***Name:***

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***Roll no:***

***20P-0153***

***Section:***

***BSCS-5B***

***Computer Networks lab:***

***10***

***FAST NUCES PWR Campus***

**Task 1** :

***Determine Network Address of the following IP Address***

**IP address** : **10.128.240.50/30**. Also, determine **broadcast** and **range of host addresses**.

**IP:** 10.128.240.50

—-> 00001010.10000000.11110000.00110010

**Subnet:** 255.255.255.252

—-> 11111111.11111111.11111111.11111100

**Network Address:** 10.128.240.48

—-> 00001010.10000000.11110000.00110000

**Broadcast:** 10.128.240.51

—-> 00001010.10000000.11110000.00110011

**Range:** 10.128.240.49 — 10.128.240.50

00001010.10000000.11110000.00110001 —---00001010.10000000.11110000.00110010

***Task 2:***

Determine the **network and broadcast addresses** and **number of hosts bits**

and **hosts for the given IPv4 addresses** and **prefixes** in the following table.

| **IPv4 Address** | **Network Address** | **Broadcast Address** | **T.No of Host Bits** | **T.No of Hosts** |
| --- | --- | --- | --- | --- |
| 192.168.100.25/28 | 192.168.100.16 | 192.168.100.31 | 04 | 14 |
| 172.30.10.130/30 | 172.30.10.128 | 172.30.10.131 | 02 | 02 |
| 10.1.113.75/19 | 10.1.96.0 | 10.1.127.255 | 13 | 8190 |
| 198.133.219.250/24 | 198.133.219.0 | 198.133.219.255 | 08 | 254 |

| **Network Address** |
| --- |
| 192.168.100.16 —--> 11000000.10101000.01100100.00010000 |
| 172.30.10.128 —--> 10101100.00011110.00001010.10000000 |
| 10.1.96.0 —--> 00001010.00000001.01100000.00000000 |
| 198.133.219.0 —--> 11000110.10000101.11011011.0000000 |

| **Broadcast Address** |
| --- |
| 192.168.100.31 11000000.10101000.1100100.00011111 |
| 172.30.10.131 10101100.00011110.00001010.10000011 |
| 10.1.127.255 00001010.00000001.01111111.11111111 |
| 198.133.219.255 11000110.10000101.11011011.11111111 |