

Chapter 02: The System Unit: Processing and Memory

1. The process of representing data in digital form so it can be used by a digital computer is called decimal byte representation.

- a. True
- b. False

ANSWER: False
POINTS: 1
REFERENCES: 52
QUESTION TYPE: True / False
HAS VARIABLES: False
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2. The binary numbering system uses only two symbols—the digits 0 and 1—to represent all possible numbers.

- a. True
- b. False

ANSWER: True
POINTS: 1
REFERENCES: 52-53
QUESTION TYPE: True / False
HAS VARIABLES: False
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3. Unlike ASCII, Unicode is a universal coding standard designed to represent text-based data written in any language, including those with different alphabets.

- a. True
- b. False

ANSWER: True
POINTS: 1
REFERENCES: 54
QUESTION TYPE: True / False
HAS VARIABLES: False
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4. Each pixel in a monochrome graphic can be only one of two possible colors (such as black or white).

- a. True
- b. False

ANSWER: True
POINTS: 1
REFERENCES: 55
QUESTION TYPE: True / False

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<i>HAS VARIABLES:</i>	False
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5. To convert analog sound to digital sound, several thousand samples—digital representations of the sound at a particular moment—are taken every second.

- | | |
|----|-------|
| a. | True |
| b. | False |

<i>ANSWER:</i>	True
<i>POINTS:</i>	1
<i>REFERENCES:</i>	55
<i>QUESTION TYPE:</i>	True / False
<i>HAS VARIABLES:</i>	False
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6. Early computers required programs to be written in machine language.

- | | |
|----|-------|
| a. | True |
| b. | False |

<i>ANSWER:</i>	True
<i>POINTS:</i>	1
<i>REFERENCES:</i>	56
<i>QUESTION TYPE:</i>	True / False
<i>HAS VARIABLES:</i>	False
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7. The main circuit board inside the system unit is called the megaboard.

- | | |
|----|-------|
| a. | True |
| b. | False |

<i>ANSWER:</i>	False
<i>POINTS:</i>	1
<i>REFERENCES:</i>	57
<i>QUESTION TYPE:</i>	True / False
<i>HAS VARIABLES:</i>	False
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8. The number of bits being transmitted at one time is dependent on the bus width.

- | | |
|----|-------|
| a. | True |
| b. | False |

<i>ANSWER:</i>	True
----------------	------

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POINTS:	1
REFERENCES:	62
QUESTION TYPE:	True / False
HAS VARIABLES:	False
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9. ROM (read-only memory), also called main memory, is used to store the essential parts of the operating system while the computer is running.

- a. True
- b. False

ANSWER:	False
POINTS:	1
REFERENCES:	62
QUESTION TYPE:	True / False
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10. Each location in memory has an address.

- a. True
- b. False

ANSWER:	True
POINTS:	1
REFERENCES:	64
QUESTION TYPE:	True / False
HAS VARIABLES:	False
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11. Traditionally, PC Cards were used for notebook expansion.

- a. True
- b. False

ANSWER:	True
POINTS:	1
REFERENCES:	67
QUESTION TYPE:	True / False
HAS VARIABLES:	False
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12. The backside bus (BSB) has been one of the most common types of expansion buses in past years.

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- a. True
b. False

ANSWER: False
POINTS: 1
REFERENCES: 69
QUESTION TYPE: True / False
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13. Several of the original ports used with desktop computers—such as the parallel ports traditionally used to connect printers—are now considered standard ports.

- a. True
b. False

ANSWER: False
POINTS: 1
REFERENCES: 70
QUESTION TYPE: True / False
HAS VARIABLES: False
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14. USB ports are used to connect a computer to a phone outlet via telephone connectors.

- a. True
b. False

ANSWER: False
POINTS: 1
REFERENCES: 71
QUESTION TYPE: True / False
HAS VARIABLES: False
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15. MIDI ports are used to receive wireless transmissions from devices.

