**Chapter 03 :** Computer Hardware

**True / False Questions**

1. All computers are systems of input, processing, output, storage, and distribution components.

True False

2. The first electronic digital computer was completed in the 1960s.

True False

3. Personal computers, network servers, and technical workstations are terms used to highlight major uses of particular types of computers.

True False

4. Experts predict the merging or disappearance of several computer categories. For example, many midrange and mainframe systems have been made obsolete by the power and versatility of client/server networks composed of microcomputers and servers.

True False

5. Network servers are the most important category of computer systems for both businesspeople and individual consumers.

True False

6. The computing power of microcomputers currently exceeds that of the mainframe computer of previous generations, at a fraction of the cost.

True False

7. Some microcomputers are powerful enough to support applications with heavy mathematical computing and graphics display demands, such as computer-aided design (CAD) or investment analysis.

True False

8. Network servers are some of the less powerful microcomputers; they are used to coordinate telecommunications and resource sharing in small LANs and in Internet and intranet websites.

True False

9. The top criteria for corporate PC ownership are operating system ready, connectivity, solid performance, and global compatibility.

True False

10. Today's corporate buyers seek networked PCs equipped with reliable wireless capabilities.

True False

11. Web-enabled personal digital assistants use touch screens, pen-based handwriting recognition, or keyboards, so mobile workers can send and receive e-mail, access the Web, and exchange information with their desktop PCs or Web servers.

True False

12. Midrange computers are often used as network servers in order to help manage large Internet websites, corporate intranets and extranets, and client/server networks.

True False

13. Microcomputers can act as powerful workstations for computer-aided design and other computation and graphics-intensive applications.

True False

14. A RIM Blackberry combines a mobile phone, a music and video player, and an Internet communications device.

True False

15. The function of an input device is to interpret computer program instructions and to transmit directions to the other components of the computer system.

True False

16. The central processing unit (CPU) is the main processing component of a computer system.

True False

17. The output devices of a computer system can include video display units, scanners, and printers.

True False

18. The control unit of the CPU interprets instructions and directs processing.

True False

19. The clock speed of a microprocessor today is commonly expressed in teraflops; earlier microcomputer speeds were reported in gigahertz.

True False

20. Moore's Law refers to the exponential growth in the number of transistors per integrated circuit, which quadruples computer power every six months.

True False

21. When discussing the concept of a computer system, peripherals is the generic name given to all input, output, and secondary storage devices that are part of a computer system.

True False

22. Peripherals depend on direct connections or telecommunications links to the central processing unit of a computer system.

True False

23. Offline devices are separate from, but can be electronically connected to and controlled by, a CPU.

True False

24. A pointing stick is the most popular pointing device used today.

True False

25. A trackball is a type of pointing device that converts drawings and other graphic images into digital data in order to enter it into a computer system.

True False

26. Some touch screens emit a grid of infrared beams or sound waves that is broken when the screen is touched.

True False

27. Pen-based computing technologies are being used in many hand-held computers and personal digital assistants.

True False

28. Speech recognition systems typically require training the computer to recognize your voice and its unique sound patterns in order to achieve a high degree of accuracy.

True False

29. Speaker independent voice recognition systems allow a computer to understand a few words from a voice it has never heard before.

True False

30. Optical scanning enables the direct entry of data from source documents into a computer system.

True False

31. OCR technology is used to read codes on merchandise tags, product labels, credit card receipts, and other documents.

True False

32. The dark, magnetic stripe on the back of credit cards can hold about 200 gigabytes of information.

True False

33. Smart cards, a form of input technology that contains an embedded microprocessor chip, are becoming popular in the United States for use in debit and credit cards.

True False

34. Digital cameras and digital video cameras enable users to shoot, store, and download still photos or full-motion video and audio onto their PCs.

True False

35. Video displays and printed documents have been, and still are, the most common forms of output from computer systems.

True False

36. Advances in video monitor technology, such as active matrix and dualscan capabilities, have improved the color, but not the clarity, of LCD displays.

True False

37. Printing information on paper is the most common form of information output.

True False

38. One of the major trends in secondary storage has been toward massive capacities using magnetic and optical media.

True False

39. High speed storage media cost less per byte and provide higher capacities than lower-speed storage media.

True False

40. Data are processed and stored in a computer system through the presence or absence or electronic or magnetic signals to the computer. This is called a "bi-state" representation of data, because the computer and the media can exhibit only two states or conditions.

