

Computer Networks – FALL 2020

Assignment # 2

Submission Details: The deadline for submission is **Friday 13th November 2020 at 11.55 PM** sharp. Please submit a soft copy via **Google Classroom**.

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. Remember that directly copied answers from solution manuals will be considered plagiarism. You need to explain the answers in your own words/layman terms. Plagiarism will be dealt with strictly.

Use Computer Networking - A Top-Down Approach 6th Edition for this assignment

Part 1 - Marks 50

1. Reading assignment
 - Try to answer all review questions of Sections 3.1 to 3.7 from the back questions of chapter 3. This part does not need to be submitted. It's for your own practice
 - Read 3.5.6 section
2. Solve the following problems from the back of **Chapter 3** and provide the hand written solution.

P22, P23, P 25, P26, P27, P28, P32, P46

Part 2 - Marks 50 (Minimum 600 words, Maximum 800 words)

What is “fairness” in the context of TCP congestion control algorithms. How does TCP Reno and TCP Vegas compare in terms of fairness? Design and describe two network scenarios:

- 1) having a good deal of fairness
- 2) where one congestion control algorithm outperforms/consumes greater network bandwidth in comparison with the other.