- a. True
b. False

ANSWER: False
POINTS: 1
REFERENCES: 71
QUESTION TYPE: True / False
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16. The decode unit coordinates and controls the operations and activities taking place within the CPU.

- a. True
- b. False

ANSWER: False
 POINTS: 1
 REFERENCES: 74
 QUESTION TYPE: True / False
 HAS VARIABLES: False
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17. The control unit takes the instructions fetched by the prefetch unit and translates them into a form that can be understood by the control unit, ALU, and FPU.

- a. True
- b. False

ANSWER: False
 POINTS: 1
 REFERENCES: 75
 QUESTION TYPE: True / False
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18. As a hard drive begins to get full, it takes less time to locate and manipulate the data stored on the drive.

- a. True
- b. False

ANSWER: False
 POINTS: 1
 REFERENCES: 77
 QUESTION TYPE: True / False
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19. Pipelining increases the number of machine cycles completed per second.

- a. True
- b. False

ANSWER: True
 POINTS: 1
 REFERENCES: 80

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<i>HAS VARIABLES:</i>	False
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20. Typically, 3D chips are created by layering individual silicon wafers on top of one another.

- | | |
|----|-------|
| a. | True |
| b. | False |

<i>ANSWER:</i>	True
<i>POINTS:</i>	1
<i>REFERENCES:</i>	85
<i>QUESTION TYPE:</i>	True / False
<i>HAS VARIABLES:</i>	False
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21. Most recent software programs, including the latest versions of Microsoft Windows, Mac OS, and Microsoft Office, use ASCII.

<i>ANSWER:</i>	False - Unicode
<i>POINTS:</i>	1
<i>REFERENCES:</i>	54
<i>QUESTION TYPE:</i>	Modified True / False
<i>HAS VARIABLES:</i>	False
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22. ASCII is the coding system traditionally used with personal computers.

<i>ANSWER:</i>	True
<i>POINTS:</i>	1
<i>REFERENCES:</i>	54
<i>QUESTION TYPE:</i>	Modified True / False
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23. Because of its large size, when audio data is transmitted over the Internet it is often encrypted to shorten the download time.

<i>ANSWER:</i>	False - compressed
<i>POINTS:</i>	1
<i>REFERENCES:</i>	55
<i>QUESTION TYPE:</i>	Modified True / False
<i>HAS VARIABLES:</i>	False
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24. The system unit is the main case of a computer. _____

ANSWER: True
 POINTS: 1
 REFERENCES: 56
 QUESTION TYPE: Modified True / False
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25. The central processing unit (CPU) consists of a variety of circuitry and components that are packaged together and connected directly to the motherboard. _____

ANSWER: True
 POINTS: 1
 REFERENCES: 58
 QUESTION TYPE: Modified True / False
 HAS VARIABLES: False
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26. The CPU—also called the microprocessor or just the board—does the vast majority of the processing for a computer. _____

ANSWER: False - processor, microprocessor
 POINTS: 1
 REFERENCES: 58
 QUESTION TYPE: Modified True / False
 HAS VARIABLES: False
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27. Benchmark tests typically run the same series of programs on several computer systems that are identical except for one component (such as the CPU) and measure how long each task takes in order to determine the overall relative performance of the component being tested. _____

ANSWER: True
 POINTS: 1
 REFERENCES: 60-61
 QUESTION TYPE: Modified True / False
 HAS VARIABLES: False
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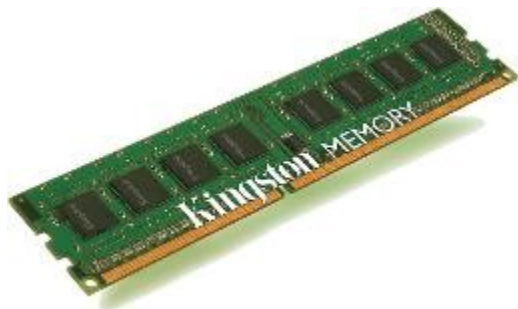
28. Cache memory today is usually external cache. _____

