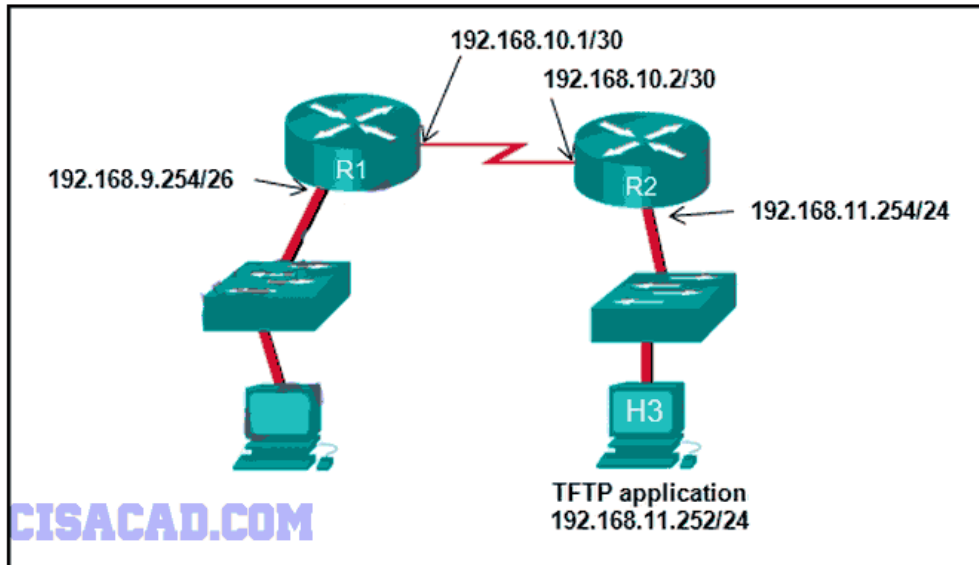# CCNA 1 v5.0 R&S ITN Final Exam 2014

1 Refer to the exhibit.

The network administrator enters these commands into the R1 router:

R1# copy running-config tftp
Address or name of remote host [ ]?

When the router prompts for an address or remote host name, what IP address should the administrator enter at the prompt?

192.168.9.254

192.168.10.1

192.168.10.2

192.168.11.254

192.168.11.252

2 Which three statements characterize the transport layer protocols? (Choose three.)

TCP uses port numbers to provide reliable transportation of IP packets.

TCP and UDP port numbers are used by application layer protocols.

TCP uses windowing and sequencing to provide reliable transfer of data.

TCP is a connection-oriented protocol. UDP is a connectionless protocol.

UDP uses windowing and acknowledgments for reliable transfer of data.

3 What is the purpose of ICMP messages?

to inform routers about network topology changes

to ensure the delivery of an IP packet

to monitor the process of a domain name to IP address resolution

to provide feedback of IP packet transmissions

4 A technician uses the ping 127.0.0.1 command. What is the technician testing?

connectivity between a PC and the default gateway

connectivity between two adjacent Cisco devices

physical connectivity of a particular PC and the network

the TCP/IP stack on a network host

connectivity between two PCs on the same network

5 What will a Layer 2 switch do when the destination MAC address of a received frame is not in the MAC table?

It notifies the sending host that the frame cannot be delivered.

It initiates an ARP request.

It forwards the frame out of all ports except for the port at which the frame was received.

It broadcasts the frame out of all ports on the switch.

6 What is a characteristic of the LLC sublayer?

It places information in the frame that allows multiple Layer 3 protocols to use the same network interface and media.

It provides delimitation of data according to the physical signaling requirements of the medium.

It defines software processes that provide services to the physical layer.

It provides the logical addressing required that identifies the device.

7

On which switch interface would an administrator configure an IP address so that the switch can be managed remotely?

