# IT2600-IP Addressing Homework V3

Name Logan Stratton 11029840

Work the problems out by hand no calculators allowed, and submit your answers to canvas.

1. (1 pt) Your ISP sent you the following information. Default Gateway 130.75.69.32/21

What is the proper subnet mask for this IP address (in dotted decimal format)?

128+64+32+16+8= 255.255.248.0

1. (1 pt) Given the subnet mask 255.255.255.252. How many host addresses are on this network?  
   2\*2=4 host addresses = 2 usable hosts addresses
2. (1 pt) What is the broadcast address for the network the 170.10.5.5 subnet 255.255.0.0 host is on?  
   network =170.10

Broadcast address= 170.10.255.255

1. (1 pt) What is the class full subnet mask for the IP address 99.187.60.50?  
     
   99 = Class A
2. (2 pts) Using the rules we learned in class determine if these IP address configurations are valid for a **Public Internet** host? Make sure you apply all the address rules to determine validity.

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| --- | --- | --- | --- |
| **IP** | **Subnet** | **Valid** | **If not why?** |
| 230.50.10.5 | 255.255.255.0 | no | 230= multicast |
| 192.168.1.5 | 255.255.255.0 | no | Class c private |
| 131.25.92.34 | 255.255.0.0 | yes |  |
| 200.44.18.33 | 255.256.255.192 | no | You can not have 256 |

1. (4 pts) Given the following information, are the source and destination hosts on the same network? Find the network from both the source and destination address by anding the IP address with the subnet mask then compare network addresses.

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| --- | --- | --- | --- |
| **Source** | **Destination** | **Subnet Mask** | **Same Network?** |
| 190.15.22.18 | 190.55.22.19 | 255.255.255.0 | no |
| 220.15.90.62 | 220.15.90.65 | 255.255.255.192 | no |
| 99.18.97.1 | 99.18.125.2 | 255.255.224.0 | no |
| 150.222.255.1 | 150.222.25.1 | 255.255.0.0 | yes |

11000000 00111110 010000001 011000000 0110000001 0111