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CORE

1. RS-232 is a standard that applies to:
 - a. serial ports
 - b. parallel ports
 - c. game ports
 - d. networks
 - e. digital frequencies
2. Comm ports use: (select all that apply)
 - a. 9 pin male connector
 - b. 14 pin female connector
 - c. 25 pin male connector
 - d. edge connector

e. parallel connector

3. Before a modem transmits, it send a:

- a. RTS
- b. DTR
- c. DSR
- d. RQS
- e. TRX

4. RTS stands for:

- a. ready to start
- b. ready to switch
- c. request to send
- d. request to scan
- e. ready to set

5. In modem terminology, CD stands for:

- a. collect data
- b. call data
- c. cease deliver
- d. carrier detect
- e. comm detect

6. UART is a type of serial chip. Its letters stand for:

- a. unidirectional access regarding transmission
- b. universal asynchronous receiver/transmitter
- c. upper advanced real transfer
- d. unable all restore t-bits
- e. use all rom types

7. Select all true statements:

- a. com1 and com3 share the same IRQ
- b. com1 and com4 share the same IRQ
- c. com2 and com3 share the same IRQ
- d. com2 and com4 share the same IRQ
- e. com1 and com2 share the same IRQ

8. In modems that support more than 300 baud, baud and bps do not mean the same thing.

- a. true
- b. false

9. "bps" stands for bits per second. Baud is the number of discrete signals per second. One discrete signal can encode more than one bit. Hence, a 9600 bps modem actually operates at 2400 baud. However, in common non-techie terminology, baud and bps are used synonymously, though that is not technically correct. These are all true statements.

- a. true
- b. false

10. _____ is the term used to refer to the process of two modems establishing communications with each other.

- a. interacting
- b. handshaking
- c. connecting
- d. linking
- e. pinging

11. ISDN stands for:

- a. internal select data nulls
- b. integrated services digital network
- c. interval set down next
- d. interior sector direct none
- e. inferior sector data net

12. Your modem does not respond when you try to dial out. You try another modem on another computer and get the same result. What is the most likely problem?

- a. defective modem
- b. defective computer
- c. software bug
- d. bad phone line
- e. virus

13. You have a serial scanner connected to your computer configured to use com3. It is turned on. Your modem is using com1, and you can't dial out. What is the most likely problem?

- a. everything should work ok
- b. you have an i/o conflict
- c. you have a conflict with IRQ 4
- d. you have a loose connection
- e. you have a conflict with IRQ 3

14. What is the i/o address for com1?

- a. 3e8
- b. 3bc
- c. 5f8
- d. 3f8
- e. 008

15. What is the i/o address for com2?

- a. 2vb
- b. 2f8
- c. 8f8
- d. 330
- e. e8e

16. What is the i/o address for com3?

- a. 3e8

- b. 345
- c. ff8
- d. 5e8
- e. be8

17. What is the i/o address for com4?

- a. 4e7
- b. e8e
- c. be0
- d. cb8
- e. 2e8

18. Before sending data, a modem sends a request to send signal, or RTS.

- a. true
- b. false

19. ISDN uses _____ technology.

- a. only digital
- b. digital and analog
- c. only analog
- d. neither digital nor analog
- e. mostly digital

20. A COM port is a _____ port.

- a. parallel
- b. serial
- c. static
- d. multi
- e. scsi

21. Modems use _____ transmission.

- a. synchronous
- b. asynchronous
- c. timed interval
- d. ata
- e. bank

22. CD-Roms typically hold _____ of data.

- a. 100 meg
- b. 500 meg
- c. 650 meg
- d. 1000 meg
- e. 350 meg
- e

23. The terms "red book", "yellow book", and "orange book" refer to:

- a. scsi
- b. ide

- c. floppy drive technology
- d. CD-Rom standards
- e. none of the above

24. CD-Roms are read by _____.

- a. magnetic heads
- b. electronic sensors
- c. stepper motors
- d. laser diodes
- e. titanium servos

25. Which of the following can cause CDs to be misread? Select all that apply.

- a. smudges
- b. finger prints
- c. scratches
- d. cracks
- e. slight melting

26. CD-Rom drives typically have which of the following interfaces? Select all that apply.

- a. serial
- b. parallel
- c. ide
- d. scsi
- e. esdi

27. CD-Rom drives have which connectors? Select all that apply.

- a. molex
- b. berg
- c. data cable
- d. audio cable
- e. arcnet

28. In a computer with an eide adapter, where should you connect an ATA CD-Rom drive?

- a. on the floppy bus
- b. on the primary ide
- c. on the secondary ide
- d. on the scsi bus
- e. none of the above

29. Your IDE CD-Rom drive is attached to the primary IDE adapter with your hard drive. How should its jumpers be set?

- a. as a master
- b. as a slave
- c. as neutral
- d. auto detect
- e. to 001

30. What does MSCDEX.EXE do?

- a. configures hard drives
- b. it's a scsi driver
- c. bios setup
- d. It's a CD-Rom DOS driver
- e. nothing, I just made it up

31. A CD-Rom drive always uses IRQ:

- a. 9
- b. 10
- c. 11
- d. 5
- e. depends on the adapter it's attached to

32. If a computer's bios allows it, you can boot from a CD-Rom.

- a. true
- b. false

33. A single speed CD-Rom drive transfers data at:

- a. 1 MB per second
- b. 100 bytes per second
- c. 20 million bits per second
- d. 186,282 bits per second
- e. 150 Kbs per second

34. Your CD-Rom audio cable connects to the:

- a. speaker
- b. sound card (or motherboard if sound is integrated with it)
- c. power supply
- d. hard drive
- e. bios

35. This statement is in autoexec.bat:

```
c:\dos\cdrom\mscdex /d:cdrom001 /l:e /m:10 /v
```

This statement is in config.sys:

```
device=c:\cdrom\atapiCd.sys /d:cd001
```

Your CD-Rom drive is not working. What is wrong?

- a. the "v" switch in autoexec.bat is invalid
- b. the device name is not the same in both files
- c. the "m" switch in autoexec.bat is set too high
- d. config.sys is not using the dos directory
- e. nothing, it should work

36. Which of the following are SCSI issues? Select all that apply.

- a. unique id settings
- b. limited cable length
- c. parity
- d. passive termination

e. active termination

37. On some older SCSI adapters, the boot hard drive must be set to id#: (as a side note, some of the older IBM SCSI PCs had to have the boot hard drive set to id 6, but this question deals primarily with most other PC makes and clones)

- a. 2
- b. 3
- c. 0
- d. 9
- e. 11

38. You have a PC with a SCSI adapter built into the system board. It has only one connection (internal), which is used for your hard drive, CD-Rom drive, and tape drive. Your boss wants to connect a SCSI scanner to the PC, so you install a SCSI adapter with an external connection to support the scanner. Now you have a PC with two SCSI adapters. SCSI adapters normally use id# 7, which the onboard adapter is set for. The adapter you installed should: (select all that apply)

- a. use a different id
- b. use id 7 also
- c. not use an id
- d. use a different IRQ
- e. be checked for fleas

39. You run a super wing-ding diagnostic program on your PC, and it reports that your hard drive, microprocessor, ram, and video card have seen better days. To resolve this problem you should:

- a. replace each part one at a time, rerunning the diagnostic before replacing the next part.
- b. check to see if you have a software problem
- c. replace everything at once and rerun the diagnostic
- d. get another copy of the diagnostic program
- e. run an exhaustive memory check

40. Whenever you have a hardware resource conflict, it will more likely be an IRQ conflict rather than an i/o conflict because:

- a. there are alot more i/o addresses than IRQs.
- b. the bios sometimes has more of a problem controlling IRQs
- c. i/o addresses cannot conflict
- d. software tends to correct i/o conflicts
- e. software tends to mess up IRQs

41. SCSI adapters usually don't need drivers, just the devices that interface with them.

- a. true
- b. false

42. Most SCSI-2 devices will work fine with SCSI-1 adapters.

- a. true
- b. false

43. Single-ended SCSI or "regular" SCSI has one wire for each signal that needs to be sent along the SCSI bus. Differential SCSI has two wires for each signal that is sent. Differential SCSI cable lengths can be up to 25 meters. How long can single-ended SCSI cables be?

- a. up to 50 meters
- b. up to 100 meters
- c. up to 6 meters
- d. up to 14 meters
- e. up to 3 meters

44. Your PC has both internal and external SCSI devices connected to one SCSI host adapter. Which devices should be terminated? Select all that apply.

- a. the last internal device on the chain
- b. the last external device on the chain
- c. the host adapter
- d. the host adapter and one external device
- e. the PC

45. How many devices can connect to the typical SCSI adapter? Assume it has only one data connector.

- a. 7
- b. 8
- c. 20
- d. 10
- e. depends on whether both internal and external devices are used

46. How many devices can be used on a single SCSI bus? Keep in mind that the SCSI host adapter counts as a device.

- a. 7
- b. 8
- c. 20
- d. 10
- e. see number 54

47. What is the jumper setting on a SCSI device to configure it to use the fourth SCSI id? Remember, SCSI ids start with zero.

