Chapter 08

Communications and Networks

**Multiple Choice Questions**

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| 1. | One of the most dramatic changes in connectivity and communications in the past few years has been \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | widespread use of mobile devices with wireless Internet connectivity |  |  |  | | --- | --- | | B. | chat rooms |  |  |  | | --- | --- | | C. | satellite uplinks |  |  |  | | --- | --- | | D. | running programs on remote computers | |

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| 2. | In a communication system, which among the following originate and accept messages in the form of data, information, and/or instructions?      |  |  | | --- | --- | | A. | Communication channel |  |  |  | | --- | --- | | B. | Sending and receiving devices |  |  |  | | --- | --- | | C. | Connection devices |  |  |  | | --- | --- | | D. | Data transmission specifications | |

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| 3. | In a communication system, which among the following convert messages into packets that can travel across the communication channel?      |  |  | | --- | --- | | A. | Connection devices |  |  |  | | --- | --- | | B. | Sending and receiving devices |  |  |  | | --- | --- | | C. | Storage devices |  |  |  | | --- | --- | | D. | Secondary devices | |

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| 4. | Which physical connection is the fastest?      |  |  | | --- | --- | | A. | Twisted pair |  |  |  | | --- | --- | | B. | Coaxial cable |  |  |  | | --- | --- | | C. | Fiber-optic cable |  |  |  | | --- | --- | | D. | Microwave | |

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| 5. | Which among the following is considered a line-of-sight communication medium?      |  |  | | --- | --- | | A. | Broadcast radio |  |  |  | | --- | --- | | B. | Satellite |  |  |  | | --- | --- | | C. | Bluetooth |  |  |  | | --- | --- | | D. | Microwave | |

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| 6. | WiMax stands for \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | Wide-area Access for Maximum Reach |  |  |  | | --- | --- | | B. | Wide-area Range to Maximize Access |  |  |  | | --- | --- | | C. | Worldwide Interoperability for Microwave Access |  |  |  | | --- | --- | | D. | Worldwide Access to Maximize Interoperability | |

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| 7. | Microwave communication uses high-frequency \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | radio waves |  |  |  | | --- | --- | | B. | infrared |  |  |  | | --- | --- | | C. | satellite communications |  |  |  | | --- | --- | | D. | optic fibers | |

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| 8. | LTE stands for \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | Long Term Evolution |  |  |  | | --- | --- | | B. | Light Traffic Evolution |  |  |  | | --- | --- | | C. | Laser Transmission Entity |  |  |  | | --- | --- | | D. | Long Time Entry | |

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| 9. | The GPS device in an automobile uses which communication channel?      |  |  | | --- | --- | | A. | Infrared |  |  |  | | --- | --- | | B. | Radio Frequency (RF) |  |  |  | | --- | --- | | C. | Microwave |  |  |  | | --- | --- | | D. | Satellite | |

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| 10. | A service that uses existing phone lines to provide high-speed connections is called \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | WWAN |  |  |  | | --- | --- | | B. | 3G/4G |  |  |  | | --- | --- | | C. | Voiceband |  |  |  | | --- | --- | | D. | DSL | |

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| 11. | Cellular services use \_\_\_\_\_\_\_ to provide wireless connectivity to the Internet.      |  |  | | --- | --- | | A. | ADSL |  |  |  | | --- | --- | | B. | T1 and T3 cellular networks |  |  |  | | --- | --- | | C. | DSL |  |  |  | | --- | --- | | D. | 3G and 4G cellular networks | |

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| 12. | The capacity of a communication channel is measured in \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | bandwidth |  |  |  | | --- | --- | | B. | bit capacity |  |  |  | | --- | --- | | C. | band rate |  |  |  | | --- | --- | | D. | data flow | |

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| 13. | Using this type of communications channel, several users can simultaneously use a single connection for high-speed data transfer.      |  |  | | --- | --- | | A. | Voiceband |  |  |  | | --- | --- | | B. | Mediumband |  |  |  | | --- | --- | | C. | Broadband |  |  |  | | --- | --- | | D. | Baseband | |

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| 14. | Every computer on the Internet has a unique numeric address called a(n) \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | domain address |  |  |  | | --- | --- | | B. | protocol address |  |  |  | | --- | --- | | C. | IP address |  |  |  | | --- | --- | | D. | Web address | |

