

# Computer Networks – FALL 2020

## Assignment # 01

**Due Date:** 12/10/2020

**Time:** 11:55 PM

**Please note that we, as instructors, know that it is easier to find solutions of the questions so be careful and solve the problems yourself. We shall be calling each one of you for evaluation of this assignment and you will have to justify your solutions before the course instructors or the TA. Failure to justify your answers will result in negative marks. Severity of the plagiarism can result in F as well. You may discuss the assignment with each other.**

**Note:** You are supposed to submit solution of all the questions given below, however, Instructors and TAs reserve the right to mark some of the questions and give full credit for other questions.

Use Computer Networking - A Top-Down Approach 6<sup>th</sup> Edition for this assignment

### Part 1

**1. Reading assignment**

Try to answer all review questions of Sections 1.1 to 1.5 except 1.2 from back of chapter 1. This part does not need to be submitted. It's for your own practice.

**2. Solve the following problems from the back of **Chapter 1** and provide the hand written solution. Some questions might need you to submit screen shots.**

P3,P4,P8,P11,P13,P14,P18, P19, P20,P23,P31

**3. Solve the following problems from the back of **Chapter 2** and provide the hand written solution.**

P1,P3,P6,P7,P8,P9,P10,P20

**Note:** You do not need to simplify the mathematical formulation.

### Part 2

Find and read the OSI model on [this link](#). Write up the summary on a single page according to your best understanding. You may use other resources to provide an effective answer.

### Part 3

Explain how the bittorrent protocol works. Discuss briefly the following terms:

- What is a tracker?
- Who are seeders, leechers?
- What is choking, free-riders?
- What is the number of neighbors a new node tries to find?
- What does the .torrent file contain?
- What is bartering?