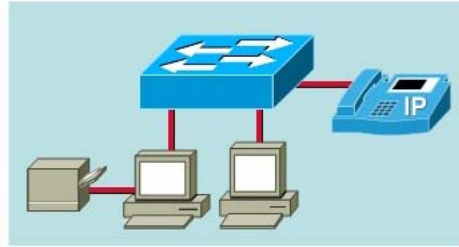


Computer Network, Year III, 2010-2011
First Semester Examination
Review Questions

1. Refer to the graphic. What types of devices are the printer and the IP phone? (Choose two.)

- The IP phone is a peripheral.
 The IP phone is a host.
 The IP phone is a network device.
 The printer is a peripheral.
 The printer is a host.
 The printer is a network device.



2. Determine if the characteristics are an advantage or disadvantage of a peer-to-peer network. Drag each characteristic from the left to the appropriate category on the right.

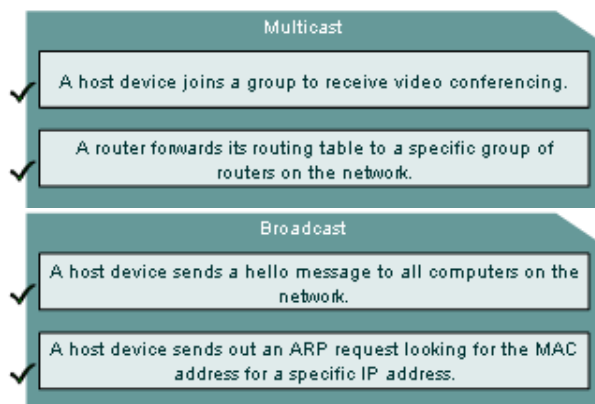
Advantages	
✓	inexpensive
✓	easy to set-up
✓	no special hardware
Disadvantages	
✓	provides minimal security
✓	potential impact on performance
✓	no centralized administration

3. Drag the displayed information on the left to the topological map that displays it on the right.

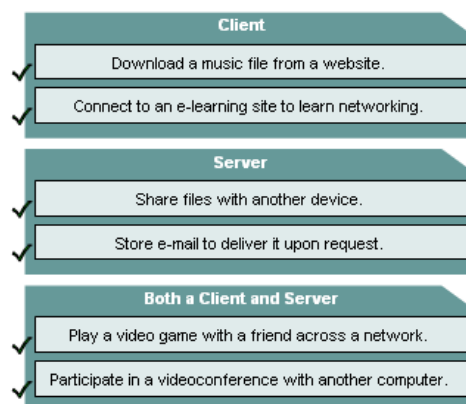
Logical Topology Map	
✓	shows host names and host addresses
✓	shows group information and applications used
✓	shows location of broadcast and collision domains
Physical Topology Map	
✓	shows wiring installations
✓	shows location of networking devices
✓	shows location of each host and how they connect to the network

4. Match the situation on the left with the correct type of message that would be used on the right:

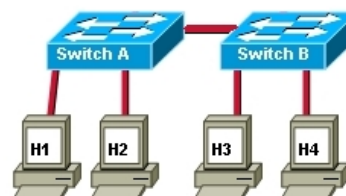
Unicast	
✓	A host device sends an e-mail to another host device.
✓	A host device requests a web page and displays the results.



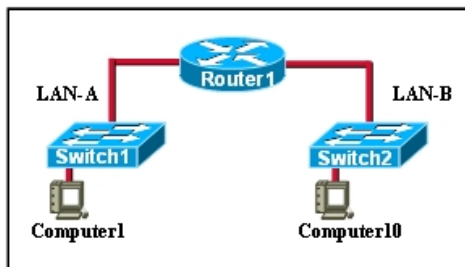
5. Which two statements accurately describe a router ARP table and routing table? (Choose two.)
- The ARP table contains information about individual devices, not networks.
 - The ARP table contains information about networks, not individual devices.
 - The ARP table contains information about networks and individual devices.
 - The routing table contains information about individual devices, not networks.
 - The routing table contains information about networks, not individual devices.
 - The routing table contains information about networks and individual devices.
6. What process can a user perform on the host so that a folder on a remote server is treated as if it were a local resource?
- mapping a drive
 - sharing a drive
 - enabling a remote user
 - setting share permissions
7. Determine if the tasks performed would be considered the role of a client, server, or both. Drag the task from the left to the appropriate category on the right.