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| 15. | \_\_\_\_\_\_\_ is the process of breaking down information sent or transmitted across the Internet into small parts.      |  |  | | --- | --- | | A. | Protocol |  |  |  | | --- | --- | | B. | Bandwidth |  |  |  | | --- | --- | | C. | Identification |  |  |  | | --- | --- | | D. | Packetization | |

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| 16. | The essential features of this include identifying, sending, and receiving devices and breaking information into small parts for transmission across the Internet.      |  |  | | --- | --- | | A. | DNS |  |  |  | | --- | --- | | B. | TCP/IP |  |  |  | | --- | --- | | C. | FTP |  |  |  | | --- | --- | | D. | HTTP | |

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| 17. | The \_\_\_\_\_\_\_ is the central node that coordinates the flow of data by sending messages directly between the sender and receiver nodes.      |  |  | | --- | --- | | A. | client |  |  |  | | --- | --- | | B. | server |  |  |  | | --- | --- | | C. | switch |  |  |  | | --- | --- | | D. | gateway | |

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| 18. | In a computer network, this node that requests and uses resources available from other nodes.      |  |  | | --- | --- | | A. | Client |  |  |  | | --- | --- | | B. | Server |  |  |  | | --- | --- | | C. | Directory server |  |  |  | | --- | --- | | D. | Host | |

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| 19. | This device enables connectivity between two LANS or a LAN and a larger network.      |  |  | | --- | --- | | A. | Network gateway |  |  |  | | --- | --- | | B. | Node |  |  |  | | --- | --- | | C. | Hub |  |  |  | | --- | --- | | D. | Router | |

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| 20. | A wireless access point that provides Internet access in a public place such as a coffee shop, library, bookstore, or university.      |  |  | | --- | --- | | A. | Hotspot |  |  |  | | --- | --- | | B. | NIC |  |  |  | | --- | --- | | C. | Blindspot |  |  |  | | --- | --- | | D. | Gateway | |

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| 21. | A network topology in which the central node is connected to two or more subordinate nodes that, in turn, are connected to other sub-ordinate nodes.      |  |  | | --- | --- | | A. | Star |  |  |  | | --- | --- | | B. | Bus |  |  |  | | --- | --- | | C. | Mesh |  |  |  | | --- | --- | | D. | Tree | |

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| 22. | This type of network strategy uses central servers to coordinate and supply services to other nodes on the network.      |  |  | | --- | --- | | A. | Peer-to-peer |  |  |  | | --- | --- | | B. | Client/server |  |  |  | | --- | --- | | C. | BitTorrent |  |  |  | | --- | --- | | D. | Personal Area Network | |

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| 23. | Organizations use the following to allow suppliers and others limited access to their networks.      |  |  | | --- | --- | | A. | Intranets |  |  |  | | --- | --- | | B. | Extranets |  |  |  | | --- | --- | | C. | Firewalls |  |  |  | | --- | --- | | D. | Proxy servers | |

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| 24. | All communications between a company's internal networks and the outside world pass through this server.      |  |  | | --- | --- | | A. | Base station |  |  |  | | --- | --- | | B. | Node |  |  |  | | --- | --- | | C. | Supercomputer |  |  |  | | --- | --- | | D. | Proxy | |

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| 25. | Remote users can connect to an organization's network through this type of secure private connection.      |  |  | | --- | --- | | A. | VPN |  |  |  | | --- | --- | | B. | DSL |  |  |  | | --- | --- | | C. | WWAN |  |  |  | | --- | --- | | D. | P2P | |

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| 26. | This type of network topology does not use a specific physical layout.      |  |  | | --- | --- | | A. | Hybrid |  |  |  | | --- | --- | | B. | Hierarchical |  |  |  | | --- | --- | | C. | Mesh |  |  |  | | --- | --- | | D. | Tree | |

**True / False Questions**

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| 27. | Connection devices are the actual connecting or transmission medium that carries the message.    True    False |

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| 28. | Telephone lines use coaxial cables.    True    False |

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| 29. | Fiber-optic cable transmits data as pulses of light through tiny tubes of glass.    True    False |

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| 30. | Modulation is the name of the process of converting from digital to analog.    True    False |

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| 31. | TCP/IP protocol involves identifying, sending, and receiving devices and breaking information into small parts for transmission across the Internet.    True    False |

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| 32. | A prototype is a set of communication rules for the exchange of information.    True    False |

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| 33. | Packetization refers to breaking information into small parts.    True    False |

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| 34. | In a network environment, a client provides resources for the servers.    True    False |

