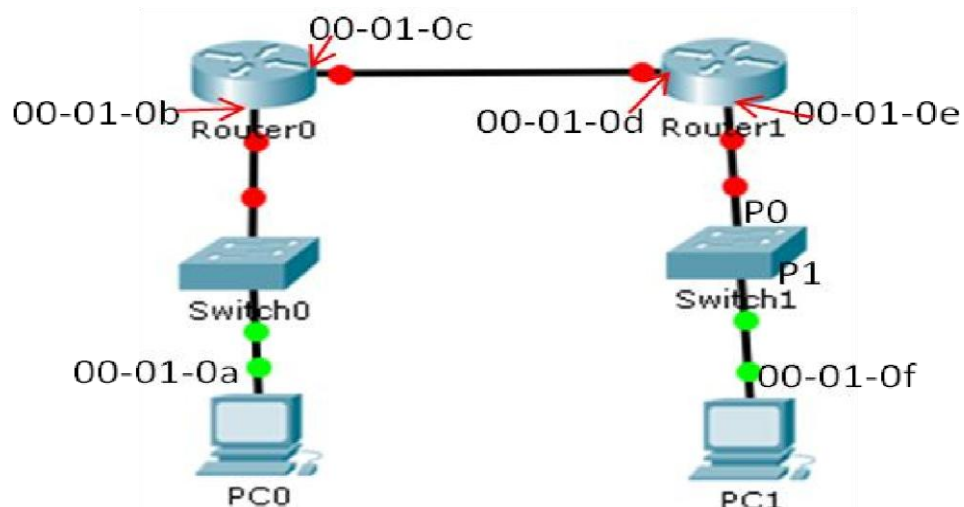| Sample midterm test	Answer
1) The network diagram shows the simplified MAC address next to their respective interfaces. PC0 sends a message to PC1. To which MAC Address does PC0 send the frame? a) 00-01-0b b) 00-01-0c c) 00-01-0d d) 00-01-0e e) 00-01-0f	
2) From a command prompt window you can determine the current network settings for you PC. Which of the following commands will display the IP addresses assigned to each NIC on your Windows laptop? a) ipconfig b) ping 1.1.1.1 c) arp -a d) ncpa.cpl	
3) Two devices are directly connected by an Ethernet link. Both devices can communicate to each other without collisions. The duplex setting of their link is: a) Full duplex b) Half duplex c) Zero duplex d) None of the above answers	
4) What is Encapsulation? a) It is the process of adding a protocol header and sometimes a trailer to a block of application data. b) It is the process of removing the data portion of the PDU and passing it up to the next higher layer. c) It is the process of obtaining a MAC addresses which corresponds to a given IP address. d) It is the process of obtaining an IP addresses which corresponds to a given MAC address	

5) A packet is sent from a PC in network segment A to a PC in network segment B. Answer the following two questions:

i) Does the network layer destination address change or stay the same as the packet moves across the network?

ii) Does the data link layer destination address change or stay the same as it moves across the network?

   a) i) change ii) change

   b) i) stay the same ii) change

   c) i) change ii) stay the same

   d) i) stay the same ii) stay the same

6) What is the difference between a dynamic IP address and a static IP address? Select the most correct answer.
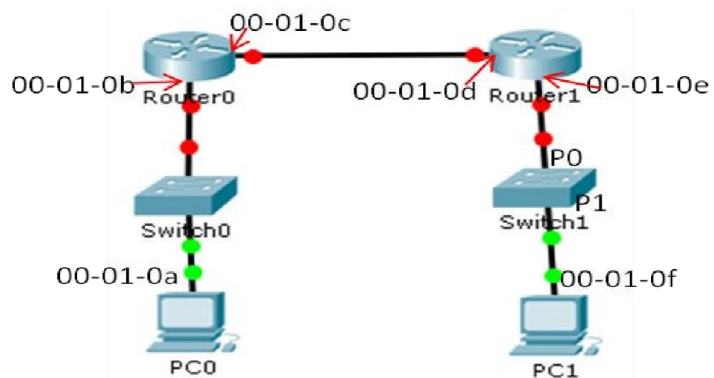
   a) A dynamic IP address requires the use of DNS whereas a static IP address requires the use of DHCP.

   b) A dynamic IP address is always obtained from the connected router whereas a static IP address is manually configured.

   c) A dynamic IP address is manually configured whereas a static IP address is obtained from the DHCP server.

   d) A dynamic IP address is obtained from a DHCP server whereas a static IP address is manually configured.

7) Which command can be used to test connectivity between two computers that are attached to a network?

   a) ipconfig

   b) ping
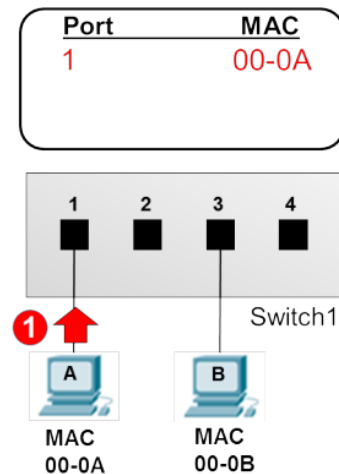
   c) winipcfg

   d) ifconfig

   e) netstat -s

8) For the network diagram shown, the MAC Address Tables of the Switches are empty. What is the entry in the MAC address table of Switch1 after the message from PC0 arrives at PC1?

   a) Port=P0, MAC Address=00-01-0e

   b) Port=P0, MAC Address=00-01-0a

   c) Port=P1, MAC Address=00-01-0f

   d) Port=P0, MAC Address=00-01-0d

   e) Port=P0, MAC Address=00-01-0a AND MAC Address=00-01-0e

9) Consider the Switch and its MAC Address Table shown in the Figure. PC-A sends a frame to PC-B. How does the Switch know on which port to send the frame?

Port	MAC
1	00-0A

a) The MAC Address table is populated with the MAC Address-to-Port mapping information and the switch uses this information to select the outgoing port.

b) The switch broadcasts an ARP request for the destination device. When the destination device responds with the ARP reply, the switch learns on which port the destination port is connected.

c) The Switch broadcasts the frame on all ports except the one connected to PC-A.

d) The Switch does not know where to send the frame and drops it until it can learn the correct port.

e) The MAC Address Table must be statically configured with the correct information.

Switch1

A
MAC 00-0A

B
MAC 00-0B

10) For the PC information shown, what is the IP address of the Default Gateway?

a) 10.70.233.1
b) 10.70.224.1
c) 10.70.233.13
d) 10.70.224.13

```
C:\Users\krymm>ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection 7:

   Media State . . . . . . . . . . . : Media disconnected
   Connection-specific DNS Suffix  . :

Wireless LAN adapter Wireless Network Connection 6:

   Connection-specific DNS Suffix  . : ottawa.ad.algonquind
   IPv4 Address. . . . . . . . . . . : 10.70.233.13
   Subnet Mask . . . . . . . . . . . : 255.255.224.0
   Default Gateway . . . . . . . . . : 10.70.224.1

C:\Users\krymm>arp -a

Interface: 10.70.233.13 --- 0x16
  Internet Address      Physical Address      Type
  10.70.224.1           00-00-5e-00-01-93     dynamic
```

Correct Answers: See the next page

1) a

2) a

3) a

4) a

5) b

6) d

7) b

8) a

9) c

10) b