8. Refer to the graphic. If H1 on SwitchA needs to forward a frame to H3 on SwitchB, which MAC address is used as the destination MAC within the frame?



- MAC address of H1
 - MAC address of Switch A
 - MAC address of Switch B
 - MAC address of H3
9. Refer to the graphic. Two network segments, LAN-A and LAN-B, directly connect to Router1. When RouterA receives a message with a source address of Computer1 on LAN-A and a destination address of Computer10 on LAN-B, what will be the action of Router1?



- The router checks its ARP table to determine where to forward the packet to reach computer10.
 The router checks its ARP table to determine the appropriate IP address of computer10.
 The router checks its routing table to determine where to forward the packet to reach computer10.
 The router checks its routing table to determine the appropriate MAC address of computer10.
10. Which three pieces of information are included in a network physical map? (Choose three.)
- IP addressing scheme
 computer naming scheme
 location and length of cable runs
 physical location of all networking devices
 location and size of broadcast and collision domains
 hardware configuration of end devices such as hosts and servers
11. When using Windows XP, which command shows information about the computer, including IP address, subnet mask, default gateway, and additional details about DHCP and DNS?
- ipconfig
 winipcfg
 ipconfig /all
 winipcfg /all
12. In what area of a network can traffic from other hosts cause a sending host to stop transmitting, then wait a random amount of time before resending a message?
- access layer
 broadcast domain
 collision domain
 distribution layer
 peer-to-peer network
13. Which two statements are true regarding IP packets? (Choose two.)
- They are also called frames.
 They are also called segments.
 They are also called datagrams.
 They have a header that contains a source and destination IP address.
 They are addressed using a source and destination MAC address.
14. Drag the step on the left to the right in the order the steps are performed for a host to send data over the Internet:
- | | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Host data is divided into packets. |
| <input checked="" type="checkbox"/> | Data arrives at source host ISP POP. |
| <input checked="" type="checkbox"/> | Source host ISP decides whether data needs local or remote services. |
| <input checked="" type="checkbox"/> | Source host ISP router forwards data out onto the Internet. |
| <input checked="" type="checkbox"/> | Data arrives at destination host ISP POP. |
| <input checked="" type="checkbox"/> | Destination host ISP uses destination IP address to deliver data to host. |

15. Select the true statement regarding the **ping** and **tracert** commands.

- Tracert** shows each hop, while **ping** shows a destination reply only.
- Tracert** uses IP addresses; **ping** does not.
- Both **ping** and **tracert** can show results in a graphical display.
- Ping** shows whether the transmission is successful; **tracert** does not.

16. Drag the term on the left to the Destination on the right.

coax cable	uses a BNC connector
cladding	used inside fiber-optic cabling to reflect light
EMI	noise created by an electrical environment
fiber-optic circuit	uses two fibers: one to transmit, one to receive
ScTP	expensive type of twisted-pair cabling
crosstalk	signal from one cable interferes with another

17. Where do ISPs get the public IP addresses that they assign to end users?

- ISPs create the addresses themselves.
- ISPs are assigned addresses through the RFC.
- ISPs obtain their addresses automatically.
- ISPs obtain address blocks from registry organizations.

18. Refer to the graphic, which symbol would represent the Internet when a packet is travelling from a source to the destination through many network devices?



19. Drag the characteristic on the left to the category on the right.

UTP	<input checked="" type="checkbox"/> uses eight wires
	<input checked="" type="checkbox"/> most common cabling used with modern Ethernet
Fiber	<input checked="" type="checkbox"/> uses light
	<input checked="" type="checkbox"/> used for long distances at high speeds
Coax	<input checked="" type="checkbox"/> used by cable TV
	<input checked="" type="checkbox"/> used for cable and satellite Internet connectivity

20. What are three characteristics of UTP cabling? (Choose three.)

- uses light to transmit data
- susceptible to EMI and RFI
- commonly used between buildings
- easiest type of networking cable to install
- most commonly used type of networking cable
- commonly used for Internet connectivity by a cable TV provider

21. Drag the characteristic on the left to the appropriate network environment on the right.

Home	
✓	provides limited services to a few users
✓	contains few devices
✓	purchases Internet connectivity

Internet Service Provider	
✓	provides transport services to a large number of users
✓	contains many different devices
✓	requires robust equipment

22. Drag the statement on the left to the category on the right.

True	
✓	Fiber cable is used in networking.
✓	Multimode is a type of fiber network cable.
✓	Coax cabling allows many signals to be combined to be transmitted.