VLAN 1

console 0

vty 0

FastEthernet0/1

8

A network engineer is measuring the transfer of bits across the company backbone for a mission critical database application. The engineer notices that the network throughput appears lower than the bandwidth expected. Which three factors could influence the differences in throughput? (Choose three.)

the reliability of the gigabit Ethernet infrastructure of the backbone

the amount of traffic that is currently crossing the network

the type of traffic that is crossing the network

the sophistication of the encapsulation method applied to the data

the bandwidth of the WAN connection to the Internet

the latency that is created by the number of network devices that the data is crossing

9

When applied to a router, which command would help mitigate brute-force password attacks against the router?

service password-encryption

login block-for 60 attempts 5 within 60

banner motd $Max failed logins = 5$

exec-timeout 30

10

Which two statements correctly describe a router memory type and its contents? (Choose two.)

ROM is nonvolatile and contains basic diagnostic software.

FLASH is nonvolatile and contains a limited portion of the IOS.

ROM is nonvolatile and stores the running IOS.

RAM is volatile and stores the IP routing table.

NVRAM is nonvolatile and stores other system files.

11
Which two components are necessary for a wireless client to be installed on a WLAN? (Choose two.)

custom adapter

wireless bridge

media

wireless NIC

crossover cable

wireless client software

12 Launch PT - Hide and Save PT

Open the PT activity. Perform the tasks in the activity instructions and then fill in the blank.

The Server0 message is . "   **winner**   "

13

A host is accessing a Web server on a remote network. Which three functions are performed by intermediary network devices during this conversation? (Choose three.)

applying security settings to control the flow of data

notifying other devices when errors occur

regenerating data signals

acting as a client or a server

serving as the source or destination of the messages

providing a channel over which messages travel

14

Match the situation with the appropriate use of network media.

backbone cabling in an enterprise		**Copper Cables**
guest access in a coffee shop		Target
horizontal cabling structure		Target
waiting rooms in a hospital		**Fiber Optic**
desktop PCs in an enterprise office		Target
long-haul networks		Target
		Wireless
		Target
		Target

Copper Cables

horizontal cabling structure

desktop PCs in an enterprise office

Fiber Optic

backbone cabling in an enterprise

long-haul networks

Wireless

guest access in a coffee shop

waiting rooms in a hospital

15

15 What is the correct order for PDU encapsulation?

○
| Transport Header | Network Header | Frame Header | Data | Frame Trailer |

○
| Transport Header | Frame Header | Network Header | Data | Frame Trailer |

◉
| Frame Header | Network Header | Transport Header | Data | Frame Trailer |

○
| Network Header | Transport Header | Frame Header | Data | Frame Trailer |

16
Which address on a PC does not change, even if the PC is moved to a different network?

IP address

logical address

MAC address

default gateway address

17
What will happen if the default gateway address is incorrectly configured on a host?

A ping from the host to 127.0.0.1 would not be successful.

The host will have to use ARP to determine the correct address of the default gateway.

The host cannot communicate with other hosts in the local network.

The host cannot communicate with hosts in other networks.

The switch will not forward packets initiated by the host.

18
A host PC has just booted and is attempting to lease an address through DHCP. Which two messages will the client typically broadcast on the network? (Choose two.)

DHCPREQUEST

DHCPOFFER

DHCPDISCOVER

DHCPNACK

DHCPACK

19

Switch(config)# hostname My Switch

Refer to the exhibit. An administrator wants to change the name of a brand new switch, using the hostname command as shown. What prompt will display after the command is issued?

Switch#

My(config)#

My Switch(config)#

Switch(config)#

MySwitch(config)#

20
After making configuration changes, a network administrator issues a copy running-config startup-config command in a Cisco switch. What is the result of issuing this command?

The configuration changes will be removed and the original configuration will be restored.

The new configuration will be stored in flash memory.

The current IOS file will be replaced with the newly configured file.

The new configuration will be loaded if the switch is restarted.

