8. Name the three main characteristics of servers. Name the four characteristics of clients.
10. Describe how it is that IM is a hybrid of client-server and P2P.
11. Describe inter-process communication (IPC).
12. Describe a socket.
13. Describe process identifiers (often called sockets).
14. Name two common application layer protocols.
15. Describe the three main services that must be addressed when providing a transport service.
16. Which of the three important transport services are most important to the common applications that use the Internet?
17. What does TCP stand for? Describe the five main characteristics of TCP. What does UDP stand for? Describe the two main characteristics of UDP. Why have UDP?
18. For a given common Internet application, say whether it uses TCP or UDP.
21. Compare persistent and non-persistent HTTP.
22. Describe the operation of non-persistent HTTP.
23. Compare persistent HTTP with pipelining and without pipelining.
24. What does RTT stand for? Why is it important to know the RTT?
25. Name and describe the two types of HTTP messages.
26. Describe the HTTP response status codes (no need to memorize what each code means).
27. What command is used to telnet to a web server, given its URL or IP address?
28. Name the four components of a cookie.
29. Why do web servers put cookies on their visitors’ computers?
30. What is the purpose of web caches? Describe how web caches work.
31. What purpose does FTP serve? Describe the client/server model of FTP.
32. Describe how FTP works. Why do we say FTP uses out of band control? What port number does FTP use for control? What port number does FTP use to transfer data?
33. Name the three main components of an email system. Describe the tasks of an email user agent. Give an example of a commonly used email user agent. What protocol is used to transfer email between email servers?
34. What transfer protocol does SMTP use? What port number does SMTP use? Name the three phases of SMTP message transfer. Describe the command/response process used by email.
35. Why do email servers have both a client side and a server side?
36. Describe the three ways in which SMTP and HTTP differ or are the same.
60. Most important email slide! Be able to fill in the blanks if given the figure on this slide. Describe the three main mail access protocols – what their acronyms stand for, their differences.

62. Compare POP3 and IMAP.

64. What does DNS stand for? What service does DNS provide? How is it implemented? At what layer does it operate?

66. Most important DNS slide. Be able to fill in the blanks, given the figure on this slide. Describe the 3-step process a client might use to access a web site.

67. How many root name servers are there? Where are they? What do they do when they get a request they cannot fill? What does it mean to resolve a name?

68. Compare TLD DNS servers and authoritative DNS servers.

69. Describe a local name server.

70. Be able to number the 8 steps involved in a host accessing a webpage.

72. Describe DNS caching.