Subnetting:- It is the process of creating clusters of addresses from a given block to allocate to diff. subnets.

Example:

Original Block - 17.12.40.0/26.

Address space for the block = $2^{32-26} = 2^6 = 64$

Target: Block 1   Block 2   Block 3
         32   16   16.

Mask for block 1 (n_1)

2^{32-n_1} = Address space of Block 1 = 32

$\Rightarrow n_1 = 27$

Similarly $2^{32-n_2} = 16 \Rightarrow n_2 = 28$, $n_3 = 28$

Hierarchy for Subnet 1.

26 bits   1 bit   5 bit

N/w Prefix	Subnet prefix	Host addr.

Hierarchy for Subnet 2

26 bits   2 bits   4 bits.

N/w prefix	Subnet prefix	Host addr.

IP address for Block 1   w.x.y.z/27

IP "   "   Block 2   w.x.y.z/28

IP "   "   Block 3   w.x.y.z/28