Computer Systems Organization Quiz: Input/Output

Points: 65/80

1. Full Name *

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✓ **Correct** 1/1 Points

3. A digital computer consists of an interconnected system of processors, memories, and ___ devices. *

- ○ arithmetic
- ○ control
- ◉ input/output
- ○ bus

✓ **Correct** 1/1 Points

4. The usual arrangement in a personal computer is a metal box with a large printed circuit board called the ___ . *

- [ ] bus
- [x] motherboard
- [ ] controller
- [ ] cable

✓ **Correct** 1/1 Points

5. Each I/O device consists of two parts: one containing most of the electronics, called the ___, and one containing the I/O device itself. *

- [ ] bus
- [ ] cable
- [x] controller
- [ ] ALU

✓ **Correct** 1/1 Points

6. The controller connects to its device by a ___ attached to a connector on the back of the box. *

- bus
- cable
- register
- memory

✓ **Correct** 1/1 Points

7. A controller that reads or writes data to or from memory without CPU intervention is said to be performing ___ . *

- interrupt
- cycle stealing
- bus arbitration
- Direct Memory Access

✓ **Correct** 1/1 Points

8. When the transfer is completed, the controller normally causes an ___, forcing the CPU to immediately suspend running its current program. *

- ○ DMA
- ◉ interrupt
- ○ cycle steal
- ○ arbitration

✓ **Correct** 1/1 Points

9. A chip called a bus ___ decides who goes next when the CPU and an I/O controller want to use the bus at the same time. *

- ○ controller
- ◉ arbiter
- ○ interrupt
- ○ DMA

✓ **Correct** 1/1 Points

10. I/O devices are given preference over the CPU on the bus because they cannot be stopped without ___ loss. *

- ○ time
- ○ power
- ◉ data
- ○ cycle

✓ **Correct** 1/1 Points

11. The process where an I/O device requests and is granted the bus, slowing down the computer, is called ___ . *

- ○ DMA
- ○ interrupt
- ○ arbitration
- ◉ cycle stealing

✗ **Incorrect** 0/1 Points

12. The old PC bus, now called the ___ bus, has been relegated to ancient systems and computer museums. *

- [x] PCI
- [ ] PCIe
- [ ] ISA
- [ ] EISAC

✓ **Correct** 1/1 Points

13. The ___ bus was designed by Intel and supports plug-and-play. *

- [ ] ISA
- [x] PCI
- [ ] PCIe
- [ ] EISAC

✗ **Incorrect** 0/1 Points

14. Unlike PCI, which is a shared bus, PCIe is ___ and serial. *

- [ ] parallel
- [ ] point-to-point
- [x] multiplexed
- [ ] arbitrated

✓ **Correct** 1/1 Points

15. In PCIe, a ___ is a wire pair for communication, and devices can have up to 32 of them. *

- ○ bus
- ○ slot
- ◉ lane
- ○ bridge

✓ **Correct** 1/1 Points

16. Computer terminals consist of two parts: a ___ and a monitor. *

- ○ mouse
- ○ printer
- ◉ keyboard
- ○ bus

✓ **Correct** 1/1 Points

17. The original IBM PC came with a keyboard that had a snap-action switch under each key that gave tactile ___ and made a click. *

- resistance
- feedback
- depression
- release

✓ **Correct** 1/1 Points

18. Nowadays, cheaper keyboards have keys that just make mechanical contact when ___ *

- released
- clicked
- depressed
- interrupted

.

✓ **Correct** 1/1 Points

19. When a key is depressed on a personal computer, an ___ is generated. *

- ○ DMA
- ◉ interrupt
- ○ cycle
- ○ bus request

✓ **Correct** 1/1 Points

20. Handling of multikey sequences involving SHIFT, CTRL, and ALT is done entirely in ___ . *

- ○ hardware
- ○ firmware
- ◉ software
- ○ the controller

✓ **Correct** 1/1 Points

21. The problem where touch screens cannot distinguish between two sets of finger positions blocking the same beams is called ___ . *