21

```
Frame 12: 359 bytes on wire (2872 bits), 359 bytes captured (2872 bits) on interface 0
Ethernet II, Src: Cisco-Li_07:04:e7 (00:23:69:07:04:e7), Dst: Giga-Byt_c2:bd:f8 (1c:6f:65:c2:bd:f8)
Internet Protocol Version 4, Src: 192.168.1.1 (192.168.1.1), Dst: 192.168.1.107 (192.168.1.107)
Transmission Control Protocol, Src Port: http (80), Dst Port: 49373 (49373), Seq: 1, Ack: 249, Len: 305
    Source port: http (80)
    Destination port: 49373 (49373)
    [Stream index: 0]
    Sequence number: 1    (relative sequence number)
    [Next sequence number: 306    (relative sequence number)]
    Acknowledgment number: 249    (relative ack number)
    Header length: 20 bytes
 ⊞ Flags: 0x018 (PSH, ACK)
    Window size value: 2920
    [Calculated window size: 2920]
    [Window size scaling factor: -2 (no window scaling used)]
 ⊞ Checksum: 0xb3e6 [validation disabled]
 ⊞ [SEQ/ACK analysis]
    TCP segment data (305 bytes)
```

Refer to the exhibit.A TCP segment from a server has been captured by Wireshark, which is running on a host. What acknowledgement number will the host return for the TCP segment that has been received?

2921

250

2

306

21

22

Which technology provides a solution to IPv4 address depletion by allowing multiple devices to share one public IP address?

ARP

DNS

SMB

DHCP

HTTP

NAT

23 What is the purpose of the routing process?

to encapsulate data that is used to communicate across a network

to select the paths that are used to direct traffic to destination networks

to convert a URL name into an IP address

to provide secure Internet file transfer

to forward traffic on the basis of MAC addresses

24 Three bank employees are using the corporate network. The first employee uses a web browser to view a company web page in order to read some announcements. The second employee accesses the corporate database to perform some financial transactions. The third employee participates in an important live audio conference with other corporate managers in branch offices. If QoS is implemented on this network, what will be the priorities from highest to lowest of the different data types?

audio conference, financial transactions, web page

financial transactions, audio conference, web page

audio conference, web page, financial transactions

financial transactions, web page, audio conference

25
A home user is looking for an ISP connection that provides high speed digital transmission over regular phone lines. What ISP connection type should be used?

cell modem

dial-up

cable modem

satellite

DSL

26
Which connection provides a secure CLI session with encryption to a Cisco switch?

a Telnet connection

an SSH connection

a console connection

an AUX connection

27 What is the purpose of the network security accounting function?

to provide challenge and response questions

to require users to prove who they are

to determine which resources a user can access

to keep track of the actions of a user

28

```
Enter configuration commands, one per line.  End with CNTL/Z.
SW1(config)# enable password letmein
SW1(config)# enable secret secretin
SW1(config)# line console 0
SW1(config-line)# password lineconin
SW1(config-line)# login
SW1(config-line)# exit
SW1(config)# line vty 0 15
SW1(config-line)# password linevtyin
SW1(config-line)# login
SW1(config-line)# end
SW1#
```
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Refer to the exhibit. A network administrator is configuring access control to switch SW1. If the administrator uses Telnet to connect to the switch, which password is needed to access user EXEC mode?

lineconin

linevtyin

letmein

secretin

29
Which publicly available resources describe protocols, processes, and technologies for the Internet but do not give implementation details?

IEEE standards

Request for Comments

IRTF research papers

protocol models

30 A PC is configured to obtain an IP address automatically from network 192.168.1.0/24. The network administrator issues the arp –a command and notices an entry of 192.168.1.255 ff-ff-ff-ff-ff-ff. Which statement describes this entry?

This entry refers to the PC itself.

This entry maps to the default gateway.

This is a static map entry.

This is a dynamic map entry.

31 Which subnet would include the address 192.168.1.96 as a usable host address?

192.168.1.64/26

192.168.1.32/28

192.168.1.32/27

192.168.1.64/29

32
A particular website does not appear to be responding on a Windows 7 computer. What command could the technician use to show any cached DNS entries for this web page?

ipconfig /all

ipconfig /displaydns

arp -a

nslookup

33 Which type of wireless security generates dynamic encryption keys each time a client associates with an AP?

WPA

PSK

WEP

EAP

34
A frame is transmitted from one networking device to another. Why does the receiving device check the FCS field in the frame?

