Answers and Explanations

1. **The correct answer is (A).** An optical mouse uses optical sensors or lasers. An optical mouse is more precise than a mechanical mouse and does not require cleaning, but it is also more expensive.

2. **The correct answer is (B).** The Xeon processor is an Intel processor with clock speeds ranging from 1.4-2.4 GHz. The Itanium 2 processor is also an Intel processor with clock speeds ranging from 1.4-1.8 GHz.

3. **The correct answer is (A).** A Zip disk is a type of magnetic media that can store from 100 MB to 750 MB of portable data.

4. **The correct answer is (D).** Most monitors support a variety of screen resolutions. The norm is usually 800 x 600 pixels, while the maximum resolution for a standard monitor is typically 1600 x 1200 pixels.

5. **The correct answer is (B).** Groupware is a type of software that helps groups of people work together on projects and share information over a network.

6. **The correct answer is (D).** The nodes in a LAN are often connected via cables. A wireless LAN (WLAN), by contrast, is a LAN that uses no physical wires to connect nodes.

7. **The correct answer is (C).** Packet-switching is used in connectionless networks to send communications concurrently.

8. **The correct answer is (C).** A T3 line is equal in speed to 28 T1 lines. T3 lines are quite expensive. Main users of T3 lines include large companies, telephone companies, ISPs, and the Internet backbone.

9. **The correct answer is (D).** JPEG and GIF graphics use compression techniques to reduce file size. The goal with JPEG is to reach a balance between image quality and file size. The GIF format works best with images that have only a few distinct colors.

10. **The correct answer is (A).** A kilobyte is often rounded down to 1,000 bytes for simplification. For example, if a memory chip can store 100 KB, it can hold approximately 100,000 bytes.

11. **The correct answer is (A).** Most personal computers and midrange servers use the ASCII coding scheme. Mainframe computers and high-end servers use EBCDIC.

12. **The correct answer is (B).** A pixel (short for picture element) represents a single point in an electronic image. The greater the number of pixels, the better the quality of the image.

13. **The correct answer is (A).** Each computer in a LAN shares resources, and they are often connected by via cables. A wireless LAN (WLAN) is a LAN that uses no physical wires.

14. **The correct answer is (C).** A bus network consists of a single central cable, to which all computers and other devices connect. On a ring network, a cable forms a closed loop (ring) with all computers and devices arranged along the ring.

15. **The correct answer is (C).** TCP/IP (Transmission Control Protocol/Internet Protocol) is a network technology that manages the transmission of data by dividing it up into packets. Each packet travels along the fastest available path via routers.
16. The correct answer is (A). Businesses often use T1 lines to connect to the Internet. Many Internet service providers use T1 lines to connect to the Internet backbone. Home and small business users purchase fractional T1, in which they share a connection with other users.

17. The correct answer is (D). A host computer typically uses high-speed communications to transfer data and messages over the network.

18. The correct answer is (B). To participate in a newsgroup, typically you use a program called a newsreader. Most browsers have newsreaders.

19. The correct answer is (C). A servlet is a server-side program that adds special multimedia effects and interactive capabilities to Web pages.

20. The correct answer is (E). A P2P network is sometimes called a file-sharing network because users with compatible software and an Internet connection copy files from someone else’s hard disk to their hard disk.

21. The correct answer is (D). CMOS (complementary metal-oxide semiconductor) technology uses battery power to retain information even when the power to the computer is off.

22. The correct answer is (D). Windows XP 64-Bit Edition is designed to address the needs of technical workstation users who require large amounts of memory and floating point performance.

23. The correct answer is (E). Windows XP is a stand-alone, or client, operating system. UNIX and Linux are often called multipurpose operating systems because they are both standalone and network operating systems.

24. The correct answer is (C). During the implementation phase of the system development cycle, programmers use the solution algorithm to design and code the necessary programs.

25. The correct answer is (E). Many developers use Web page authoring software to create sophisticated Web pages. Excel is a spreadsheet program.

26. The correct answer is (D). System developers should test individual programs for run-time errors. They should also verify that all the programs work together in the system.

27. The correct answer is (C). A third-generation language assigns a name(s) to a sequence of program instructions, called a procedure, that tells the computer what to do and how to do it.

28. The correct answer is (D). HTML is not actually a programming language. It is a special formatting language that has specific rules for defining the placement and format of text, graphics, video, and audio on a Web page.

