

# National University of Computer and Emerging Sciences, Lahore Campus

## Computer Networks (Code: CS3001)

### Quiz 4 [Section BCS 5B] Fall 2024

**Due Date: Oct 31, 2024**

**Time: 25 Minutes**

**Marks: 20**

**(CLO3)**

**Question 1.** A certain organization has been assigned a network address block 201.180.128.0/23. The organization desires to accommodate five sub-blocks (subnets) with **the following host requirements.**

- 1 network (subnet) requires at least 240 hosts
- 1 network (subnet) requires at least 100 hosts
- 1 network (subnet) requires at least 32 hosts
- 2 networks (subnets) requires at least 15 hosts

**Design the complete IP addressing scheme for this organization and fill in the Table below. [20 Marks]**

Network	Network Address	Subnet mask	First available host address	Last available host address	Broadcast Address
Subnet 1	201.180.128.0/24	255.255.255.0	201.180.128.1/24	201.180.128.254/24	201.180.128.255/24
Subnet 2	201.180.129.0/25	255.255.255.128	201.180.129.1/25	201.180.129.126/25	201.180.129.127/25
Subnet 3	201.180.129.128/26	255.255.255.192	201.180.129.129/26	201.180.129.190/26	201.180.129.191/26
Subnet 4	201.180.129.192/27	255.255.255.224	201.180.129.193/27	201.180.129.222/27	201.180.129.223/27
Subnet 5	201.180.129.224/27	255.255.255.224	201.180.129.225/27	201.180.129.254/27	201.180.129.255/27