fewer

Answer: B

QUESTION NO: 387

On a heavily used production router, enabling a debug privileged EXEC command can be _____.

- A. useful

- B. helpful
- C. harmful
- D. duplicate

Answer: C

QUESTION NO: 388

This topology contains 3 routers and 1 switch. Complete the topology.

Drag the appropriate device icons to the labeled Device

Drag the appropriate connections to the locations labeled Connections.

Drag the appropriate IP addresses to the locations labeled IP address
(Hint: use the given host addresses and Main router information)

To remove a device or connection, drag it away from the topology.

Use information gathered from the Main router to complete the configuration of any additional routers. No passwords are required to access the Main router. The config terminal command has been disabled for the HQ router. The router does not require any configuration.

Configure each additional router with the following:

Configure the interfaces with the correct IP address and enable the interfaces.

Set the password to allow console access to consolepw

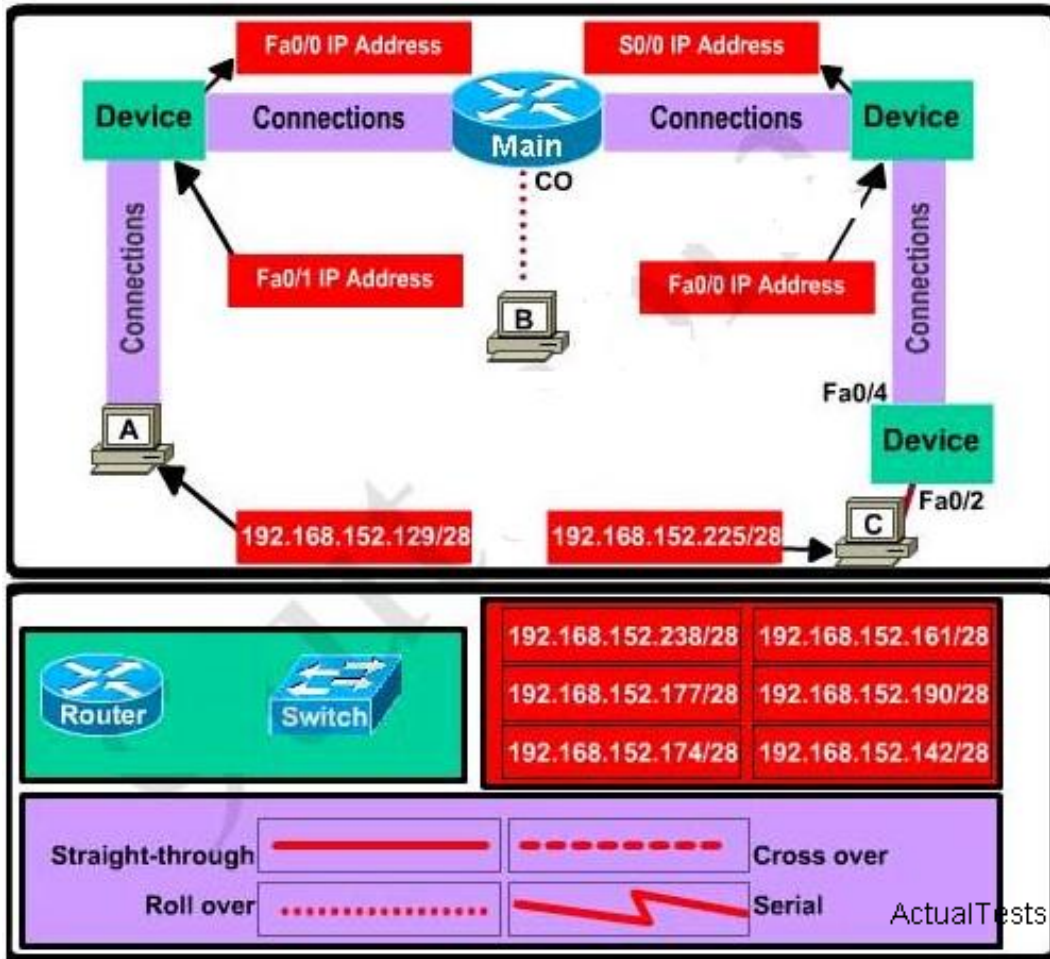
Set the password to allow telnet access to telnetpw

Set the password to allow privilege mode access to privpw

Note: Because routes are not being added to the configurations, you will not be able to ping through the internetwork.