- a. 010
- b. 110
- c. 011
- d. 101
- e. 001

48. Which type of interface provides for the fastest data transfer?

- a. IDE
- b. SCSI
- c. parallel
- d. serial
- e. ISA

49. In addition to i/o port addresses, SCSI adapters also use a range of rom addresses for their onboard bios.

- a. true
- b. false

50. SCSI-2 cables have how many pins?

- a. 40
- b. 25
- c. 50
- d. 72
- e. 100

51. IDE cables have how many pins?

- a. 25
- b. 50
- c. 100
- d. 40
- e. 65

52. You are about to install a second IDE hard drive in a PC that has only one IDE adapter. Your first hard drive will still be the boot drive. How should the second drive be configured?

- a. as a master
- b. as a secondary
- c. as a slave
- d. as a primary
- e. as auto-select

53. What is the maximum number of IDE drives that EIDE will support?

- a. 15
- b. 3
- c. 4
- d. 2
- e. 0

54. You are installing an IDE hard drive that will be your boot drive. Which is the correct order of steps that need to be followed?

- a. jumper properly, auto-detect(or configure manually) in cmos, low level format, high level format, partition
- b. jumper properly, auto-detect(or configure manually) in cmos, partition, high level format with /s switch
- c. jumper properly, partition, auto-detect(or configure manually) in cmos, high level format with /s switch
- d. jumper properly, auto-detect in cmos, regular format
- e. jumper properly, partition, low level format, high level format

55. You are installing a SCSI hard drive that will be your boot drive. Which is the correct order of steps that need to be followed?

- a. jumper for id 0, cmos setup, low level format, high level format
- b. set id jumpers to all zeros, high level format, partition

- c. set id jumpers to all zeros, partition, high level format
- d. jumper for id 0, cmos setup, partition, high level format
- e. set id jumpers to all zeros, high level format, partition

56. On a flat data cable, a red or blue stripe means:

- a. ground
- b. high voltage
- c. null connection
- d. pin 1
- e. that it's an IDE or SCSI cable

57. Which of the following would be considered an FRU? Select all that apply.

- a. hard drive
- b. system board
- c. ram
- d. DMA controller
- e. level 2 cache simm

58. Which of the following would not be considered an FRU?

- a. hard drive
- b. IRQ controller
- c. any soldered IC
- d. floppy drive
- e. system board

59. You have a system that periodically locks up. You have ruled out software, and now suspect that it is hardware. What should you do first that could help you narrow it down to the component at fault?

- a. rotate the ram
- b. replace the ram
- c. replace the level 2 cache simm
- d. disable the CPU cache in cmos
- e. replace the CPU

60. You have a PC with no video on a known good monitor. Pick the best order you should follow in tracking down the problem.

- a. replace the video card, replace the monitor, replace the power supply, replace the system board, try a different monitor
- b. check that PC and monitor are plugged in, check that monitor brightness is turned up, check that PC fan is running, remove all option cards
- c. check PC supply voltages, replace video card, replace CPU
- d. check that everything's plugged in, replace system board
- e. check that everything's plugged in, replace hard drive, replace ram

61. Most PCs give a single beep on startup to indicate they are ok hardware wise. You boot your PC and don't get a beep. What should you check first?

- a. system board
- b. ram

- c. microprocessor
- d. power supply
- e. speaker

62. What beep codes could indicate a system board or power supply failure? Select all that apply.

- a. steady short beep
- b. no beep
- c. one long continuous beep tone
- d. steady long beeps
- e. one long, two short beeps

63. Your PC is continuously rebooting itself. Select all of the following that could be causing the problem.

- a. bad PC power supply
- b. faulty power at AC outlet
- c. bad system board
- d. defective adapter card
- e. corrupt operating system

64. You have an old PC that you decide to upgrade with a 1 gig IDE hard drive. You find that you can't configure cmos to see the entire hard drive. The best you can do is 540 meg. What is the fix?

- a. get a newer PC
- b. manually input the sectors, cylinders, and heads of the hard drive
- c. put multiple partitions on the hard drive
- d. make the bios think it's a SCSI drive
- e. use a device driver that makes the bios see the drive as simply a block storage device, or upgrade the bios if possible

65. A sound card typically uses which IRQ?

- a. 6
- b. 5
- c. 15
- d. 1
- e. it doesn't use an IRQ

66. Your IDE hard drive is not spinning up when you turn on the PC. What is the most likely problem.

- a. bad data cable
- b. incorrect jumper setting on drive
- c. loose molex connector
- d. virus
- e. bad system board

67. You have a PC with no video. Which of the following is LEAST likely to be causing the problem?

- a. defective ram (bank zero)
- b. defective microprocessor
- c. crashed hard drive
- d. loose video card

e. low AC outlet power

68. I once had a PC with no video. I replaced the system board, CPU, and video card, and still had no video. I then replaced the IDE cable and fixed the problem. Am I telling the truth?

- a. no, you're just pulling everyone's leg
- b. you betcha!

69. A virus can mimick just about any hardware symptoms you can think of.

- a. true
- b. false

70. A static jolt of as little of ____ volts can fry most any PC integrated circuit.

- a. 200
- b. 30
- c. 1000
- d. 200
- e. 500

71. A human cannot feel a static discharge as high as ____ volts.

- a. 200
- b. 2000
- c. 10000
- d. 50000
- e. 50

72. ESD is _____.

- a. electronic stasis device
- b. electrostatic discharge
- c. electric surge device
- d. electronic system driver
- e. forget it, I can't think of any more words for these letters

73. What's the best way to prevent damaging your PC with static electricity?

- a. place your PC on a rubber mat
- b. wear leather soled shoes
- c. periodically touch a safe ground point on the PC to discharge yourself
- d. static electricity doesn't really hurt a PC
- e. wear an ESD wrist strap

74. What is EMI? (uh, oh - here we go again)

- a. electro-magnetic interference
- b. electronic maintainence inquiry
- c. that's it! it's answer a

75. You're on your PC at midnight and an electric storm pops up. What's the best way to protect your PC.

- a. you don't worry; you have a lightning rod on your house
- b. you don't worry; you've got a surge protector on your PC
- c. you don't worry; you've got a surge protector on your PC and phone line to your modem
- d. unplug the PC and remove phone line from the modem
- e. stop standing on it

76. Something as small as a _____ on a drive platter can cause your hard drive to crash. Select all that apply.

- a. human hair
- b. dust particles
- c. finger print
- d. a .001 micron high imperfection
- e. accumulation of smoke particles

77. When your hard drive crashes from any of the correct selections in the question above, or from dropping it, it is known as head-to-disk interference, or HDI.

- a. true
- b. false

78. You should never put floppy drives, hard drives, or even VCR tapes or cassette tapes on top of speakers (or near any other source of magnetism) because of:

- a. RFI
- b. EMI
- c. EXE
- d. FYI
- e. IOU

79. Static electricity thrives in which type of environment?

- a. cold and humid
- b. warm and humid
- c. warm and dry
- d. cold and warm
- e. cold and dry

80. Which is the most difficult environmentally to dispose of?

- a. floppy drives
- b. hard drives
- c. power supplies
- d. CRTs
- e. system boards

81. What should you use to clean the plastic cover on your monitor or PC? Select all that apply.

- a. alcohol

- b. damp sponge
- c. lint-free cloth
- d. WD-40
- e. mild soap solution

82. Dust in a computer actually increases the size of the magnetic fields inside it. This is not good, so you must occasionally dust, I trust. What's the best way to do this?

- a. reverse vacuum
- b. any small vacuum device
- c. blow real hard on the system board
- d. use a lint-free cloth and wipe gently
- e. non-static compressed air

83. What's the best way to protect your hard drive data?

- a. regular backups
- b. periodically defrag it
- c. run chkdsk at least once a week
- d. run scandisk at least once a week
- e. run a regular diagnostic

84. A CRT's grid voltage can be as high as:

- a. 110 volts
- b. 5000 volts
- c. 15,000 volts
- d. 50,000 volts
- e. 1000 volts

85. A monitor's CRT (cathode ray tube) can pack quite a wallop of a charge even if it's been turned off for several days or more. Before you service a monitor, you must discharge the CRT using a tool specific for that purpose. Before you do the discharge, what must you do first?

- a. make sure the monitor is not connected to a PC
- b. make sure the monitor is unplugged
- c. make sure the monitor is turned off
- d. make sure the brightness is turned down
- e. make sure your life insurance policy is paid up

86. ESD is least likely to cause damage to which components? Select all that apply.

- a. keyboard
- b. mouse
- c. cmos chips
- d. microprocessor
- e. adapter cards

87. Which of the following are input devices only? Select all that apply.

- a. modem
- b. mouse
- c. keyboard

- a. modem
- b. SCSI controller
- c. keyboard
- d. mouse
- e. monitor

89.