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| 35. | Network operating systems (NOS) control and coordinate the activities of all computers and other devices on a network.    True    False |

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| 36. | WANs are widely used by organizations to link personal computers and to share printers and other resources.    True    False |

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| 37. | A network gateway can be used to connect the LAN of one office group to the LAN of another office group.    True    False |

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| 38. | The most common standard in LANs is called Ethernet.    True    False |

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| 39. | A MAN is a network that is frequently used as links between office buildings that are located throughout a city.    True    False |

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| 40. | Network architecture describes how a computer network is configured and what topologies and strategies are employed.    True    False |

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| 41. | The client/server network strategy can handle very large networks efficiently.    True    False |

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| 42. | In a peer-to-peer network, only the central host computer supplies the resources, the other computers request resources from this host.    True    False |

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| 43. | With respect to peer-to-peer network, there is an abundant amount of powerful management software that monitors the network activities.    True    False |

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| 44. | A firewall is a specialized technology designed to protect an organization's network against external threats.    True    False |

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| 45. | Intrusion detection systems can recognize signs of a network attack and disable access before an intruder can do damage.    True    False |

**Fill in the Blank Questions**

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| 46. | The actual connecting or transmission medium that carries the message in a communication system is called the communication \_\_\_\_\_\_\_.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 47. | \_\_\_\_\_\_\_ cable is a high-frequency transmission medium that has a single solid copper core.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 48. | \_\_\_\_\_\_\_ is the name of the process of converting from analog to digital.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 49. | \_\_\_\_\_\_\_ uses standard telephone lines to provide high-speed connections.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 50. | The range of Wi-Fi networks using microwave connections is being extended over greater distances using a new technology known as \_\_\_\_\_\_\_.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 51. | \_\_\_\_\_\_\_ cable transmits data as pulses of light through tiny tubes of glass.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 52. | A(n) \_\_\_\_\_\_\_ area network is a network where the nodes are in close physical proximity to each other.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 53. | A network \_\_\_\_\_\_\_ is a device that allows one LAN to be linked to other LANs or to larger networks.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 54. | A LAN set up for a household's personal use is called a(n) \_\_\_\_\_\_\_ network.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 55. | \_\_\_\_\_\_\_ area networks are countrywide and worldwide networks.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 56. | A(n) \_\_\_\_\_\_\_ area network is a type of tiny, self-configuring wireless network that works within your immediate surroundings to connect cell phones to headsets, PDAs to other PDAs, and so on.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 57. | A(n) \_\_\_\_\_\_\_ network system uses central servers to coordinate and supply services to other nodes on the network.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 58. | A(n) \_\_\_\_\_\_\_ is a private network within an organization that is designed to resemble the Internet.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 59. | A(n) \_\_\_\_\_\_\_ is a private network that connects more than one organization.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 60. | In a client/server network, the \_\_\_\_\_\_\_ provides access to resources and services.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 61. | A(n) \_\_\_\_\_\_\_ network topology does not use a specific physical layout but requires that each node have more than one connection to the other nodes.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 62. | A hierarchical network topology in which each device is connected to a central node, either directly or through one or more other devices, is also called a(n) \_\_\_\_\_\_\_ network.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 63. | In a wireless LAN, all communications pass through the network's centrally located wireless access point or \_\_\_\_\_\_\_.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 64. | Network \_\_\_\_\_\_\_ describes how a network is arranged and how resources are coordinated and shared, encompassing network topologies and strategies.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| 65. | Most firewalls include a special computer called a(n) \_\_\_\_\_\_\_ server to manage communications between the internal networks and the outside world.    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Essay Questions**

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| 66. | Describe the four basic elements of most communication systems. |

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| 67. | Describe the differences between the three major physical connection mediums: twisted-pair cable, coaxial cable, and fiber-optic cable. |

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| 68. | Explain how global positioning functions. |

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| 69. | Differentiate between analog and digital signals. |

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| 70. | Compare the high speed connection services: DSL, cable, satellite, and cellular services. |

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| 71. | Describe the four categories of bandwidth. |

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| 72. | What is a WLAN? How does it work? |

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| 73. | Differentiate between a client/server network and a peer-to-peer network. |

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| 74. | What are the advantages and disadvantages of using a peer-to-peer system? |

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| 75. | Explain how intranets and extranets are useful in supporting communication in an organization? |