All devices have cable autosensing capabilities disabled.

All hosts are PC's



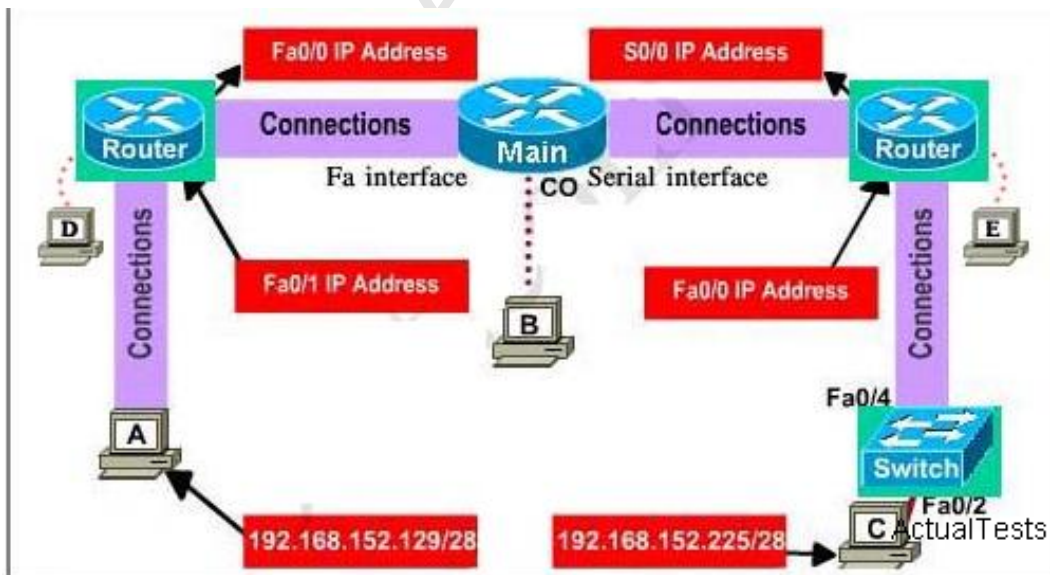
Explanation:

Specify appropriate devices and drag them on the "Device" boxes

For the device at the bottom-right box, we notice that it has 2 interfaces Fa0/2 and Fa0/4; moreover the link connects the PC on the right with the device on the bottom-right is a straight-through link -> it is a switch

The question stated that this topology contains 3 routers and 1 switch -> two other devices are routers

Place them on appropriate locations as following:



(Host D and host E will be automatically added after placing two routers. Click on them to access neighboring routers)

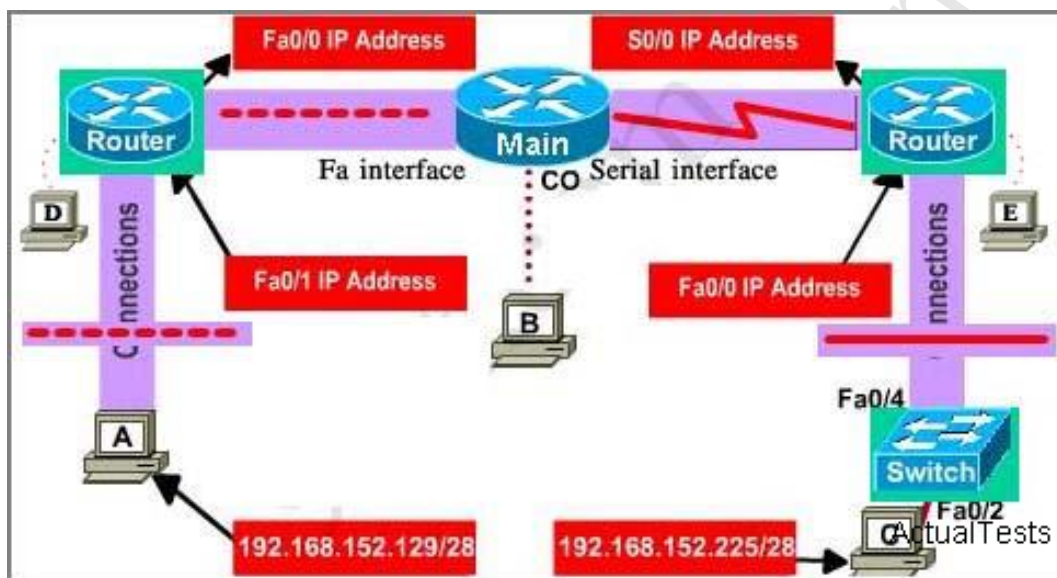
Specify appropriate connections between these devices:

