CHAPTER 6

Computer Networks

(Solutions to Odd-Numbered Problems)

Review Questions

1. A point-to-point connection provides a dedicated link between two devices. The entire capacity of the link is reserved for transmission between those two devices. A multipoint connection (also called multidrop connection) is one in which more than two specific devices share a single link. In a multipoint environment, the capacity of the channel is shared, either spatially or temporally.

3. We discussed three types of networks: LAN, MAN, and WAN. A local area network (LAN) is usually privately owned and links the devices in a single office, building, or campus. A wide area network (WAN) provides long-distance transmission of information over large geographic areas that may comprise a country, a continent, or even the whole world. A metropolitan area network (MAN) is a network with a size between a LAN and a WAN. It normally covers the area inside a town or a city.

5. The layers in TCP/IP protocol suite are application (layer 5), transport (layer 4), network (layer 3), data link (layer 2), and physical (layer 1).

7. The transport layer is responsible for process-to-process delivery of the entire message. The transport layer address is the process identification, called a port number.

9. The data link layer delivers a frame from a node to another. Data link layer addresses are often called physical addresses or medium access control (MAC) addresses.

11. Node-to-node delivery is the delivery of a frame from one node to the next; it is the responsibility of the data link layer.

13. Process-to-process delivery is the delivery of the entire message; it is the responsibility of the transport layer.

15. File Transfer Protocol (FTP) is the standard application program used for file transfer.

17. When a user logs onto a local time-sharing system, it is called local login. When a user wants to access an application program or utility located on a remote machine, he or she uses remote login.

Multiple-Choice Questions

19. a   21. a   23. b   25. c   27. d   29. b
31. a

Exercises

33. All 200 stations are affected.

35. All 200 stations are affected if special provisions are not used.

37. A star LAN is more reliable. If any station in a ring LAN stops forwarding messages, the entire LAN stops working. If any part of the cable in a bus LAN is damaged, the entire LAN stops working. In a star LAN, if any station or any segment of cable is damaged, the other computers can still communicate.

39. An application can use whichever protocol is appropriate for that application. If an application needs to establish a reliable connection between machines, it can use TCP. If it only needs to send small amounts of noncritical information, it can use UDP to accomplish the transfer faster. SCTP combines the advantages of both UDP and TCP for real-time applications.

41.
    a. 126.241.103.127
    b. 191.220.224.5
    c. 31.240.63.221
    d. 143.245.195.29
    e. 247.147.231.93

43.

	Local:		Domain:	
a.	Local:	madeline	Domain:	belle.gov
b.	Local:	lindsey	Domain:	jasmine.com
c.	Local:	wuteh	Domain:	hunan.int
d.	Local:	honoris	Domain:	queen.org

45. FTP is used to transfer files over a network. TELNET is used to establish a login session on a remote machine. After establishing a session, we can also use TELNET commands to copy files.

47. What is downloaded is a static document because the document is not changed.