- [ ] multitouch
- [x] ghosting
- [ ] capacitance
- [ ] resistance

✓ **Correct** 1/1 Points

22. Infrared touch screens use ___ blocked by fingers to detect position. *

- [ ] wires
- [ ] resistors
- [x] beams
- [ ] capacitors

✓ **Correct** 1/1 Points

23. Modern multitouch screens use ___ capacitive technology. *

- [ ] resistive
- [ ] infrared
- [x] projected
- [ ] acoustic

✓ **Correct** 1/1 Points

24. The most common flat panel display technology is ___ . *

- ○ CRT
- ◉ LCD
- ○ OLED
- ○ Plasma

✓ **Correct** 1/1 Points

25. TFT displays are ___ matrix displays using thin film transistors. *

- ○ passive
- ◉ active
- ○ twisted
- ○ nematic

✓ **Correct** 1/1 Points

26. Indexed color is used to reduce ___ usage by using a palette. *

- ○ CPU
- ○ bus
- ◉ video RAM
- ○ interrupt

✓ **Correct** 1/1 Points

27. The three kinds of mice are mechanical, optical, and ___ . *

- ○ laser
- ○ wireless
- ○ trackball
- ◉ optomechanical

✓ **Correct** 1/1 Points

28. An optical mouse detects movement by an LED and photodetector analyzing ___ imperfections. *

- ○ pad line
- ◉ surface
- ○ ball rotation
- ○ wheel turn

✓ Correct 1/1 Points

29. The unit sometimes used for mouse movement distance is the ___ . *

- pixel
- inch
- mickey
- byte

✓ Correct 1/1 Points

30. Software handles mouse data by converting relative movement to ___ position. *

- relative
- absolute
- interrupt
- DMA

✗ Incorrect 0/1 Points

31. An optomechanical mouse uses light slits and ___ for detection. *

- [ ] cameras
- [ ] detectors
- [x] wheels
- [ ] balls

✓ **Correct** 1/1 Points

32. The Wiimote provides motion-sensing using a 3-axis ___ and IR camera. *

- [ ] gyroscope
- [x] accelerometer
- [ ] compass
- [ ] GPS

✓ **Correct** 1/1 Points

33. The Kinect senses user input using computer ___ and a depth camera. *

- [ ] graphics
- [ ] audio
- [x] vision
- [ ] touch

✗ **Incorrect** 0/1 Points

34. Kinect uses ___ lighting with IR dots to compute depth. *

- ○ natural
- ○ flash
- ○ structured
- ◉ ambient

✓ **Correct** 1/1 Points

35. The sensor bar in the Wii contains IR ___ for pointing. *

- ○ cameras
- ◉ LEDs
- ○ accelerometers
- ○ microphones

✓ **Correct** 1/1 Points

36. The Wiimote handles fine-grained pointing using its camera viewing the sensor bar's ___ *

- [ ] buttons
- [x] LEDs
- [ ] screen
- [ ] cables

✗ **Incorrect** 0/1 Points

37. The heart of a laser printer is a rotating precision ___ . *

- [x] nozzle
- [ ] cartridge
- [ ] drum
- [ ] ribbon

✓ **Correct** 1/1 Points

38. In a laser printer, an image is formed by charging the drum, laser discharging, and ___ attraction. *

- [ ] ink
- [ ] wax
- [x] toner
- [ ] dye

✓ **Correct** 1/1 Points

39. Halftoning uses cells with varying black pixels to represent ___ . *

- ○ color
- ◉ grayscale
- ○ compression
- ○ resolution

✓ **Correct** 1/1 Points

40. Printers use the ___ color model. *

- ○ RGB
- ◉ CMYK
- ○ HSV
- ○ YUV

✓ **Correct** 1/1 Points

41. Black is added in CMYK for better black than mixing CMY, and to ___ ink. *

- ○ increase
- ◉ save
- ○ color
- ○ dry

✓ **Correct** 1/1 Points

42. The set of producible colors by a printer is called its ___ . *

- ○ resolution
- ○ speed
- ◉ gamut
- ○ halftone

✗ **Incorrect** 0/1 Points

43. Piezoelectric inkjets work by deforming a ___ to eject ink.

- ◉ resistor
- ○ bubble
- ○ crystal
- ○ laser

✓ **Correct** 1/1 Points

44. Bubblejet printers are a type of ___ inkjet. *

- ○ piezoelectric
- ◉ thermal
- ○ solid
- ○ dye

✓ **Correct** 1/1 Points

45. Solid ink printers use melting ___ blocks. *

- ○ toner
- ○ dye
- ◉ wax
- ○ bubble

✗ **Incorrect** 0/1 Points

46. Dye sublimation printers vaporize dye for ___ colors. *

- [ ] discrete
- [x] halftone
- [ ] continuous
- [ ] indexed

✓ **Correct** 1/1 Points

47. A modem ___ a carrier signal for transmission over a telephone line. *

- [ ] stores
- [ ] prints
- [x] modulates
- [ ] displays

✗ **Incorrect** 0/1 Points

48. The baud rate is the number of signal ___ per second. *

- [x] bits
- [ ] changes
- [ ] voltages
- [ ] frequencies

✓ Correct 1/1 Points

49. Full-duplex allows transmission in both directions ___ . *

- alternately
- one way
- simultaneously
- never

✓ Correct 1/1 Points

50. ADSL is asymmetric with more bandwidth allocated to the ___ direction. *

- upstream
- downstream
- voice
- control

✓ Correct 1/1 Points

51. In ADSL, a ___ separates the voice and data signals at the customer premises. *

- modem
- DSLAM
- NID
- splitter

✓ **Correct** 1/1 Points

52. The DSLAM is a Digital Subscriber Line Access ___ . *

- Modem
- Multiplexer
- Module
- Manager

Computer Systems Organization Quiz: Input/Output (continued)

✓ **Correct** 1/1 Points

53. In cable Internet, downstream is faster because more spectrum is available above ___ *

- upstream
- FM
- TV
- voice

.