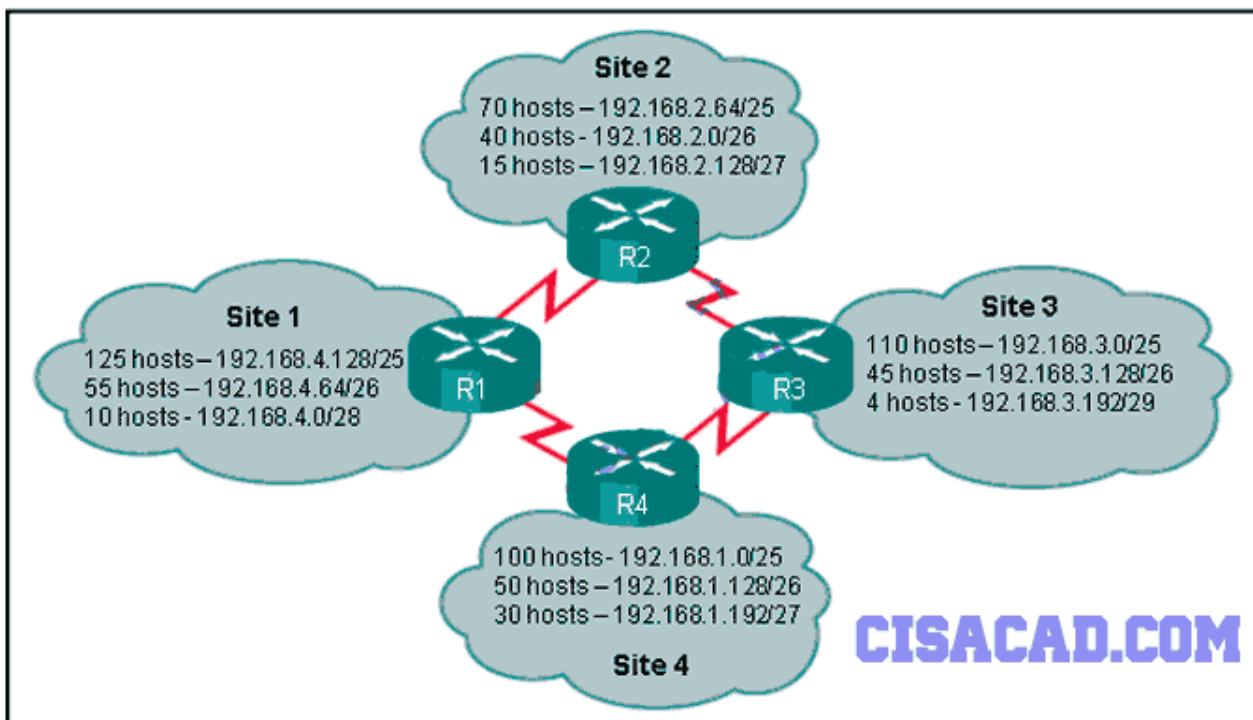to compare the interface media type between the sending and receiving ends

to determine the physical address of the sending device

to verify that the frame destination matches the MAC address of the receiving device

to check the frame for possible transmission errors

to verify the network layer protocol information

35

Refer to the exhibit. Which IP addressing scheme should be changed?

