

CHAPTER 2:

HARDWARE BASICS: INSIDE THE BOX

Multiple Choice:

1. Processing information involves:

- A. accepting information from the outside world.
- B. communication with another computer.
- C. performing arithmetic or logical operations on information that is input.
- D. All of these answers are forms of processing information.

Answer: C **Reference:** What Computers Do

Difficulty: Moderate

2. Producing output involves:

- A. accepting information from the outside world.
- B. communication with another computer.
- C. moving and storing information.
- D. communicating information to the outside world.

Answer: D **Reference:** What Computers Do

Difficulty: Moderate

3. Hardware components are:

- A. physical parts of a computer system.
- B. fully functional without computer software.
- C. impossible to add on after the initial purchase of a computer.
- D. the intangible parts of a computer system.

Answer: A **Reference:** What Computers Do

Difficulty: Moderate

Chapter 2: Hardware Basics: Inside the Box

4. The most common input devices include:

- A. monitors and keyboards.
- B. monitors and mice.
- C. mice and keyboards.
- D. printer and mice.

Answer: C **Reference:** What Computers Do

Difficulty: Easy

5. The primary output device for computers is a:

- A. video monitor.
- B. printer.
- C. keyboard.
- D. mouse.

Answer: A **Reference:** What Computers Do

Difficulty: Easy

6. The hardware device commonly referred to as the “brain” of the computer is the:

- A. RAM chip.
- B. data input.
- C. CPU.
- D. secondary storage.

Answer: C **Reference:** What Computers Do

Difficulty: Moderate

7. CPU stands for:

- A. central production unit.
- B. central processing unit.
- C. computer processing unit.
- D. computer primary unit.

Answer: B **Reference:** What Computers Do

Difficulty: Moderate

Chapter 2: Hardware Basics: Inside the Box

8. The CPU is also known as the:

- A. microprocessor.
- B. random access memory.
- C. primary storage.
- D. microunit.

Answer: A **Reference:** What Computers Do

Difficulty: Easy

9. The primary difference between RAM and secondary storage devices is:

- A. the length of time data is stored.
- B. RAM is permanent and secondary storage is temporary.
- C. RAM accepts input; secondary storage devices do not.
- D. the way data is stored to them.

Answer: A **Reference:** What Computers Do

Difficulty: Challenging

10. RAM is also known as:

- A. secondary storage.
- B. the central processing unit.
- C. the “brain” of the computer.
- D. primary storage.

Answer: D **Reference:** What Computers Do

Difficulty: Moderate

11. If a user needs information instantly available to the CPU, it should be stored:

- A. in the CPU.
- B. in RAM.
- C. in secondary storage.
- D. on a CD.

Answer: B **Reference:** What Computers Do

Difficulty: Moderate

Chapter 2: Hardware Basics: Inside the Box

12. Storage devices include all of the following EXCEPT:

- A. a recordable CD.
- B. RAM.
- C. a hard drive.
- D. a DVD drive.

Answer: B **Reference:** What Computers Do

Difficulty: Moderate

13. The input, output, and storage devices are known as:

- A. peripheral devices.
- B. secondary storage devices.
- C. firmware.
- D. hardware drivers.

Answer: A **Reference:** What Computers Do

Difficulty: Moderate

14. Digital means that computer information is discrete and countable, subdivided into:

- A. digits.
- B. analog units.
- C. input.
- D. bytes.

Answer: A **Reference:** Bit Basics

Difficulty: Easy

15. The smallest unit of information a computer can understand and process is known as a:

- A. digit.
- B. byte.
- C. bit.
- D. kilobyte.

Answer: C **Reference:** Bit Basics

Difficulty: Moderate

16. A bit can have two values:

- A. bit and byte.
- B. 0 and 1.
- C. 2 and 4.
- D. 1 and 2.

Answer: B **Reference:** Bit Basics

Difficulty: Moderate

17. Binary means:

- A. there are two possibilities: on and off.
- B. the same as a byte: 8 bits.
- C. there are three options: 0, 1, and 2.
- D. that computers really need to have three or more options.

Answer: A **Reference:** Bit Basics

Difficulty: Easy

18. A group of 8 bits is known as a:

- A. kilobyte.
- B. binary digit.
- C. byte.
- D. megabit.

Answer: C **Reference:** Bit Basics

Difficulty: Moderate

19. The binary system uses the power of:

- A. 10.
- B. 4.
- C. 256.
- D. 2.