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ANSWER:	False - internal
POINTS:	1
REFERENCES:	61
QUESTION TYPE:	Modified True / False
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29. Memory refers to the amount of long-term storage available to a PC. _____

ANSWER:	False - Storage
POINTS:	1
REFERENCES:	62
QUESTION TYPE:	Modified True / False
HAS VARIABLES:	False
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30. The accompanying figure shows a DIMM RAM microprocessor. _____

ANSWER:	False - memory module
POINTS:	1
REFERENCES:	63
QUESTION TYPE:	Modified True / False
HAS VARIABLES:	False
PREFACE NAME:	Figure 2-11
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31. The buses used to connect peripheral (typically input and output) devices to the motherboard are usually referred to as expansion buses. _____

ANSWER:	True
POINTS:	1
REFERENCES:	68
QUESTION TYPE:	Modified True / False

Name _____ Class _____ Date: _____

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32. Keyboards and mice are typically connected to a computers using parallel ports. _____

ANSWER: False - USB
POINTS: 1
REFERENCES: 69
QUESTION TYPE: Modified True / False
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33. Today's CPUs contain hundreds of millions of transistors, and the number doubles approximately every 18 months, a phenomenon known as Molier's Law. _____

ANSWER: False - Moore's Law
POINTS: 1
REFERENCES: 73
QUESTION TYPE: Modified True / False
HAS VARIABLES: False
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34. Each machine language instruction in a CPU's instruction set is broken down into several smaller, machine-level instructions called supercode. _____

ANSWER: False - microcode
POINTS: 1
REFERENCES: 75
QUESTION TYPE: Modified True / False
HAS VARIABLES: False
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35. With pipelining, a new instruction begins executing as soon as the previous one reaches the next stage of the pipeline. _____

ANSWER: True
POINTS: 1
REFERENCES: 80
QUESTION TYPE: Modified True / False
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36. Eight bits grouped together are collectively referred to as a ____.

- | | | | |
|----|---------|----|--------|
| a. | kilobit | b. | byte |
| c. | pixel | d. | binary |

ANSWER: b
 POINTS: 1
 REFERENCES: 52
 QUESTION TYPE: Multiple Choice
 HAS VARIABLES: False
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37. The numbering system we commonly use is called the decimal numbering system because it uses ____ symbols to represent all possible numbers.

- | | | | |
|----|----|----|----|
| a. | 2 | b. | 5 |
| c. | 10 | d. | 16 |

ANSWER: c
 POINTS: 1
 REFERENCES: 52
 QUESTION TYPE: Multiple Choice
 HAS VARIABLES: False
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38. A ____ is the smallest unit of data that a binary computer can recognize.

- | | | | |
|----|-------|----|-------|
| a. | byte | b. | datum |
| c. | pixel | d. | bit |

ANSWER: d
 POINTS: 1
 REFERENCES: 52
 QUESTION TYPE: Multiple Choice
 HAS VARIABLES: False
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39. A ____ is equal to 1,024 bytes.

- | | | | |
|----|---------------|----|---------------|
| a. | kilobyte (KB) | b. | megabyte (MB) |
| c. | gigabyte (GB) | d. | terabyte (TB) |

ANSWER: a
 POINTS: 1
 REFERENCES: 52
 QUESTION TYPE: Multiple Choice
 HAS VARIABLES: False

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40. Each place value in a binary number represents ____ raised to the appropriate power.

- | | | | |
|----|---|----|----|
| a. | 0 | b. | 1 |
| c. | 2 | d. | 10 |

ANSWER: c
POINTS: 1
REFERENCES: 53
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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41. With bitmapped images, the color of each ____ is represented by bits; the more bits used, the better the image quality.

- | | | | |
|----|-------|----|--------|
| a. | pixel | b. | vector |
| c. | map | d. | byte |

ANSWER: a
POINTS: 1
REFERENCES: 54-55
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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42. In a 16.8-million-color (called photographic quality or ____) image, three bytes (24 bits) are used to store the color data for each pixel in the image.

