**Exam 1 guideline**

**Dr. Abraham**

**EXAM DATE MARCH 8**

**Please bring ScanTron form 30423 with your name and id bubbled in already.**

Questions are taken from online quizzes, notes (I made up those questions), labs and group presentations.

1. Questions on IP address. Particularly: Classes, range of Addresses in each class, default masks, classless vs. classful, how IP addresses are distributed by ISPs.
2. Beginning and ending IP addresses and how many IP addresses, given one of the IP address and mask (or given CIDR representation).
3. IP addressing in LAN. Private an public IP addresses.
4. OSI layers, and which device operate under which layer. Each layer’s primary responsibility. Peer layer. Headers added or subtracted. Know the names of the layers.
5. Email: different components (components used for email within a LAN, WAN), purpose of each, protocols or ports used. Email uses FTP or UDP?
6. DNS. Purpose. Different ways of resolving an address. Root server, zone server, secondary server. Inverse look up. Organization of domain name space.
7. FTP/TFTP. Services used. Purpose. Standard ports used. Active and passive opens. Difference between control and data ports.
8. Socket programming. Socket, port, server program, client program. Well known vs ephemeral ports. Stream vs datagram.
9. HTTP: port, persistent, proxy, post, put, head, etc.
10. Student given questions