

Chapter 4 - Study Guide

1. What is a firewall? What does it do and how/why? Your answer should include a discussion of LAN vs WAN.
2. Please define the following devices and the specific scenario in which they should be used:
 - a. Repeater (Hub)
 - b. Switch
 - c. Router
3. Compare and contrast the client/server and peer-to-peer network models. Use human relationships/real world examples to help illustrate your answer(s).
4. Many “lay users” of the Internet interchange the terms *Internet* and *World Wide Web*. To what do each of the terms correctly refer?
5. Please define and give an example of the following Internet vocabulary:
 - a. Internet Service Provider (ISP)
 - b. IP address
 - c. Domain name
 - d. Top-level domains (TLDs)
6. Please explain why the domain name system (DNS) protocol is necessary and give an example where it is used.
7. What are protocols? What role do they play on the Internet and why do we need different ones?
8. In the URL <https://csed.uni.edu/summer-2019/scratch/index.php>, please identify the following:
 - a. Protocol required to access the document
 - b. Mnemonic name of the host holding the document
 - c. Document name
 - d. Directory path indicating the location of the document within the host’s file system
9. Give two examples of client-side activities on the Web. Give two examples of server-side activities on the Web.
10. What is _____? How are computers secured against it?
 - a. Virus
 - b. Worm
 - c. Trojan horse
 - d. Spyware
 - e. Phishing
 - f. DoS
11. Suppose a PC owner leaves the PC connected to the Internet where it ultimately is used by another party to implement a denial of service attack. To what extent should the PC owner be liable? Does your answer depend on whether the owner installed proper firewalls? Defend your response.
12. What is meant when we say an ISP provides a gateway to the Internet? Who is your ISP?
13. What is an IP address and what role does it serve?

14. HTTP, SMTP, and VoIP are examples of what? What role do they play in the internet?
15. Discuss the notion of clients and servers on the internet.
16. What is the role of a DNS server?
17. What is a DDoS attack? Who or what does it affect?
18. Provide 3 (?) examples of malware and discuss how it/they can be avoided.
19. What does the Electronic Communication Privacy Act (of 1986) provide?
20. Can your government legally gain access to your internet communication?
21. Identify and briefly describe/discuss at least 5 things an individual can do to protect themselves and, perhaps, others from bad actors on the Internet
22. Describe the internet traffic occurring when attempting to load a web page and a "file not found" error is returned. Identify possible causes of the error.
23. Describe the internet traffic that occurs when someone sends an email message.
24. Describe the internet traffic that occurs when a person logs into their on-line banking app or site.
25. Internet applications such as Facebook, Twitter, etc. can be used to try to persuade people to a particular point of view or otherwise influence their thinking. What responsibilities, perhaps liability, does the service provider have? What responsibilities, perhaps liability, should the service provider have?
26. Are corporations required to provide the government with mechanisms to access customer information or devices that are encrypted? Should they be? Are individuals required to provide access to their devices that may be protected by an account password and/or encryption? Should they be? Should the two cases be the same?