- | | | | |
|----|------------|----|------------|
| a. | mega color | b. | true color |
| c. | real color | d. | full color |

ANSWER: b
POINTS: 1
REFERENCES: 55
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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43. Like graphics data, ____—such as a song or the sound of someone speaking—must be in digital form in order to be stored on a storage medium or processed by a PC.

- | | | | |
|----|------------|----|----------------|
| a. | pixel data | b. | giga data |
| c. | audio data | d. | audio programs |

ANSWER: c
POINTS: 1

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QUESTION TYPE: Multiple Choice
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44. Video data—such as home movies, feature films, and television shows—is displayed using a collection of ____.
- a. slides
 - b. pixels
 - c. vectors
 - d. frames

ANSWER: d
POINTS: 1
REFERENCES: 56
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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45. A(n) ____ instruction might look like a meaningless string of 0s and 1s, but it actually represents specific operations and storage locations.
- a. COBOL language
 - b. ASCII
 - c. programming language
 - d. machine language

ANSWER: d
POINTS: 1
REFERENCES: 56
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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46. ____ are very small pieces of silicon or other semiconducting material onto which integrated circuits are embedded.
- a. Pixels
 - b. Pentiums
 - c. Chips
 - d. Motherboards

ANSWER: c
POINTS: 1
REFERENCES: 56
QUESTION TYPE: Multiple Choice
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47. One measurement of the speed of a CPU is the ____, which is rated in megahertz (MHz) or gigahertz (GHz).
- a. system speed
 - b. CPU clock speed

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c. system rpm

d. CPU rpm

ANSWER:

b

POINTS:

1

REFERENCES:

60

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

False

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48. A computer _____ is the amount of data (measured in bits or bytes) that a CPU can manipulate at one time.

a. word

b. character

c. statement

d. unit

ANSWER:

a

POINTS:

1

REFERENCES:

61

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

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49. A _____ is an electronic path over which data can travel.

a. bus

b. lane

c. word

d. cache memory

ANSWER:

a

POINTS:

1

REFERENCES:

62

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

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50. The bus width and bus speed together determine the bus's _____ or bandwidth; that is, the amount of data that can be transferred via the bus in a given period of time.

a. clock speed

b. throughput

c. machine cycle

d. memory

ANSWER:

b

POINTS:

1

REFERENCES:

62

QUESTION TYPE:

Multiple Choice

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51. The term ____ refers to chip-based storage used by the computer.

- | | |
|------------------|--------------|
| a. storage media | b. memory |
| c. hard drive | d. Zip drive |

ANSWER:	b
POINTS:	1
REFERENCES:	62
QUESTION TYPE:	Multiple Choice
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52. One type of nonvolatile RAM, called MRAM, uses ____ polarization rather than an electrical charge to store data.

- | | |
|---------------------|--------------------|
| a. magnetoselective | b. magnetobalanced |
| c. magnetic | d. magnetocharged |

ANSWER:	c
POINTS:	1
REFERENCES:	64
QUESTION TYPE:	Multiple Choice
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53. ____ are small components typically made out of aluminum with fins that help to dissipate heat.

- | | |
|---------------|---------------|
| a. ACs | b. Fans |
| c. Heat buses | d. Heat sinks |

ANSWER:	d
POINTS:	1
REFERENCES:	65
QUESTION TYPE:	Multiple Choice
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54. ____ consists of nonvolatile memory chips that can be used for storage by the computer or the user.

- | | |
|----------|-----------------|
| a. RAM | b. Register |
| c. SDRAM | d. Flash memory |

ANSWER:	d
POINTS:	1
REFERENCES:	65
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55. _____ have begun to replace ROM for storing system information, such as a PC's BIOS.

- a. Motherboards
- b. Microprocessors
- c. Adapter cards
- d. Flash memory chips

ANSWER: d

POINTS: 1

REFERENCES: 65

QUESTION TYPE: Multiple Choice

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56. The _____ enables up to 127 devices to be connected to a computer through a single port on the computer's system unit.