The above symbol represents:

- a. DC voltage
- b. AC voltage
- c. ground
- d. positive voltage
- e. negative voltage

90. Which component stores an electrical charge?

- a. diode
- b. rectifier
- c. capacitor
- d. resistor
- e. transistor

91. On PC power supplies, the wire attached to pin one is usually:

- a. blue or red
- b. blue or white
- c. red or black
- d. red or white
- e. white or orange

92. If the voltage on pin 1 of the power supply is not in the range of volts, the PC will not boot.

- $10 - 20$
- $1 - 5$
- $50 - 110$
- $15 - 25$
- $2.5 - 5$

93. The output voltages of a PC power supply are in the form of _____ current.

- AC
- DC

- c. amperage
- d. resistive
- e. trickle

94. The output voltages from a PC power supply are:

- a. +20, +110, -20, -110
- b. +5, +12, -5, -12
- c. +110, -110, +25, -25
- d. +10, -10, +20, -20
- e. +110, -15, +25, -5

95. A spike is a sharp and sudden rise in voltage. It's duration is usually measured in:

- a. nanoseconds
- b. milliseconds
- c. seconds
- d. minutes
- e. pico seconds

96. A brownout is defined as:

- a. a slightly elevated voltage lasting from seconds to minutes or more
- b. a slightly decreased voltage lasting from seconds to minutes or more
- c. complete power out lasting a few minutes
- d. alternating power out, power on lasting a few minutes
- e. has nothing to do with electricity

97. Resistance is measured in units of:

- a. ohms
- b. farads
- c. helids
- d. amperes
- e. volts

98. Current is measured in units of:

- a. volts
- b. amps
- c. ohms
- d. farads
- e. diodes

99. Capacitance is measured in units of:

- a. volts
- b. amps
- c. farads
- d. neutrinos
- e. anti-neutrinos

100. Voltage is measured:

- a. in parallel
- b. in series

- c. after breaking the circuit
- d. after checking resistance
- e. after checking current

101. Resistance is measured:

- a. in parallel
- b. in series
- c. after breaking the circuit
- d. after checking voltage
- e. after checking current

102. Current is measured:

- a. in parallel
- b. only when you turn the device off first, then connect your meter to the device in series, then turning it back on
- c. after checking voltage
- d. only when you turn the device off first, then touch the correct meter leads to the corresponding terminals
- e. only on an open circuit

103. AC ripple is unwanted AC current where there should only be direct current. When AC is rectified to DC, it is difficult, if not impossible to get rid of all the AC voltage, though a certain amount is tolerable. You want to measure the AC voltage in a DC circuit, so you set your meter to measure:

- a. DC voltage
- b. AC voltage
- c. DC current
- d. AC current
- e. ripple

104. Anti-static plastic bags are:

- a. conductive
- b. non-conductive
- c. part rubber, part plastic
- d. 90% non-porous
- e. magneto-resistive

105. POST stands for:

- a. positive operating system test
- b. particle of static transfer
- c. power on self test
- d. printer online static test
- e. printer online standard test

106. POST is done when the PC is: (select all that apply)

- a. warm booted
- b. first turned on
- c. CTRL-ALT-DELETE booted
- d. restarted with the reset button
- e. giving a numeric error code

107. The POST routine, which counts system board ram first, is stored in:

- a. ram
- b. microprocessor
- c. rom bios
- d. cmos
- e. 8259 POST controller

108. A 1xx (x can be any digit) POST error code indicates a problem with the:

- a. video
- b. ram or rom
- c. hard drive
- d. system board
- e. first adapter card

109. A 2xx POST error code indicates a problem with:

- a. ram or rom
- b. hard drive
- c. system board
- d. second adapter card
- e. cmos battery

110. A 3xx POST error code indicates a problem with:

- a. mouse
- b. keyboard
- c. floppy drive
- d. video adapter
- e. monitor

111. A 4xx, 5xx, or 24xx POST error code indicates a problem with:

- a. hard drive
- b. IRQ controller
- c. video adapter
- d. keyboard
- e. floppy drive

112. OK, last numeric error code check: A 17xx indicates a problem with:

- a. cmos
- b. rom bios
- c. DMA controller
- d. hard drive or controller
- e. power supply

113. A 6xx indicates a problem with the:

- a. floppy drive (see, I kept my word)

114. A parity error usually indicates a problem with:

- a. memory
- b. hard drive
- c. hard drive controller
- d. i/o controller
- e. power supply

115. How many bits in a byte?

- a. 16
- b. 8
- c. 255
- d. 10
- e. 2 to the 9th power

116. PCMCIA stands for "personal computer memory card international association". Just take my word for it. This association sets forth the standards for the PC card. PC cards are: (select all that apply)

- a. hot swappable
- b. not hot swappable
- c. plug and play
- d. not plug and play
- e. used only in mainframes

117. Type one PC cards:

- a. are used only in desktops
- b. are no longer being produced
- c. are the thinnest of the PC cards
- d. don't exist
- e. have their own power source

118. To start the setup program (or cmos setup), there is usually a key or set of keys you must press simultaneously. Some of the ones used by various PCs are listed below. Select all that are correct.

- a. CTRL-ALT-ENTER
- b. CTRL-ALT-DELETE
- c. CTRL-ALT-S
- d. DELETE
- e. F10

119. The floppy drive uses which DMA (direct memory access) channel?

- a. 5
- b. 4
- c. 1
- d. 9
- e. 2

120. You do a DIR on a diskette, remove it and insert another, and get the same DIR listing from the first diskette. This is known as a "phantom" directory, and it is caused by: (select all that apply)

- a. line 34 on the floppy cable is bad
- b. bad microprocessor

- c. defective diskette
- d. defective floppy drive
- e. failing hard drive

121. The power connector on a floppy drive is called a:

- a. berg connector
- b. molex connector
- c. has no formal name
- d. mini-molex
- e. hybrid connector

122. On most floppy cables, the order for the connectors is:

- a. adapter, drive A, drive B
- b. adapter, tape drive connector, drive A
- c. adapter, drive B, drive A
- d. adapter, drive A or B, drive A or B
- e. depends on cmos settings

123. The print from a dot-matrix printer is light and uneven. This is most likely caused by:

- a. defective printhead
- b. worn ribbon
- c. paper not advancing properly
- d. defective carriage assembly
- e. worn platten

124. The print from a dot-matrix printer is sometimes light, sometimes dark. This is most likely caused by:

- a. worn ribbon
- b. paper not advancing properly
- c. worn platten
- d. defective printhead
- e. defective carriage assembly

125. On a dot-matrix printer, regular lube maintenance should be followed, but this component should never be lubed:

- a. platten bearings
- b. carriage rails
- c. printhead
- d. paper advance bearings
- e. carriage bearings

126. When you move a mouse, the mouse pointer is positioned via:

- a. GPS
- b. analog pulses
- c. pressure sensors
- d. friction detectors
- e. pulses of light

127. Your laser printer is on, you hear the fan running, but it won't print. What is the first thing you should check?

- a. that all the cables are connected securely
- b. that the correct print driver is installed
- c. that the printer is online
- d. that the printer has paper
- e. that the printer is not jammed

128. In laser printing, there are six steps the printer follows. What comes between the conditioning phase and the developing phase?

- a. transfer phase
- b. writing phase
- c. fusing phase
- d. cleaning phase
- e. nothing

129. During the laser printer's conditioning phase a uniform charge of _____ is placed on the photosensitive drum.

- a. +1000 volt
- b. +600 volts
- c. -600 volts
- d. -1000 volts
- e. + 12 volts

130. In order to place this charge on the drum, the primary corona wire must emit a charge of:

- a. +15000 volts
- b. -110 volts
- c. +110 volts
- d. -6000 volts
- e. +6000 volts

131. The transfer corona uses a/an _____ charge to attract the toner to the paper.

- a. negative
- b. positive
- c. alternating
- d. magnetic
- e. electronic pulse

132. Your laser printer gives you an error code 50. This is usually caused by a defective:

- a. formatter board
- b. DC controller
- c. fuser assembly
- d. high voltage power supply
- e. laser unit

133. Laser printer toner is composed primarily of: (select all that apply)

- a. particles of plastic resin
- b. saw dust

- c. talc
- d. ash
- e. iron oxide (rust)

134. An important first step in troubleshooting which component in a laser printer is causing a jam is to:

- a. note where in the paper path the paper stops
- b. check all voltages
- c. look up error codes
- d. turn the printer off, then on again
- e. remove the jammed paper

135. Select the best choice for cleaning laser toner from clothing:

- a. warm soapy water
- b. alcohol
- c. dry clean
- d. clean cloth with cool water
- e. pure dishwashing detergent

136. During the fusing process, toner is:

- a. dry pressed into the paper
- b. electrically bonded to the paper
- c. melted into the paper
- d. glued to the paper
- e. high pressure sprayed onto the paper

137. On the PC side, the printer port is a:

- a. 25 pin female serial connector
- b. 15 pin female parallel connector
- c. 25 pin male serial connector
- d. 15 pin female serial connector
- e. 25 pin female parallel connector

138. ISA is a ___ bit technology.

- a. 8/16
- b. 16/32
- c. 4/8
- d. 12/24
- e. 32/64

139. A device which supports DMA is able to i/o with memory by and large bypassing the CPU. Bus mastering takes this a step further by allowing a bus-master device to take charge of the data bus and send data to other devices, including memory, and also allows two bus master devices to talk to each other without requiring the services of the CPU. Does ISA support bus mastering?