29. The correct answer is (E). J2EE and .NET are two popular platforms for building and running Web services.

30. The correct answer is (D). Artists, designers, and engineers use a digital pen with graphics tablets.

31. The correct answer is (D). PDAs use a stylus, and Tablet PCs typically use a digital pen.

32. The correct answer is (D). A shortcut icon is a small image displayed on the screen that represents a program, a document, or some other object.
33. The correct answer is (D). Freeware is copyrighted software provided at no cost to a user by an individual or a company. Shareware is copyrighted software that is distributed free for a trial period.

34. The correct answer is (E). Forms are used to enter, retrieve, and maintain the data in a database.

35. The correct answer is (B). PIM (personal information manager) is application software that includes features to help a user organize personal information.

36. The correct answer is (B). A data type specifies the kind of data a field can contain and how the field is used. The Memo data type stores lengthy text entries in a database.

37. The correct answer is (E). Bit is short for binary digit. The computer uses a binary system, which consists of two unique digits, 0 and 1.

38. The correct answer is (C). The consistency check verifies that the relationship between two associated fields is logical. For example, the value in a Withdrawal Date field cannot occur earlier in time that the value in the Account Activated Date field.

39. The correct answer is (B). A check digit is a number(s) or character(s) that is appended to or inserted into a primary key value.

40. The correct answer is (D). A data dictionary is a DBMS element that contains data about each file in a database and each field within those files.

41. The correct answer is (A). Structured Query Language (SQL) is a query language that allows users to manage, update, and retrieve data in a relational database.

42. The correct answer is (E). Tags are codes that specify links to other documents and indicate how a Web page is displayed when viewed on the Web.

43. The correct answer is (E). Hypermedia allows users to jump to related information through links, rather than accessing information sequentially.

44. The correct answer is (C). Image processing systems typically store compressed image files in order to retrieve them efficiently.

45. The correct answer is (E). OMR is used for processing marks on a form, such as a test, survey, or questionnaire answer sheet.

46. The correct answer is (E). System analysts measure technical feasibility by first analyzing whether the current hardware and software can be used, and then determining what additional hardware, software, and human resources will be needed to deliver the new system.

47. The correct answer is (D). The planning phase is the first phase in the system development cycle. In the planning phase, the committee reviews project requests, prioritizes project requests, allocates resources, and forms the project development team.

48. The correct answer is (B). A use case diagram describes the functionality of a system with actors that the system interacts with and use cases, or services, that the system knows how to perform.

49. The correct answer is (E). With parallel conversion, problems in the new system can be fixed before terminating the old system. However, it is costly to operate two systems at the same time.
50. **The correct answer is (E).** Batch processing is useful for applications where a computer or peripheral is needed for an extended time. Transactions can be saved and processed at a time when the needed resources are idle.

51. **The correct answer is (E).** Most transaction processing systems today use online transaction processing (OLTP) systems.

52. **The correct answer is (B).** Retail stores use POS (point-of-sale) systems to read in a bar code, complete a transaction, and print out a receipt.

53. **The correct answer is (A).** A bar code scanner reads a bar code by using light patterns that pass across the bar code lines.

54. **The correct answer is (E).** Systems that have interoperability are said to be open. Recent open systems employ XML and Web services to allow a greater level of interoperability.

55. **The correct answer is (C).** A Trojan horse is named after the Greek myth. An example of a program a Trojan horse may use is a screen saver.

56. **The correct answer is (A).** If an antivirus program cannot remove an infection, it often quarantines the infected file so that other files will not become infected.

57. **The correct answer is (B).** Applications that must verify the authenticity of a client, such as online banking, use S-HTTP.

58. **The correct answer is (B).** Desktop publishers are professional designers who create sophisticated documents with text and graphics.

59. **The correct answer is (C).** The CIO is an executive IT position that reports to the CEO of the company.

60. **The correct answer is (C).** A Help Desk specialist deals with problems in hardware, software, or communications systems.

61. **The correct answer is (A).** Red Hat is a leading distributor of various versions of the Linux operating system.

62. **The correct answer is (B).** Different people may need the same information presented in a different manner.

63. **The correct answer is (D).** System analysts use three basic types of documents to summarize requirements for potential vendors: RFQ, RFP, and RFI. After sending RFPs to potential vendors, the system analyst receives and evaluates completed proposals.

64. **The correct answer is (C).** During program design, details of the new system are developed.

65. **The correct answer is (D).** Users perform an acceptance test during the final stage of testing, after developers have thoroughly tested the application with unit, system, and integration tests.