Answer: D **Reference:** How It Works 2.1: Binary Numbers

Difficulty: Easy

Chapter 2: Hardware Basics: Inside the Box

20. A byte can represent any number between 0 and:

- A. 2.
- B. 255.
- C. 256.
- D. 1024.

Answer: B **Reference:** How It Works 2.1: Binary Numbers **Difficulty:** Challenging

21. The most widely used code that represents each character as a unique 8-bit code is:

- A. ASCII.
- B. Unicode.
- C. binary numbering system.
- D. EBCDIC.

Answer: A **Reference:** Bits as Codes **Difficulty:** Moderate

22. ASCII stands for:

- A. American Standard Code for Information Interface.
- B. American Standard Computer Interface Internet.
- C. American Standard Code for Information Interchange.
- D. Advanced Standard Code for Interface Interchange.

Answer: C **Reference:** Bits as Codes **Difficulty:** Challenging

23. In ASCII, _____ characters can be created.

- A. 255
- B. 1,024
- C. 256
- D. 128

Answer: C **Reference:** Bits as Codes **Difficulty:** Challenging

Chapter 2: Hardware Basics: Inside the Box

24. An advanced coding scheme that incorporates Chinese, Greek, Hebrew, and Japanese is known as:

- A. ASCII.
- B. World wide interchange (WWI).
- C. Worldcode.
- D. Unicode.

Answer: D **Reference:** Bits as Codes

Difficulty: Challenging

25. 1,024 bytes of data is a:

- A. megabyte.
- B. kilobyte.
- C. gigabyte.
- D. terabyte.

Answer: B **Reference:** Bits, Bytes, and Buzzwords

Difficulty: Easy

26. Approximately 1,000 megabytes is a:

- A. terabyte.
- B. kilobyte.
- C. petabyte.
- D. gigabyte.

Answer: D **Reference:** Bits, Bytes, and Buzzwords

Difficulty: Moderate

27. The largest storage devices commonly available today are able to store:

- A. kilobytes.
- B. terabytes.
- C. gigabytes.
- D. petabytes.

Answer: B **Reference:** Bits, Bytes, and Buzzwords

Difficulty: Challenging

28. The unit that transforms input into output is known as the:

- A. RAM chip.
- B. BIOS chip.
- C. CPU.
- D. motherboard.

Answer: C **Reference:** The CPU: The Real Computer

Difficulty: Moderate

29. The motherboard is the:

- A. circuit board that contains a CPU and other chips.
- B. circuit board that houses peripheral devices.
- C. same as the CPU chip.
- D. the first chip that is accessed when the computer is turned on.

Answer: A **Reference:** The CPU: The Real Computer

Difficulty: Moderate

30. Backward compatibility means that:

- A. a Pentium 4 chip can handle processing previously done by a Pentium III.
- B. all hardware will work with other hardware.
- C. a mouse will work with more advanced hardware that comes out after the date the mouse was produced.
- D. all software will work on all other computer systems.

Answer: A **Reference:** Compatibility

Difficulty: Moderate

31. Linux is a(n):

- A. computer system.
- B. operating system.
- C. piece of application software.
- D. type of CPU device.

Answer: B **Reference:** Compatibility

Difficulty: Challenging

Chapter 2: Hardware Basics: Inside the Box

32. The clock of a computer system is the:

- A. software that shows the time on the taskbar.
- B. timing device that processes all instructions input into the computer.
- C. timing device that produces electrical pulses to synchronize the computer's operations.
- D. device that is the newest and most modern in a computer system.

Answer: C **Reference:** Performance

Difficulty: Moderate

33. A computer's clock speed is measured in:

- A. gigabytes.
- B. bits.
- C. megahertz.
- D. gigahertz.

Answer: D **Reference:** Performance

Difficulty: Challenging

34. The word size of a typical PC's CPU is:

- A. 1 or 2 bytes.
- B. 32 or 64 bits.
- C. 32 or 64 bytes.
- D. 8 or 16 bits.

Answer: B **Reference:** Performance

Difficulty: Challenging

35. The _____, by Intel, is a 64-bit processor.

- A. Pentium
- B. Athlon
- C. Itanium
- D. Celeron

Answer: C **Reference:** Performance

Difficulty: Challenging

Chapter 2: Hardware Basics: Inside the Box

36. When two processors are employed in a computer, it is known as:

- A. double processing.
- B. parallel processing.
- C. CPU duplicate processing.
- D. clustering.