Site 1

Site 3

Site 4

Site 2

36
What is the effect of configuring the ipv6 unicast-routing command on a router?

to assign the router to the all-nodes multicast group

to permit only unicast packets on the router

to enable the router as an IPv6 router

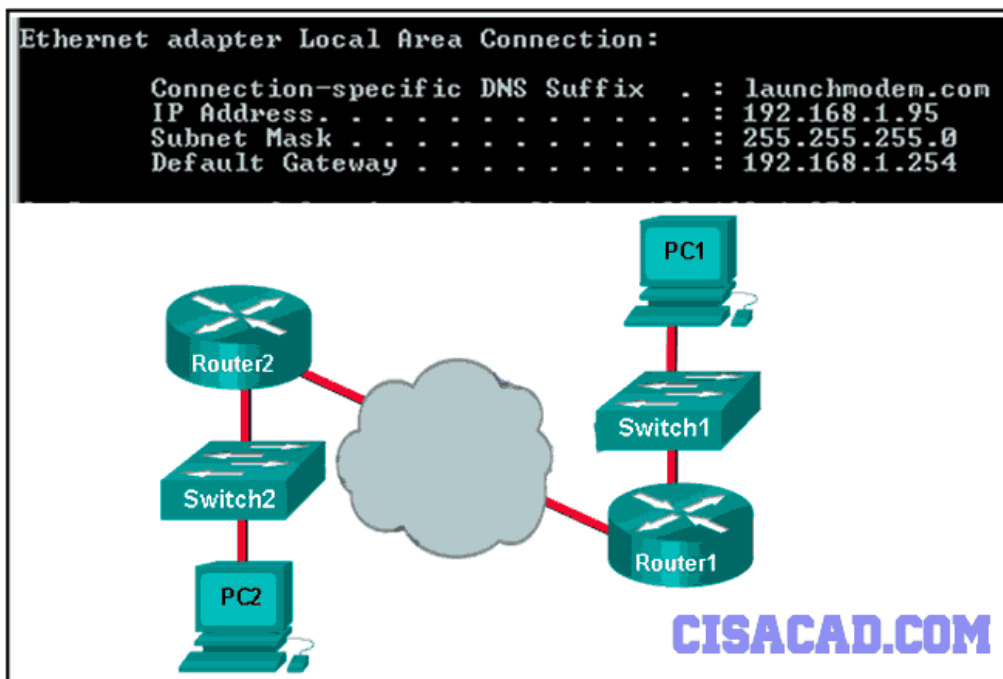to prevent the router from joining the all-routers multicast group

37
Which three IP addresses are private ? (Choose three.)

10.1.1.1

172.16.4.4

224.6.6.6

192.168.5.5

172.32.5.2

192.167.10.10

38

Refer to the exhibit. Consider the IP address configuration shown from PC1. What is a description of the default gateway address?

It is the IP address of the Router1 interface that connects the company to the Internet.

It is the IP address of the ISP network device located in the cloud.

It is the IP address of Switch1 that connects PC1 to other devices on the same LAN.

It is the IP address of the Router1 interface that connects the PC1 LAN to Router1.

39 During normal operation, from which location do most Cisco switches and routers run the IOS?

flash

RAM

NVRAM

disk drive

40
What is an important function of the physical layer of the OSI model?

It encodes frames into electrical, optical, or radio wave signals.

It accepts frames from the physical media.

It encapsulates upper layer data into frames.

It defines the media access method performed by the hardware interface.

41
Which procedure is used to reduce the effect of crosstalk in copper cables?

wrapping the bundle of wires with metallic shielding

avoiding sharp bends during installation

requiring proper grounding connections

designing a cable infrastructure to avoid crosstalk interference

twisting opposing circuit wire pairs together

42
What are the three primary functions provided by Layer 2 data encapsulation? (Choose three.)

placement and removal of frames from the media

detection of errors through CRC calculations

conversion of bits into data signals

delimiting groups of bits into frames

data link layer addressing

error correction through a collision detection method

session control using port numbers

43
What method is used to manage contention-based access on a wireless network?

token passing

CSMA/CD

CSMA/CA

priority ordering

44
What happens when part of an Internet radio transmission is not delivered to the destination?

A delivery failure message is sent to the source host.

The part of the radio transmission that was lost is re-sent.

The transmission continues without the missing portion.

The entire transmission is re-sent.

45
What is the auto-MDIX feature on a switch?

the automatic configuration of full-duplex operation over a single Ethernet copper or optical cable

the automatic configuration of an interface for a straight-through or a crossover Ethernet cable connection

the ability to turn a switch interface on or off accordingly if an active connection is detected

the automatic configuration of an interface for 10/100/1000 Mb/s operation

46
Which function is provided by TCP?

detection of missing packets

communication session control

path determination for data packets

data encapsulation

47
How does a Layer 3 switch differ from a Layer 2 switch?

A Layer 3 switch learns the MAC addresses that are associated with each of its ports. However, a Layer 2 switch does not.

A Layer 3 switch maintains an IP address table instead of a MAC address table.

A Layer 3 switch supports VLANs, but a Layer 2 switch does not.

An IP address can be assigned to a physical port of a Layer 3 switch. However, this is not supported in Layer 2 switches.