- a. no
- b. yes
- c. yes, but only one device
- d. yes, but only in a Pentium
- e. yes, in a DX, but not an SX

140. EISA and MCA devices do not have jumper settings. How are they configured? Select all that apply.

- a. CMOS setup
- b. Windows setup
- c. through DOS
- d. dip switches
- e. EISA configuration utility or IBM reference diskette (MCA)

141. You can have EISA and MCA devices in the same PC.

- a. true
- b. false

142. PCI devices do not have jumper settings or dip switches. How are they configured? Select all that apply.

- a. CMOS setup
- b. an installation utility from the manufacturer
- c. through DOS
- d. Windows setup
- e. they are always self-configuring

143. You can place an ISA device in an EISA slot.

- a. true
- b. false

144. You can place an EISA device in an ISA slot.

- a. true
- b. false

145. You can only place an MCA device in an MCA slot.

- a. true
- b. false

146. Select each bus architecture that supports 32 bit data transfers.

- a. ISA
- b. EISA
- c. MCA
- d. PCI
- e. PCMCIA

147. Select each bus architecture that supports bus mastering.

- a. EISA
- b. PCI
- c. VLB
- d. MCA
- e. PCMCIA

148. A switching power supply steps down voltage by means of:

- a. transformers
- b. a network of resistor conduits
- c. turning off and back on in rapid cycles
- d. a network of capacitors
- e. there is no such thing

149. Pick the correct choice for the 8088 CPU.

- a. 16 bit word size, 8 bit data path
- b. 8 bit word size, 8 bit data path
- c. 16 bit word size, 16 bit data path
- d. 4 bit word size, 8 bit data path
- e. 8 bit word size, 16 bit data path

150. Pick the correct choice for the 80386SX CPU.

- a. 16 bit word size, 16 bit data path
- b. 32 bit word size, 16 bit data path
- c. 8 bit word size, 32 bit data path
- d. 32 bit word size, 8 bit data path
- e. 32 bit word size, 32 bit data path

151. Pick the correct choice for the 80486DX CPU.

- a. 32 bit word size, 16 bit data path
- b. 64 bit word size, 32 bit data path
- c. 32 bit word size, 32 bit data path
- d. 32 bit word size, 16 bit data path
- e. 32 bit word size, 64 bit data path

152. What is the first CPU to include an internal math coprocessor?

- a. 386DX
- b. 486SX
- c. 486DX
- d. Pentium
- e. Pentium Pro

153. You plug a power supply's connectors onto the system board. You know you did it correctly because:

- a. the two sets of black wires are facing the outside edge of the system board
- b. the two sets of black wires are together in the middle
- c. one set of black wires is outside, one is toward the inside
- d. all are facing the power supply
- e. it doesn't matter as long as they can be plugged in

DOS/Windows

1. Before upgrading your operating system, you should first:

- a. remove TSRs
- b. backup your hard drive
- c. edit the startup files

- d. run scandisk
- e. run chkdsk

2. What DOS program can you run to see which serial ports are detected?

- a. comdiag
- b. MSD
- c. command.com
- d. SDET
- e. serial.chk

3. Where would you load the mouse driver mouse.sys?

- a. config.sys
- b. autoexec.bat
- c. win.ini
- d. io.sys
- e. msdos.sys

4. Where would you place mouse.com or mouse.bat?

- a. config.sys
- b. autoexec.bat
- c. system.ini
- d. io.sys
- e. msdos.sys

5. What is a TSR?

- a. test status request
- b. terminate and stay resident program
- c. take status request
- d. token set ready
- e. token steady route

6. Where are most TSRs loaded?

- a. autoexec.bat
- b. config.sys
- c. tsr.sys
- d. msdos.sys
- e. you cannot load TSRs

7. Where is the "FILES=" statement placed?

- a. there is no files statement
- b. in autoexec.bat
- c. in config.sys
- d. in msdos.sys
- e. in command.com

8. Where is the "BUFFERS=" statement placed?

- a. in config.sys
- b. in autoexec.bat
- c. win.ini
- d. system.ini

e. config.ini

9. Smartdrv.exe can cache which of the following: (select all that apply)

- a. hard drives
- b. cd-roms
- c. compressed hard drives
- d. floppy drives
- e. network drives
- f. tape drives
- g. video devices

10. Himem.sys must be loaded before loading emm386.exe.

- a. true
- b. false

11. You can run Windows 3.1 or 3.11 without loading himem.sys.

- a. true
- b. false

12. You must have himem.sys loaded before you can load DOS high.

- a. true
- b. false

13. When DOS is loaded high it is placed in the HMA (high memory area). This is located:

- a. between 640k and 1024k
- b. the first 64k above 1024k
- c. anywhere in extended memory
- d. anywhere in expanded memory
- e. in the first UMB

14. To load DOS high you must place a statement in config.sys. It is:

- a. loadhigh DOS
- b. device=DOSHIGH
- c. dos=high
- d. lh dos
- e. load dos high

15. The reason you load DOS high is to:

- a. optimize DOS to run faster
- b. free up more extended memory
- c. free up more conventional memory
- d. free up more expanded memory
- e. avoid i/o conflicts

16. The upper memory area is located:

- a. between 640k and 1024k
- b. above 1 meg

- c. between 512k and 840k
- d. anything above 1024k
- e. between 1000k and 1024k

17. Extended memory is:

- a. paged memory
- b. anything above 1024k
- c. anything above 640k
- d. anything accessed by rom
- e. anything above 1 meg

18. Extended memory is managed by:

- a. emm386.exe
- b. DOS
- c. himem.sys
- d. ram controller
- e. rom bios

19. Expanded memory is:

- a. paged memory
- b. anything below 1 meg
- c. anything above 640k
- d. anything above 1024k
- e. between 640k and 1024k

20. Expanded memory is managed by:

- a. himem.sys
- b. emm386.exe
- c. DOS
- d. rom bios
- e. CPU

21. Conventional memory is:

- a. anything up to 640k
- b. anything below 1024k
- c. anything above 1 meg
- d. only below 512k
- e. anything between 640k and 1024k

22. By default, DOS will load where?

- a. extended memory
- b. conventional memory
- c. HMA
- d. expanded memory
- e. above 1024k

23. UMBs, or upper memory blocks are located where?

- a. anything above 640k
- b. anything above 1024k
- c. between 640k and 1024k

- d. in conventional memory
- e. in extended memory

24. What statement in config.sys will allow DOS access to unused UMBs?

- a. device=DOSUMB
- b. UMB=true
- c. UMB=1
- d. DOS=UMB
- e. UMB=DOS

25. What DOS command shows which TSRs are loaded?

- a. TSR-SHOW
- b. DOSVIEW
- c. LOADVIEW
- d. MEM /c
- e. hold down CTRL key and hit "T"

26. The DIR command shows a single directory listing. What switch is required to show the subdirectories inside the directory where you typed the DIR command?