Answer: B **Reference:** Performance

Difficulty: Moderate

37. By putting multiple CPUs on a single chip, chip makers have created:

- A. parallel processors.
- B. multi-core processors.
- C. CPU duplicate processors.
- D. clusters.

Answer: B **Reference:** Performance

Difficulty: Moderate

38. Units that work together in the CPU include all EXCEPT:

- A. the ALU.
- B. the prefetch unit.
- C. the decode unit.
- D. RAM.

Answer: D **Reference:** How It Works 2.3: The CPU

Difficulty: Challenging

39. The CPU's ALU contains:

- A. RAM spaces.
- B. registers.
- C. byte spaces.
- D. secondary storage space.

Answer: B **Reference:** How It Works 2.3: The CPU

Difficulty: Challenging

40. The part of the CPU that instructs the bus unit to read instructions stored at a certain memory address is known as the:

- A. bus device.
- B. prefetch unit.
- C. decode unit.
- D. writeback.

Answer: B **Reference:** How It Works 2.3: The CPU **Difficulty:** Challenging

41. The storage area for the next likely data or instruction to be processed, preventing bottlenecks and slowing of the system, is known as:

- A. cache.
- B. the register.
- C. RAM.
- D. the CPU.

Answer: A **Reference:** How It Works 2.3: The CPU **Difficulty:** Challenging

42. Popular CPU families including Celeron, Centrino, and Xeon belongs to which family :

- A. IBM.
- B. Pentium.
- C. Microsoft.
- D. Macintosh.

Answer: B **Reference:** Popular CPU Families and Where to Find Them **Difficulty:** Challenging

43. RAM stands for:

- A. random access memory.
- B. readily accessible memory.
- C. randomly accessible memory.
- D. read access and memorize.

Answer: A **Reference:** The Computer's Memory **Difficulty:** Easy

44. Information stored in RAM is considered volatile, which means it is:

- A. stored there permanently.
- B. not held permanently, only temporarily.
- C. stored when the electricity is shut off.
- D. stored permanently in the CPU device.

Answer: B **Reference:** The Computer's Memory

Difficulty: Moderate

45. The memory that stores the computer's date, time, and calendar is the:

- A. RAM.
- B. flash memory.
- C. register.
- D. CMOS.

Answer: D **Reference:** The Computer's Memory

Difficulty: Moderate

46. The time for the processor to retrieve data from memory is measured in:

- A. megabits.
- B. nanoseconds.
- C. milliseconds.
- D. megabytes.

Answer: B **Reference:** The Computer's Memory

Difficulty: Challenging

47. The circuit board that contains RAM chips is known as a:

- A. CMOS.
- B. ROM.
- C. SIMM.
- D. RAM board.

Answer: C **Reference:** How It Works 2.4: Memory

Difficulty: Moderate

48. The permanently etched program in ROM that automatically begins executing the computer's instructions is the:

- A. BIOS.
- B. ROM.
- C. CMOS.
- D. RAM.

Answer: A **Reference:** How It Works 2.4: Memory

Difficulty: Challenging

49. The groups of wires that transfer data are known as the:

- A. CPU.
- B. system clock.
- C. system buses.
- D. CMOS.

Answer: C **Reference:** Buses, Ports, and Peripherals

Difficulty: Easy

50. Expansion cards are inserted into:

- A. slots.
- B. peripheral devices.
- C. the CPU.
- D. the back of the computer.

Answer: A **Reference:** Buses, Ports, and Peripherals

Difficulty: Moderate

51. External devices such as printers, keyboards, and modems are known as:

- A. add-on devices.
- B. peripherals.
- C. extra hardware devices.
- D. PC expansion slot add-ons.

Answer: B **Reference:** Buses, Ports, and Peripherals

Difficulty: Easy

Fill in the Blank:

52. The first function that computers perform is to receive _____ or information from the outside world.

Answer: input **Reference:** What Computers Do **Difficulty:** Easy

53. The physical components of a computer system are known as _____.

Answer: hardware **Reference:** What Computers Do **Difficulty:** Easy

54. A printer and a monitor are the most common _____ devices.

Answer: output **Reference:** What Computers Do **Difficulty:** Easy

55. Data that must be immediately available for processing in the CPU must be stored in _____.

Answer: RAM or memory **Reference:** What Computers Do **Difficulty:** Moderate

56. Hard disk drives, DVD drives, and floppy drives are all forms of _____ storage.

Answer: secondary or permanent **Reference:** What Computers Do **Difficulty:** Moderate