48
Which two notations are useable nibble boundaries when subnetting in IPv6? (Choose two.)

/68

/62

/66

/64

/70

49
What is the purpose of having a converged network?

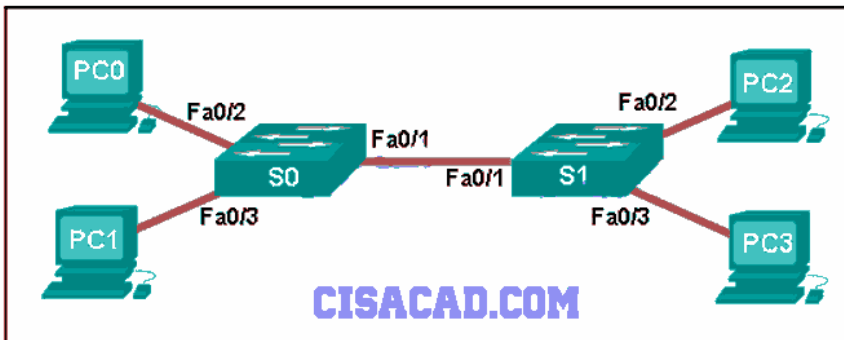**to reduce the cost of deploying and maintaining the communication infrastructure**

to provide high speed connectivity to all end devices

to make sure that all types of data packets will be treated equally

to achieve fault tolerance and high availability of data network infrastructure devices

50

Refer to the exhibit. A ping to PC3 is issued from PC0, PC1, and PC2 in this exact order. Which MAC addresses will be contained in the S1 MAC address table that is associated with the Fa0/1 port?

just the PC0 MAC address

PC0, PC1, and PC2 MAC addresses

just the PC2 MAC address

just PC0 and PC1 MAC addresses

just the PC1 MAC address

51

Which field in an IPv4 packet header will typically stay the same during its transmission?

Packet Length

Destination Address

Flag

Time-to-Live

52

What two preconfigured settings that affect security are found on most new wireless routers? (Choose two.)

MAC filtering enabled

default administrator password

WEP encryption enabled

PSK authentication required

broadcast SSID

53

Which parameter does the router use to choose the path to the destination when there are multiple routes available?

the higher metric value that is associated with the destination network

the lower metric value that is associated with the destination network

the higher gateway IP address to get to the destination network

the lower gateway IP address to get to the destination network

54

```
ATC_R1#show file systems
File Systems:

        Size(b)        Free(b)      Type  Flags  Prefixes
*    64016384       12822561      flash    rw    flash:
        29688          23590      nvram    rw    nvram:
ATC_R1#
```
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Refer to the exhibit. What is the significance of the asterisk (*) in the exhibited output?

An asterisk designates that the file system has at least one file that uses that file system.

The asterisk designates which file system is the default file system.

An asterisk indicates that the file system is bootable.

The asterisk shows which file system was used to boot the system.

55

Match the phases to their correct stage in the router bootup process. (Not all options are used.)

stage 1	locate and load the configuration file
stage 2	format the flash
stage 3	locate and load the Cisco IOS
stage 4	load the bootstrap program
	perform the POST

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stage 4

format the flash

stage 3

stage 2

stage 1

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56

Fill in the blank.

During data communications, a host may need to send a single message to a specific group of destination hosts simultaneously. This message is in the form of a   " **multicast**   "   message.