- + The router on the left is connected with the Main router through FastEthernet interfaces: use a crossover cable
- + The router on the right is connected with the Main router through Serial interfaces: use a serial cable
- + The router on the right and the Switch: use a straight-through cable
- + The router on the left and the computer: use a crossover cable

(To remember which type of cable you should use, follow these tips:

- To connect two serial interfaces of 2 routers we use serial cable
- To specify when we use crossover cable or straight-through cable, we should remember: Group 1: Router, Host, Server
- Group 2: Hub, Switch
- One device in group 1 + One device in group 2: use straight-through cable
- Two devices in the same group: use crossover cable

For example: we use straight-through cable to connect switch to router, switch to host, hub to host, hub to server... and we use crossover cable to connect switch to switch, switch to hub, router to router, host to host...)



Assign appropriate IP addresses for interfaces:

From Main router, use show running- config command:

```

Main#show running-config
interface FastEthernet0/0
  ip address 192.168.152.177 255.255.255.240
!
interface Serial0/0
  ip address 192.168.152.161 255.255.255.240
  clockrate 64000
ActualTests
<output omitted>

```

(Notice that you may see different IP addresses in the real CCNA exam, the ones shown above are just used for demonstration)

From the output we learned that the ip address of Fa0/0 interface of the Main router is

192.168.152.177/28. This address belongs to a subnetwork which has:

Increment: 16 ($/28 = 255.255.255.240$ or $1111\ 1111.1111\ 1111.1111\ 1111$) Network address: 192.168.152.176 (because $176 = 16 * 11$ and $176 < 177$) Broadcast address: 192.168.152.191 (because $191 = 176 + 16 - 1$)

And we can pick up an ip address from the list that belongs to this subnetwork : 192.168.152.190 and assign it to the Fa0/0 interface the router on the left

Use the same method for interface Serial0/0 with an ip address of 192.168.152.161

Increment: 16 Network address: 192.168.152.160 (because $160 = 16 * 10$ and $160 < 161$)

Broadcast address: 192.168.152.175 (because $175 = 160 + 16 - 1$)

-> and we choose 192.168.152.174 for Serial0/0 interface of the router on the right

Interface Fa0/1 of the router on the left

IP (of the computer on the left) : 192.168.152.129/28

Increment: 16 Network address: 192.168.152.128 (because $128 = 16 * 8$ and $128 < 129$)

Broadcast address: 192.168.152.143 (because $143 = 128 + 16 - 1$)