66. **The correct answer is (A).** An ERM system automates and manages much of the communication between employees and the business. Most ERM systems include a Web interface for employees.

67. **The correct answer is (A).** SFA software equips traveling salespeople with the electronic tools they need to be more productive. SFA software often runs on PDAs or notebook computers.

68. **The correct answer is (D).** Summary reports are useful for managers to review information quickly and easily.
69. The correct answer is (B). A content management system (CMS) is a combination of databases, software, and procedures that organizes and allows access to various forms of documents and other forms.

70. The correct answer is (E). The TPS processes the transaction and updates customer and inventory information. The related MIS produces customer and inventory reports.

71. The correct answer is (B). A MIS creates detailed reports to provide information about transactions, such as sales orders taken during a given period.

72. The correct answer is (E). In addition to storing current and historical transactions, a data warehouse contains summarizations of this data.

73. The correct answer is (B). A button can be activated with a mouse click.

74. The correct answer is (D). Smart Tags are somewhat like hyperlinks, except that they can lead to many different directions, providing a number of possible actions.

75. The correct answer is (D). Font size indicates the size of the characters in a particular font and is gauged by a measurement system called points.

76. The correct answer is (A). A record is a group of related fields in a database.

77. The correct answer is (C). Spreadsheet software identifies cells by the column and row in which they are located.

78. The correct answer is (A). Computer-based training (CBT) is a type of education in which students learn by using and completing exercises with instructional software.

79. The correct answer is (A). An enterprise application-service provider is a third party that deploys, manages, and remotely hosts packaged software applications through a rental arrangement.

80. The correct answer is (B). Web services are standardized tools used to create applications, products, and B2B interactions that can run on the Internet or an internal business network.

81. The correct answer is (A). A voice mailbox stores voice mail messages on a hard disk once they have been digitized.

82. The correct answer is (A). Computers sharing resources in a network store their own files and share any peripherals attached to any computer. This type of network is inexpensive and simple to install and maintain.

83. The correct answer is (B). Presentation graphics allows a user to create visual aids for presentations to communicate ideas, messages, and other information to a group.

84. The correct answer is (B). With telemedicine, a doctor at one location can have a conference with a doctor at another location to view and discuss X-rays or other patient information.

85. The correct answer is (C). Many employees of large businesses telecommute, which allows them to combine work and personal responsibilities, such as child care.

86. The correct answer is (E). PDF is an electronic file format that preserves formatting, fonts, and layouts across platforms. It is also greatly compressed, which means files can be accessed quickly on the Web.
87. **The correct answer is (C).** Netiquette is the code of acceptable behaviors users should follow while on the Internet. To emphasize a word, users often use asterisks around a word rather than capital letters.

88. **The correct answer is (A).** ARPANET was built by the Advanced Research Projects Agency (ARPA), an agency of the U.S. Department of Defense.

89. **The correct answer is (A).** An IP address consists of four groups of 8-bit numbers, each separated by a period.

90. **The correct answer is (D).** Many businesses provide goods and services to other businesses, such as online advertising, recruiting, credit, sales, market research, technical support, and training.

91. **The correct answer is (D).** Usenet is a worldwide distributed discussion system, with newsgroups classified hierarchically by name.

92. **The correct answer is (E).** XML (extensible Markup Language) is a popular format for sharing data that allows Web page developers to create and use predefined tags.

93. **The correct answer is (C).** A plug-in is a program that extends the capability of a browser. Netscape Navigator is a browser.

94. **The correct answer is (D).** A thumbnail is a small version of a larger graphic.

95. **The correct answer is (C).** All-numeric IP addresses are difficult to remember and use. Thus, the Internet supports the use of a text name that represents one or more IP addresses.

96. **The correct answer is (C).** Both technical and non-technical jobs today require an understanding of how to use technology. By 2008, nearly half of all American employment will be in industries that either produce or use computer technology.

97. **The correct answer is (E).** The longer the password, the more effort required to discover it.

98. **The correct answer is (E).** Adware is a program that is placed on a computer without a user’s knowledge and collects information about the user’s Web-browsing habits.

99. **The correct answer is (A).** Software piracy is the unauthorized and illegal duplication of copyrighted software. Companies are often forced to raise their software prices to compensate for piracy.

100. **The correct answer is (B).** Factors that cause CTS (carpel tunnel syndrome) include prolonged typing, prolonged mouse usage, or continual shifting between the mouse and the keyboard.