IP ADDRESING SCHEME

TASK V

Our section`s subnet address = 160.192.0.0/11

Our IP Scheme = 160.210.0.0/15 = subnet No 9

Network	Subnet Address	Host Address Range		Broadcast Address
All Common Area	160.210.0.0/25	160.210.0.1	160.210.0.126	160.210.0.127
TV Production Studio	160.210.0.128/26	160.210.0.129	160.210.0.190	160.210.0.191
Distance Learning Classroom	160.210.0.192/26	160.210.0.193	160.210.0.254	160.210.0.255
Digital Lab	160.210.1.0/26	160.210.1.1	160.210.1.62	160.210.1.63
Video Editing Lab	160.210.1.64/26	160.210.1.65	160.210.1.126	160.210.1.127
General Student Lab	160.210.1.128/26	160.210.1.129	160.210.1.190	160.210.1.191
Server Area	160.210.1.192/27	160.210.1.193	160.210.1.222	160.210.1.223

Task 5

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Main IP → 160.192.0.0 /11

$2^n = 12$

$n = 4$

~~160.192.0.0 ↔ 160.193.255.255~~

	11	15	
0	160.110	0000	0.00000000.00000000
		0000	1.11111111.11111111
1		0001	0.00000000.00000000
		0001	1.11111111.11111111
2		0010	0.00000000.00000000
		0010	1.11111111.11111111
3		0011	0.00000000.00000000
		0011	1.11111111.11111111
4		0100	0.00000000.00000000
		0100	1.11111111.11111111
5		0101	0.00000000.00000000
		0101	1.11111111.11111111
6		0110	0.00000000.00000000
		0110	1.11111111.11111111
7		0111	0.00000000.00000000
		0111	1.11111111.11111111
8		1000	0.00000000.00000000
		1000	1.11111111.11111111
9	160.110	1001	0.00000000.00000000
		1001	1.11111111.11111111

↳ 160.210.0.0 ⟷ 160.211.255.255

Subnet 9 → 160.210.0.0/15 to 160.211.255.255/15

10 →	160.110	1010	0.00000000.00000000
		1010	1.1111 1111.1111 1111
11 →		1011	0.00000000.00000000
		1011	1.1111 1111.1111 1111
12 →		1100	0.00000000.00000000
		1100	1.1111 1111.1111 1111