Chapter 08 Communications and Networks Answer Key

**Multiple Choice Questions**

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| 1. *(p. 197)* | One of the most dramatic changes in connectivity and communications in the past few years has been \_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | widespread use of mobile devices with wireless Internet connectivity |  |  |  | | --- | --- | | B. | chat rooms |  |  |  | | --- | --- | | C. | satellite uplinks |  |  |  | | --- | --- | | D. | running programs on remote computers | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-01 Explain connectivity, the wireless revolution, and communication systems Topic: Communications* |

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| 2. *(p. 197)* | In a communication system, which among the following originate and accept messages in the form of data, information, and/or instructions?      |  |  | | --- | --- | | A. | Communication channel |  |  |  | | --- | --- | | **B.** | Sending and receiving devices |  |  |  | | --- | --- | | C. | Connection devices |  |  |  | | --- | --- | | D. | Data transmission specifications | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Analyze Difficulty: 2 Medium Learning Outcome: 08-01 Explain connectivity, the wireless revolution, and communication systems Topic: Communications* |

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| 3. *(p. 197)* | In a communication system, which among the following convert messages into packets that can travel across the communication channel?      |  |  | | --- | --- | | **A.** | Connection devices |  |  |  | | --- | --- | | B. | Sending and receiving devices |  |  |  | | --- | --- | | C. | Storage devices |  |  |  | | --- | --- | | D. | Secondary devices | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Analyze Difficulty: 2 Medium Learning Outcome: 08-01 Explain connectivity, the wireless revolution, and communication systems Topic: Communications* |

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| 4. *(p. 198-199)* | Which physical connection is the fastest?      |  |  | | --- | --- | | A. | Twisted pair |  |  |  | | --- | --- | | B. | Coaxial cable |  |  |  | | --- | --- | | **C.** | Fiber-optic cable |  |  |  | | --- | --- | | D. | Microwave | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 1 Easy Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 5. *(p. 199)* | Which among the following is considered a line-of-sight communication medium?      |  |  | | --- | --- | | A. | Broadcast radio |  |  |  | | --- | --- | | B. | Satellite |  |  |  | | --- | --- | | C. | Bluetooth |  |  |  | | --- | --- | | **D.** | Microwave | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 2 Medium Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 6. *(p. 199)* | WiMax stands for \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | Wide-area Access for Maximum Reach |  |  |  | | --- | --- | | B. | Wide-area Range to Maximize Access |  |  |  | | --- | --- | | **C.** | Worldwide Interoperability for Microwave Access |  |  |  | | --- | --- | | D. | Worldwide Access to Maximize Interoperability | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 2 Medium Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 7. *(p. 199)* | Microwave communication uses high-frequency \_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | radio waves |  |  |  | | --- | --- | | B. | infrared |  |  |  | | --- | --- | | C. | satellite communications |  |  |  | | --- | --- | | D. | optic fibers | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 8. *(p. 199)* | LTE stands for \_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | Long Term Evolution |  |  |  | | --- | --- | | B. | Light Traffic Evolution |  |  |  | | --- | --- | | C. | Laser Transmission Entity |  |  |  | | --- | --- | | D. | Long Time Entry | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 9. *(p. 199)* | The GPS device in an automobile uses which communication channel?      |  |  | | --- | --- | | A. | Infrared |  |  |  | | --- | --- | | B. | Radio Frequency (RF) |  |  |  | | --- | --- | | C. | Microwave |  |  |  | | --- | --- | | **D.** | Satellite | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 10. *(p. 201)* | A service that uses existing phone lines to provide high-speed connections is called \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | WWAN |  |  |  | | --- | --- | | B. | 3G/4G |  |  |  | | --- | --- | | C. | Voiceband |  |  |  | | --- | --- | | **D.** | DSL | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-03 Differentiate between connection devices and services including dial-up, DSL, cable, satellite, and cellular Topic: Connection Devices* |

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| 11. *(p. 202)* | Cellular services use \_\_\_\_\_\_\_ to provide wireless connectivity to the Internet.      |  |  | | --- | --- | | A. | ADSL |  |  |  | | --- | --- | | B. | T1 and T3 cellular networks |  |  |  | | --- | --- | | C. | DSL |  |  |  | | --- | --- | | **D.** | 3G and 4G cellular networks | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-03 Differentiate between connection devices and services including dial-up, DSL, cable, satellite, and cellular Topic: Connection Devices* |

