Fundamentals of Networks

Assignment 3

Q1: Suppose that a network has an address 195.185.125.0. This network should be divided into 8 subnets. Extract the following task for each of the following subnet

1. Subnet ID
2. Broadcast ID for each subnet
3. Range of IO addresses for each subnet

After that determines in which subnet this IP address 195.185.125.160 located.

The Address given for the network is 195.185.125.0 And we have to divide it into 8 subnets.

As the IP address is 195.185.125.0 => The First octet value is 192.

Class of IP address therefore will be Class (C) and Default mask will be 255.255.255.0 or /24

Creating 8 subnets requires 3 bits to be borrowed (2^3=8) New subnet mask used by each subnet will be => /27 (24+3) The remaining 5 bits are host bits and gives => 2^5 = 32 addresses / subnet

So, Fourth octet will increment by 32 for the subnets ID's => 195.185.125.0 ,195.185.125.32, 195.185.125.64, 195.185.125.96 and so on.

The IP Address specified is 195.185.125.160 This IP Address is present in Subnet Number 5 .It is the Subnet ID of subnet Number 5.

//Note-> I have started the subnet numbering from 0. If you start the numbering from 1, then the subnet will be 6.

The Address given for the network is 195.185.125.0

	1.Subnet ID	2.Broadcast IP	3.Range of IP Addresses.
sub0	195.185.125.0	195.185.125.31	195.185.125.1 To 195.185.125.30
sub1	195.185.125.32	195.185.125.63	195.185.125.33 To 195.185.125.62
sub2	195.185.125.64	195.185.125.95	195.185.125.65 To 195.185.125.94
sub3	195.185.125.96	195.185.125.127	195.185.125.97 To 195.185.125.126
sub4	195.185.125.128	195.185.125.159	195.185.125.129 To 195.185.125.158
sub5	195.185.125.160	195.185.125.191	195.185.125.161 To 195.185.125.190
sub6	195.185.125.192	195.185.125.223	195.185.125.193 To 195.185.125.222
sub7	195.185.125.224	195.185.125.255	195.185.125.225 To 195.185.125.254