Chapter 5 – Subnetting Exercise

1. You have a Class C address of 192.168.5.0. You would like to break it into 7 Subnets. Write the new Subnet Mask, First, Last and Broadcast addresses for the new Subnetworks.

2. You have a Class B address of 150.5.0.0. You would like to break it into 15 Subnets. Write the new Subnet Mask, First, Last and Broadcast addresses for the First 5 Subnetworks.

3. You have a Class A address of 50.0.0.0. You would like to break it into 50 Subnets. Write the new Subnet Mask, First, Last and Broadcast addresses for the First 5 Subnetworks.

4. If you have sub-netted a network 172.16.0.0 with a mask of /20. Which of the following addresses are broadcast addresses? (Choose all that apply)

a. 172.16.32.255

b. 172.16.47.255

c. 172.16.79.255

d. 172.16.159.255

5. What would your subnet mask be if you want 5 networks with 20 hosts each?

6. You are required to break the 172.15.0.0 network into subnets having a capacity of 450 hosts with the maximum allowed subnets. What would your mask be?

7. Convert 1101 1001 into Decimal and Hex.

8. If your mask is 255.255.255.224, which of the following addresses are valid IP Addresses? (Choose all that apply)

a. 192.165.4.37

b. 195.5.2.63

c. 172.6.5.32

d. 11.5.1.94

9. If your mask on a Class C network is /29, how many subnets and host per

subnet do you have?

10. What is the binary range of Class A, Class B and Class C addresses?

11. If you routers ID is 192.168.1.60/240, what is the range of valid addresses that you can configure for a PC connected to the same Interface?

Chapter 6 – OSI Reference Model

Layering Benefits & Reasons

1. To divide the interrelated aspects of network operation into less complex operations.

2. To define standard interfaces to achieve compatibility and multi-vendor integration.

3. To achieve a modular approach to networking protocols so new applications and services can be deployed without redesigning other layers.

4. To keep changes in one area from affecting other layers.

5. To ease troubleshooting using data packets which will have specific information about each layer.

5. TCP and UDP uses port numbers to multiplex from the Transport layer through