



## **COMPUTER NETWORK**

### **SECTION 02**

#### **PROJECT ( TASK 3 )**

**LECTURER : Ms. Hazinah Kutty Mammi**

**GROUP NAME : NetSecret**

**GROUP MEMBERS :**

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## 1.0 Subnets and Devices addressing

As we have the assigned IP address which is 172.16.32.0/23, in this report we will be showing how we divided the subnets for each room/lab and the workings as well.

### Step 1 (Dividing portions):

172.16.00100000.00000000

Network portion - Host portion

### Step2 (Borrow bits):

Network lab:  $2^x = 32$ ,  $x = 6$  bits (Since 32 addresses are not enough because we still need 2 address for network address and broadcast address)

General purpose lab:  $2^x = 31$ ,  $x = 6$  bits,

Computer Security lab:  $2^x = 25$ ,  $x = 5$  bits.

IOT lab:  $2^x = 25$ ,  $x = 5$  bits.

VC1: 2 hosts,  $2^x = 4$ ,  $x = 3$  bits.

VC2: 2 hosts,  $2^x = 4$ ,  $x = 3$  bits.

RTA-RTB: 2 hosts,  $2^x = 4$ ,  $x = 2$  bits.

RTC-RTB: 2 hosts,  $2^x = 4$ ,  $x = 2$  bits.

RTB-RTF: 2 hosts,  $2^x = 4$ ,  $x = 2$  bits.

RTB-ISP: 2 hosts,  $2^x = 4$ ,  $x = 2$  bits.

RTF-ISP: 2 hosts,  $2^x = 4$ ,  $x = 2$  bits.

RTF-RTD: 2 hosts,  $2^x = 4$ ,  $x = 2$  bits.

RTF-RTE: 2 hosts,  $2^x = 4$ ,  $x = 2$  bits.

### Step 3 (Borrow bits):

S#0 (Network Lab):

172.16.00100000.00000000 [32.0] NA

172.16.00100000.00111111 [32.63] BA

S#1 (General Purpose lab):

172.16.00100000.01000000 [32.64] NA

172.16.00100000.01111111 [32.127] BA

S#2 (Computer Security Lab):

172.16.00100000.10000000 [32.128] NA

172.16.00100000.10011111 [32.159] BA

S#3 (IOT Lab):

172.16.00100000.10100000 [32.160] NA

172.16.00100000.10111111 [32.191] BA

S#4 (VC1):

172.16.00100000.11000000 [32.192] NA

172.16.00100000.11000111 [32.199] BA

S#5 (VC2):

172.16.00100000.11001000 [32.200] NA

172.16.00100000.11001111 [32.207] BA

S#6 (RTA-RTB):

172.16.00100000.11010000 [32.208] NA

172.16.00100000.11010011 [32.211] BA

S#7 (RTC-RTB):

172.16.00100000.11010100 [32.212] NA

172.16.00100000.11010111 [32.215] BA

S#8 (RTB-RTF):

172.16.00100000.11011000 [32.216] NA

172.16.00100000.11011011 [32.219] BA

S#9 (RTB-ISP):

172.16.00100000.11011100 [32.220] NA

172.16.00100000.11011111 [32.223] BA

S#10 (RTF-ISP):

172.16.00100000.11100000 [32.224] NA

172.16.00100000.11100011 [32.227] BA

S#11 (RTF-RTD):

172.16.00100000.11100100 [32.228] NA

172.16.00100000.11100111 [32.231] BA

S#12 (RTF-RTE):

172.16.00100000.11101000 [32.232] NA

172.16.00100000.11101011 [32.235] BA

SUBNET	NETWORK ADDRESS	BROADCAST ADDRESS	USABLE ADD. RANGE	NUMBER OF USABLE IP ADDRESSES	SUBNET MASK
0	172.16.32.0	172.16.32.63	172.16.32.1 - 172.16.32.62	62	255.255.255.192
1	172.16.32.64	172.16.32.127	172.16.32.65 - 172.16.32.126	62	255.255.255.192
2	172.16.32.128	172.16.32.159	172.16.32.129 - 172.16.32.158	30	255.255.255.224
3	172.16.32.160	172.16.32.191	172.16.32.161 - 172.16.32.190	30	255.255.255.224