True False

41. A byte typically consists of ten bits and represents one character of data in most computer coding schemes.

True False

42. Magnetic tape devices are frequently called direct access storage devices (DASDs), while magnetic disks are known as sequential access devices.

True False

43. The terms direct access and random-access describe the same concept.

True False

44. The primary storage (main memory) of a computer consists of microelectronic semiconductor memory chips.

True False

45. Random Access Memory (RAM) is non-volatile memory.

True False

46. ROM chips are widely used as a primary storage medium because they can be erased and overwritten.

True False

47. Magnetic disks are common forms of secondary storage because they provide fast access and high storage capacity at a reasonable cost.

True False

48. RAID disk units provide fault tolerant storage capacity because data can be recovered from backup copies stored on other disks should one disk fail.

True False

49. Magnetic tapes are no longer used by businesses today because the cost of storage on tape is very expensive compared to other types of storage media.

True False

50. Most CD-ROM disks can hold more than 600 megabytes of information.

True False

51. The main advantage of CD-R (compact disk-recordable) disks is that they enable recorded data to be erased many times.

True False

52. DVD+RW+R with CD-RW provides an all-in-one drive for burning DVD-RW or DVD-R disks, burning CDs, and reading DVDs and CDs.

True False

53. Active RFID chips are self-powered and must be close to the reader to transmit their signal.

True False

54. RFID chips may be attached to objects, but cannot be injected into them because it interferes with radio signal transmission.

True False

55. The use of RFID technology poses concerns for privacy issues.

True False

56. It is predicted that in the future we will be able to back up our biological memories.

True False

**Multiple Choice Questions**

57. Computer systems rely on all the following components except \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. input
2. internet
3. processing
4. storage

58. Computer systems rely on which of the following components?

1. Input, processing, output, storage, and control
2. Input, processing, output, storage, and the Internet
3. The Internet, processing, output, storage, and control
4. Input, processing, output, the Internet, and control

59. The mechanical loom was invented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. Blaise Pascal
2. Joseph Jacquard
3. Herman Hollerith
4. Keith Glennan

60. The first generation of computers relied on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. miniaturized circuits
2. transistors
3. vacuum tubes
4. punch cards

61. The second generation of computers relied on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. miniaturized circuits
2. transistors
3. vacuum tubes
4. punch cards

62. In the 1950s, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ were invented and quickly replaced the thousands of vacuum tubes used in electronic computers.

1. microchips
2. resistors
3. transistors
4. miniaturized circuits

63. The third generation of computers relied on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. solid state technology and integrated circuits
2. transistors
3. vacuum tubes
4. punch cards

64. The first electronic digital computer was completed in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. 1870s
2. 1940s
3. 1950s
4. 1960s

65. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ generation of computers was characterized by further miniaturization of circuits, increased multiprogramming, and virtual storage memory.

1. second
2. third
3. fourth
4. fifth

66. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the most important category of computer systems for both businesspeople and individual consumers.

1. Microcomputers
2. Supercomputers
3. Network Servers
4. Mainframes

67. According to the text, which of the following is considered by millions of computer users to be the primary function of the desktop PC?

1. Allows access to the Internet
2. Increases productivity through the use of software applications
3. Facilitates creation of local area networks
4. All of the choices are correct

68. Which of the following statements best describes a workstation computer?

1. Supports applications with heavy mathematical computing and graphics display demands, such as computer-aided design (CAD)
2. Coordinates telecommunications and resource sharing in small, local area networks (LANS)
3. Allows convenient mobile communications and touch-screen computing
4. All of the choices are correct.

69. \_\_\_\_\_\_\_\_\_\_ are some of the more powerful microcomputers; they are used to coordinate telecommunications and resource sharing in small LANs and in Internet and intranet websites.

1. Mainframes
2. Supercomputers
3. Network Servers
4. None of the choices are correct.

70. According to the text, using web-enabled PDAs allows workers to realize all the following benefits except:

1. Send and receive email
2. Access the Web
3. Exchange information with desktop PCs or Web servers
4. Helps retain younger and more technologically savvy employees

71. An intelligent terminal that can perform data entry and some information processing tasks independently is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ terminal.