57

An administrator uses the Ctrl-Shift-6 key combination on a switch after issuing the ping command. What is the purpose of using these keystrokes?
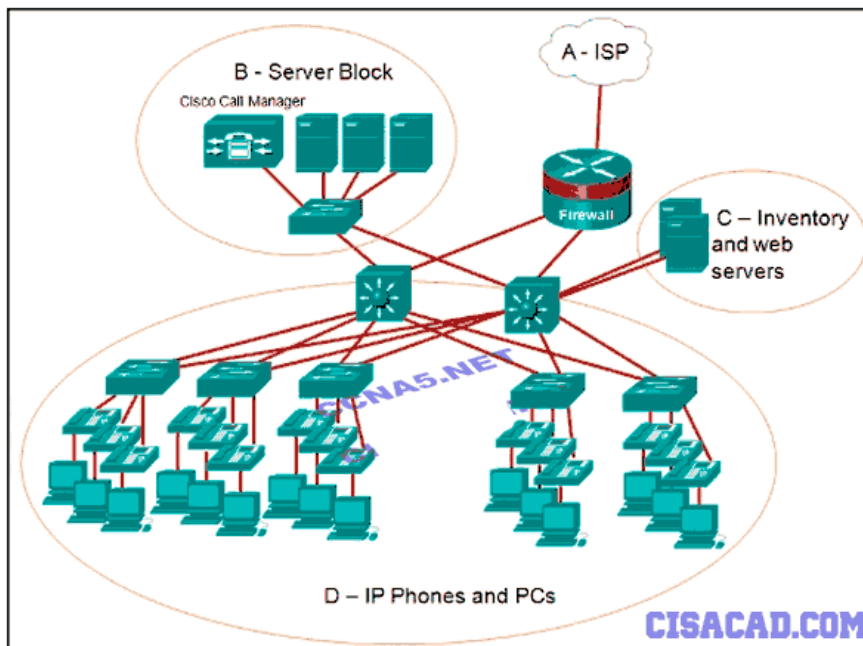
to interrupt the ping process

to restart the ping process

to allow the user to complete the command

to exit to a different configuration mode

58

Refer to the exhibit. Which area would most likely be an extranet for the company network that is shown?

area A

area D

area C

area B

59

Match the IPv6 address to the IPv6 address type. (Not all options are used.)

IPv6 Addresses
2001:DB8:10::12
FF02::1:FF3A:25C9
2001:DB8:A1:0B:C78::1
FE80:0:56BA:FFEE:A0B4:47FF:FE36:532B
FF02::2
::1/128
FE80::1

Link-Local
- Target
- Target

Multicast
- Target
- Target

Global Unicast
- Target
- Target

Link-Local
- FE80:0:56BA:FFEE:A0B4:47FF:FE36:532B
- FE80::1

Multicast
- FF02::2
- FF02::1:FF3A:25C9

Global Unicast
- 2001:DB8:10::12
- 2001:DB8:A1:0B:C78::1

60

Match the description with the associated IOS mode. (Not all options are used.)

| changes made affect the operation of the device as a whole |
| accessed by entering the **enable** command |
| identified by a prompt ending with the # character |
| limited number of basic monitoring commands |
| accessed by entering the **configure terminal** command |
| the first entrance into the CLI of an IOS device |
| used to enable the password for vty lines |

user EXEC mode
- Target
- Target

privileged EXEC mode
- Target
- Target

global configuration mode
- Target
- Target

user EXEC mode
- limited number of basic monitoring commands
- the first entrance into the CLI of an IOS device

privileged EXEC mode
- accessed by entering the **enable** command
- identified by a prompt ending with the # character

global configuration mode
- changes made affect the operation of the device as a whole
- accessed by entering the **configure terminal** command

61
In which default order will a router search for startup configuration information?

setup mode, NVRAM, TFTP

NVRAM, TFTP, setup mode

NVRAM, RAM, TFTP

TFTP, ROM, NVRAM

flash, ROM, setup mode

62

Launch PT - Hide and Save PT

Open the PT Activity. Perform the tasks in the activity instructions and then answer the question.
Which IPv6 address is assigned to the Serial0/0/0 interface on RT2?

2001:db8:abc:1::1

2001:db8:abc:5::1

2001:db8:abc:5::2

2001:db8:abc:10::15

63
What is contained in the trailer of a data-link frame?

physical address

data

error detection*

logical address

64

Match each description with the corresponding TCP mechanism. (Not all options are used.)

| number of bytes a destination device can accept and process at one time | acknowledgment |

| used to identify missing segments of data | retransmission |

| method of managing segments of data loss | FCS |

| received by a sender before transmitting more segments in a session | sequence numbers |

| | window size |

Match each description with the corresponding TCP mechanism. (Not all options are used.)

| | used to identify missing segments of data |

| | received by a sender before transmitting more segments in a session |

| | method of managing segments of data loss |

| | number of bytes a destination device can accept and process at one time |

| | window size |