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| 12. *(p. 202)* | The capacity of a communication channel is measured in \_\_\_\_\_\_\_.      |  |  | | --- | --- | | **A.** | bandwidth |  |  |  | | --- | --- | | B. | bit capacity |  |  |  | | --- | --- | | C. | band rate |  |  |  | | --- | --- | | D. | data flow | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 13. *(p. 202)* | Using this type of communications channel, several users can simultaneously use a single connection for high-speed data transfer.      |  |  | | --- | --- | | A. | Voiceband |  |  |  | | --- | --- | | B. | Mediumband |  |  |  | | --- | --- | | **C.** | Broadband |  |  |  | | --- | --- | | D. | Baseband | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 14. *(p. 204)* | Every computer on the Internet has a unique numeric address called a(n) \_\_\_\_\_\_\_.      |  |  | | --- | --- | | A. | domain address |  |  |  | | --- | --- | | B. | protocol address |  |  |  | | --- | --- | | **C.** | IP address |  |  |  | | --- | --- | | D. | Web address | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 15. *(p. 204)* | \_\_\_\_\_\_\_ is the process of breaking down information sent or transmitted across the Internet into small parts.      |  |  | | --- | --- | | A. | Protocol |  |  |  | | --- | --- | | B. | Bandwidth |  |  |  | | --- | --- | | C. | Identification |  |  |  | | --- | --- | | **D.** | Packetization | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 16. *(p. 204)* | The essential features of this include identifying, sending, and receiving devices and breaking information into small parts for transmission across the Internet.      |  |  | | --- | --- | | A. | DNS |  |  |  | | --- | --- | | **B.** | TCP/IP |  |  |  | | --- | --- | | C. | FTP |  |  |  | | --- | --- | | D. | HTTP | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 17. *(p. 206)* | The \_\_\_\_\_\_\_ is the central node that coordinates the flow of data by sending messages directly between the sender and receiver nodes.      |  |  | | --- | --- | | A. | client |  |  |  | | --- | --- | | B. | server |  |  |  | | --- | --- | | **C.** | switch |  |  |  | | --- | --- | | D. | gateway | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-05 Define networks and key network terminology including network interface cards and network operating systems Topic: Networks* |

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| 18. *(p. 205)* | In a computer network, this node that requests and uses resources available from other nodes.      |  |  | | --- | --- | | **A.** | Client |  |  |  | | --- | --- | | B. | Server |  |  |  | | --- | --- | | C. | Directory server |  |  |  | | --- | --- | | D. | Host | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-05 Define networks and key network terminology including network interface cards and network operating systems Topic: Networks* |

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| 19. *(p. 207)* | This device enables connectivity between two LANS or a LAN and a larger network.      |  |  | | --- | --- | | **A.** | Network gateway |  |  |  | | --- | --- | | B. | Node |  |  |  | | --- | --- | | C. | Hub |  |  |  | | --- | --- | | D. | Router | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 20. *(p. 208)* | A wireless access point that provides Internet access in a public place such as a coffee shop, library, bookstore, or university.      |  |  | | --- | --- | | **A.** | Hotspot |  |  |  | | --- | --- | | B. | NIC |  |  |  | | --- | --- | | C. | Blindspot |  |  |  | | --- | --- | | D. | Gateway | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 21. *(p. 210)* | A network topology in which the central node is connected to two or more subordinate nodes that, in turn, are connected to other sub-ordinate nodes.      |  |  | | --- | --- | | A. | Star |  |  |  | | --- | --- | | B. | Bus |  |  |  | | --- | --- | | C. | Mesh |  |  |  | | --- | --- | | **D.** | Tree | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 22. *(p. 210)* | This type of network strategy uses central servers to coordinate and supply services to other nodes on the network.      |  |  | | --- | --- | | A. | Peer-to-peer |  |  |  | | --- | --- | | **B.** | Client/server |  |  |  | | --- | --- | | C. | BitTorrent |  |  |  | | --- | --- | | D. | Personal Area Network | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 23. *(p. 211)* | Organizations use the following to allow suppliers and others limited access to their networks.      |  |  | | --- | --- | | A. | Intranets |  |  |  | | --- | --- | | **B.** | Extranets |  |  |  | | --- | --- | | C. | Firewalls |  |  |  | | --- | --- | | D. | Proxy servers | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

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| 24. *(p. 212)* | All communications between a company's internal networks and the outside world pass through this server.      |  |  | | --- | --- | | A. | Base station |  |  |  | | --- | --- | | B. | Node |  |  |  | | --- | --- | | C. | Supercomputer |  |  |  | | --- | --- | | **D.** | Proxy | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