1. transaction
2. dumb
3. Windows
4. remote

72. Which of the following does not apply to a personal digital assistant (PDA)?

1. Supports applications with heavy mathematical computing
2. Touchscreens
3. Pen-based handwriting recognition
4. Web access

73. Personal digital assistants most commonly use which of these technologies?

1. Pen-based computing
2. Optical scanning
3. Jump drives
4. Back-lit keyboards

74. What sets the RIM BlackBerry apart from other wireless PDA solutions?

1. Lower price
2. It is always on and connected
3. Smaller size and weight
4. Longer battery life

75. A BlackBerry \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. performs common PDA functions
2. doesn't have a visible antenna
3. uses the same network as most mobile phones
4. All of the choices are correct.

76. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are high-end network servers that handle large-scale processing of business applications.

1. Midrange computers
2. Mainframes
3. Supercomputers
4. All of the choices are correct.

77. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are popular as powerful network servers to help manage large Internet Websites, intranets, and extranets.

1. Workstations
2. Minicomputers
3. Supercomputers
4. Mainframes

78. Which of the following is a common application for a midrange computer?

1. Internet functions.
2. Integrated enterprise-wide manufacturing and distribution.
3. Financial applications.
4. All of the choices are correct.

79. According to the text, which of the following is not true of Mainframes?

1. Mainframes can process thousands of million instructions per second (MIPS).
2. Mainframes are large, fast, and powerful.
3. Mainframes have large storage capacities.
4. All of the choices are correct.

80. Which of the following would not be considered a characteristic of supercomputer systems?

1. Costs between $5 million and $50 million.
2. Used for global weather reports and military defense.
3. Runs the same software found on most home computers, but at faster speeds
4. Designed specifically for high-speed numeric computation

81. The function of an input device is:

1. to interpret computer program instructions
2. to transmit directions to other components of the computer system
3. to convert data into electronic form for entry into a computer system
4. none of the above

82. The central processing unit (CPU):

1. is the main processing component of a computer system
2. controls all the peripheral devices of a computer system
3. is controlled by the RAID unit
4. is also called a Fuzzy Logic unit

83. The output devices of a computer system include:

1. printers and video displays
2. the Arithmetic-logic unit
3. scanners and RAID units
4. the Fuzzy Logic unit

84. The central processing unit (CPU) consists of:

1. the Control unit and the RAID unit
2. Arithmetic-logic unit and the RAID unit
3. the RAID unit and the Fuzzy Logic unit
4. the Control unit and the Arithmetic-logic unit

85. Which of the following would perform the required mathematical and logic operations of a central processing unit (CPU)?

1. Control unit
2. Arithmetic-logic unit
3. RAID unit
4. Fuzzy logic unit

86. The function of an output device is to:

1. Convert data into an electronic machine-readable form for direct entry into a computer system
2. Perform the arithmetic and logic functions required in computer processing
3. Convert electronic information produced by the computer system into human-intelligible form for presentation to end-users
4. Store the data and program instructions needed for processing

87. Which of the following is a secondary storage device?

1. Primary memory
2. Random access memory
3. Magnetic disk
4. The CPU

88. According to Moore's Law, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ doubles every 18 to 24 months.

1. computing power
2. computer prices
3. computer storage capacity
4. the number of functioning computers

89. Which of the following would not fit the typical classification of a computer peripheral?

1. Monitors and printers
2. Scanners and hard disk drives
3. CD-ROM drives and backup systems
4. Central processing unit

90. Offline devices:

1. are directly attached to the CPU
2. are not controlled by the CPU
3. are controlled by the CPU
4. can replace the CPU

91. The most popular pointing device used today is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. pointing stick
2. light pen
3. trackball
4. electronic mouse

92. All of the following relate to Peripherals except:

1. input devices
2. output devices
3. CPU devices
4. secondary storage devices

93. One device used as an input device in a computer system is a pointing stick, which is best described as:

1. A small gearshift lever set in a box
2. A stationary device containing a roller ball whose top is exposed outside its case
3. A pen-shaped device with a ballpoint at the end
4. A small, button-like device, sometimes likened to the eraser head of a pencil

94. A touchpad is best described as a:

1. Small, rectangular, touch-sensitive surface usually placed below the keyboard
2. Stationary device containing a roller ball whose top is exposed outside its case
3. Pen-shaped device with a ballpoint at the end
4. Device rolled along the desktop in order to move the cursor on the screen

95. Continuous speech recognition systems:

1. Compare speech patterns to a dictionary
2. Allow a computer to understand a few words from a voice it has never heard before
3. Require users to pause between each spoken word
4. Recognize conversationally paced speech

96. Speech recognition devices in work situations allow operators to perform all the following except:

1. Enter data without using their hands.
2. Input data faster.
3. input data more accurately.
4. Input data without using a computer.