- a. HyperTransport bus
- b. USB standard
- c. AGP (Accelerated Graphics Port) bus
- d. PCI Express Bus

ANSWER: b

POINTS: 1

REFERENCES: 69

QUESTION TYPE: Multiple Choice

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57. Most network cards contain a port that accepts a(n) _____, which looks similar to a telephone connector but is larger.

- a. RJ-11 connector
- b. RJ-12 connector
- c. RJ-14 connector
- d. RJ-45 connector

ANSWER: d

POINTS: 1

REFERENCES: 71

QUESTION TYPE: Multiple Choice

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58. A USB _____ is a device that plugs into your PC's USB port to convert one port into several USB ports.

- a. hub
- b. module
- c. bus
- d. connector

ANSWER: a

POINTS: 1

REFERENCES: 71

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59. Most computers today support the ____ standard, in which the computer automatically configures new devices as soon as they are installed and the PC is powered up.

- | | |
|------------------|------------------|
| a. Plug and Play | b. Match |
| c. Serial port | d. Parallel port |

ANSWER: a
POINTS: 1
REFERENCES: 71

QUESTION TYPE: Multiple Choice
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60. The key element of the microprocessor is the ____—a device made of semiconductor material that acts like a switch controlling the flow of electrons inside a chip.

- | | |
|--------------|---------------|
| a. processor | b. transistor |
| c. chipbus | d. S-card |

ANSWER: b
POINTS: 1
REFERENCES: 73

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61. The ____ takes instructions from the prefetch unit and translates them into a form that the control unit can understand.

- | | |
|-------------|-------------------|
| a. register | b. decode unit |
| c. ALU | d. internal cache |

ANSWER: b
POINTS: 1
REFERENCES: 73

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62. The ____ is the section of the CPU that performs arithmetic involving integers and logical operations.

- | | |
|----------------|-----------------|
| a. FPU | b. control unit |
| c. decode unit | d. ALU |

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ANSWER: d
POINTS: 1
REFERENCES: 74
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63. The _____ orders data and instructions from cache or RAM based on the task at hand.

- | | |
|-----------------|------------------|
| a. ALU | b. prefetch unit |
| c. control unit | d. decode unit |

ANSWER: b
POINTS: 1
REFERENCES: 75
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 12/5/2013 4:47 PM
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64. The _____ tries to predict what data and instructions will be needed and retrieves them ahead of time, in order to help avoid delays in processing.

- | | |
|--------------------------|------------------------|
| a. control unit | b. floating point unit |
| c. arithmetic/logic unit | d. prefetch unit |

ANSWER: d
POINTS: 1
REFERENCES: 75
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 12/5/2013 4:47 PM
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65. Instructions and data flow in and out of the CPU via the _____.

- | | |
|-----------------|-----------------------|
| a. control unit | b. prefetch unit |
| c. decode unit | d. bus interface unit |

ANSWER: d
POINTS: 1
REFERENCES: 75
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
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66. In order to synchronize all of a computer's operations, a _____—a small quartz crystal located on the motherboard—is used.

- a. cycle chip
- b. fetch unit
- c. system clock
- d. microprocessor

ANSWER:

c

POINTS:

1

REFERENCES:

75

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

False

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67. Some _____ must be added in pairs for optimal performance.

- a. interfaces
- b. memory modules
- c. USB ports
- d. hard drives

ANSWER:

b

POINTS:

1

REFERENCES:

77

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

False

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68. Today's CPUs are formed using a process called _____ that imprints patterns on semiconductor materials.

- a. vectoring
- b. lithography
- c. serigraphy
- d. imprintment

ANSWER:

b

POINTS:

1

REFERENCES:

79

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

False

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69. One nanometer (nm) is _____ of a meter.

- a. one-billionth
- b. one-millionth
- c. one-thousandth
- d. one-tenth

ANSWER:

a

POINTS:

1

REFERENCES:

79

QUESTION TYPE:

Multiple Choice

HAS VARIABLES:

False

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70. Terascale computing is the ability of computers to process one _____ floating-point operations per second (teraflops).

