UNIT TEST 3 - SOLUTION

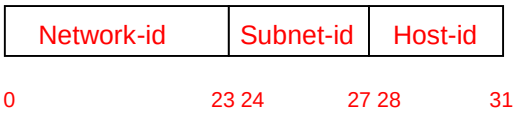
1. A host in an organization has an IP address 150.32.64.34 and a subnet mask 255.255.240.0. What is the address of this subnet? What is the range of IP addresses that a host can have on this subnet?

   Answer:
   The following mask operation derives the subnet address,
   Address : 10010110 00100000 01000000 00100010
   Mask : 11111111 11111111 11110000 00000000
   Subnet : 10010110 00100000 01000000 00000000

   The range of IP addresses that a host can have is as follows,
   From : 10010110 00100000 01000000 00000000
   To : 10010110 00100000 01001111 11111111

2. A small organization has a class C address for seven networks each with 24 hosts. What is an appropriate subnet mask?

   Answer:
   A Class C address requires 21 bits for its network ID, leaving 8 bits for the host ID and subnet ID to share. One possible scheme would assign 4 bits to the host and 4 to the subnet ID, as shown below.



   Subnet mask: 255.255.255.224