

**Midterm Exam I**  
**CSE4175: Introduction to Computer Networks**  
**Dept. of Computer Science and Engineering**  
**Spring 2016**

Name: \_\_\_\_\_

Student Number: \_\_\_\_\_

**Total points 100**

**Problem 1: (10 points) HTTP**

Describe the HTTP protocol.

**Answer:**

**Problem 2: (10 points)**

Describe the Web-based email service in reasonable detail.

**Answer:**

**Problem 3: (10 points) DNS**

Describe the authoritative DNS server.

**Answer:**

문제	점수
1	10
2	10
3	10
4	10
5	10
6	20
7	10
8	20
합계	100

**Problem 4: (10 points) P2P File Distribution: BitTorrent**

Describe the .torrent file.

**Answer:**

**Problem 5: (10 points total, 5 points each) BitTorrent**

At any given instant of time, a peer of a swarm has a subset of chunks and will know which chunks his/her neighbors have. With this information,

- a) how does a peer decide which chunks he/she should request first from his/her neighbors?

**Answer:**

- b) explain and justify your answer.

**Answer:**

**Problem 6: (20 points total, 10 points each) TCP segment**

- a) Describe the role of the ACK flag in the TCP segment header.

**Answer:**

- b) Describe the sequence number of a TCP segment.

**Answer:**

**Problem 7: (10 points) TCP**

Describe the scheme, exponential weighted moving average.

**Answer:**

**Problem 8: (20 points total, 10 points each) TCP flow control**

- a) Explain how the TCP sender gets information on the available receiver buffer size at the receiver side.

**Answer:**

- b) Explain/describe the information maintained at the sender side used to perform the TCP flow control.

**Answer:**