False	
✓	Coax is easier to install than UTP.
✓	Fiber connectivity is common in home networking.
✓	Category 3 is commonly used for UTP data connectivity.

23. A technician is setting up equipment. Which three devices will need IP addresses? (Choose three.)

- a printer with an Ethernet card
- a web camera attached directly to a host
- a server with two NICs
- an IP phone
- a standalone workstation
- a PDA attached to a networked workstation

24. Which three statements are true about binary octets? (Choose three.)

- If a bit is a zero (0), its column value is not counted.
- The value of each bit in an octet is twice that of the bit to its right.
- The rightmost bit in an octet has a value of 0 when it is turned on.
- A host looks at every bit of an IP address as it is received by the host NIC.
- If all of the bits in an octet are set to one (1), the value of the octet is 256.
- There are 32 value positions in an octet.

25. Match the number of the first octet on the left to the address class on the right. Note that not all of the first octet numbers shown on the left will be used.

first octet number of 0	✓	first octet number of 126
	✓	first octet number of 130
	✓	first octet number of 200

first octet number of 224

first octet number of 240

26. Which statement is true concerning private network addresses?

- They are always routed on the Internet.
- They can be used by only one company at a time.
- They enable internal web servers to be easily accessed by outside users.
- They are more secure as they are visible only to the local network.

27. How many class C networks are reserved for private address space?

- 1
- 16
- 128
- 256

28. What is the destination MAC address of a broadcast Ethernet frame?

- 255.255.255.255
- 1.1.1.1
- AA-AA-AA-AA-AA-AA
- FF-FF-FF-FF-FF-FF

29. Drag the statement on the left to the category on the right:

Static IP Addressing	
<input checked="" type="checkbox"/>	useful for printers and servers
<input checked="" type="checkbox"/>	provides more control of network resources
<input checked="" type="checkbox"/>	possibility of input errors
<input checked="" type="checkbox"/>	addresses are not reassigned to another device
Dynamic IP Addressing	
<input checked="" type="checkbox"/>	useful for mobile users
<input checked="" type="checkbox"/>	limited in time period
<input checked="" type="checkbox"/>	addresses provided by a server
<input checked="" type="checkbox"/>	draws addresses automatically from a pool

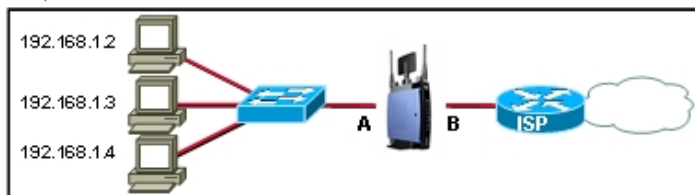
30. Place these DHCP messages in the correct order for a host to obtain an IP address from a DHCP server:

<input checked="" type="checkbox"/>	DHCP Discover
<input checked="" type="checkbox"/>	DHCP Offer
<input checked="" type="checkbox"/>	DHCP Request
<input checked="" type="checkbox"/>	DHCP Acknowledge

31. An ISR has a public IP address issued by the ISP. What is the purpose of the public IP address?

- allows internal hosts to communicate with each other on the local network
- allows internal hosts to communicate with other hosts on the Internet
- allows the ISR to communicate with the local hosts on the network
- allows the ISR to communicate with the local servers on the network

32. What function does NAT perform in an ISR?
- NAT takes a source IP address and translates it to a default gateway address.
 - NAT takes a local IP address and translates it to an internal source IP address.
 - NAT takes an internal global IP address and translates it to a local source IP address.
 - NAT takes an internal source IP address and translates it to a global IP address.
33. Refer to the graphic. What 2 types of IP addresses should be used on the ISR at interfaces A and B? (Choose two.)?



- Interface A should use a private IP address.
 - Interface A should use a public IP address.
 - Interface A should use a source IP address.
 - Interface B should use a private IP address.
 - Interface B should use a public IP address.
 - Interface B should use a destination IP address.
34. What happened when part of a message using TCP is not delivered to the destination host?
- The sender resends the entire message.
 - The sender sends a request to find out what happened.
 - Nothing. TCP does not check for errors and missing data.
 - The part of the message that is missing is retransmitted.