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| 25. *(p. 213)* | Remote users can connect to an organization's network through this type of secure private connection.      |  |  | | --- | --- | | **A.** | VPN |  |  |  | | --- | --- | | B. | DSL |  |  |  | | --- | --- | | C. | WWAN |  |  |  | | --- | --- | | D. | P2P | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

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| 26. *(p. 210)* | This type of network topology does not use a specific physical layout.      |  |  | | --- | --- | | A. | Hybrid |  |  |  | | --- | --- | | B. | Hierarchical |  |  |  | | --- | --- | | **C.** | Mesh |  |  |  | | --- | --- | | D. | Tree | |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

**True / False Questions**

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| 27. *(p. 197)* | Connection devices are the actual connecting or transmission medium that carries the message.    **FALSE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Apply Difficulty: 3 Hard Learning Outcome: 08-01 Explain connectivity, the wireless revolution, and communication systems Topic: Communications* |

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| 28. *(p. 198)* | Telephone lines use coaxial cables.    **FALSE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 29. *(p. 198-199)* | Fiber-optic cable transmits data as pulses of light through tiny tubes of glass.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 30. *(p. 200)* | Modulation is the name of the process of converting from digital to analog.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-03 Differentiate between connection devices and services including dial-up, DSL, cable, satellite, and cellular Topic: Connection Devices* |

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| 31. *(p. 204)* | TCP/IP protocol involves identifying, sending, and receiving devices and breaking information into small parts for transmission across the Internet.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 32. *(p. 204)* | A prototype is a set of communication rules for the exchange of information.    **FALSE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 33. *(p. 204)* | Packetization refers to breaking information into small parts.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 34. *(p. 205)* | In a network environment, a client provides resources for the servers.    **FALSE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Apply Difficulty: 2 Medium Learning Outcome: 08-05 Define networks and key network terminology including network interface cards and network operating systems Topic: Networks* |

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| 35. *(p. 206)* | Network operating systems (NOS) control and coordinate the activities of all computers and other devices on a network.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-05 Define networks and key network terminology including network interface cards and network operating systems Topic: Networks* |

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| 36. *(p. 206-208)* | WANs are widely used by organizations to link personal computers and to share printers and other resources.    **FALSE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 37. *(p. 207)* | A network gateway can be used to connect the LAN of one office group to the LAN of another office group.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 38. *(p. 207)* | The most common standard in LANs is called Ethernet.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 39. *(p. 208)* | A MAN is a network that is frequently used as links between office buildings that are located throughout a city.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 40. *(p. 209)* | Network architecture describes how a computer network is configured and what topologies and strategies are employed.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 41. *(p. 211)* | The client/server network strategy can handle very large networks efficiently.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 42. *(p. 211)* | In a peer-to-peer network, only the central host computer supplies the resources, the other computers request resources from this host.    **FALSE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 43. *(p. 211)* | With respect to peer-to-peer network, there is an abundant amount of powerful management software that monitors the network activities.    **FALSE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Apply Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 44. *(p. 212)* | A firewall is a specialized technology designed to protect an organization's network against external threats.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Apply Difficulty: 2 Medium Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

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| 45. *(p. 212)* | Intrusion detection systems can recognize signs of a network attack and disable access before an intruder can do damage.    **TRUE** |

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| *AACSB: Technology Accessibility: Keyboard Navigation Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

**Fill in the Blank Questions**

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| 46. *(p. 198)* | The actual connecting or transmission medium that carries the message in a communication system is called the communication \_\_\_\_\_\_\_.    **channel** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-01 Explain connectivity, the wireless revolution, and communication systems Topic: Communications* |

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| 47. *(p. 198)* | \_\_\_\_\_\_\_ cable is a high-frequency transmission medium that has a single solid copper core.    **Coaxial** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 48. *(p. 200)* | \_\_\_\_\_\_\_ is the name of the process of converting from analog to digital.    **Demodulation** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-03 Differentiate between connection devices and services including dial-up, DSL, cable, satellite, and cellular Topic: Connection Devices* |

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| 49. *(p. 200)* | \_\_\_\_\_\_\_ uses standard telephone lines to provide high-speed connections.    **Digital subscriber line (DSL)** |

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| *AACSB: Technology Blooms: Remember Difficulty: 2 Medium Learning Outcome: 08-03 Differentiate between connection devices and services including dial-up, DSL, cable, satellite, and cellular Topic: Connection Devices* |

