Computer Networks – FALL 2020

Assignment # 3

Submission Details: The deadline for submission is **Wednesday 25th 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.

Part 1 - Marks 50

1. At First read topics "Fast Recovery" and "TCP Congestion Control: Retrospective" from book. Page No. 276-278.
2. Then read the article provided here (http://www.cs.toronto.edu/syslab/courses/csc2209/06au/papers/vegas.pdf) research Paper "TCP Vegas: End to End Congestion Avoidance on A Global Internet"
    a. Design a complete FSM Diagram for TCP Vegas algorithm.
    b. List all differences you find in TCP Vegas in comparison to TCP Reno.

Part 2 – Short answers (Marks 50)

1. Why the TCP two-way handshake does not work?
2. We discussed that SSL/TLS provides security to the TCP connections already. What provides security to the UDP? Discuss the basics of the idea and its working.
3. Why is Go Back N(GBN) referred to as GBN?
4. Why is TCP called a "stream oriented protocol"?
5. Give a brief description of 5 options in TCP header.