97. Speaker independent voice recognition systems:

1. Compare speech patterns to a dictionary
2. Allow a computer to understand a few words from a voice it has never heard before
3. Require users to pause between each spoken word
4. All of the choices are correct.

98. Which of the following best describes optical scanning devices?

1. Hand-held wands used to read data on merchandise tags
2. Photoelectric devices that scan data
3. Converts reflected light patterns into electronic impulses, which are accepted as input into the computer system
4. All of the choices are correct.

99. Which of the following best describes magnetic stripe technology?

1. A form of data entry that helps computers read credit cards
2. A form of computing where debit and credit cards have an embedded microprocessor chip
3. Technology that enables users to download full-motion video into a computer system
4. Technology commonly used in banks in order to magnetically read checks and deposit slips

100. The dark, magnetic stripe on the back of credit cards can hold about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of information.

1. 200 gigabytes
2. 200 kilobytes
3. 200 bytes
4. Immaterial, as this technology is not yet available in the United States

101. Smart card technology:

1. Allows debit cards to store a cash balance on a card and electronically transfer some of it to others to pay for items and services
2. Is not yet available in the United States
3. Is commonly used by banks to read and process checks
4. All of the choices are correct.

102. Banks use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ technologies for check processing.

1. voice response
2. magnetic ink character recognition
3. laser printer
4. optical scanner

103. The most common output trend is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. printed reports and documents
2. audio responses
3. voice responses
4. video displays

104. Which of the following is not a valid storage medium?

1. Paper documents
2. Optical disks
3. Magnetic tape
4. All of the choices are valid storage media.

105. High speed storage media \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than lower-speed storage media.

1. cost less per byte and provide higher capacities
2. cost less per byte and provide lower capacities
3. cost more per byte and provide higher capacities
4. cost more per byte and provide lower capacities

106. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bytes of storage are needed to represent the name "Sarah."

1. Two
2. Three
3. Five
4. Ten

107. Data are processed and stored in a computer system through the presence or absence of electronic or magnetic signals to the computer. This is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ representation of data, because the computer and the media can exhibit only two states or conditions.

1. Ternary
2. Trinary
3. Binary
4. Bipolar

108. Data are processed and stored in a computer system through the presence or absence of electronic or magnetic signals to the computer. This is called a "binary" representation of data, because the computer and the media can exhibit only \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ states or conditions.

1. two
2. three
3. five
4. ten

109. A bit, the smallest element of data, can have values of:

1. 0 or 1
2. 0, 1, or 8
3. 0 through 7
4. 0 through 8

110. A gigabyte (GB) is used to express which of the following approximate measures?

1. 1,000 byes of storage
2. 1,000,000 bytes of storage
3. 1,000,000,000 bytes of storage
4. 1,000,000,000,000 bytes of storage

111. Which of the following is an advantage of RAID?

1. It provides virtually unlimited online storage
2. It provides high access speeds
3. It provides fault-tolerant storage capacity
4. All of the choices are advantages.

112. The primary storage (main memory) of a computer is also called:

1. ROM
2. RAID
3. RAM
4. None of the choices are correct.

113. Which of the following storage types is volatile?

1. RAM
2. ROM
3. PROM
4. All the choices are volatile.

114. Which of the following applies best to CD-RW optical disk technology?

1. Users are unable to record their own data on the disks
2. Users can record their own data, but only once
3. Users are able to record and then erase the disks
4. None of the choices are correct.

115. Which of the following statements about optical disks is true?

1. They can be read only, recordable, or rewritable
2. They can hold approximately 50 megabytes on a single disk
3. They have totally replaced "3.5" diskettes
4. They have totally replaced magnetic tape as secondary storage

116. According to the text, what are the current types of RFID chips?

1. Electrical and magnetic
2. Positive and negative
3. Active and passive
4. Red and Green