

- T F** 1101. EDI, GPSs and BBSs all rely on communications technology.
- T F** 1102. When using e-mail, users may be connected to the same computer network or to a separate network reached through the use of communications equipment.
- T F** 1103. A digitized document transmitted with fax equipment can contain only typed text.
- T F** 1104. Videoconferencing is the use of computers, television cameras, communications software, and equipment to conduct electronic meetings with participants at different locations.
- T F** 1105. Groupware is software that helps individual users make a group of documents confidential.
- T F** 1106. Electronic data interchange (EDI) is the direct transfer of documents from one businesses computer to another.
- T F** 1107. Electronic data transfer (EDT) frequently is used by large companies for routine transactions.
- T F** 1108. Electronic data interchange (EDI) increases data entry errors because data needs to be reentered at the receiving end.
- T F** 1109. The entire EDI process requires almost constant human intervention.
- T F** 1110. Depending on the equipment used, a GPS system can be accurate to within 50 feet.
- T F** 1111. Some GPS systems work with map software, which can measure the distance between two points and display the user's exact location and direction of travel on a map.
- T F** 1112. Some electronic bulletin boards provide specific services, while others function as electronic meeting rooms for special interest groups.
- T F** 1113. While some BBSs are local and serve a relatively small number of users, most are regional or national and attract a larger user base.
- T F** 1114. Typically, a user accesses online services by using communications equipment and software to connect to the service provider's computer.
- T F** 1115. CompuServe is the largest online service provider.
- T F** 1116. Communications channels are made up of one or more transmission media.

- T F** 1117. The two types of transmission media are physical cabling media and wireless media.
- T F** 1118. The difference between shielded twisted-pair (STP) cable and unshielded twisted-pair (UTP) cable is that the wires in UTP are wrapped in foil.
- T F** 1119. Shielded twisted-pair (STP) cable also is called 10baseT cable.
- T F** 1120. Twisted-pair cable is an expensive transition medium.
- T F** 1121. Twisted-pair cable commonly is used for telephone lines.
- T F** 1122. Twisted-pair cable is used for data communications between computers.
- T F** 1123. Fiber-optic cable costs less than twisted-pair or coaxial cable and is easy to install and modify.
- T F** 1124. Many telephone companies use fiber-optic cable for new telephone lines because of its high-carrying capacity.
- T F** 1125. Microwaves can be transmitted despite obstructions such as buildings or mountains.
- T F** 1126. Microwave antennas often are positioned on tops of buildings, towers, or mountains.
- T F** 1127. Earth stations are communications facilities that use large, dish-shaped antennas to transmit and receive data from satellites.
- T F** 1128. The transmission to a satellite is called a downlink.
- T F** 1129. Communications satellites usually are placed about 2,300 miles above the earth.
- T F** 1130. A communications satellite in a geosynchronous orbit, orbits at the same speed as the earth.
- T F** 1131. Businesses with operations in multiple locations seldom use private satellite systems to communicate information.
- T F** 1132. Carrier-connect radio uses the existing electrical wiring of a building to act as an antenna.
- T F** 1133. Local wireless systems offer greater design flexibility and portability than wired connections.
- T F** 1134. Local wireless systems are faster and less susceptible to interference than wired connections.

- T F** 1135. Radio-wave wireless systems are used to transmit data over longer distances such as cities, regions, and countries.
- T F** 1136. The cellular telephone system is another microwave wireless system widely used for mobile communications.
- T F** 1137. Cellular telephone channels can be used for both voice and digital data transmission.
- T F** 1138. Making a communications channel generally requires only one transmission medium.
- T F** 1139. A point-to-point line may be one of two types: a multidrop line or a multipoint line.
- T F** 1140. Each time a switched line connection is made, the telephone company switching stations must use the same line for the call.
- T F** 1141. Switched lines are relatively expensive.
- T F** 1142. The cost of a switched line is greater for data communications than for a regular telephone call.
- T F** 1143. Because dedicated lines maintain a constant connection, the quality and consistency of the connection is poorer than a switched line.
- T F** 1144. If a dedicated line is provided by an outside organization, it sometimes is called a leased line, or a private line.
- T F** 1145. The cost of a dedicated line is constant regardless of the distance between the two connected points or the speed at which data will be transmitted.
- T F** 1146. The main computer to which multiple devices such as terminals or personal computers are connected to is called a system operator.
- T F** 1147. The number of terminals that can be placed on one multidrop line is decided by the designer of the system based on the anticipated amount of traffic on the line.
- T F** 1148. A switched line almost always is used for multidrop line configurations.
- T F** 1149. Telephone equipment originally was designed to carry only digital transmissions.
- T F** 1150. For telephones to carry analog signals, a special piece of equipment called a modem is used to convert analog signals to digital signals (0s and 1s) that can be sent over the telephone.