-> we choose 192.168.152.142 from the list

Interface Fa0/0 of the router on the right

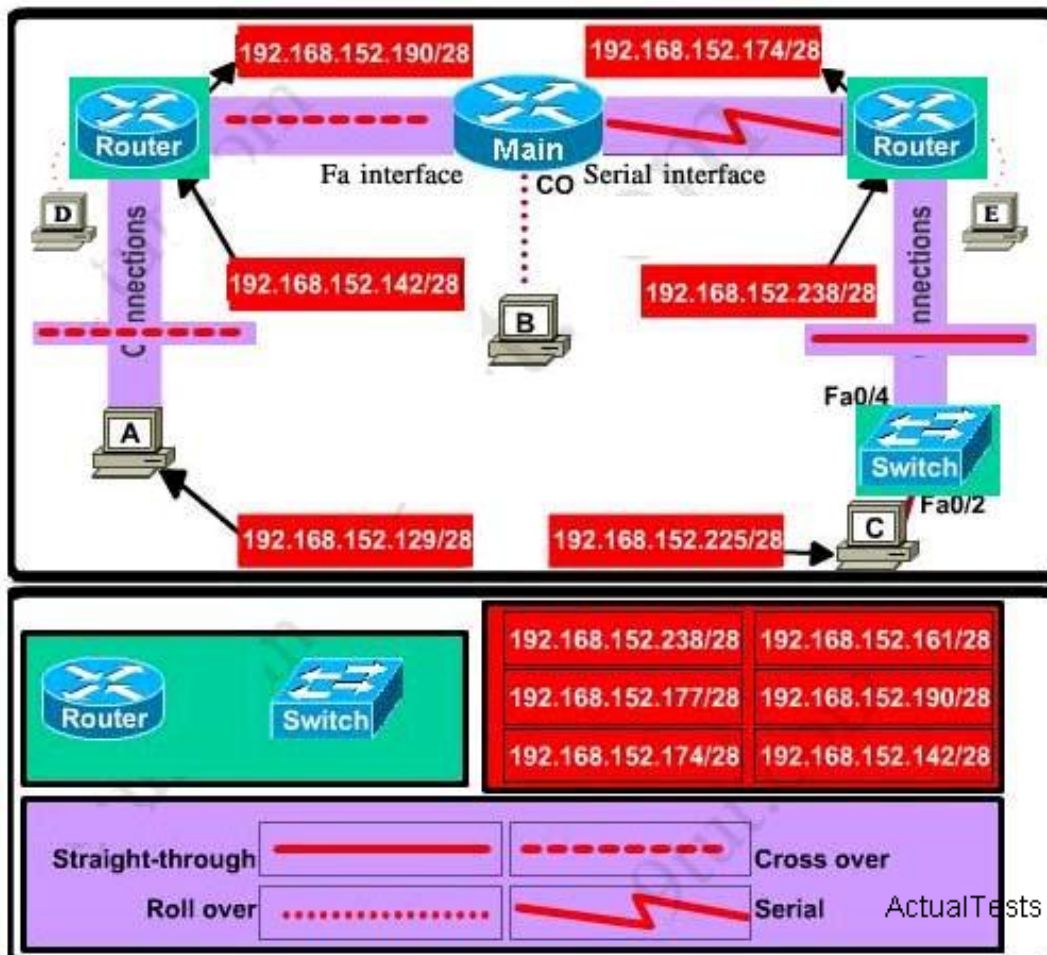
IP (of the computer on the left) : 192.168.152.225/28

Increment: 16 Network address: 192.168.152.224 (because $224 = 16 * 14$ and $224 < 225$)

Broadcast address: 192.168.152.239 (because $239 = 224 + 16 - 1$)

-> we choose 192.168.152.238 from the list

Let's have a look at the picture below to summarize



Configure two routers on the left and right with these commands:

Router1 = router on the left

Assign appropriate IP addresses to Fa0/0 & Fa0/1 interfaces:

```
Router1>enable Router1#configure terminal Router1( config )#interface fa0/0 Router1( config -if)#
ip address 192.168.152.190 255.255.255.240 Router1( config -if)#no shutdown
```

```
Router1( config -if)#interface fa0/1 Router1( config -if)# ip address 192.168.152.142
255.255.255.240 Router1( config -if)#no shutdown
```

Set passwords (configure on two routers)

+ Console password:

```
Router1( config -if)#exit Router1( config )#line console 0 Router1( config -line)#password
consolepw Router1( config -line)#login Router1( config -line)#exit
```

+ Telnet password:

```
Router1( config )#line vty 0 4 Router1( config -line)#password telnetpw Router1( config -line)#login
Router1( config -line)#exit
```

+ Privilege mode password:

```
Router1( config )#enable password privpw
```

Save the configuration:

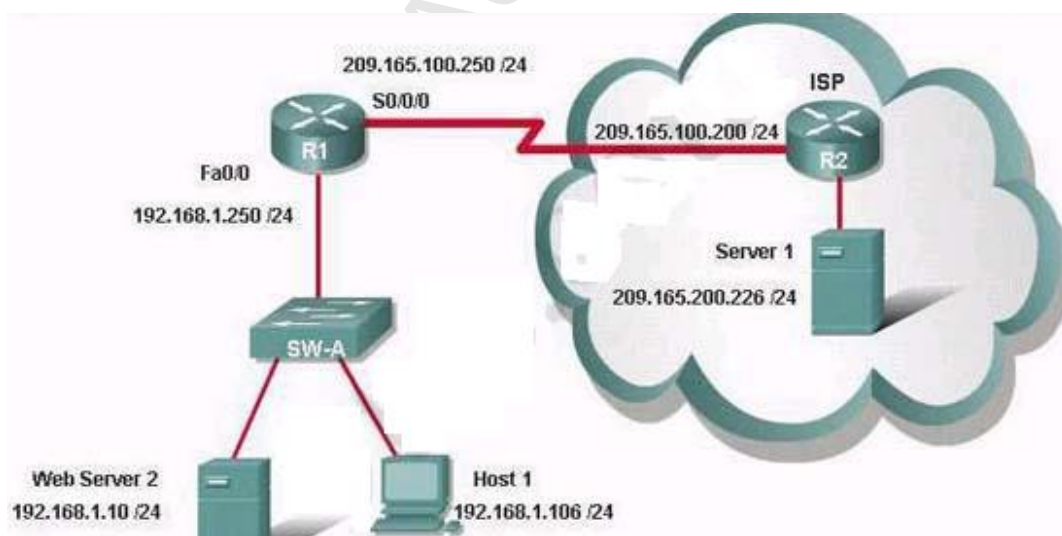
```
Router1( config )#exit Router1#copy running- config startup- config
```

Configure IP addresses of Router2 (router on the right)

```
Router2>enable Router2#configure terminal Router2( config )#interface fa0/0 Router2( config -if)#
ip address 192.168.152.238 255.255.255.240 Router2( config -if)#no shutdown Router2( config -
if)#interface serial0/0 Router2( config -if)# ip address 192.168.152.174 255.255.255.240 Router2(
config -if)#no shutdown
```

and set console, telnet and privilege mode passwords for Router2 as we did for Router1, remember to save the configuration when you finished

QUESTION NO: 389



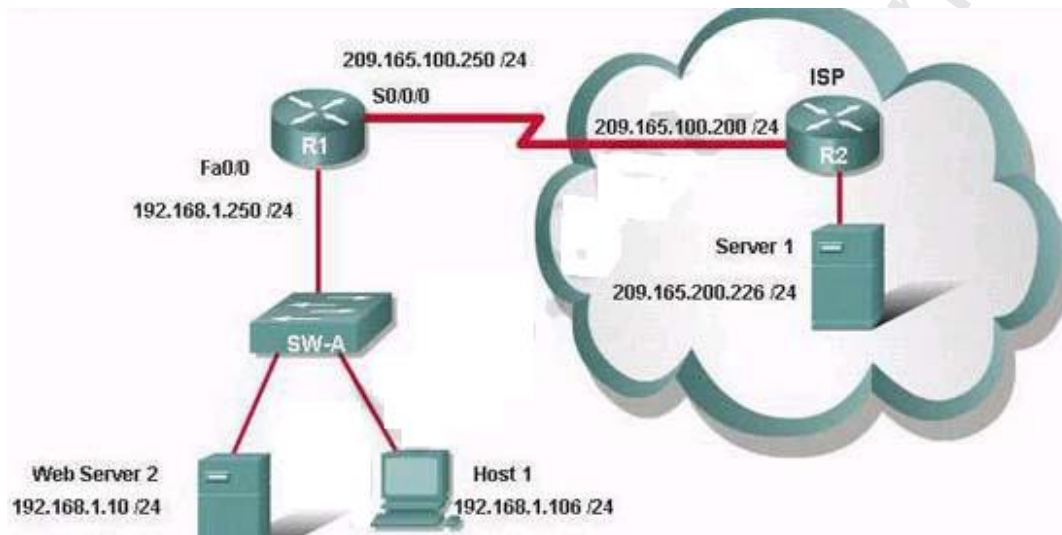
ActualTests

If the router R1 has a packet with a destination address 192.168.1.255, what describes the operation of the network?