4	172.16.32.192	172.16.32.199	172.16.32.193 - 172.16.32.198	6	255.255.255.248
5	172.16.32.200	172.16.32.207	172.16.32.201 - 172.16.32.206	6	255.255.255.248
6	172.16.32.208	172.16.32.211	172.16.32.209 - 172.16.32.210	2	255.255.255.252
7	172.16.32.212	172.16.32.215	172.16.32.213 - 172.16.32.214	2	255.255.255.252
8	172.16.32.216	172.16.32.219	172.16.32.217 - 172.16.32.218	2	255.255.255.252
9	172.16.32.220	172.16.32.223	172.16.32.221 - 172.16.32.222	2	255.255.255.252
10	172.16.32.224	172.16.32.227	172.16.32.225 - 172.16.32.226	2	255.255.255.252
11	172.16.32.228	172.16.32.231	172.16.32.229 - 172.16.32.230	2	255.255.255.252
12	172.16.32.232	172.16.32.235	172.16.32.233 - 172.16.32.234	2	255.255.255.252

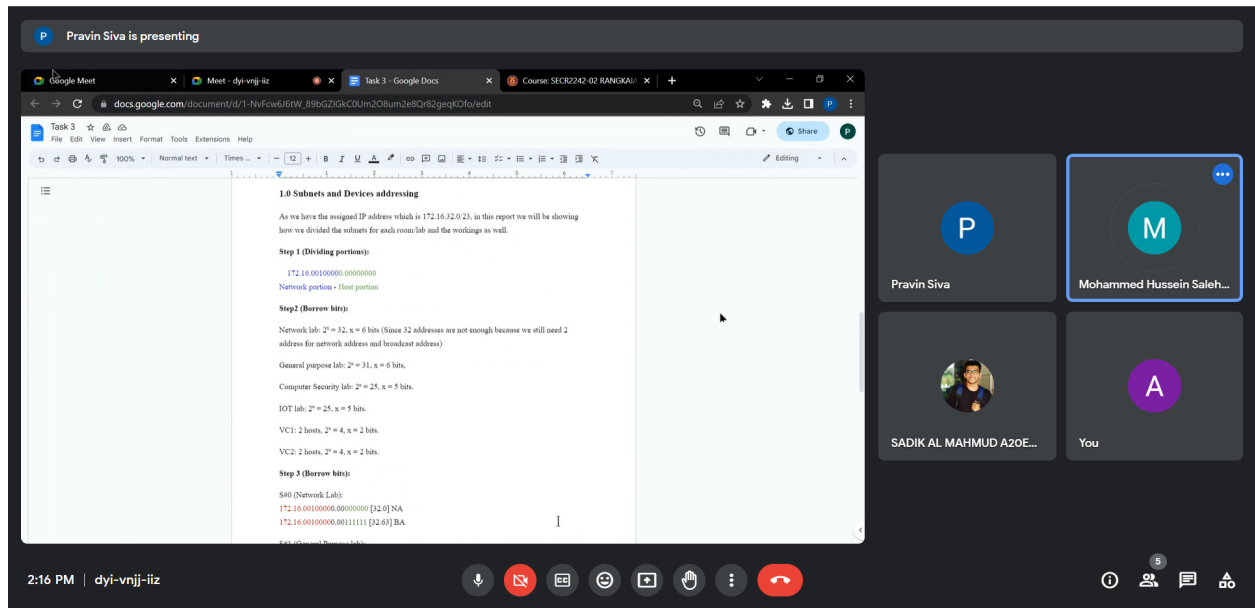
### 3.0 APPENDIX

#### Meeting 1



<b>DATE</b>	08 April 2023
<b>TIME</b>	2:15pm-2:30pm
<b>VENUE</b>	Google meet
<b>DESCRIPTION</b>	<p>Dividing task for subnetting</p> <p>Pravin - Subnetting for IoT Lab and VC 1</p> <p>Azim - Subnetting for Network Lab</p> <p>Mohommad - Subnneting for Computer Security Lab and VC2</p> <p>Sadik - Subnetting for General Purpose Lab</p>
<b>ATTENDANCE</b>	4 / 4

## Meeting 2



<b>DATE</b>	13 April 2023
<b>TIME</b>	2:00pm-2:40pm
<b>VENUE</b>	Google meet
<b>DESCRIPTION</b>	Checking for errors and mistakes of the completed work by each team member.
<b>ATTENDANCE</b>	4 / 4