TCP/IP Fundamentals Quiz

Name: _____ Date: _____

1. What is the range of the first octet on a Class A TCP/IP address?
    a. 0-127
    b. 1-126
    c. 0-128
    d. 1-128

2. What is the range of the first octet on a Class B TCP/IP address?
    a. 127-192
    b. 128-190
    c. 128-191
    d. 128-192

3. What is the range of the first octet on a Class C TCP/IP address?
    a. 192-223
    b. 191-224
    c. 192-221
    d. 191-223

4. How many bits in a version 4 TCP/IP address?
    a. 8
    b. 16
    c. 24
    d. 32

5. We refer to TCP/IP as a _____, because of the multiple specifications it contains such as HTTP, HTML and FTP.
    a. Rulebook
    b. Single protocol
    c. Suite
    d. WAN protocol

6. What is the subnet mask for a Class A TCP/IP address?
    a. 255.255.255.0
    b. 255.255.0.0
    c. 255.0.0.0
    d. 255.255.255.255

7. What is the subnet mask for a Class B TCP/IP address?
    a. 255.255.255.0
    b. 255.255.0.0
    c. 255.0.0.0
    d. 255.255.255.255

8. What is the subnet mask for a Class C TCP/IP address?
    a. 255.255.255.255
    b. 255.255.255.0
    c. 255.255.0.0
    d. 255.0.0.0

9. What is the binary number 01010101 in base 10?
    a. 85
    b. 86
    c. 192
    d. 4

10. What is the base 10 number 255 in binary?
    a. 00000000
    b. 11111110
    c. 11111100
    d. 11111111

11. We reserve what octet for LAN managers?
    a. 126
    b. 0
    c. 127
    d. 224

12. What network device is capable of translating the TCP/IP to another protocol?
    a. Switch
    b. Repeater
    c. Wireless router
    d. NIC

13. Although TCP/IP is a 4-layer protocol we can compare it to the functioning of the OSI Model. What are the seven layers of the OSI Model from layer 7 (top) to layer 1 (bottom)?

7	
6	
5	
4	
3	
2	
1	

14. Each quad of the TCP/IP dot quad has how many bits?
    a. 24
    b. 1
    c. 16
    d. 8

15. How many addresses can we have on a Class C TCP/IP network?
    a. 256
    b. 255
    c. 254
    d. 16536

16. How many addresses can we have on a Class B TCP/IP network?
    a. 65534
    b. 25500
    c. 47818
    d. 10111

17. How many addresses can we have on a Class A TCP/IP network?
    a. Almost 17 million
    b. Almost 16 million
    c. Almost 17 billion
    d. Almost 16 billion

18. If a large university exceeds the number of devices they can use on a Class TCP/IP network, what is the best thing they can do?
    a. Change to version 5 of the TCP/IP protocol
    b. Change to version 4 of the TCP/IP protocol
    c. Change to version 6 of the TCP/IP protocol
    d. Change to version 7 of the TCP/IP protocol

19. After learning the basics of TCP/IP addressing, a technician needs to know their binary math to construct what **two** functions?
    a. Subrouting
    b. Subnetting
    c. Supernetting
    d. Subtracting

20. What is the network address for the TCP/IP address 198.128.10.25?
    a. 198
    b. 198.128
    c. 198.128.10
    d. 192.128.10.25

21. What is the network address for the TCP/IP address 65.32.98.254?
    a. 65
    b. 65.32
    c. 65.32.98.254
    d. 65.32.98

22. What is the network address for the TCP/IP address 32.0.0.10?
    a. 32
    b. 32.0
    c. 32.0.0
    d. 32.0.0.10

23. On a Class C TCP/IP address, what **two** computer addresses are not available to be assigned?
    a. 256
    b. 255
    c. 254
    d. 0
    e. 1

24. Why would we not want to assign the factory default IP address to a router?

25. The Intelligence Agency wants a redundant network with three layers of communication. All of their computers have a single embedded NIC. There are 72 computers in the observation room; there are 42 analysis stations with three computers each. The maintenance department has 18 computers and the administration office has 47 computers. We need to order devices along with an addition 10% for spares. How may NICs do we need to order? Show your work.