**MODULE 3 - ACTIVITY NO. 1**

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| **Subject/Section:** | **CIT2201 – IT2D** | **Professor:** | **Larry Rutaquio** |

1. Determine the number of networks

Given: 172.16.0.0/16

* Number of networks = 13
* 128 64 32 16 8 4 2 1

0 0 0 0 1 1 0 1

* 4 bits
* Increment is 16
* 255.255.0 .0 or /16
* New subnet mask = 255.255.240.0 or /20

Identify the following:

1. Subnets / Network Ranges
2. Host range
3. Broadcast Address
4. Subnet mask

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Subnet Address | Host Range | | Broadcast Address | Subnet Mask |
| First | Last |
| 172.16.0.0 | 172.16.1.0 | 172.16.14.0 | 172.16.15.0 | 255.255.240.0 |
| 172.16.16.0 | 172.16.17.0 | 172.16.30.0 | 172.16.31.0 | 255.255.240.0 |
| 172.16.32.0 | 172.16.33.0 | 172.16.46.0 | 172.16.47.0 | 255.255.240.0 |
| 172.16.48.0 | 172.16.49.0 | 172.16.62.0 | 172.16.63.0 | 255.255.240.0 |
| 172.16.64.0 | 172.16.65.0 | 172.16.78.0 | 172.16.79.0 | 255.255.240.0 |
| 172.16.80.0 | 172.16.81.0 | 172.16.94.0 | 172.16.95.0 | 255.255.240.0 |
| 172.16.96.0 | 172.16.97.0 | 172.16.110.0 | 172.16.111.0 | 255.255.240.0 |
| 172.16.112.0 | 172.16.113.0 | 172.16.126.0 | 172.16.127.0 | 255.255.240.0 |