- a. /s
- b. /sub
- c. /ds
- d. /show all
- e. there is none

27. You wish to see the hidden files in a directory and you type "DIR /A:H". Does this work?

- a. yes
- b. no

28. What two DOS commands lets you know the presence of hidden files?

- a. chkdisk and scandisk
- b. dir and scandisk
- c. chkdisk and dir
- d. attrib and dir
- e. chkdisk and attrib

29. What are the two hidden DOS system files?

- a. io.sys
- b. command.com
- c. os2.exe
- d. msdos.sys
- e. io.com

30. Which provides the quickest data access time?

- a. rom
- b. ram
- c. IDE hard drive
- d. cd-rom drive

e. SCSI hard drive

31. In CMOS setup, if you enable Rom Bios Shadowing, what happens?

- a. rom memory is minimized
- b. rom is used instead of ram
- c. rom memory is maximized
- d. rom cannot be used by the bios
- e. a copy of the bios is placed in ram

32. What does XMS refer to?

- a. extended memory
- b. expanded memory
- c. extra high memory
- d. extra memory systems
- e. has nothing to do with memory

33. What does EMS refer to?

- a. extended memory
- b. expanded memory
- c. enhanced memory standard
- d. enhanced memory systems
- e. has nothing to do with memory

34. Virtual memory is composed of ram and:

- a. a rom sub-system
- b. a bios extension
- c. a swap file
- d. DOS extensions
- e. himem.sys

35. Memory that is paged out to the hard drive is known as:

- a. extended memory
- b. virtual memory
- c. expanded memory
- d. conventional memory
- e. memory cannot be paged to the hard drive

36. Memory that is paged from extended memory addresses to a 64k window in the upper memory area is known as:

- a. expanded memory
- b. extended memory
- c. virtual memory
- d. high memory
- e. memory cannot be paged in this manner

37. In order for EMM386.EXE to emulate expanded memory, you must load what into config.sys? Select all that apply.

- a. device=emm386.exe
- b. device=emm386.exe /noems
- c. device=emm386.exe /ram

- d. load emm386.exe
- e. load emm386.exe /noems

38. In addition to managing expanded memory, emm386.exe also manages the upper memory blocks.

- a. true
- b. false

39. If you wanted to exclude the entire 64k upper memory block of the "C" segment from being used by DOS, which would you place in config.sys?

- a. device=emm386.exe x=C000-CFFF
- b. device=emm386.exe /x /C
- c. device=emm386.exe /C \X
- d. device=emm386.exe /exclude C
- e. device=emm386.exe /X,C000-CFFF

40. What device driver must be loaded in config.sys to enable power management on a laptop computer?

- a. power.sys
- b. power.exe
- c. power.com
- d. power.ini
- e. power.bat

41. You wish to make a diskette bootable. From the "C" prompt you type: (select all that apply)

- a. sys a:
- b. sys c: a:
- c. sys boot a:
- d. boot /a
- e. sys /a: /boot

42. As you soon as you see DOS starting, what key do you press to bypass the startup files?

- a. F6
- b. F5
- c. F8
- d. ESC
- e. CTRL

43. What are the user configureable DOS startup files?

- a. config.dos
- b. config.sys
- c. dosstart.exe
- d. autoexec.bat
- e. msdos.sys

44. As soon as you see DOS starting, what key do you press to step through the startup files?

- a. F4
- b. F5
- c. F8
- d. ALT
- e. TAB

45. Which statement is placed in autoexec.bat to halt its processing until a key is pressed?

- a. stop
- b. hold
- c. pause
- d. interrupt
- e. whoa

46. You have an older PC that may or may not require the double buffering option in SMARTDRV.EXE. What can you type at the DOS prompt to find out if it's needed?

- a. smartdrv /double/?
- b. smartdrv
- c. smartdrv /? /double-buffer
- d. smartdrv /double-buffer
- e. smartdrv /db-function

47. What is the switch to use with SMARTDRV to cause it to disable write-behind caching on all drives?

- a. /no-wb
- b. /cache:off
- c. /c
- d. /off
- e. /x

48. If SMARTDRV is not loaded you may reduce the number of allocated buffers in the "BUFFERS=" statement.

- a. true
- b. false

49. What DBLSPACE switch is used to create a new compressed drive?

- a. /compress
- b. /automount
- c. /create
- d. /mount
- e. /size

50. In DOS 6.0, once a drive has been compressed using DBLSPACE, it cannot be uncompressed. However, DOS 6.2 and above allows for a compressed drive to be uncompressed. After you determine you have enough free space to "unravel" a compressed drive, what switch do you use with DBLSPACE to do this?

- a. /undo
- b. /uncompress
- c. /back

- d. /restore
- e. /unpack

51. Cross-linked files are files which erroneously claim the same cluster. Only one file can have the cluster, which means that fixing the problem will result in some data loss, but recovering one file is better than losing both. What DOS program "fixes" cross-linked files?

- a. chkdsk
- b. scandisk
- c. verify
- d. unlink
- e. link /repair

52. Which command makes a file read only?

- a. attrib +r "filename"
- b. read_only +r "filename"
- c. read_status /y "filename"
- d. readonly /y "filename"
- e. attrib /r "filename"

53. Which of the following file types are run simply by typing them at the DOS prompt?

- a. sys
- b. exe
- c. bat
- d. com
- e. dat

54. Which file displays the DOS prompt?

- a. prompt
- b. command.com
- c. io.sys
- d. msdos.sys
- e. prompt.com

55. An external DOS command is an executable file, such as XCOPY.EXE or ATTRIB.EXE. However, there are also internal commands that are not files, but are rather processed by COMMAND.COM. Which of the following are internal commands?

- a. copy
- b. chkdsk
- c. dir
- d. format
- e. chdir

56. You type a valid executable file that you know is on your PC, but get the error message, "Bad command or file name". What is wrong?

- a. system files are corrupt
- b. most likely a virus
- c. the file is in a directory not specified by the path statement
- d. you typed an internal command used by a different DOS version

e. config.sys has been accidentally deleted

57. "Loadhigh" or "LH" is used to load TSRs into upper memory. Where is this statement used?

- a. config.sys
- b. autoexec.bat
- c. msdos.sys
- d. io.sys
- e. command.com

58. What device driver is used to create a virtual (or ram) drive? [As a side note, in DOS 3.0 and some others, vdisk.sys was the device driver used]

- a. vram.sys
- b. virtual.sys
- c. virtual.ram
- d. ramdisk.sys
- e. ramdrive.sys

59. Which file contains the DOS kernel?

- a. io.sys
- b. command.com
- c. msdos.sys
- d. config.sys
- e. autoexec.bat

60. A cluster is the minimum file allocation unit. A cluster is composed of:

- a. off-set code
- b. conventional ram
- c. sectors
- d. sections
- e. clustettes

61. What command is used to partition a hard drive?

- a. partn
- b. fdisk
- c. format
- d. chkdsk
- e. cp

62. If you have data on a hard drive that you want to repartition, what should you do first?

- a. run scandisk
- b. run chkdsk
- c. format
- d. sys c:
- e. backup all files

63. You must have the statement "lastdrive=x", with x representing a drive letter, in config.sys if you have any drive letters beyond which letter?

- a. C
- b. G
- c. H
- d. M
- e. E

64. What is the largest partition size that DOS supports?

- a. 4 gig
- b. 2.1 gig
- c. 8.4 gig
- d. 1500 meg
- c. 640 meg

65. What command displays a disk's volume label?

- a. label
- b. disp /vol
- c. vol
- d. label /vol
- e. chk /label

66. What command changes or adds a volume label?

- a. chg /label
- b. vol
- c. vol /add
- d. label
- e. label /add

67. You have a single hard drive that has an extended partition containing the two logical drives "D" and "E". You add a second hard drive. Which is correct?

- a. second drive becomes "D", logical drives become "E" and "F"
- b. second drive becomes "F", logical drives are unchanged
- c. second drive becomes "D", logical "D" is deleted
- d. second drive becomes "E", logical "E" is deleted
- e. second drive becomes "F", both logical drives are deleted

68. What is the best way to store floppy diskettes?

- a. flat on their side
- b. standing upright
- c. in their original box
- d. away from any bright light
- e. not too close to the PC

69. Windows 3.1 no longer supports which mode that Windows 3.0 supported?

- a. real
- b. standard

- c. protected
- d. 386 enhanced
- e. 16 bit

70. Win.com supports a number of switches to force Windows to start in the mode selected. You enter win.com /s at the DOS prompt. How is Windows started?

- a. safe mode
- b. standard mode
- c. real mode
- d. 386 enhanced mode
- e. swap mode

71. The Windows file system.ini contains primarily:

- a. desktop and application settings
- b. DOS parameters under Windows
- c. Windows system settings and device drivers
- d. Windows parameters used under DOS
- e. used only by Windows 95, not Windows 3.x

72. Cooperative multi-tasking means that after a certain period of time, Windows takes control of the CPU from one application to give it to the next one waiting to run.

- a. true
- b. false

73. The Windows swap file can exist on a compressed volume.

- a. true
- b. false

74. To change your swap file settings, which one of these is correct?

- a. go to file manager, swap file, virtual memory settings
- b. go to program manager, virtual memory settings, swap file
- c. go to control panel, 386 enhanced, virtual memory
- d. got to control panel, swap file settings
- e. got to control panel, virtual memory, settings

75. Windows multitasking causes several interrupt requests to be sent to the CPU. What statement can you place in config.sys to increase the scratch-pad memory used for interrupt handling?

- a. irq /m:1024
- b. irq=m:4196
- c. stacks=9,256
- d. winramirq=2048
- e. the CPU doesn't need help handling IRQs

76. Your PC boots fine to DOS, but when starting Windows, your screen goes blank or is totally unreadable. You suspect that the proper driver is not installed for your video adapter. You decide you want Windows to startup using a standard driver which will work with your video adapter. What file do you edit to allow this?

