**IP Mathematics**

**There are 60th Subnets and 502 hosts per subnet.**

**[IP addresses for different classes, Class A: 10.0.0.0, C: 192.168.10.0, Class B: 172.16.0.0 ]**

**i) Which class of IP will be used?**

**ii) What will be the prefix?**

**iii)What will be the subnet Mask?**

**iii) What will be the network ip address of 57th Subnet?**

**iv) What will be the ip address of 307th host of 57th Subnet?**

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To generate 60 subnets, 26 is required.

To generate 502 subnets, 29 is required

Total power 6+9=15

[ if the total power is between 1- 8 than class C

if the total power is between 9 - 16 than class B

if the total power is between 17- 24 than class A ]

**i)** Class B will be required. IP address: 172.16.0.0

**ii)** 9 bits required as host bit. Prefix will be: 32 - 9 = 23.

**iii)** Subnet Mask: 255.255.254.0

**iv)** Network ip address of 57th Subnet :

Rules: (Subnet-1)\*Block= (57-1)\*2= 56\*2= 112

[1st subnet is 172.16.0.0/23, 2nd subnet is 172.16.2.0/23, which means difference between subnet is 2 in the 3rd octet. The difference is called block]

IP= 172.16.112.0/23

**v)** IP address of 307th host of 57th Subnet:

307/256: result=1 reminder= 51

[Result will be added in the 3rd octet and reminder will be put in the 4th octet of the network ip of 57th Subnet]

IP= 172.16.113.51/23