- A. R1 will forward the packet out all interfaces
- B. R1 will drop this packet because it is not a valid IP address
- C. As R1 forwards the frame containing this packet, Sw-A will add 192.168.1.255 to its MAC table
- D. R1 will encapsulate the packet in a frame with a destination MAC address of FF-FF-FF-FF-FF-FF
- E. As R1 forwards the frame containing this packet, Sw-A will forward it to the device assigned the IP address of 192.168.1.255

Answer: B

QUESTION NO: 390



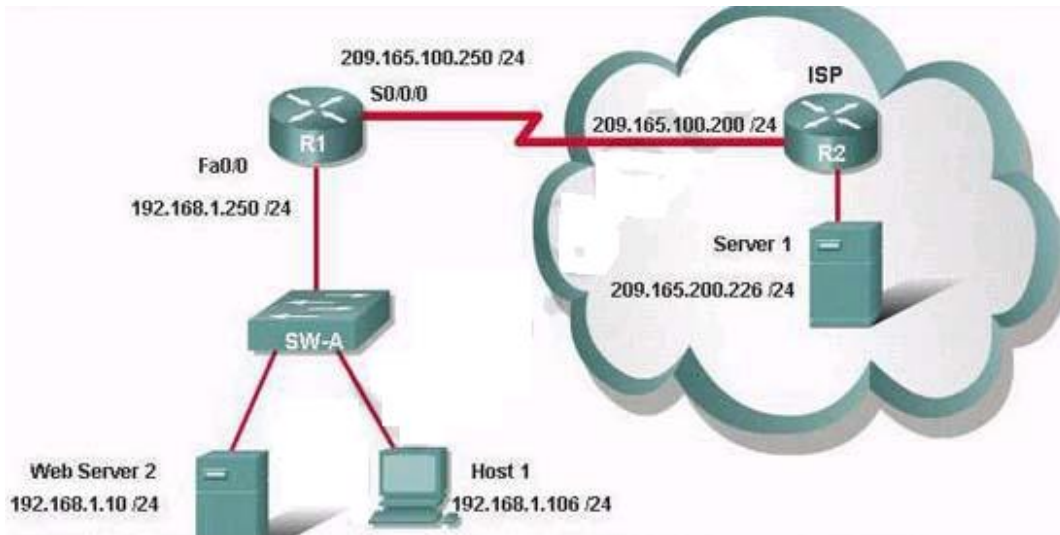
ActualTests

Users on the 192.168.1.0/24 network must access files located on the Server 1. What route could be configured on router R1 for file requests to reach the server?

- A. ip route 0.0.0.0 0.0.0.0 s0/0/0
- B. ip route 0.0.0.0 0.0.0.0 209.165.200.226
- C. ip route 209.165.200.0 255.255.255.0 192.168.1.250
- D. ip route 192.168.1.0 255.255.255.0 209.165.100.250

