Consider a pool of public addresses 200.100.4.64/26.

Answer True or False to the following sentences:

This pool has terminals between 200.100.4.65 and 200.100.4.126. V

With this pool, it is possible to build 8 sub-networks with 8 terminals each. F

The network mask is 255.255.255.0. F

Terminal with address 200.100.4.1 belongs to this network. F

Grading: right answer: 25%, wrong answer: -12%, no answer: 0%

Packet 1

```
Ethernet II, Src: f5:d0:74:e0:d9:2b, Dst: 81:e4:5d:54:cf:00
Address Resolution Protocol (reply)
   Hardware type: Ethernet (1)
   Protocol type: IPv4 (0x0800)
   Hardware size: 6
   Protocol size: 4
   Opcode: reply (2)
   Sender MAC address: f5:d0:74:e0:d9:2b
   Sender IP address: 192.168.4.9
   Target MAC address: 81:e4:5d:54:cf:00
   Target IP address: 192.168.4.4
```

Considering the above ARP (partial) packet captured in a LAN, answer True or False to the following sentences:

This packet is a response to an ARP Request sent by the terminal with MAC address 81:e4:5d:54:cf:00. V

This packet may have been generated after performing a PING from a terminal with IPv4 address 192.168.4.9 to the terminal with IPv4 address 192.168.4.4. F

The MAC addresses 81:e4:5d:54:cf:00 and f5:d0:74:e0:d9:2b belong to the same network interface. V

This packet will allow to create the entry "81:e4:5d:54:cf:00-192.168.4.4" on the ARP table of terminal 192.168.4.9. F

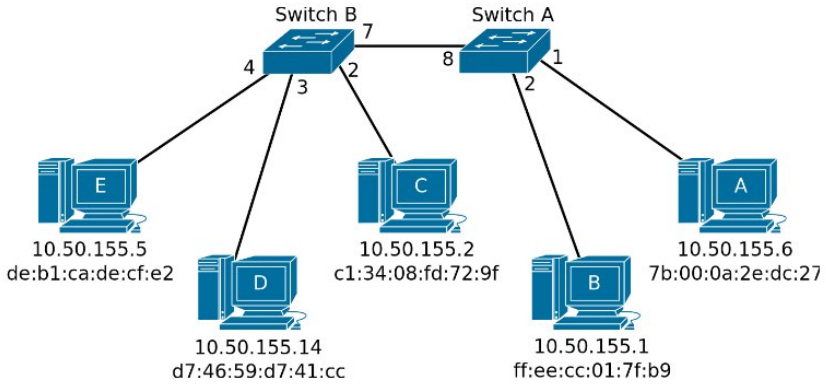
This packet is a response to an ARP Request sent by the terminal with MAC address 81:e4:5d:54:cf:00. V

This packet may have been generated after performing a PING from a terminal with IPv4 address 192.168.4.9 to the terminal with IPv4 address 192.168.4.4. F

The MAC addresses 81:e4:5d:54:cf:00 and f5:d0:74:e0:d9:2b belong to the same network interface. V

This packet will allow to create the entry "81:e4:5d:54:cf:00-192.168.4.4" on the ARP table of terminal 192.168.4.9. F

Grading: right answer: 25%, wrong answer: -12%, no answer: 0%



Considering the above network where all PCs have the respective indicated MAC and IPv4 addresses. The address mask configured in all PCs is 255.255.255.0. Answer True or False to the following sentences:

Swicth A may have the following forwarding table:

VID	VLAN Name	MAC Address	Port	Type
1	default	7b-00-0a-2e-dc-27	1	Dynamic
1	default	ff-ee-cc-01-7f-b9	2	Dynamic
1	default	c1-34-08-fd-72-9f	8	Dynamic
1	default	d7-46-59-d7-41-cc	8	Dynamic

√

Swicth B may have the following forwarding table:

VID	VLAN Name	MAC Address	Port	Type
1	default	7b-00-0a-2e-dc-27	7	Dynamic
1	default	ff-ee-cc-01-7f-b9	7	Dynamic
1	default	c1-34-08-fd-72-9f	2	Dynamic
1	default	d7-46-59-d7-41-cc	3	Dynamic
1	default	de-b1-ca-de-cf-e2	4	Dynamic

After performing a PING from PC C to the address 10.50.155.255, Switch A will have at least the following entry in the forwarding table:

VID	VLAN Name	MAC Address	Port	Type
1	default	c1-34-08-fd-72-9f	8	Dynamic

After performing a PING from PC E to PC C, Switch A will have at least the following entries in the forwarding table:

VID	VLAN Name	MAC Address	Port	Type
1	default	de-b1-ca-de-cf-e2	8	Dynamic

After performing a PING from PC E to PC C, Switch A will have at least the following entries in the forwarding table:

VID	VLAN Name	MAC Address	Port	Type
1	default	de-b1-ca-de-cf-e2	8	Dynamic

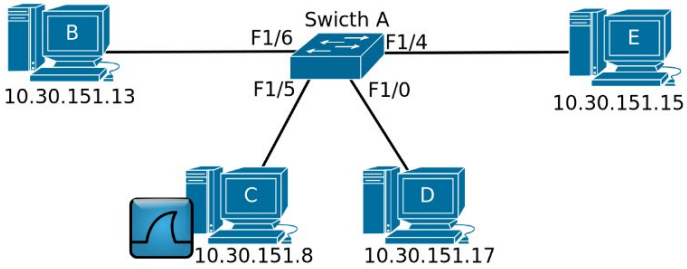
√

Question **4**

Not yet answered

Marked out of 2.5

Flag question




```
VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa1/0, Fa1/1, Fa1/2
2    VLAN0002                          active    Fa1/3, Fa1/4, Fa1/5
3    VLAN0003                          active    Fa1/6, Fa1/7
```

Considering the above network where all PCs have the indicated IPv4 addresses with a 255.255.255.0 mask. The output of the command "show vlan-switch" at the switch is depicted above. All ARP tables are empty. PC C is running Wireshark capturing all packets. Answer True or False to the following sentences:

After performing a PING from PC E to address 10.30.151.254, PC C will capture the at least one ARP packet

V

Time left 0:31:11

Considering the above network where all PCs have the indicated IPv4 addresses with a 255.255.255.0 mask. The output of the command "show vlan-switch" at the switch is depicted above. All ARP tables are empty. PC C is running Wireshark capturing all packets. Answer True or False to the following sentences:

After performing a PING from PC E to address 10.30.151.254, PC C will capture the at least one ARP packet

V

PC B has connectivity with PC C F

PC D has connectivity with PC E F

After performing a PING from PC D to address 10.30.151.254, PC C will capture the at least one ARP packet

F

Grading: right answer: 25%, wrong answer: -12%, no answer: 0%

Question 5

Not yet answered

Marked out of 2.5

Flag question

Packet 1

```
Internet Protocol Version 4, Src: 192.168.7.3, Dst: 192.168.7.2
   0100 .... = Version: 4
   .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 1246
   Identification: 0x8db9
   Flags: 0x00
   Fragment offset: 8880
   Time to live: 64
   Protocol: ICMP (1)
   Header checksum: 0x71c4
   Source: 192.168.7.3
   Destination: 192.168.7.2
Internet Control Message Protocol
```

Packet 2

```
Internet Protocol Version 4, Src: 192.168.7.3, Dst: 192.168.7.2
   0100 .... = Version: 4
   .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 1500
   Identification: 0x07f6
   Flags: 0x01 (More Fragments)
   Fragment offset: 0
   Time to live: 64
   Protocol: ICMP (1)
   Header checksum: 0x4562
   Source: 192.168.7.3
   Destination: 192.168.7.2
Internet Control Message Protocol
```