Total → 12 subnets

Task 5

IP Addressing Scheme

Section

Our IP scheme = 160.192.0.0/11

Our choosen IP scheme = 160.210.0.0/15 → Subnet No 9

we have,

① common Area ⟶ 120 (+) hosts

$\therefore 2^n = 120$

$\therefore n = 7$

② TV Production studio ⟶ 60 (+) hosts

$\therefore 2^n = 60$

$n = 6$

③ Distance Learning class ⟶ 60 (+) hosts

$\therefore 2^n = 60$

$\therefore n = 6$

④ Digital lab ⟶ 60 (+) hosts

$\therefore 2^n = 60$

$\therefore n = 6$

⑤ Video editing Lab ⟶ 60 (+) hosts

$\therefore 2^n = 60$

$\therefore n = 6$

⑥ General student Lab ⟶ 60 (+) hosts

$\therefore 2^n = 60$

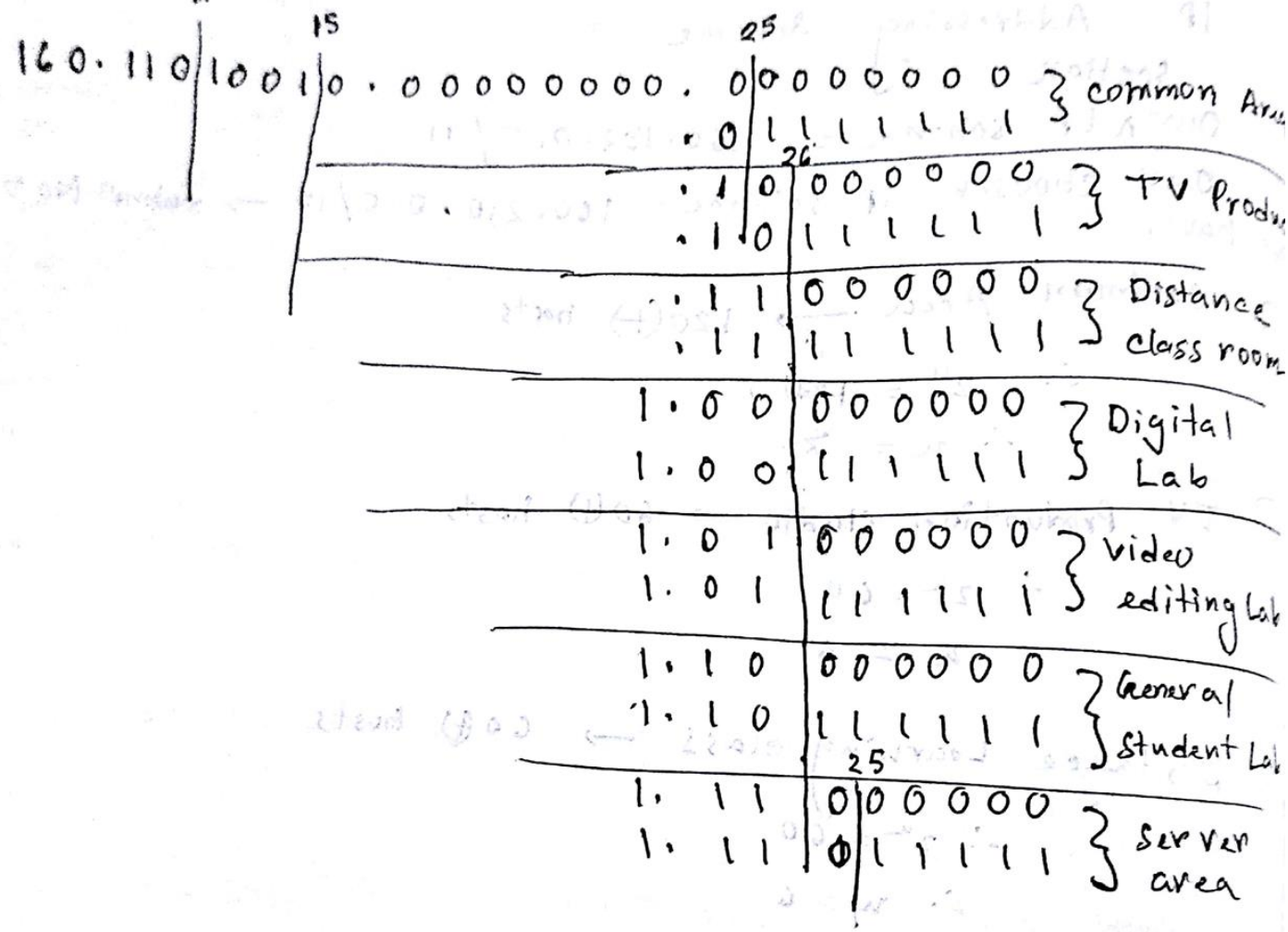
$\therefore n = 6$

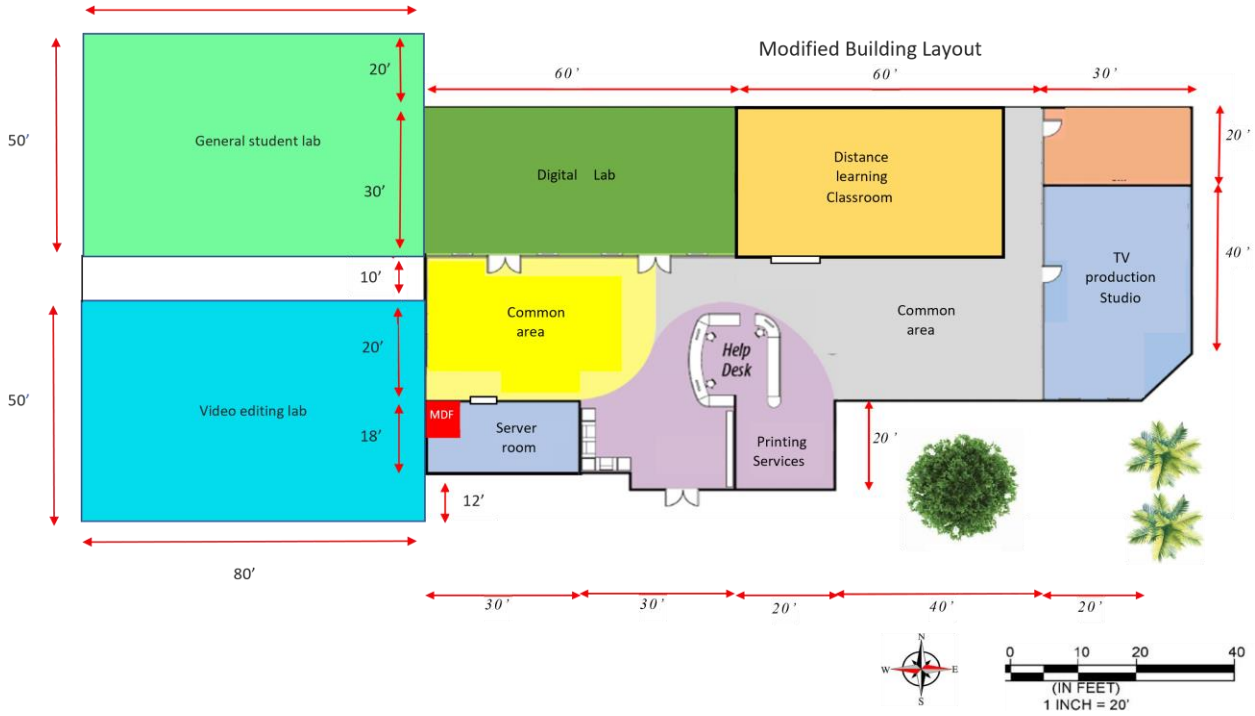
⑦ Server Area ⟶ 30 (+) hosts

$2^n = 30$

$\therefore n = 5$

Our IP scheme = 160.210.0.0/15 → subnet No 9




Modified Building Layout
General student lab
20′
30′
50′
10′
Video editing lab
20′
18′
50′
80′
Digital Lab
60 '
Distance learning Classroom
60 '
30 '
20 '
40 '
TV production Studio
Common area
Common area
Help Desk
MDF
Server room
Printing Services
12′
20 '
30 '
30 '
20 '
40 '
20 '
N
W
E
S
0
10
20
40
(IN FEET)
1 INCH = 20'

NEW LAYOUT