- T F** 1151. Using the high-speed lines provided by digital data services is less expensive than using a standard telephone line.
- T F** 1152. Digital data service, which now is available to all customers, typically is used by organizations with a consistent low-volume of communications traffic.
- T F** 1153. To distinguish where one byte stops and another starts, the synchronous transmission mode uses a start and a stop bit.
- T F** 1154. Asynchronous transmission requires more sophisticated and expensive equipment than synchronous transmission.
- T F** 1155. Synchronous transmission provides much higher speeds than asynchronous transmission.
- T F** 1156. Simplex transmission only is used when the sending device requires a response from the computer.
- T F** 1157. In half-duplex transmission, data can be sent in both directions at the same time.
- T F** 1158. A citizens band (CB) radio is an example of half-duplex transmission.
- T F** 1159. Half-duplex transmission is used for most interactive computer applications and for computer-to-computer data transmission.
- T F** 1160. The transmission rate of a communications channel is determined by its bandwidth and its speed.
- T F** 1161. The larger the bandwidth of a channel, the more frequencies that channel can transmit.
- T F** 1162. All communications equipment must be used with a separate program to ensure proper transmission of data.
- T F** 1163. Most minicomputers and mainframes are designed only to work with terminals that transmit and display data in the same manner as PCs.
- T F** 1164. The word modem comes from a combination of the words *modulate* and *demodulate*.
- T F** 1165. External modems are difficult to move from one computer to another.
- T F** 1166. Internal modems generally are less expensive than comparable external modems.
- T F** 1167. Once installed, internal modems are easier to move than external modems.
- T F** 1168. While some modems can transmit data at rates up to 56,000 bps, most personal

computers use modems of 28,800 bps.

- T F** 1169. A front-end processor is dedicated to processing data for a larger computer, while the larger computer communicates the data.
- T F** 1170. A wiring hub acts as the central connecting point for cables that run to the server and each of the devices on a network.
- T F** 1171. Hubs usually contain connectors, called ports, for eight to twelve devices plus the server.
- T F** 1172. A bridge could be used to connect a local area network of personal computers to a mainframe computer network.
- T F** 1173. If a company had similar but separate local area networks of personal computers in its accounting and marketing departments, the networks could be connected with a gateway.
- T F** 1174. In the case of a partial network failure, routers are smart enough to determine alternate routes.
- T F** 1175. Networks can be classified as either local area networks or wide area networks.
- T F** 1176. A LAN consists of a communications channel that connects a series of computer terminals connected to a central computer.
- T F** 1177. Three common applications of local area networks are hardware, software, and information resource sharing.
- T F** 1178. Hardware resource sharing allows each personal computer on a network to access and use devices that cannot be justified for each user.
- T F** 1179. In small local area networks, the server computer also can be used to run applications, just like other computers on the network.
- T F** 1180. A site license fee usually is based on the number of computers attached to a network and costs less than buying separate copies of a software package for each computer.
- T F** 1181. In actual practice, hardware resource sharing and information resource sharing seldom are combined.
- T F** 1182. Information resource sharing usually is provided using either the digital-uplink method or the digital-downlink method.
- T F** 1183. An application server runs all or part of the application software.

- T F** 1184. A local area network must use a single server computer.
- T F** 1185. Peer-to-peer networks are appropriate for a large number of users who work primarily with the resources of other computers and only occasionally use their own computers.
- T F** 1186. Monitoring and, when necessary, restricting access to network resources is one of the tasks of a network operating system (NOS).
- T F** 1187. Different types of networks use different types of network operating systems.
- T F** 1188. A wide area network, limited to the area surrounding a city, sometimes is referred to as a city area network, or CAN.
- T F** 1189. Companies called value-added carriers lease communications channels from the common carriers to use in value-added networks (VANs).
- T F** 1190. A topology is determined by the *physical* connection of the devices in the network.
- T F** 1191. Any device connected to a network, such as a computer or printer, is referred to as a node.
- T F** 1192. Personal computers connected to a network often are referred to as workstations.
- T F** 1193. Most star networks are pure star networks and include only point-to-point lines.
- T F** 1194. A star network configuration often is used when the central computer contains all the data required to process input from terminals.
- T F** 1195. The major advantage of a star network is that if any elements fail, the rest of the network is not disturbed.
- T F** 1196. Bus networks allow data to be transmitted in both directions.
- T F** 1197. A disadvantage of the bus network is that devices *cannot* be attached or detached from the network at any point without disturbing the rest of the network.
- T F** 1198. A disadvantage of a ring network is that if one computer fails, the entire network fails because the data does not get past the failed computer.
- T F** 1199. Protocols define how the communications link is established, how information is transmitted, and how errors are detected and corrected.

T F 1200. The two most widely used protocols for networks are Ethernet and token ring.