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| 50. *(p. 199)* | The range of Wi-Fi networks using microwave connections is being extended over greater distances using a new technology known as \_\_\_\_\_\_\_.    **WiMax** |

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| *AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 51. *(p. 198)* | \_\_\_\_\_\_\_ cable transmits data as pulses of light through tiny tubes of glass.    **Fiber-optic** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 52. *(p. 206)* | A(n) \_\_\_\_\_\_\_ area network is a network where the nodes are in close physical proximity to each other.    **local** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 53. *(p. 207)* | A network \_\_\_\_\_\_\_ is a device that allows one LAN to be linked to other LANs or to larger networks.    **gateway** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 54. *(p. 207)* | A LAN set up for a household's personal use is called a(n) \_\_\_\_\_\_\_ network.    **home** |

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| *AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 55. *(p. 208)* | \_\_\_\_\_\_\_ area networks are countrywide and worldwide networks.    **Wide** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 56. *(p. 208)* | A(n) \_\_\_\_\_\_\_ area network is a type of tiny, self-configuring wireless network that works within your immediate surroundings to connect cell phones to headsets, PDAs to other PDAs, and so on.    **personal** |

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| *AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 57. *(p. 210)* | A(n) \_\_\_\_\_\_\_ network system uses central servers to coordinate and supply services to other nodes on the network.    **client/server** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 58. *(p. 211)* | A(n) \_\_\_\_\_\_\_ is a private network within an organization that is designed to resemble the Internet.    **intranet** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

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| 59. *(p. 211)* | A(n) \_\_\_\_\_\_\_ is a private network that connects more than one organization.    **extranet** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

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| 60. *(p. 210)* | In a client/server network, the \_\_\_\_\_\_\_ provides access to resources and services.    **server** |

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| *AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 61. *(p. 210)* | A(n) \_\_\_\_\_\_\_ network topology does not use a specific physical layout but requires that each node have more than one connection to the other nodes.    **mesh** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 62. *(p. 210)* | A hierarchical network topology in which each device is connected to a central node, either directly or through one or more other devices, is also called a(n) \_\_\_\_\_\_\_ network.    **tree** |

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| *AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 63. *(p. 207)* | In a wireless LAN, all communications pass through the network's centrally located wireless access point or \_\_\_\_\_\_\_.    **base station** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 64. *(p. 209)* | Network \_\_\_\_\_\_\_ describes how a network is arranged and how resources are coordinated and shared, encompassing network topologies and strategies.    **architecture** |

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| *AACSB: Technology Blooms: Remember Difficulty: 1 Easy Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 65. *(p. 212)* | Most firewalls include a special computer called a(n) \_\_\_\_\_\_\_ server to manage communications between the internal networks and the outside world.    **proxy** |

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| *AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |

**Essay Questions**

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| 66. *(p. 197-198)* | Describe the four basic elements of most communication systems.     Whether wired or wireless, every communication system has four basic elements. 1. Sending and receiving devices, which are either computers or specialized communication devices. They accept and send messages. 2. Connection devices act as an interface between the sending and receiving devices and the communication channel. They convert outgoing messages into packets that can travel across the communication channel. 3. Data transmission specifications are the rules and procedures that coordinate the sending and receiving devices by precisely defining how the message will be sent across the communications channel. 4. A communication channel is the actual connecting or transmission medium that carries the message (physical wire or cable, or wireless connection). |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-01 Explain connectivity, the wireless revolution, and communication systems Topic: Communications* |

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| 67. *(p. 198-199)* | Describe the differences between the three major physical connection mediums: twisted-pair cable, coaxial cable, and fiber-optic cable.     Twisted-pair cable is made up of hundreds of copper wires that are twisted together. Both telephone lines and ethernet cables use twisted-pair. Coaxial cable is a high-frequency transmission cable made up of a single solid-copper core. Coaxial cable has over 80 times the transmission capacity of twisted pair and is used to deliver television signals as well as to connect computers in a network. Fiber-optic cable transmits data as pulses of light through tiny tubes of glass. Fiber-optic cable has over 26,000 times the transmission capacity of twisted pair. It is lighter and more reliable than coaxial cable. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Analyze Difficulty: 2 Medium Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 68. *(p. 199)* | Explain how global positioning functions.     One of the most interesting applications of satellite communications is for global positioning. A network of satellites owned and managed by the Department of Defense continuously sends location information to earth. Global positioning system (GPS) devices use that information to uniquely determine the geographic location of the device. Available in many automobiles to provide navigational support, these systems are often mounted into the dash with a monitor to display maps and speakers to provide spoken directions. Many of today's smartphones and tablets use GPS technology for handheld navigation. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Apply Difficulty: 2 Medium Learning Outcome: 08-02 Describe physical and wireless communications channels Topic: Communication Channels* |