- a. million
- b. billion
- c. trillion
- d. quadrillion

ANSWER: c
POINTS: 1
REFERENCES: 85
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
DATE CREATED: 12/5/2013 4:47 PM
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Case-Based Critical Thinking Questions

Case 2-1

Jess is a musician who has just bought a new computer. Now she has to determine how to connect this computer to the devices that were connected to her old computer.

71. To connect her external hard drive where her music files are stored to the computer, Jess needs to use the _____ port.

- a. serial
- b. USB
- c. network
- d. modem

ANSWER: b
POINTS: 1
REFERENCES: 71
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
PREFACE NAME: Case 2-1
TOPICS: Critical Thinking
DATE CREATED: 12/5/2013 4:47 PM
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72. Jess has pictures from her old computer saved on a flash drive. To transfer these to her new computer, she would use a(n) _____ port.

- a. SCSI
- b. IrDA
- c. modem
- d. USB

ANSWER: d
POINTS: 1
REFERENCES: 71
QUESTION TYPE: Multiple Choice
HAS VARIABLES: False
PREFACE NAME: Case 2-1

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<i>TOPICS:</i>	Critical Thinking
<i>DATE CREATED:</i>	12/5/2013 4:47 PM
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Case-Based Critical Thinking Questions

Case 2-2

Jack has a computer at home that he uses to access the Internet, store and edit personal photos, and create and edit documents. Recently, he has come to realize that in order to keep the computer performing at its best, he needs to carry out regular system maintenance on the computer.

73. Jack can speed up his computer by scanning it for viruses and ____.
- | | |
|------------|-----------------|
| a. RAM | b. Flash drives |
| c. spyware | d. bytes |

<i>ANSWER:</i>	c
<i>POINTS:</i>	1
<i>REFERENCES:</i>	78
<i>QUESTION TYPE:</i>	Multiple Choice
<i>HAS VARIABLES:</i>	False
<i>PREFACE NAME:</i>	Case 2-2
<i>TOPICS:</i>	Critical Thinking
<i>DATE CREATED:</i>	12/5/2013 4:47 PM
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74. Jack can use the ____ program to locate and delete temporary files, such as installation files, Web browsing history, and files in the Recycle Bin.

- | | |
|---------------------|-------------------------|
| a. Windows Registry | b. Disk Defragmenter |
| c. Temporary Files | d. Windows Disk Cleanup |

<i>ANSWER:</i>	d
<i>POINTS:</i>	1
<i>REFERENCES:</i>	78
<i>QUESTION TYPE:</i>	Multiple Choice
<i>HAS VARIABLES:</i>	False
<i>PREFACE NAME:</i>	Case 2-2
<i>TOPICS:</i>	Critical Thinking
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75. Since Jack has a Windows system, he can right-click a hard drive icon in Windows Explorer, select Properties, and then select the ____ option on the Tools tab to check that hard drive for errors.

- | | |
|-------------------|-------------------------|
| a. Check now | b. Disk Defragmenter |
| c. Defragment now | d. Windows Disk Cleanup |

<i>ANSWER:</i>	a
<i>POINTS:</i>	1

Chapter 02: The System Unit: Processing and Memory

REFERENCES:	78
QUESTION TYPE:	Multiple Choice
HAS VARIABLES:	False
PREFACE NAME:	Case 2-2
TOPICS:	Critical Thinking
DATE CREATED:	12/5/2013 4:47 PM
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76. _____ data consists of still images, such as photographs or drawings.

ANSWER:	Graphics
POINTS:	1
REFERENCES:	54
QUESTION TYPE:	Completion
HAS VARIABLES:	False
DATE CREATED:	12/5/2013 4:47 PM
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77. One of the most common methods for storing graphics data is in the form of a bitmap—a grid of hundreds of thousands of dots, called _____.

