UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Malaysia-Japan International Institute of Technology (MJIIT)

SECR1213 NETWORK COMMUNICATION

20242025 – SEMESTER 1

PHASE 5

(IP ADDRESSING SCHEME)

FACULTY OF MJIIT

GROUP A&C

NAME	MATRIC ID
Kahlan Sultan Mohammed	A23MJ4021
Liu Ruoyang	A23MJ4022
Bu Guoshun	A23MJ4019
Abdulrahman Siad	A23MJ3061

Here we are providing the answers to some questions

The assigned IP address is 192.16.0.0/8

1.What is the total identified areas in the building? (Total areas = number of labs + rooms + common areas + etc)

Total subnet needed = Total identified areas = 8

2. What is the number of reserved bits from the host for the identified subnets? Additionally, identify the number of extra subnets, if applicable Number of reserved bits:

number of reserved bits=4

number of extra subnets=2^ {reserved bits} - total subnet=8

3. Given your assigned IP address, clearly show the network and host portions, and the reserved/borrowed bits for your subnets?

Network bits=4+8=12

Host bits = (32-12) =20

4. What is your custom subnet mask?

The original mask is **/8**.

Borrowing 4 bits for subnetting gives: **/8+4**

=/12

1. IP Addressing Scheme

The designated network address **192.16.0.0/8** has been subdivided into smaller subnets to meet the specific needs of various labs and rooms. By reserving 4 bits for subnetting. This setup provides 8 additional subnets beyond the immediate requirement of 8, ensuring the network is scalable and can accommodate future growth.

The customized subnet mask, achieved by borrowing 4 bits from the host portion, is **255.240.0.0 (/12)**. This structure allocates 12 bits for the network and 20 bits for hosts, ensuring sufficient IP addresses for all devices while maintaining efficient resource utilization.

A comprehensive subnetting table has been created to detail the IP assignments for each lab, room, and area. The table specifies the **Network Address**, **Broadcast Address**, and **Usable IP Range** for each subnet, ensuring clarity and efficient resource management.

subnet	Area	Network Address	Broadcast Address	Usable Range
1	General Purpose Lab1	192.16.0.0	192.31.255.255	192.16.0.1 - 192.31.255.254

2	General Purpose Lab2	192.32.0.0	192.47.255.255	192.32.0.1 - 192.47.255.254
3	IOT Lab	192.48.0.0	192.63.255.255	192.48.0.1 - 192.63.255.254
4	Service Center	192.64.0.0	192.79.255.255	192.64.0.1 - 192.79.255.254
5	CISCO Lab	192.80.0.0	192.95.255.255	192.80.0.1 - 192.95.255.254
6	Conference Room	192.96.0.0	192.111.255.255	192.96.0.1 - 192.111.255.254
7	Hybrid Classroom	192.112.0.0	192.127.255.255	192.112.0.1 - 192.127.255.254
8	Student Lounge	192.128.0.0	192.143.255.255	192.128.0.1 - 192.143.255.254

Meeting Minutes

DATE/TIME	28/12/2024 10:00a.m.12:00a.m.

LOCATION	Google meet
AGENDA	Discuss Task 5 (IP ADDRESSING SCHEME)
MEETING MC	Kahlan Sultan Mohammed

ATTENDENCE

NAME	TIME	REASON OF ABSENCE
Kahlan Sultan Mohammed	10:00am—12:00am	N/A
Abdulrahman Siad	10:00am—12:00am	
Bu Guoshun	10:00am—12:00am	
Liu Ruoyang	10:00am—12:00am	

MINUTES

NO.	ITEM DISCUSSED	IDEAS/SUGGESTION S AND PERSON GIVING IT	PERSON IN CHARGE AND DATE
1	Task Disruption	Distribute the task among the team members	Kahlan
2	Discuss and update the answers to questions we were given in class	We chose the best answer possible based on our discussion	Everyone
3	Update the table we create in the class	We discuss what changes must be done to the table According to changes we made in questions	Everyone
4	Making final report	Abdulrahman Siad was asked to make the final report	Abdulrahman Siad
5	Meeting ended	Everyone leaving the meeting.	Everyone (28/12)

Rubrics

TASK 5	
ITEM	**MARKS**
IP Addressing	
Use correct network address for group	1
Workings is provided clearly and labelled	4
IP division is appropriate and logical	1
Complete detail of all IP assignation for all labs and room	4
TOTAL	**10**