- a. win.ini
- b. system.ini
- c. command.com
- d. win.com
- e. config.sys

77. Referring to #76, you locate the line in the proper file, which starts with "display.driv=". Now complete the statement to load that standard driver.

- a. stdvideo.sys
- b. svga.sys
- c. vga.sys
- d. vga.driv
- e. video.driv

78. Your video is not looking the way it should. You know you have the proper video driver loaded. You double check your config.sys file and find what missing?

- a. device=video.driv
- b. device=ansi.sys
- c. device=win.com
- d. loadhigh=ansi.sys
- e. load=video.sys

79. In config.sys, which loads drivers into upper memory?

- a. loadhigh=
- b. lh=
- c. highload=
- d. device=high
- e. devicehigh=

80. Real mode is:

- a. the same as standard mode
- b. 8088/86 mode
- c. used only in Windows
- d. run on unix machines only
- e. does not exist

81. What is a PIF?

- a. programmed input file
- b. programmed interrupt function
- c. program information file
- d. processed information files
- e. programmed information format

82. Which Windows file provides support for loading DOS programs?

- a. win.com
- b. pif.exe
- c. win.ini
- d. system.ini

e. winoldap

83. Windows uses PIFs to set the following parameters for DOS programs:
(select all that apply)

- a. start-up directory
- b. EMS memory
- c. XMS memory
- d. run in full screen or windowed
- e. exclusive

84. What does the file winoldap do?

- a. provides Windows resources for DOS programs
- b. looks for the PIF for a DOS program
- c. runs DOS programs in real mode
- d. run DOS programs in standard mode
- e. loads the Winhelper program for DOS applications

85. If you don't shut down Windows properly it can cause lost clusters.
How are lost clusters recovered?

- a. run chkdsk
- b. run scandisk
- c. use the Windows backup program
- d. use file manager
- e. they can't be recovered

86. Is it possible to load himem.sys in config.sys with the statement:
"devicehigh=himem.sys"?

- a. yes
- b. no, but it can be loaded high with "loadhigh"
- c. yes, but you must include the /LH switch
- d. you cannot load himem.sys into upper memory
- e. yes, but you must include the /H switch

87. A GPF, or General Protection Fault is usually caused when an application tries to read or write to the memory space belonging to another application. Because almost no application is perfectly written, and because Windows itself is not perfect, there will be GPFs from time to time. However, there are things that can be done to reduce them. Select all the following which can help to do this:

- a. use the latest versions of himem.sys and emm386.exe
- b. run the latest version of DOS
- c. add more ram
- d. make sure the FILES= statement in config.sys is set to at least 50
- e. try a generic video or mouse driver to see if the new driver is to blame

88. If the DOS environment size is not large enough to handle all the DOS and Windows environment variables, Windows can lock up or produce GPFs. What statement do you place in config.sys to increase the DOS environment size?

- a. dosincr=env /e:1024 /p

- b. dos=env /e:1024 /p
- c. shell=dos /1024 /e /p
- d. winshell=dosenv /e:1024 /e /p
- e. shell=c:\dos\command.com /e:1024 /p

[GPF tips: sometimes errant applications will add gibberish characters to win.ini and system.ini at the end of the file. Also, sometimes it helps to upgrade the PC's bios. Finally, you may want to defrag the hard drive(backup everything first!), and then change your swap file from temporary to permanent. If you are still having alot of GPF's you may want to run Norton's extensive memory checking utility to see if you have a bad memory chip. This test can take hours to complete. And as always, don't forget to check for a virus!]

89. In order for Windows to print, you must have a temp variable set.

- a. true
- b. false

90. If you want to upgrade Windows 3.1 to Windows 95, and save all your application settings, you must:

- a. install Win95 in a different directory than Win 3.1
- b. install Win95 in the same directory as Win 3.1
- c. install Win95 in the DOS directory
- d. install Win95 with the /old switch
- e. install Win95 with the /DOS switch

91. You can't print from Windows. How can you test to see whether or not it's the printer at fault? Select all that apply.

- a. at a DOS prompt type "dir > prn"
- b. at a DOS prompt type "type c:\autoexec.bat > lpt1:"
- c. at a DOS prompt type "print dir"
- d. after a dir command, hit the prtscr key
- e. edit the "print=" line in system.ini

92. You've got a couple of megs left on your hard drive, and now, all of a sudden, you can't print from Windows. Why?

- a. print manager needs hard drive space to spool print jobs until they're printed
- b. Windows can't expand its swap file enough to service its print function
- c. The Windows kernel doesn't have enough space to load the print driver
- d. DOS shuts down the printer function to preserve space for itself
- e. The DOS kernel turns off the Windows print function and loads its own smaller print functions

93. What is the Windows font type that consists only of line segments, and have no filled in areas?

- a. bitmap
- b. vector
- c. lined
- d. outline

d. raster

94. Which font type is infinitely rescalable?

- a. bitmap
- b. outline
- c. vector
- d. TIF
- e. PCX

95. Which type of font is characterized by poor quality, fast, and small file size?

- a. vector
- b. outline
- c. bitmap
- d. raster
- e. lined

96. Which font type is composed only of dots on the screen?

- a. bitmap
- b. outline
- c. vector
- d. matrix
- e. plotted

97. Which file extensions indicate a bitmap type file? Select all that apply.

- a. BMP
- b. TIF
- c. PCX
- d. TRX
- e. PGM

98. The image in a bitmap file is also known as a raster image.

- a. true
- b. false

99. Which font type combines the properties of both vector and bitmap?

- a. outline
- b. matrix
- c. plotted
- d. fixed
- e. sputtered

100. Truetype fonts are of which font type?

- a. matrix
- b. outline
- c. plotted
- d. vector
- e. truetype is not a font type

101. Changing the order in which you load device drivers in config.sys can sometimes optimize memory by freeing up a larger block of the upper memory area.

- a. true
- b. false

Windows 95 and Networking

1. According to Microsoft, what are the minimum hardware requirements to run Windows 95?

- a. 486sx, 8 meg ram
- b. 386sx, 4 meg ram
- c. 386dx, 4 meg ram
- d. 386dx, 8 meg ram
- e. 486dx2, 8 meg ram

2. What is the lowest version of DOS that will allow Windows 95 to be installed?

- a. 3.1
- b. 3.2
- c. 3.3
- d. 4.0
- e. 5.0

3. What are the two files that the Windows 95 Registry is composed of?

- a. sys.com
- b. reg.com
- c. user.dat
- d. system.dat
- e. system.com

4. What are the two Windows 95 Registry backup files?

- a. sys.bak
- b. reg.bak
- c. user.da0
- d. system.da0
- e. system.bak

5. What is the command file used to bring up the Registry editor?

- a. regist.exe
- b. editreg.com
- c. reedit.bat
- d. openreg.exe
- e. regedit.exe

6. Select all the file systems that Windows 95 supports:

- a. vfat
- b. fat

- c. fat32
- d. cdfs
- e. ntfs

7. You upgrade from Windows 3.1 to Windows 95, and now you can't see your program groups. Where can you find them on the Windows 95 desktop?

- a. My Computer
- b. Control Panel
- c. Explorer
- d. Start, Settings, System
- e. Start, Programs

8. Which Registry key stores all of the system settings?

- a. HKEY_LOCAL_MACHINE
- b. HKEY_SYS_SETTINGS
- c. HKEY_PC_SETTINGS
- d. HKEY_LOCAL_COMPUTER
- e. HKEY_SYS_LOCAL

9. Before you edit the Registry, you should make a backup copy, as any incorrect change can make your PC inoperable. Which command should you run from the Windows directory that will allow you to copy the Registry files?

- a. attrib -s -h -r [registry file]
- b. attrib +s +h +r [registry file]
- c. copy con [registry file]
- d. debug /s /h /r [registry file]
- e. just use the copy command

10. How can you change an object's icon?

- a. left-click, change icon button
- b. right-click, change icon button
- c. right-click, properties, short-cut tab, change icon button
- d. open My Computer, click corresponding drive letter, file, icon
- e. open Registry, go to icon key, change icon

11. You are having problems when Windows 95 boots. How can you create a log file that records the events on startup?

- a. hit F5 as soon as Windows starts, then select the Log option
- b. hit F5 as soon as Windows starts, then select Boot-Log option
- c. hit F8 as soon as Windows starts, then select bootlog.txt option
- d. hit F2 as soon as Windows starts, then select Troubleshoot option
- e. edit Registry to include a Log file on startup

12. Windows 95 doesn't need system.ini or win.ini, but it can still use them to support 16 bit Windows 3.x programs that can't access the Windows 95 Registry.

- a. true
- b. false

13. Can you upgrade a Windows 95 PC to Windows NT?

- a. yes
- b. no
- c. yes, but only if you had DOS installed as well
- d. yes, but only NT version 3.51
- e. yes, but only if you run the NT_95 presetup program first

14. You are installing Windows 95, and it crashes or hangs during the hardware detection phase. What is a good way to figure out what happened?