Packet 3

```
Internet Protocol Version 4, Src: 192.168.7.3, Dst: 192.168.7.2
   0100 .... = Version: 4
   .... 0101 = Header Length: 20 bytes (5)
   Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
   Total Length: 1500
   Identification: 0x07f6
   Flags: 0x01 (More Fragments)
   Fragment offset: 7400
   Time to live: 64
   Protocol: ICMP (1)
   Header checksum: 0xbed3
   Source: 192.168.7.3
   Destination: 192.168.7.2
Internet Control Message Protocol
```

Considering the above three (partial) IPv4 packets captured at the destination by the given order, answer True or False to the following sentences:

The original ICMP message to which packet 1 is a fragment has a size (including the ICMP header) of 10106 bytes. F

Packet 1 is the last fragment of the original message. V

Packets 2 and 3 reach the destination by the same order that were sent. V

The three packets are fragments of the same ICMP message. F

Time left 0:26:10

Question 6

Not yet answered

Marked out of 2.5

Flag question

Executing the command "nslookup www.google.com" on a certain terminal, the answer was the following:

Server: 8.8.8.8
Address: 8.8.8.8#53

Non-authoritative answer:
Name: www.google.com
Address: 216.58.201.132

Answer True or False to the following sentences:

Name "www.google.com" corresponds to IP address 216.58.201.132. V

The DNS server that is configured at the terminal has IP address 8.8.8.8#53

Communication with the DNS server that is configured at the terminal is made through port 53 on the server side.

The DNS server that is configured at the terminal has no authority of resolution over domain "google.com".

Grading: right answer: 25%, wrong answer: -12%, no answer: 0%

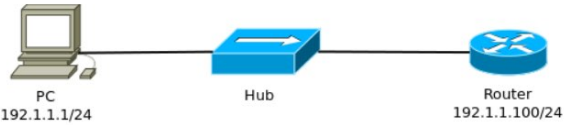
Question 7

Not yet answered

Marked out of 2.5

Flag question

Regarding the network of the following figure, consider that there was no communication between the different equipments. At this moment, a PING command is executed from PC to Router.



Classify the following sentences as True or False:

Executing the ping command from the PC to the Router, four packets will circulate in the Ethernet network. V

Executing the ping command from the PC to the Router, two ARP packets will circulate in the Ethernet network. V

The ARP Request packet that circulates in the Ethernet network has as destination MAC address the MAC address of the Router interface. F

The ARP Reply packet that circulates in the Ethernet network has as destination the PC MAC address. V

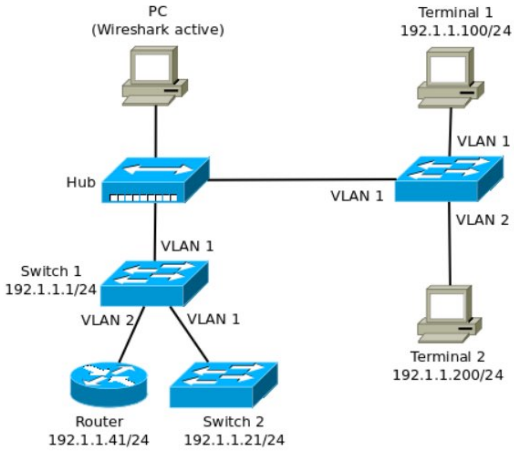
Question 8

Not yet answered

Marked out of 2.5

Flag question

Consider the network of the following figure, where all IP addresses were configured, as well as the represented VLANs.



Consider that the Wireshark application is running at the PC and no communication took place between any equipments.

Classify the following sentences as True or False:

Executing the "ping" command from Switch 2 to Switch 1 there is connectivity but no packet is captured at the PC. F

Executing the "ping" command from Switch 2 to Terminal 1, there is connectivity and ARP and ICMP packets are captured at the PC. V

Executing the "ping" command from Switch 2 to Terminal 2, there is no connectivity and ARP packets are captured at the PC.

V

Executing the "ping" command from Router to Terminal 1, there is no connectivity and ARP packets are captured at the PC.

F