35. Drag the statement on the left to the service on the right:

A user types in a URL and a page loads in the client browser.	Domain Name Service
A user uploads new files to his or her website.	E-mail
A user requests a website by typing in its name.	File Transfer
A workstation gets its IP address automatically.	Dynamic Host Configuration
Internet protocols enable users to send messages to each other over the Internet.	Web Service
A network technician logs into a workstation from a remote site.	Telnet

36. Drag an item on the left to an item on the right. Note that not all items on the left will be used.

47	DNS server
53	Common DNS port number
80	Domain name
cisco.com	
translates an IP address to a domain name	
translates a domain name to an IP address	
linksys@cisco.mail	

37. Refer to the graphic. Which protocol allows you to type www.cisco.com instead an IP address to open the Web page?



DNS
 FTP
 HTML
 HTTP
 IM
 SNMP

38. Drag the term on the left to the definition on the right:

HTML	hosts a web page
HTTP	requests a web page
HTTPS	used to create web pages
web server	secure protocol that uses port 443
web client	protocol commonly used by a web browser

39. Drag the protocol on the left to the category on the right. Note that not all protocols will be used.

FTP	Protocols Used to Process E-mail SMTP POP3 IMAP4
HTTP	
HTML	
DNS	

40. What acronym is associated with making a phone call using the Internet?

- IM
 HTML
 HTTP
 SNMP
 VoIP

41. Drag the port number on the left to the associated protocol on the right:

20	DHCP
23	DNS
53	FTP data
68	HTTP
80	HTTPS
110	POP3
161	SNMP
443	Telnet

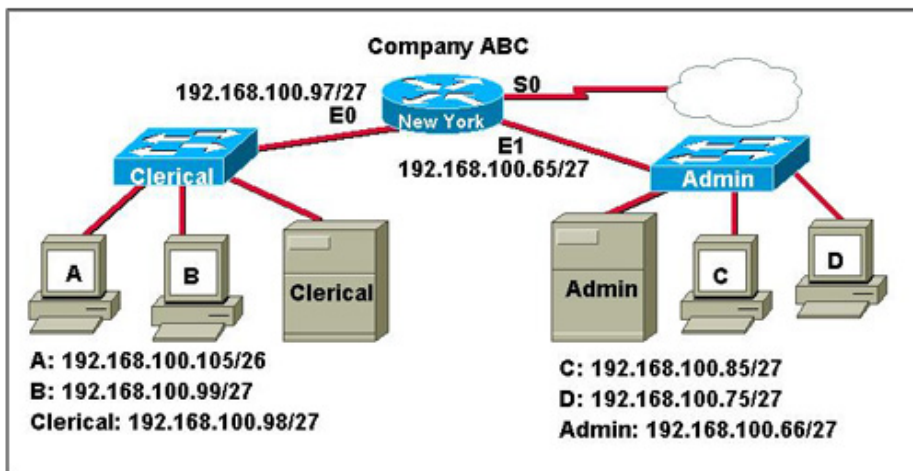
42. Select three protocols that operate at the Application Layer of the OSI models. (Choose three.)

- ARP
- TCP
- DSL
- FTP
- POP3
- DHCP

43. What are the differences between binary and decimal numbers? (Choose two.)

- Decimal numbers are based on powers of 1 and binary numbers are based on powers of 2.
- Binary numbers are based on powers of 2 and decimal numbers are based on powers of 10.
- Computers use binary numbers and people normally use decimal numbers.
- Numbers typed on a keyboard are entered as binary and converted to decimal by the computer.
- Binary numbers consist of three states: on, off, null. Decimal numbers do not have states.

44. Examine the graphic with current configuration. Host A in the Clerical offices failed and was replaced. Although a ping to 127.0.0.1 was successful, the replacement computer can not access the company network. What is the likely cause of the problem?