- a. look at crash.log
- b. look at crashdet.log
- c. look at detlog.txt
- d. look at detlog.log
- e. look at crashlog.log

15. Which processor rings does Windows 95 use? Select all that apply.

- a. 0
- b. 1
- c. 2
- d. 3
- e. 9

16. Which ring allows the greatest access to the CPU?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 9

17. Most application run in which ring?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 9

18. Most device drivers run in which ring?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 9

19. You have several application running, and the one you are currently working on freezes up. What do you do?

- a. reboot the PC
- b. click "ignore" and work on the other apps
- c. CTRL-ALT-DELETE once, select the offending program, click "End Task"
- d. CTRL-ALT-DELETE twice, control panel, programs, select, end
- e. turn off PC, then back on again

20. What is the maximum number of characters that a file name can have, including its path?

- a. 8
- b. 25
- c. 255
- d. 256
- e. 260

21. You are having problems with your PC, and you want to start it in "Safe Mode", so that just the minimum configuration needed to run Windows 95 loads. How do you do this? Select all that apply.

- a. F8, select "Safe Mode"
- b. F5
- c. F4
- d. press ALT-S as soon as Windows starts
- e. type Win95 /s at a DOS prompt

22. Windows 95 gives you the opportunity to create a startup disk when you install it. However, if you skip it during installation, how can you create one later?

- a. open "My Computer", select startup disk
- b. go to System, Programs, Startup
- c. go to control panel, add/remove programs, startup disk tab, create
- d. go to control panel, startup disk, create
- e. go to Explorer, select startup disk, create

23. You install a super-wing-ding video card and driver, but your display hasn't changed. How is the display changed? Select all that apply.

- a. right-click desktop, properties, settings
- b. start, programs, video, utilities, settings
- c. start, Explorer, video, settings
- d. edit video settings in system.ini
- e. left-click start, settings, control panel, display

24. From what part of Windows 95 can you view device properties or remove them completely?

- a. control panel, devices
- b. device manager
- c. system, settings
- d. explorer, devices
- e. devices in "My Computer"

25. The Windows 3.1 File Manager has been replaced by what in Windows 95?

- a. Program Manager
- b. Device Manager
- c. System Manager
- d. Explorer
- e. Control Panel

26. If you delete a file from a windows on the Windows 95 desktop, how can you get it back?

- a. run undelete from a DOS prompt
- b. run 95undel from a Windows 95 command line
- c. look in the Recycle Bin
- d. run recover.exe
- e. you can't get it back

27. To install Windows 95 over a network, what is the best way to do this?

- a. win /a
- b. win /n
- c. netsetup
- d. netinstall
- e. it can't be done with Windows 95

28. Without the Plus pack, how large can you create a compressed drive using Windows 95 drvspace?

- a. 512 meg
- b. 1 gig
- c. 2.1 gig
- d. 4 gig
- e. 8 gig

29. To install Windows 95 from DOS, what is the minimum amount of conventional memory required?

- a. 350k
- b. 470k
- c. 512k
- d. 640k
- e. as long as DOS loads, Windows 95 can install

30. Bus enumerators build the hardware tree on bootup. Which two bus enumerators are not included with Windows 95?

- a. SCSI
- b. IDE
- c. VLB
- d. MCA
- e. ISA

31. "Hot Docking" means that:

- a. power must be off to remove\install a device
- b. power can be on to remove\install a device
- c. a warm boot must be done before a device is removed\installed
- d. a hot boot must be done before a device is removed\installed
- e. the power supply shuts down upon reaching a certain temperature

32. How are IRQ, DMA, and I\O port information displayed? Select all that apply.

- a. start, settings, control panel, system, device manager, double-click computer
- b. right-click "My Computer", properties, device manager, double-click "My Computer"
- c. run MSD
- d. run Explorer, system, properties, settings
- e. view the System key in the Registry

33. You have trouble printing from Windows 95. What is one of the first things you should do?

- a. reinstall the printer
- b. reload the print driver
- c. disable EMF spooling
- d. disable EPP port
- e. disable ECP port

34. How do you create a shortcut? Select all that apply.

- a. from Explorer, right-click a run file and drag it to the desktop, then select "create shortcut".
- b. right-click desktop, select new, select shortcut
- c. run shortcut.exe
- d. control panel, create shortcut
- e. control panel, system, settings, shortcuts

35. You name a file "This is my file". How is the file name displayed from the DOS prompt?

- a. thisismy.fil
- b. thisis.myf
- c. this.ile
- d. thisis~1
- e. this_is_my_file

36. Can Windows 95 dual boot with NT?

- a. yes, but only if Windows 95 is installed first
- b. yes, but only if NT is installed first
- c. yes, but only in a network
- d. yes, but only NT 5.0
- e. no

37. You want Windows 95 to go straight to a DOS prompt as soon as it boots. Which file must you modify to accomplish this?

- a. command.com
- b. system.dat
- c. system.ini
- d. msdos.sys
- e. io.sys

38. Referring to question 37, which statement must you place in the file?

- a. no_graph=1
- b. graph.sys=0

- c. bootgui=0
- d. bootdos=1
- e. boot.sys=1

39. When you start Windows 95 in MSDOS mode, what happens to Windows?

- a. it runs in the background
- b. it goes into "sleep mode"
- c. it runs minimized on the Task Bar
- d. it is unloaded from memory
- e. nothing

40. You usually run Windows 95 on your computer, but one day you left a bootable DOS 6.22 diskette in the floppy drive. You let it bootup DOS, and decide to defrag your hard drive using DOS 6.22. What happens to your Windows 95 long file names?

- a. they are stored in the TEMP directory.
- b. they are gone
- c. they are compressed until Windows 95 is run again
- d. they are hidden
- e. they are given a "dos" extension

41. In Windows 95, where do you disable write-behind caching?

- a. system properties, performance, file system, troubleshooting
- b. device manager, settings, caching
- c. boot drive properties, caching
- d. system properties, caching, settings, disable
- e. it must be done from a DOS prompt

42. How do you map a drive letter to a network share? Select all that apply.

- a. double-click the Network Neighborhood icon, highlight an object in its dialogue box, select the file option, click "Map Network Drive"
- b. control panel, double-click the network icon, click "Map Network Drive"
- c. right-click the Network Neighborhood icon, click "Map Network Drive"
- d. start, settings, map
- e. this can only be done with NT or Novell

43. You have a network card with only one connector, which looks like a place to plug an oversized phone cord. What type of card is it?

- a. token ring
- b. decnet
- c. banyan
- d. ethernet
- e. fiber optic

44. You have a network card with the connector in question 43, and it also has a 15 pin female connector, the pins being in two rows. What type of card is it?

- a. ethernet
- b. token ring

- c. arcnet
- d. dlc
- e. it is not a network card

45. You have a network card with the connector in question 43, and it also has a 9 pin female connector. What type of card is it?

- a. ethernet
- b. token ring
- c. fiber optic
- d. ipx/spx
- e. fddi

46. Twisted-pair cable uses what type of connector?

- a. RJ-11
- b. XT-20
- c. RJ-45
- d. RJ-50
- e. RP-21

47. Thinnet coaxial cable uses what type of connector?

- a. RJ-45
- b. AUI
- c. MSAU
- d. XR-2
- e. BNC

48. Thick Ethernet cable uses what type of connector? Select all that apply.

- a. RJ-45
- b. AUI
- c. DIX
- d. DB-15
- e. BNC

49. What is attenuation?

- a. cable noise
- b. cable shortage
- c. loss of signal strength
- d. unwanted signals on the network
- e. analog interference

50. What is used to boost a digital signal?

- a. amplifier
- b. digi-booster
- c. multiplexer
- d. booster
- e. repeater

51. What is used to boost an analog signal?

- a. amplifier

- b. multiplexer
- c. booster
- d. repeater
- e. demodulator

52. What is the maximum length of twisted-pair cable before a signal booster is needed? Select all that apply.

- a. 25 meters
- b. 100 meters
- c. 328 feet
- d. 1000 feet
- e. 500 meters

53. What is 10baseT?

- a. specification for twisted-pair cable
- b. specification for cable terminators
- c. 10 megawatt transceiver
- d. specification for digital transmission
- e. 10 Mhz analog transfers

54. What is the maximum length of thinnet cable before a signal booster is needed?

- a. 185 meters
- b. 500 feet
- c. 1600 feet
- d. 1000 feet
- e. 1 mile

55. 10base2 is specification for Ethernet thinnet coaxial cable. What is the specification for thick Ethernet?