ANSWER:	pixels
POINTS:	1
REFERENCES:	54
QUESTION TYPE:	Completion
HAS VARIABLES:	False
DATE CREATED:	12/5/2013 4:47 PM
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78. Text-based data is represented by fixed-length binary coding systems specifically developed for text-based data—namely, ASCII, EBCDIC, and _____.

ANSWER:	Unicode
POINTS:	1
REFERENCES:	53
QUESTION TYPE:	Completion
HAS VARIABLES:	False
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79. A(n) _____ is a thin board containing chips and other electronic components.

ANSWER:	circuit board
POINTS:	1
REFERENCES:	56
QUESTION TYPE:	Completion
HAS VARIABLES:	False

Name _____ Class _____ Date _____

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80. _____ are collections of electronic circuits containing microscopic pathways along which electrical current can travel.

ANSWER: ICs
Integrated circuits
Integrated circuits (ICs)
ICs (Integrated circuits)

POINTS: 1
REFERENCES: 56-57

QUESTION TYPE: Completion

HAS VARIABLES: False

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81. The power supply inside a desktop computer connects to the _____ to deliver electricity to the computer.

ANSWER: motherboard

POINTS: 1
REFERENCES: 57

QUESTION TYPE: Completion

HAS VARIABLES: False

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82. Most CPUs today are _____ CPUs; that is, CPUs that contain the processing components or cores of multiple independent processors on a single CPU.

ANSWER: multi-core

POINTS: 1
REFERENCES: 58

QUESTION TYPE: Completion

HAS VARIABLES: False

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83. _____ is a special group of very fast memory circuitry located on or close to the CPU.

ANSWER: Cache memory

POINTS: 1
REFERENCES: 61

QUESTION TYPE: Completion

HAS VARIABLES: False

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Name _____ Class _____ Date: _____

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84. Like the CPU, RAM consists of circuits etched onto chips. These chips are arranged onto circuit boards called _____.

ANSWER: memory modules
POINTS: 1
REFERENCES: 63
QUESTION TYPE: Completion
HAS VARIABLES: False
DATE CREATED: 12/5/2013 4:47 PM
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85. _____ are locations on the motherboard into which expansion cards can be inserted to connect those cards to the motherboard.

ANSWER: Expansion slots
POINTS: 1
REFERENCES: 66
QUESTION TYPE: Completion
HAS VARIABLES: False
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86. Expansion buses connect directly to _____ on the system unit case or to expansion slots on the motherboard.

ANSWER: ports
POINTS: 1
REFERENCES: 68-69
QUESTION TYPE: Completion
HAS VARIABLES: False
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87. _____ are the connectors located on the exterior of the system unit that are used to connect external hardware devices.

ANSWER: Ports
POINTS: 1
REFERENCES: 70
QUESTION TYPE: Completion
HAS VARIABLES: False
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88. The accompanying figure shows the mouse connected to the computer via a(n) _____.

ANSWER: USB hub
 POINTS: 1
 REFERENCES: 71
 QUESTION TYPE: Completion
 HAS VARIABLES: False
 PREFACE NAME: Figure 2-17
 DATE CREATED: 12/5/2013 4:47 PM
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89. _____ computing utilizes atoms or nuclei working together as quantum bits that are capable of representing more than just two states as in electronic computing of today.

ANSWER: Quantum
 POINTS: 1
 REFERENCES: 83
 QUESTION TYPE: Completion
 HAS VARIABLES: False
 DATE CREATED: 12/5/2013 4:47 PM
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90. A(n) _____ slot can be used with peripheral devices adhering to the Secure Digital Input/Output (SDIO) standard.

ANSWER: SD
 Secure Digital
 POINTS: 1
 REFERENCES: 73
 QUESTION TYPE: Completion
 HAS VARIABLES: False
 DATE CREATED: 12/5/2013 4:47 PM
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91. The _____ coordinates and controls the operations and activities taking place within the CPU, such as retrieving data and instructions and passing them on to the ALU or FPU for execution.

