

## QUIZ – Basic IP Networking and Routing

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### ICTP – ARPL

Purpose of the quiz: It is essential that participants understand basic IP networking and routing so that you can understand more advanced topics, like routing.

1. An IP subnet can BEST be described as:

- a. a broadcast domain
- b. a type of network used by VoIP networks
- c. a type of network used by Virtual Private Networks
- d. a very small local network

2. What are the three “Private IP” address ranges available for internal networks?

(fill in the blanks with the correct numbers)

\_\_\_\_ . \_\_\_\_ . 0 . 0

\_\_\_\_ . \_\_\_\_ . 0 . 0

\_\_\_\_ . \_\_\_\_ . 0 . 0

3. If you were to ping the following address 127.0.0.1 the packet would travel over which medium?

- a. a wireless network
- b. wired network
- c. none of the above

4. An IP address is normally represented as a decimal number, but, how many bits are there in an IP address?

\_\_\_\_\_ bits

5. The CIDR equivalent of the following subnet mask 255.255.255.128 for this IP address is?

192.168.1.100/\_\_\_\_\_ (fill in the CIDR network mask)

6. The IP address 129.97.128.0 is a “host” address, or a “network” address?

- a. host
- b. network

7. The ARP table contains a list of:

- a. the best routes for a packet
- b. MAC addresses with their corresponding IP address
- c. a list of Carlo's favourite music
- d. the dynamically assigned IP parameters

8. You have a computer, whose address is 140.165.40.120/29. Is the following IP address on your subnet: 140.165.40.140?

YES / NO (circle the correct answer)

The following questions, will be based on the following illustration:

The following is an “IP Routing” table (given by netstat -nr at the command line):

Kernel IP routing table							
Destination	Gateway	Genmask	Flags	MSS	Window	irtt	Iface
140.105.28.0	0.0.0.0	255.255.255.128	U	0 0		0	eth0
10.0.0.0	140.105.28.119	255.255.255.0	UG	0 0		0	eth0
0.0.0.0	140.105.28.1	0.0.0.0	UG	0 0		0	eth0

*Illustration 1: Example Routing Table*

9. If you wanted to connect (send a packet to) the IP address 10.0.0.100, which router would your computer send the packet to?

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

10. If you wanted to send a packet to 199.100.50.140, which router would your computer send the packet to?

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

11. What is the “network” address for your local subnet?

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_