- a. T-base100
- b. 10base5
- c. 50base10
- d. 100baseT
- e. 50baseT

56. What is the maximum length of thick Ethernet cable before a signal booster is needed?

- a. 500 feet
- b. 500 meters
- c. 1000 feet
- d. 1000 meters
- e. 2 miles

57. What is the IEEE specification for Ethernet?

- a. 802.1
- b. 802.2
- c. 802.3
- d. 802.4
- e. 802.5

58. What is the IEEE specification for Token Ring?

- a. 802.1
- b. 802.2
- c. 802.3
- d. 802.4
- e. 802.5

59. What are the characteristics of FDDI? Select all that apply.

- a. dual ring
- b. token passing
- c. beaconing
- d. 100 megabits per second data transfer
- e. uses fiber-optic cable

60. You wish to join a Token Ring segment with an Ethernet segment. What can you use to do this? Select all that apply.

- a. repeater
- b. bridge
- c. router
- d. gateway
- e. you cannot join token ring with ethernet

61. You wish to connect your NT based LAN to an AS400 machine (main frame). What can you use to do this? Select all that apply.

- a. repeater
- b. bridge
- c. router
- d. gateway
- e. you cannot connect PCs with mainframes in a LAN.

62. A LAN is a local area network. A WAN is a wide area network. Which of the following qualifies as a LAN? Select all that apply.

- a. several stand-alone computers on the same floor in a building
- b. one computer in Atlanta and one in Amarillo connected through an ISDN line
- c. two computers on different floors in a building linked with an Ethernet connection
- d. One computer and two HP JetAdmin printers connected by an active hub using the DLC protocol
- e. One NT server and one Windows 95 client connected by a direct cable connection

63. OSI stands for open systems interconnect. These are the layers in this network model:

- 7. application
- 6. presentation
- 5. session
- 4. transport
- 3. network
- 2. data link
- 1. physical

64. At which OSI layer do repeaters operate?

- a. session
- b. physical
- c. data link
- d. network
- e. transport

65. At which OSI layer do bridges operate?

- a. physical
- b. session
- c. data link
- d. transport
- e. application

66. At which OSI layer do routers operate?

- a. network
- b. data link
- c. presentation
- d. transport
- e. physical

67. At which OSI layer do gateways operate?

- a. network
- b. session
- c. physical
- d. data link
- e. application

68. Which of the following protocols are routable? Select all that apply.

- a. netbeui
- b. DLC
- c. Decnet
- d. IPX/SPX
- e. TCPIP

69. Network protocols are installed much the same way device drivers are in Windows 95. When a protocol is installed, it is bound to the network card's driver. This process is called "binding". The binding order can affect a network's efficiency. Your most used protocol on a network should be installed:

- a. last
- b. first
- c. last, unless it's TCPIP
- d. first, unless it's TCPIP
- e. doesn't matter if it's a slow protocol

70. DHCP stands for dynamic host configuration protocol. If you have a DHCP server, this means that configuring client IP addresses:

- a. becomes much more complicated
- b. is automatically done by the DHCP server
- c. requires only the subnet and DNS addresses
- d. requires only the default gateway
- e. requires only the WINS server IP

71. You are using the IPX/SPX protocol on your network, and your newly installed Windows 95 PC won't connect to any of the servers. All the hardware checks out fine, and all the drivers are properly loaded. All the cable connections check out fine. What is probably the problem?

- a. the servers are not running IPX/SPX
- b. the network drivers on the servers are corrupt
- c. check the frame type on the Windows 95 PC
- d. install TCPIP on the servers
- e. install TCPIP on the Windows 95 PC

72. Most network problems occur at which OSI layer?

- a. network
- b. transport
- c. data link
- d. session
- e. physical

73. Which network troubleshooting tool tests cables for breaks, crimps, or shorts?

- a. TDR
- b. protocol analyzer
- c. network monitor
- d. digital multimeter
- e. analog multimeter

74. What is the smallest unit of data transfer over a network?

- a. data bit
- b. byte
- c. packet
- d. data package
- e. megabit

75. The internet uses which network protocol?

- a. IPX/SPX
- b. LAT
- c. ATM
- d. Netbeui
- e. TCPIP

Macintosh

Believe it or not, even when you are not taking the Macintosh elective, you will be hit with at least a couple of questions relating to Macintosh computers. I think I had about three when I took my test. Don't be worried too much about it, just at least be familiar with these very basic Mac quirks, I mean questions.

1. You turn on your Mac(I know it's hard, but just pretend you have one), and you see a disk icon with a blinking question mark in it, though a diskette is not in the drive. This means:
 - a. your floppy drive is defective
 - b. your diskette has a virus
 - c. your hard drive is no longer recognized as a boot drive
 - d. your floppy cable is bad
 - e. your floppy drive is just being checked
2. You get a sad face on your screen. This could mean that: (select all that apply)
 - a. you've got a serious hardware problem
 - b. you have a system software problem
 - c. your SCSI controller is defective
 - d. your hard drive crashed
 - e. your ram is defective
3. You get a dialog box on the screen with a bomb icon in it. This is because:
 - a. the Mac is overheated
 - b. you've got a system crash
 - c. you've got an application error
 - d. the Mac just detected a virus
 - e. you accidentally hit the ESCAPE key
4. A diamond icon with a short line through one side of it represents:
 - a. IDE
 - b. SCSI
 - c. ESDI
 - d. LPT1
 - e. Video port
5. The <...> icon represents:
 - a. SCSI
 - b. IDE
 - c. Video port
 - d. Token Ring
 - e. Ethernet
6. Mac devices do not have jumpers or dip switches, they are fully plug-and-play.
 - a. true
 - b. false
7. The Mac printer port is serial, unlike PCs which are parallel.
 - a. true
 - b. false
8. The Mac Powerbook is based on what type of architecture?

- a. RISC
- b. CISC
- c. DISC
- d. XRCS
- e. XRSC

9. What is an alias?

- a. A duplicate file icon, which basically represents a file, folder, or disk. It is pretty much like the Windows 95 shortcut feature.
- b. a way to hide a file
- c. a system function used only by the operating system
- d. an icon creator
- e. doesn't pertain to the Mac

10. What is an extension?

- a. software that extend's the Mac's system capabilities
- b. a Mac application
- c. software that allow Windows 95 to run on a Mac
- d. a three digit alpha-numeric add-on to Mac files
- e. a plug-in for a Mac hard card

About printers:

You must memorize the 6 steps of laser printing. They are as follows, in the correct order:

1. cleaning (excess toner is scraped from the photoelectric drum)
2. conditioning(a uniform -600 volt charge is placed on the photoelectric drum by the primary corona)
3. writing(laser diodes write an invisible electric image on the photoelectric drum by causing the drum surface to be less negative wherever the laser beam hits)
4. developing(this is where the transfer roller places the toner on the drum. The toner sticks to the areas that have had the electric charge lessened due to the laser beam)
5. transfer(the secondary corona uses a positive charge to attract the toner from the drum to the paper)
6. fusing(the toner is then melted into the paper)

About settings SCSI ids:

A SCSI id is set on a device by configuring jumpers. There are usually three sets of jumpers on a SCSI device. We will see why this is so shortly. You have to know at least the first seven binary numbers. Why binary? Well, why not? Seriously, binary is used because that's the basic way PCs operate - through a series of ones and zeros, ons and offs, true or false, etc... You can see that each example I gave is composed of two choices. In the binary number system, only two symbols are used to represent numbers. Two choices, two numbers. It's a good fit. By the way, "bi" is Latin for "two".

The decimal number system, as you know, has 10 symbols(0-9) to represent numbers. "Deci" means "ten". Observe the following:

0
1

2
3
4
5
6
7
8
9
10

When we want to get past nine, we must make the nine a zero and then put a one in the next place over. What happens when we only have two symbols then?

0
1
10

We want to go past one, but there are no more symbols, so we have to make the one a zero, and then put a one in the next place over.

OK, now let's count from zero to seven in binary. (remember, SCSI ids begin with zero)

0
1
10
11
100
101
110
111

Notice we never have more than three digits here. Aha! That's why we need the three pairs of jumpers on a SCSI device. A jumper placed on a pair represents a "one", without a jumper and the pair represents a "zero". How then do you represent ids from 0 to 3, which use less than three digits? Remember, any zeros you place to the left don't affect the number. Keeping that in mind, let's see the actual SCSI settings for zero-seven:

000
001
010
011
100
101
110
111

Notes about the A+ exam:

You'll have around 70 questions on your Core. These will be probably be all multiple choice. The DOS/Windows part will contain around 50 questions, which will be mostly multiple choice with a few that are fill-in-the-blank. You must pass both tests within 90 days of each other in order to be A+ certified. If you know the material, it is good to just take them both at one sitting, as I did. If you do, you'll have about 2 hours and 15 minutes total time to take them.

For more info on A+ certification visit www.comptia.org.
I wish you the best on your exam, and advance congratulations on becoming an A+ Certified PC Technician!

Phil

