Network Architectures 3329 **Name:** _____
Spring 2018 **Quiz 4-1**
02/07/18 **Time Limit: 5 minutes**

- **Print your name.**
- Close-book policy: You may not use the text, my class notes and/or any notes and study guides you have created. You may use a calculator. You may not use a cell phone or computer.

Problem	Points	Score
1	1	
2	1	
3	1	
4	1	
5	1	
Total:	5	

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1. (1 point) DNS is a core network function that is implemented at application layer via the client-server paradigm.

   A. True B. False

2. (1 point) A centralized design of DNS will not scale, because

   A. The server becomes a single point of failure

   B. Significant delay (during communication) to distant querying clients

   C. The server will need to handle a high volumn of traffic

   D. all of the above

3. (1 point) Which type of DNS server does *not* belong to the DNS server hierarchy

   A. root

   B. local

   C. authorative

   D. top level

4. (1 point) DNS database stores resource records — four-tuples that contain the fields `(Name, Value, Type, TTL)`. Which of these fields appear in a DNS query message?

   A. `(Name, Type)`

   B. `(Name, TTL)`

   C. `(Type, TTL)`

   D. `(Name, Value)`

5. (1 point) Consider file distribution in a network of 1 server and N peers: the server owns a file, the task is to get every peer a copy. Supose the upload rate of the server is u_s, the download and upload rate of ith peer is d_i (The minimum download rate is d_{min}) and u_i. The size of the file is F. In a P2P architecture, the time it takes to upload the file is at least:

   A. $\mathbf{F/u_s}$

   B. $\mathbf{NF/u_s + u_i + \cdots + u_N}$

   C. $\mathbf{\max\{F/u_s, NF/(u_s + u_i + \cdots + u_N)\}}$

   D. $\mathbf{\max\{F/u_s, NF/(u_s + u_i + \cdots + u_N), F/d_{min}\}}$