Given IP = 10.0.0.0/24

This is a Class A IP address.

Default Subnet of Class A = 255.0.0.0

11111111 . 00000000 . 00000000 . 00000000

fixed — available.

24 − 8 = 16 bits can be borrowed.

Therefore, after borrowing, we will have a Subnet mask of

255.255.255.0

Since we need 4 subnets, we need to borrow extra 2 bits.

∴ New Subnet mask

= 255.255.255.(11000000)

= **255.255.255.192**

Subnet	Bits
1	00
2	01
3	10
4	11

10.0.0.00000000 (0)

10.0.0.00111111 (63)

10.0.0.01000000 (64)

10.0.0.01111111 (127)

10.0.0.10000000 (128)

10.0.0.10111111 (191)

10.0.0.11000000 (192)

10.0.0.11111111 (255)

Subnet	Available Range	
1	10.0.0.2	to 10.0.0.62
2	10.0.0.65	to 10.0.0.126
3	10.0.0.130	to 10.0.0.190
4	10.0.0.194	to 10.0.0.254