Subject :	SEHH2238 : Computer Networking
Lab/Tutorial :	**Session 7 : IP Addressing and Subnets**

Classful Addressing

1. For each of the following
   a) 0111 1111 1111 0000 0110 0111 0111 1101 (Binary)
   b) 210.34.2.8
   c) 129.14.6.8

   Find
   (i) the class
   (ii) the mask
   (iii) the net-id
   (iv) the host-id
   (v) the network address
   (vi) the broadcast address

Classless Addressing

2. In a block of addresses, we know the IP address of one host is 25.34.12.56/16.

   a) What is the network address (the first address in this block)?
   b) What is the broadcast address (the last address in this block)?

3. Repeat Question 2 for IP address of 205.16.37.37/29.

Subnet

4. Which of the followings are valid subnet masks? (Is there any subnet?)
   a) 255.255.0.0
   b) 255.0.255.0
   c) 255.255.255.15
   d) 255.255.255.192
   e) 255.255.255.132

5. If a company is granted a class B network address 135.58.0.0 and this company needs 13 subnets, what should be the subnet mask? How many host addresses are available in each subnet? Show the derivation steps.

6. Example 18.5 in the textbook: An organization is granted a block of addresses with the beginning address 14.24.74.0/24. The organization needs to have 3 subblocks of addresses to use in its three subnets: one subblock of 10 addresses, one subblock of 60 addresses, and one subblock of 120 addresses. Design the subblocks.