

TCP/IP Fundamentals Quiz 3

Name: _____ Date: _____

1. What is the range of the first octet on a Class A TCP/IP address?

2. What is the range of the first octet on a Class B TCP/IP address?

3. What is the range of the first octet on a Class C TCP/IP address?

4. How many bits in a version 4 TCP/IP address?

5. We are building a small home network and we purchase a router that has a default address of 192.168.0.1. What TCP/IP address should we use?

- a. 200.100.10.1
- b. 255.255.255.0
- c. 192.168.0.1
- d. 225.25.25.1

6. What is the subnet mask for a Class A TCP/IP address?

7. What is the subnet mask for a Class B TCP/IP address?

8. What is the subnet mask for a Class C TCP/IP address?

9. What is the binary number 10101011 in base 10?

10. What is the base 10 number 255 in binary?

11. We reserve what octet for LAN managers?

12. What network device is capable of translating the TCP/IP to another protocol?

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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)?

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14. Each quad of the TCP/IP dot quad has how many bits?

15. How many addresses can we have on a Class C TCP/IP network?

16. How many addresses can we have on a Class B TCP/IP network?

17. How many addresses can we have on a Class A TCP/IP network?

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?

19. After learning the basics of TCP/IP addressing, a technician needs to know their binary math to construct what **two** functions?

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20. What is the network address for the TCP/IP address 199.5.5.5? What is the computer address for the TCP/IP address 199.5.5.5?

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21. What is the network address for the TCP/IP address 56.25.10.254? What is the computer address for the TCP/IP address 56.25.10.254?

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22. What is the network address for the TCP/IP address 150.25.67.98? What is the computer address for the TCP/IP address 150.25.67.98?

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23. On a Class C TCP/IP address, what **two** computer addresses are not available to be assigned?

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24. The Police Department Agency wants a redundant network with three layers of communication. All of their computers have a single embedded NIC. There are 34 computers in the main room; there are 16 detective stations with three computers each. The maintenance department has 12 computers and the administration office has 24 computers. We need to order devices along with an addition 10% for spares. How may NICs do we need to order? Show your work.

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25. What are the color combinations of a Category 6 cable?

26. What are the wire colors we see from left to right from the top of the RJ45 connector for a 568B patch cable?

27. What type of Category 6 cable is more expensive?

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28. How many twisted pairs in a Category 6 cable?

29. On a Network with a 10/100/1000 autosensing router and 10/100/1000 autosensing NIC, what is the transmission speed between the devices when we connect them with a Category 3 cable?

30. On a Network with a 10/100/1000 autosensing router and 10/100/1000 autosensing NIC, what is the transmission speed between the devices when we connect them with a Category 5 cable?

31. On a Network with a 10/100/1000 autosensing router and 10/100/1000 autosensing NIC, what is the transmission speed between the devices when we connect them with a Category 5e cable?

32. On a Network with a 10/100/1000 autosensing router and 10/100/1000 autosensing NIC, what is the transmission speed between the devices when we connect them with a Category 6 cable?

33. How long will it take to transmit an 1 GB file on a 1 Gbps transmission line?

34. What two types of wiring specifications are on a patch cable?

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35. What two types of wiring specifications are on a crossover cable?

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