Answer: A

QUESTION NO: 391



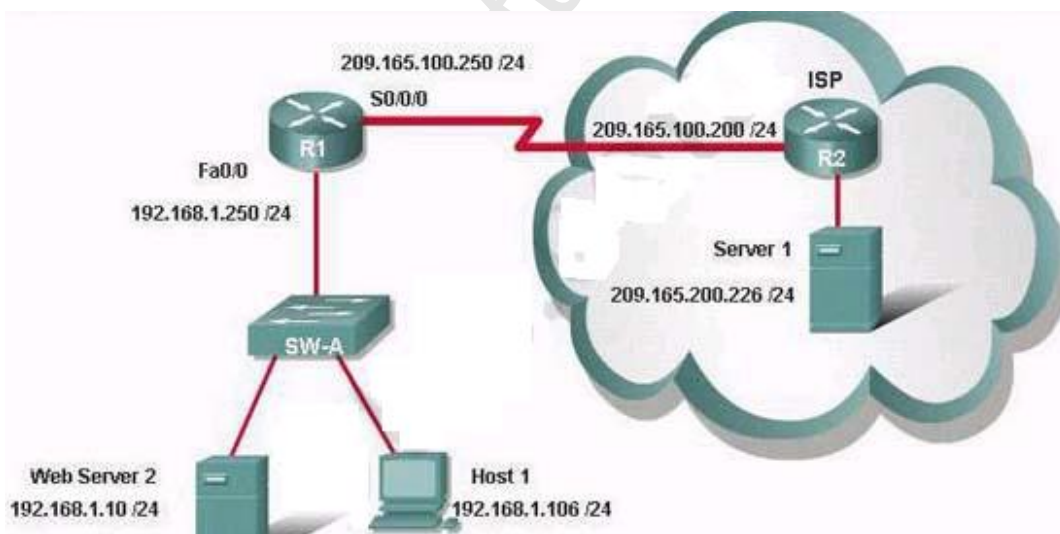
ActualTests

When a packet is sent from Host 1 to Server 1, in how many different frames will the packet be encapsulated as it is sent across the internetwork?

- A. 0
- B. 1
- C. 2
- D. 3
- E. 4

Answer: C

QUESTION NO: 392



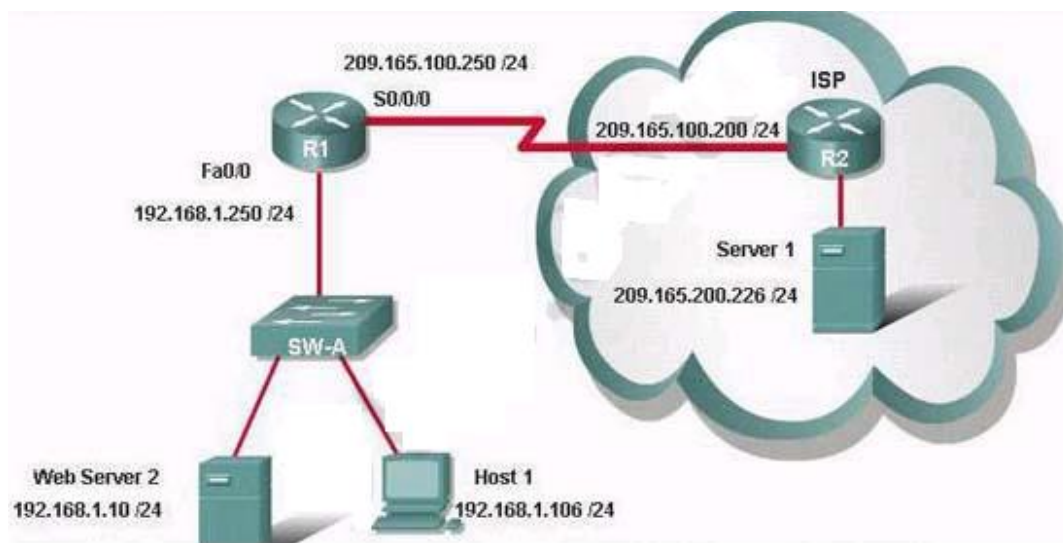
ActualTests

What must be configured on the network in order for users on the Internet to view web pages located on Web Server 2?

- A. On router R2, configure a default static route to the 192.168.1.0 network
- B. On router r2, configure DNS to resolve the URL assigned to Web Server 2 to the 192.168.1.10 address
- C. On router R1, configure NAT to translate an address on the 209.165.100.0/24 network to 192.168.1.10
- D. On router R1, configure DHCP to assign a registered IP address on the 209.165.100.0/24 network to Web Server 2

Answer: C

QUESTION NO: 393



ActualTests

The router address 192.168.1.250 is the default gateway for both the Web Server 2 and Host 1. What is the correct subnet mask for this network?

- A. 255.255.255.0
- B. 255.255.255.192
- C. 255.255.255.250
- D. 255.255.255.252

Answer: A