57. The keyboard, monitor, and a DVD drive are known as _____.

Answer: peripherals **Reference:** What Computers Do **Difficulty:** Moderate

58. A computer system is not complete without _____, which tells the hardware what to do.

Answer: software **Reference:** What Computers Do **Difficulty:** Moderate

59. A(n) _____ is a binary digit.

Answer: bit **Reference:** Bit Basics **Difficulty:** Moderate

60. A program that runs on a(n) _____ operating system cannot run on Windows.

Answer: Linux **Reference:** Compatibility **Difficulty:** Moderate

61. Eight bits are called a(n) _____.

Answer: byte **Reference:** Bit Basics **Difficulty:** Easy

62. The most widely used code of computer systems is _____.

Answer: ASCII **Reference:** Bits as Codes **Difficulty:** Moderate

63. GB stands for _____.

Answer: gigabyte **Reference:** Bits, Bytes, and Buzzwords **Difficulty:** Easy

Chapter 2: Hardware Basics: Inside the Box

64. Data transfer speed is measured in _____.

Answer: megabits

Reference: Bits, Bytes, and Buzzwords

Difficulty: Challenging

65. The CPU, all additional chips, and the electronic circuitry are all housed on the _____.

Answer: motherboard

Reference: The CPU: The Real Computer

Difficulty: Moderate

66. Gigahertz is a measure of the computer's clock speed and is a measure of _____ of clock cycles per second.

Answer: billions

Reference: Performance

Difficulty: Challenging

67. The number of bits a CPU can process simultaneously is the CPU's _____.

Answer: word size

Reference: Performance

Difficulty: Challenging

68. SIMM stands for _____.

Answer: single in-line memory module

Reference: The Computer's Memory

Difficulty: Easy

69. Computer memory or primary memory is also known as _____.

Answer: RAM

Reference: The Computer's Memory

Difficulty: Easy

70. _____ memory is nonvolatile and often used in digital cameras and cell phones.

Answer: Flash

Reference: The Computer's Memory

Difficulty: Challenging

71. Nonvolatile memory, etched at the factory, is called _____.

Answer: ROM

Reference: The Computer's Memory

Difficulty: Moderate

72. The wire groups that transfer data between components on the motherboard are known as the _____.

Answer: buses or system buses

Reference: Buses, Ports, and Peripherals

Difficulty: Moderate

73. Sockets on the outside of the computer, often in the back, into which you can plug peripherals are the _____ of the computer system.

Answer: ports

Reference: Buses, Ports, and Peripherals

Difficulty: Moderate

Matching:

74. Match the following terms to their meanings:

- | | |
|---------------------|--|
| I. bus | A. area in the computer box for disk drives or other devices |
| II. bay | B. printer, scanner, or mouse, for example |
| III. expansion card | C. wires that move data from one component to another |
| IV. port | D. location to insert a PC card, for example |
| V. expansion slot | E. adds an additional feature to a computer system |
| VI. peripheral | F. socket on the outside of the computer |

Answers: C, A, E, F, D, B

Reference: Buses, Ports, and Peripherals

Difficulty: Easy

75. Match the following terms to their meanings:

- | | |
|------------------|---|
| I. RAM | A. memory chips on small circuit boards, double-sided |
| II. CMOS | B. similar to RAM but nonvolatile |
| III. DIMM | C. low-energy, battery powered memory |
| IV. ROM | D. memory chips on small circuit boards, single-sided |
| V. BIOS | E. firmware programs in ROM |
| VI. flash memory | F. primary memory |
| VII. SIMM | G. nonvolatile memory |

Answers: F, C, A, G, E, B, D

Reference: The Computer's Memory

Difficulty: Moderate

Chapter 2: Hardware Basics: Inside the Box

76. Match the following terms to their meanings:

- | | |
|--------------------|---|
| I. ALU | A. 32 or 64 bit storage for the ALU |
| II. register | B. memory which is faster than RAM |
| III. prefetch unit | C. 32 or 64 bits processed simultaneously |
| IV. cache | D. part of the CPU where instructions are performed |
| V. word size | E. translates an instruction |
| VI. decode unit | F. retrieves an instruction |
| VII. clock | G. timing device |

Answers: D, A, F, B, C, E, G
Difficulty: Moderate

Reference: The Computer's Core: CPU and Memory