CS 3516 (A18) Quiz 4
Tuesday, September 11, 2018

Student Name: _____

WPI Username: _____

Please answer the following questions using only the front side of this sheet of paper. **This quiz is closed book/notes. One page cheat-sheet is allowed**. _We will not grade the backside or any additional sheets of paper._ We will scan the quiz and return it electronically. To ensure it is properly scanned, please avoid wrinkling, folding, or otherwise distorting the paper. _You can use the back of the paper for any calculations you might have to perform._ Please mark exactly which question/sub-question you are answering. **(8 points.)**

1. A new startup company "NetworkXYZ" needs to register the domain name networkXYZ.com at _DNS registrar_ (e.g., Network Solutions) (and pay a fee for it). What information NetworkXYZ need to provide to DNS registrar? What Resource Records (RRs) should the DNS registrar insert into .com TLD DNS server? (4 points)

NetworkXYZ needs to provide names, IP addresses of its authoritative name server (primary and secondary) to DNS registrar. (2 points) The registrar inserts two RRs into .com TLD server including (networkabc.com, dns1.networkXYZ.com, NS) and (dns1.networkXYZ.com, 212.212.212.1, A). (2 points)

2. Given a local ISP, for example, WPI, there exist both local DNS server, and authoritative DNS server. Which one is serving internal users and which is serving external users? Explain. (3 points)

Local DNS server is for serving internal users, and authoritative DNS server is for serving external users (1 point)**.** Internal users once type a URL in a browser, the DNS request is first directed to local dns server to resolve it to an IP address, if the mapping between the domain name and IP is not stored in local dns server, it further forwards the requests to root, TLD, and authoritative DNS servers to get the IP address for the internal user (1 point). On the other hand, when an external user is trying to access WPI website, it needs to get the IP address of WPI web server from WPI authoritative DNS server (1 point)**.**

3. Is it possible to have an organization's mail server and web server to have the same alias for a host name? What is the type for RR record that contains hostname of the mail server? (1 point)

Yes. **MX** Record.
[TA note: 1 point total, 0.5 point for 'Yes' and 0.5 point 'MX']

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