✗ **Incorrect** 0/1 Points

54. Upstream in cable uses time-division in ___ for packets. *

- channels
- minislots
- frequencies
- bands

✓ **Correct** 1/1 Points

55. Cable modems perform ___ to measure distance to the headend for timing. *

- ( ) modulation
- ( ) splitting
- (•) ranging
- ( ) multiplexing

✓ **Correct** 1/1 Points

56. Cable modems handle contention by random wait and ___ . *

- ( ) request
- (•) retry
- ( ) assign
- ( ) allocate

✗ **Incorrect** 0/1 Points

57. In digital cameras, film is replaced by a rectangular array of ___ . *

- ( ) films
- ( ) lenses
- ( ) CCDs
- (•) pixels

✓ Correct 1/1 Points

58. The Bayer filter separates colors on CCDs, with two ___ for eye sensitivity. *

- ○ red
- ○ blue
- ◉ green
- ○ yellow

✓ Correct 1/1 Points

59. Autofocus maximizes ___ detail by moving the lens. *

- ○ low-frequency
- ○ color
- ◉ high-frequency
- ○ exposure

✓ Correct 1/1 Points

60. White balance corrects colors for the type of ___ . *

- lens
- light
- CCD
- compression Correct answer: B

✓ **Correct** 1/1 Points

61. A common compression format in digital cameras is ___ *

- GIF
- PNG
- JPEG
- BMP

.

✓ **Correct** 1/1 Points

62. Images are transferred from digital cameras to computers usually via ___ cable. *

- Ethernet
- serial
- USB
- parallel

✓ **Correct** 1/1 Points

63. ASCII characters use ___ bits, allowing for 128 characters. *

- 6
- 7
- 8
- 16

✓ **Correct** 1/1 Points

64. ASCII codes 0 to 1F (hex) are ___ characters. *

- letter
- digit
- control
- symbol

✓ **Correct** 1/1 Points

65. Unicode initially had ___ code points with 16 bits. *

- ○ 256
- ◉ 65,536
- ○ 1,114,112
- ○ 128

✓ **Correct** 1/1 Points

66. In Unicode, diacritical marks are separate to ___ code points. *

- ○ increase
- ◉ save
- ○ complicate
- ○ expand

✓ **Correct** 1/1 Points

67. UTF-8 is a ___ length encoding of Unicode. *

- ○ fixed
- ◉ variable
- ○ 7-bit
- ○ 32-bit

✕ **Incorrect** 0/1 Points

68. The advantage of UTF-8 is ASCII compatibility and ___ length for efficiency. *

- ◉ fixed
- ○ variable
- ○ long
- ○ short

✕ **Incorrect** 0/1 Points

69. In UTF-8, multi-byte sequences start with high bit ___ in the first byte. *

- ○ 0
- ○ 1
- ○ 10
- ◉ 11

✗ **Incorrect** 0/1 Points

70. Continuation bytes in UTF-8 start with ___ . *

- ○ 00
- ○ 01
- ○ 10
- ◉ 11

✓ **Correct** 1/1 Points

71. UTF-8 is ___ -synchronizing, allowing recovery from errors. *

- ○ not
- ◉ self
- ○ partially
- ○ fully

✓ **Correct** 1/1 Points

72. The maximum bytes per character in UTF-8 is ___ . *

- ○ 2
- ○ 3
- ◉ 4
- ○ 6

✓ **Correct** 1/1 Points

73. UTF-8 is dominant on the Web due to efficiency for ___ and support for Unicode. *

- ○ non-ASCII
- ◉ ASCII
- ○ control
- ○ symbols

✓ **Correct** 1/1 Points

74. Extended Unicode has ___ planes. *

- ○ 1
- ◉ 17
- ○ 256
- ○ 65,536

✓ **Correct** 1/1 Points

75. Unicode blocks are multiples of ___ code points. *

- [ ] 8
- [x] 16
- [ ] 32
- [ ] 64

✓ **Correct** 1/1 Points

76. The Han ideographs in Unicode occupy about ___ code points. *

- [ ] 256
- [ ] 1,024
- [x] 20,992
- [ ] 65,536

✓ **Correct** 1/1 Points

77. Unicode has ___ private use code points. *

- ○ 256
- ◉ 6,400
- ○ 20,992
- ○ 137,468

✗ **Incorrect** 0/1 Points

78. Not all Japanese kanji are in Unicode due to limited ___ . *

- ○ need
- ○ code points
- ◉ fonts
- ○ software

✓ **Correct** 1/1 Points

79. Dibit phase encoding transmits ___ bits per interval. *

- ○ 1
- ◉ 2
- ○ 3
- ○ 4

✓ **Correct** 1/1 Points

80. Modem speed is limited by telephone line ___ . *

- ○ length
- ◉ bandwidth
- ○ voltage
- ○ modulation

✗ **Incorrect** 0/1 Points

81. Technically, broadband means multiple ___ channels. *

- ○ data
- ○ signaling
- ○ voice
- ◉ frequency

✓ **Correct** 1/1 Points

82. ADSL uses many channels like 250 ___ in parallel for speed. *

- ○ wires
- ○ cables
- ◉ modems
- ○ lines

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