- IP address incorrectly entered
- network cables unplugged
- subnet mask incorrectly entered
- network card failure

45. Refer to the exhibit. A network administrator is testing the configuration on a host computer. What type of address is 127.0.0.1?

```
C:\>ping 127.0.0.1

Pinging 127.0.0.1 with 32 bytes of data:

Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128
Reply from 127.0.0.1: bytes=32 time<1ms TTL=128

Ping statistics for 127.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

- link-local
- loopback
- public
- default route

46. What portion of the IP address does the prefix represent?

- broadcast
- host
- network
- unicast

47. Which is true regarding IP network addresses?

- all host bits are set to 0
- all host bits are set to 1
- assigned the highest address in a range
- all network bits are set to 1

48. Which address type has all host bits set to 1?

- network
- broadcast
- host
- unicast

49. How many binary digits (bits) are in an IPv6 address?

- 64 bits
- 48 bits
- 128 bits
- 32 bits

50. What is the primary reason for developing IPv6?

- security
- header format simplification
- expanded addressing capabilities
- addressing simplification

51. Refer to the exhibit. The numbers in the exhibit are part of a single subnet. Which statements are true regarding these numbers? (Choose three.)

192.168.223.99	192.168.223.107	192.168.223.117	192.168.223.127
----------------	-----------------	-----------------	-----------------

- Their final octet has 4 of the most significant bits in common.
- They have 5 low-order bits in common.
- They have 27 high-order bits in common.
- 192.168.223.99 is a feasible network number for their range.
- 255.255.255.224 is an appropriate mask for their range.
- 192.168.223.127 is the broadcast address for their range.

52. Drop the options on the left to the correct target on the right.

192.168.16.192/30	four bits borrowed to create subnets
172.27.64.98/23	six usable subnets
172.18.125.6/20	two usable hosts per subnet
10.1.167.36/13	the network is not subnetted
192.168.87.212/24	512 addresses per subnet
172.31.16.128/19	

53. How many host addresses are available on a Class C network with the default subnet mask?

- a. 128 b. 254 c. 255 ✓ d. 256

54. Match the protocol data units (PDU) to their corresponding layers:

a.	Bits	Packets	Network Layer
b.	Frames	Bits	Physical Layer
c.	Packets	Segments	Transport Layer
d.	Segments	Frames	Data Link Layer

55. Computer "A" is trying to locate a new computer named "B" on the network. Which of the following does "A" broadcast to find the MAC address of "B"?

- a. MAC request ✓ b. **ARP request** c. Ping d. Proxy ARP

56. Which of the following best describes the function of a router?

- a. A router screens network traffic based on source and destination MAC addressing.
 b. A router extends the operating distance of a network by regenerating digital signals.
 c. A router acts as a multi-port repeater and occupies the center of a star topology network.
 ✓ d. **A router forwards packets from one network to another based on network layer information.**

57. Why does a router perform a logical "ANDing"?

- e. to determine the source address of a packet
 f. to determine the host address of a destination
 ✓ g. **to determine the network or subnetwork to which a packet should be sent**
 h. to determine the subnet mask and compare it with the routing table

58. Which are the characteristics of MAC and which are of IP:

No.	Characteristics	MAC or IP
2)	48 bits	MAC
3)	32 bits	IP
4)	assigned by the network administrator	IP
5)	assigned by the manufacturer of the NIC	MAC
6)	divided into manufacturer code and serial number	MAC
7)	flat addressing	MAC
8)	hierarchical addressing	IP
9)	divided into network portion and host portion	IP

59. What is the subnet mask for a class B network when 7 bits are borrowed? (**255.255.254.0**)

60. With an IP address of 172.16.1.162 and a subnet mask of 255.255.254.0, how many bits have been borrowed to create the subnets? (**7 bits**)

61. How many host bits are available in a subnet mask of 255.255.248.0?

- a. 8 b. 9 ✓ c. 11 d. 13