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| 69. *(p. 200)* | Differentiate between analog and digital signals.     Analog signals are continuous electronic waves. Telephones send and receive data in the form of analog signals. Digital signals represent the presence or absence of an electronic pulse. Computers send and receive data in the form of digital signals. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Analyze Difficulty: 3 Hard Learning Outcome: 08-03 Differentiate between connection devices and services including dial-up, DSL, cable, satellite, and cellular Topic: Connection Devices* |

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| 70. *(p. 201-202)* | Compare the high speed connection services: DSL, cable, satellite, and cellular services.     Digital subscriber lines (DSL) use existing telephone lines to provide high-speed connections. Cable service uses existing television cables to provide high-speed connections that are faster than DSL. Satellite connection services use satellites to provide wireless connections. These can be slower than DSL and cable modems, but are available almost anywhere using a satellite-receiving disk. Cellular service providers, including Verizon, AT&T, Sprint, and T-Mobile, support voice and data transmission to wireless devices. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Analyze Difficulty: 3 Hard Learning Outcome: 08-03 Differentiate between connection devices and services including dial-up, DSL, cable, satellite, and cellular Topic: Connection Devices* |

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| 71. *(p. 202)* | Describe the four categories of bandwidth.     The four categories of bandwidth are voiceband, mediumband, broadband, and baseband. Voiceband, also known as low bandwidth, is used for standard telephone communication. Personal computers with standard telephone modems and dial-up service use this bandwidth. While effective for transmitting text documents, it is too slow for many types of transmission, including high-quality audio and video. Mediumband is the bandwidth used in special leased lines to connect midrange computers and mainframes as well as to transmit data over long distances. This bandwidth is capable of very high speed data transfer. Broadband is widely used for DSL, cable, and satellite connections to the Internet. Several users can simultaneously use a single broadband connection for high-speed data transfer. Baseband is widely used to connect individual computers that are located close to one another. Like broadband, baseband is able to support high-speed transmission. Unlike broadband, baseband can only carry a single signal at one time. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-04 Describe data transmission factors, including bandwidth and protocols Topic: Data Transmission* |

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| 72. *(p. 207)* | What is a WLAN? How does it work?     A wireless local area network is typically referred to as a wireless LAN (WLAN). It uses radio frequencies to connect computers and other devices. All communications pass through the network's centrally located wireless access point or base station. This access point interprets incoming radio frequencies and routes communications to the appropriate devices. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Understand Difficulty: 2 Medium Learning Outcome: 08-06 Describe different types of networks, including local, home, wireless, personal, metropolitan, and wide area networks Topic: Network Types* |

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| 73. *(p. 210-211)* | Differentiate between a client/server network and a peer-to-peer network.     In a client/server network, each node connects to the server. The server is in charge of distributing resources among the clients. In a peer-to-peer network, any computer in the network can be either a client or a server. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Analyze Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 74. *(p. 211)* | What are the advantages and disadvantages of using a peer-to-peer system?     The primary advantage of P2P networks is that they are easy and inexpensive (often free) to setup and use. One disadvantage is the lack of security controls or other common management functions. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Analyze Difficulty: 2 Medium Learning Outcome: 08-07 Describe network architectures, including topologies and strategies Topic: Network Architecture* |

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| 75. *(p. 211)* | Explain how intranets and extranets are useful in supporting communication in an organization?     An intranet is a private network within an organization that resembles the Internet. Typical applications include electronic telephone directories, e-mail addresses, employee benefit information, internal job openings, and much more. Employees find surfing their organizational intranets to be as easy and as intuitive as surfing the Internet. An extranet is a private network that connects more than one organization. Many organizations use Internet technologies to allow suppliers and others limited access to their networks. The purpose is to increase efficiency and reduce costs. |

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| *AACSB: Reflective Thinking AACSB: Technology Blooms: Apply Difficulty: 2 Medium Learning Outcome: 08-08 Explain the organization issues related to Internet technologies and network security Topic: Organizational Networks* |