

Computer Networks – Fall 2018

Assignment 1 (Section A and B)

Due Date: Wednesday, October 10th 2018.

Time: Latest by 09:30 AM for Section A, 11:00 AM for Section B during lecture.

Weightage: 5%

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. If you have completed the assignment prior to submission date, please hand it to the instructor during office hrs.
2. To ensure self-completion of assignments and discourage plagiarism, the instructor or the relevant TA (Miss Asma Hanif) can randomly call 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. Part 1 and Part 2 of this assignment are mandatory, Part 3 is optional and will result in bonus marks. Part 1 and Part 2 need to be completed in full before attempting the bonus part (Part 3).
4. All solutions must be **hand-written**.

Part 1

Use the following text for completion of this part of the assignment:

Computer Networking - A Top-Down Approach 6th Edition by Kurose & Ross.

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**. Some questions may require submitting screenshots along with hand-written solutions.

P3,P4,P8,P14,P18,P25

3. Solve the following problems from the back of **Chapter 2** and provide solutions.

P1,P3, P5,P6,P9,P10,P18

Note: You do not need to simplify mathematical formulation(s).

Part 2

Write up an explanation of the OSI reference model (maximum two pages, 1200 words) to the best of your understanding. In addition to the main text book you are encouraged to refer to the following resources to help you in providing a comprehensive explanation.

1. CCENT/CCNA ICND1 100-101 Official Cert Guide by Wendell Odom, Cisco Press - Chapter 1.

2. Data and Computer Communications by William Stallings, 8th Edition. - Section 2.3.

Please quote the above and *any other* relevant resources that you have used in answering this question using standard IEEE referencing style.

Part 3 [Optional: Bonus Marks]

Provide a brief explanation of the terms **DNS Aging** and **DNS Scavenging** to the best of your ability (not more than 600 words/one page each including figures). You may use online resources to understand the two phenomenon. Again, provide references of your explanation(s) using IEEE referencing format.