Computer Networks
SPRING 2024
Assignment#4 (6A)

Due Date: Tuesday, 2nd April, 2024
Submission Mode & Time: Handwritten solutions to be submitted during the lecture.

Please note the following:

1. No exceptions to the above date and time will be allowed. Inability to submit the assignment by the required time will result in zero marks.

2. To ensure self-completion of assignments and discourage plagiarism, the instructor or the relevant TA may randomly contact you and ask for an explanation of your answers. Where plagiarism and/or cheating is evident, you will be referred to the departmental disciplinary committee. In extreme cases of plagiarism an F may be awarded immediately with further referral to university disciplinary committee.

3. All solutions must be **hand-written.**

4. **Assignment Solution Submission**: In case of **in person / physical lectures at the campus**, hard copy of the hand-written assignment's solutions will be submitted by **hand** by each student to the Instructor / TA directly during the lecture on the due date.

PART-1

Use the following text for completion of this part of the assignment:
Computer Networking - A Top-Down Approach 8th Edition by Kurose & Ross.

Solve the following problems from the back of **Chapter 4**. Every Question has equal marksi.e.

Review Questions: **(4*5 = 20 marks)**

R4, R17, R18, R19

Problems: **(4*5 = 20 marks)**

P8, P11, P21, P22

PART - 2

Question1 [15Marks]

A certain organization has been assigned a network address block 201.180.128.0/23.

It has been determined that the organization needs:

- 1 network with at least 240 hosts
- 1 network with at least 55 hosts
- 1 network with at least 28 hosts
- 2 networks with at least 15 hosts

Note: When subnetting, remember that the number of hosts specified doesn't include the network address and the broadcast address. Be sure to account for these addresses in your calculations for accurate subnetting.

a) Design the complete IP addressing scheme for this organization and **fill in the table below**. Show all your work with appropriate comments (if any).

Network	**Network Address**	**Subnet mask**	**First available host address**	**Last available host address**	**# of available host addresses**
Network 1					
Network 2					
Network 3					
Network 4					
Network 5					