Name _____ Class _____ Date _____

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ANSWER: control unit
POINTS: 1
REFERENCES: 74-75
QUESTION TYPE: Completion
HAS VARIABLES: False
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92. Most computers today can process more than one piece of microcode at one time—a characteristic known as _____, or being able to process multiple instructions per cycle (IPC).

ANSWER: superscalar
POINTS: 1
REFERENCES: 76
QUESTION TYPE: Completion
HAS VARIABLES: False
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93. As large documents are stored, retrieved, and then stored again, they often become _____—that is, not stored in contiguous (adjacent) storage areas.

ANSWER: fragmented
POINTS: 1
REFERENCES: 77
QUESTION TYPE: Completion
HAS VARIABLES: False
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94. _____ are tiny, hollow tubes made up of carbon atoms.

ANSWER: CNT
Carbon nanotubes
Carbon nanotubes (CNT)
CNT (Carbon nanotubes)
POINTS: 1
REFERENCES: 82
QUESTION TYPE: Completion
HAS VARIABLES: False
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95. The _____ chip is estimated to be 100 times faster than silicon.

ANSWER: graphene
POINTS: 1

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<i>REFERENCES:</i>	80
<i>QUESTION TYPE:</i>	Completion
<i>HAS VARIABLES:</i>	False
<i>DATE CREATED:</i>	12/5/2013 4:47 PM
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96. Explain what a register is and how it is used.

ANSWER: A register is high-speed memory built into the CPU. Registers are used by the CPU to temporarily store data and intermediary results during processing. Registers are the fastest type of memory used by the CPU, even faster than Level 1 cache. Generally, the more data a register can contain at one time, the faster the CPU performs.

POINTS: 1

REFERENCES: 65

QUESTION TYPE: Essay

HAS VARIABLES: False

TOPICS: Critical Thinking

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97. Of what does ROM (read-only memory) consist? What is one important difference between ROM and RAM (random access memory)?

ANSWER: ROM (read-only memory) consists of nonvolatile chips that permanently store data or programs. Like RAM, these chips are attached to the motherboard inside the system unit, and the data or programs are retrieved by the computer when they are needed. An important difference, however, is that you can neither write over the data or programs in ROM chips (which is the reason ROM chips are called *read-only*), nor destroy their contents when you shut off the computer's power.

POINTS: 1

REFERENCES: 65

QUESTION TYPE: Essay

HAS VARIABLES: False

TOPICS: Critical Thinking

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98. What are the general operations of a machine cycle?

ANSWER: Each machine cycle consists of the following four general operations:

1. Fetch—the program instruction is fetched.
2. Decode—the instructions are decoded so the control unit, ALU, and FPU can understand them.
3. Execute—the instructions are carried out.
4. Store—the original data or the result from the ALU or FPU execution is stored either in the CPU's registers or in memory, depending on the instruction.

POINTS: 1

REFERENCES: 76

QUESTION TYPE: Essay

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HAS VARIABLES: False

TOPICS: Critical Thinking

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99. Explain the difference between multiprocessing and parallel processing.

ANSWER: With multiprocessing, each CPU typically works on a different job. Because multiple jobs are being processed simultaneously, they are completed faster than with a single processor. With parallel processing, multiple processors work together to make one single job finish sooner; a control processor assigns a portion of the processing for that job to each CPU.

POINTS: 1

REFERENCES: 80-81

QUESTION TYPE: Essay

HAS VARIABLES: False

TOPICS: Critical Thinking

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100. Describe how Hyper-Threading Technology works.

ANSWER: Hyper-Threading Technology is a technology developed by Intel to enable software to treat a single processor as two processors. Since it utilizes processing power in the chip that would otherwise go unused, this technology lets the chip operate more efficiently, resulting in faster processing, provided the software being used supports Hyper-Threading.

POINTS: 1

REFERENCES: 81

QUESTION TYPE: Essay

HAS VARIABLES: False

TOPICS: Critical Thinking

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