62. Given the IPs in the first column of the table below, fill in the correct values in the remaining columns:

No.	IP	Class	Address Type	Default Subnet Mask	Network Address	Broadcast Address
1)	201.3.2.1	C	Public	255.255.255.0	201.13.2.0	201.13.2.255
2)	127.0.0.200	A	Loopback	255.0.0.0	127.0.0.0	127.255.255.255

3)	128.129.130.131	B	Public		128.129.0.0	128.129.255.255
4)	16.172.18.19	A	Public	255.0.0.0	16.0.0.0	16.255.255.255
5)	172.16.1.1	B	Private	255.255.0.0	172.16.0.0	172.16.255.255
6)	172.31.255.254	B	Private	255.255.0.0	172.31.0.0	172.31.255.255
7)	172.168.50.1	B	Public	255.255.0.0	172.168.0.0	172.168.255.255
8)	191.168.1.1	B	Public	255.255.0.0	191.168.0.0	191.168.255.255
9)	192.168.1.5	C	Private	255.255.255.0	192.168.1.0	192.168.1.255
10)	128.254.254.254	B	Public	255.255.0.0	128.254.0.0	128.254.255.255
11)	223.224.225.226	C	Public	255.255.255.0	223.224.225.0	223.224.225.255
12)	2224.225.226.227	D	Multicast	N/A	N/A	N/A

63. If 7 bits are borrowed from the Class B network of 172.18.0.0, list the first 5 and last 2 subnets, including their corresponding subnet masks, host address ranges, and broadcast addresses:

No.	Subnet Address	Host Address Range	Subnet Mask	Broadcast Address
1)	172.18.0.0	172.18.0.1 – 172.18.1.254	255.255.254.0	172.18.1.255
2)	172.18.2.0	172.18.2.1 – 172.18.3.254	255.255.254.0	172.18.3.255
3)	172.18.4.0	172.18.4.1 – 172.18.5.254	255.255.254.0	172.18.5.255
4)	172.18.6.0	172.18.6.1 – 172.18.7.254	255.255.254.0	172.18.7.255
5)	172.18.8.0	172.18.8.1 – 172.18.9.254	255.255.254.0	172.18.9.255
...
127)	172.18.252.0	172.18.252.1 – 172.18.253.254	255.255.254.0	172.18.253.255
128)	172.18.254.0	172.18.254.1 – 172.18.255.254	255.255.254.0	172.18.255.255

64. Determine whether or not the given IP and netmask pair below is valid:

No.	IP	Netmask	Valid/Invalid	If invalid, why?
1)	192.168.0.128	255.255.255.192	Invalid	It is a subnet address
2)	192.168.1.127	255.255.255.240	Invalid	It is a broadcast address
3)	192.168.2.129	255.255.255.224	Valid	
4)	172.18.0.255	255.255.254.0	Valid	
5)	172.18.1.255	255.255.254.0	Invalid	It is broadcast address
6)	119.15.80.252	255.255.255.252	Invalid	It is a subnet address
7)	119.15.80.253	255.255.255.252	Valid	
8)	119.15.80.254	255.255.255.254	Valid	
9)	119.15.80.255	255.255.255.254	Invalid	It is a broadcast address

65. If you check the IP of a PC and see this: IP=172.18.65.0, subnet mask=255.255.224.0, fill in the correct values in the table below:

1)	Bits Borrowed:	3 bits
2)	Remaining Host bits:	13 bitd
3)	Prefix:	/19
4)	Number of Possible Subnets:	8 subnets
5)	Usable Hosts/Subnet:	$2^{13} - 2 = 8192$ hosts
6)	Subnet Address:	172.18.64.0
7)	Broadcast Address:	172.18.95.255
8)	Host Address Range of the Subnet:	172.18.64.1 – 172.18.95.254

66. Why is IEEE 802.11 wireless technology able to transmit further distances than Bluetooth technology?

- transmits at much lower frequencies
- has higher power output
- transmits at much higher frequencies
- uses better encryption methods

67. What are three advantages of wireless over wired LAN technology? (Choose three.)

- lower on-going costs
- longer transmission distance
- ease of installation
- easily expandable
- higher level of security
- cheaper host adapters

68. Which wireless technology standard provides the most compatibility with older standards, but has greater performance?

- 802.11a
- 802.11b
- 802.11g
- 802.11n

69. What is CSMA/CA on a network?

- an access method used by wireless technology to avoid duplicate SSIDs
- an access method used by any technology that has excessive collisions
- an access method used by wired Ethernet technology to avoid collisions
- an access method used by wireless technology to avoid collisions

70. When is a client considered to be “authenticated” when only MAC address filtering is enabled on the access point?

- when the client gives the access point the correct secret key
- when the client sends the MAC address to the access point
- when the access point verifies that the MAC address is in the MAC table and sends a confirmation message to the client
- when the access point sends the MAC address to the server and receives notification that the MAC address is a valid one