

**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Part I: Networking / Internet Questions**

1. Draw a picture of an **ETHERNET** Local Area Network. Show three types of components/devices found on such a network.

2. Draw a picture of an **TOKEN RING** Local Area Network. Show three types of components/devices found on such a network.

**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

3. This kind of communications protocol is used on the Internet, and on many local area networks. Telnet, FTP and HTTP all use this protocol, or set of communications rules. This protocol is called:

\_\_\_\_\_

List three things that can cause a Local Area Network (or a PC on the network) to fail:

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. This type of software is provided by Microsoft, and also by Novell. It provides you with the ability to log into a network, and it works together with your networking protocol and your PCs communication hardware. Normally, this software will let you log into a file server, although you could possibly do peer-to-peer networking. This software is called the :

\_\_\_\_\_

8. This kind of device allows you to connect your PC to a DSL or cable modem, a local area network, or it could stand alone. It provides computers connected to it with IP addresses and domain name services. It is intelligent, and can identify individual computers uniquely. This device is called a :

\_\_\_\_\_

9. This kind of a device can be found in a PC, or in other network-capable devices like a printer. It has several lights on it, one of which indicates the data transmission speed. Some transmit data up to 100 megabits per second, and some do it even faster. It usually has an RJ-45 jack on the back of it. This device is called a:

\_\_\_\_\_

10. This number is permanently recorded in the ROM chip of this networking device. It makes it so that each one of these devices is uniquely identifiable from others like it. The number is NOT assigned by software, but is permanently assigned at the factory before you as a customer ever see this device. This number (or address) is called a :

\_\_\_\_\_

11. This feature of network communications protocols translates the name of web hosts (i.e. [www.cnn.com](http://www.cnn.com)) into a numerical address value that is sent throughout the Internet to find the computer that has the information you are looking for. This feature is called :

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**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Part II. Booting Up, and Starting the Operating System**

12. This DOS/Windows 9x file lets you configure your PC for hardware devices that will run in a DOS environment, such as sound cards or mice. This file is called (or run) every time you boot up your PC, and it is called:
- a. IO.SYS
  - b. CONFIG.SYS
  - c. AUTOEXEC.BAT
  - d. COMMAND.COM
13. This Windows NT/2000/XP initialization file lets you select what operating system you want to boot up to, if you are running a “dual boot” computer system. For example, this file lets you choose to boot either to Windows 98 or Windows XP, if both are installed on such a system. This file is called:
- a. LILO
  - b. AUTOEXEC.NT
  - c. CONFIG.SYS
  - d. BOOT.INI
14. This DOS/Windows 9x file allows you to run specific DOS-level programs each time the computer boots up. This would include DOS-level anti-virus programs, application menu programs, and the like. The file is user-defined; that is, the user can create or modify the file by using the DOS editor program. This file is called:
- a. COMMAND.COM
  - b. AUTOEXEC.NT
  - c. AUTOEXEC.BAT
  - d. BOOT.INI
15. What DOS/Windows 9x program finds lost allocation units and converts them into filenames ending in .CHK, checks for invalid filenames and cross-linked files, and analyzes disk surfaces for physical defects?
- a. MEMMAKER
  - b. CHKDSK
  - c. SCANDISK
  - d. DEFRAG
16. Which DOS/Windows 9x program turns non-contiguous files into contiguous ones, and arranges files so that free space is consolidated?
- a. DISK DOCTOR
  - b. CHKDSK
  - c. SCANDISK
  - d. DEFRAG

**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Part III. True or False Questions**

17. **CIRCLE ONE:** DIMM stands for Dual In-line Memory Module; these memory units are designed to insert into the motherboard only one way.
- True    False
18. **CIRCLE ONE:** SIMM stands for Standard Integrated Memory Manager; this program keeps different application programs from crashing in Windows 9x.
- True    False
19. **CIRCLE ONE:** MMC stands for the Microsoft Management Console, available in Windows 2000 and XP; it lets you manage user accounts, disk space, and background services.
- True    False
20. **CIRCLE ONE:** REGEDIT is a utility program in any Windows version that lets you modify the central database in Windows called the Registry.
- True    False
21. **CIRCLE ONE:** A Creative Labs Sound Blaster card does not require any special drivers or programs to operate, since all the needed software is built into Windows 2000 and XP.
- True    False
22. **CIRCLE ONE:** Excluding SCSI drives, you can install up to five (5) IDE hard drives in any computer without creating any hardware problems.
- True    False
23. **CIRCLE ONE:** When adding a second floppy drive in a typical PC, all you need to do is install it into the case and connect the drive and power cable. No other configuring needs to be done.
- True    False
24. **CIRCLE ONE:** The CMOS Setup program is built into the ROM BIOS chip; information that the Setup program uses during POST is saved into CMOS RAM, which is supplied with a small battery to keep the chip energized and the data safe.
- True    False
25. **CIRCLE ONE:** For all intensive purposes, VGA and SuperVGA are the same thing; the only difference is the monitor's ability to display higher levels of graphics.
- True    False

**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

26. **CIRCLE ONE:** To upgrade your computer so that it will operate with larger, newer hard drives, you will need to upgrade your ROM BIOS to a newer version.

True    False

27. **CIRCLE ONE:** If you have an older computer that doesn't have any USB ports, you will need to buy another newer computer that has such port connections. You have no other options.

True    False

28. **CIRCLE ONE:** Ethernet networks pass data in an assembly-line fashion, using tokens as the primary units of data exchange.

True    False

29. **CIRCLE ONE:** A math co-processor chip is built into a Pentium II CPU chip.

True    False

30. **CIRCLE ONE:** A network allows you to share disk space on a network file server, files with other users on the network, and shared devices like printers and fax-modems with other people who are connected to the LAN.

True    False

31. **CIRCLE ONE:** There are three possible IDE drive jumper settings: master, slave and cable select.

True    False

32. **CIRCLE ONE:** Token ring networks pass data in an assembly-line fashion, using tokens as the primary units of data exchange.

True    False

33. **CIRCLE ONE:** If your hard disk refuses to boot-up, you should first try to re-do the low-level format on the hard disk.

True    False

34. **CIRCLE ONE:** Defragmenting a hard drive will make your computer run much faster, because it gets rid of all of the temporary files on the disk.

True    False

**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

35. **CIRCLE ONE:** MSCONFIG is a program in Windows 98, ME and XP that lets you control what programs load every time you start your PC; this program can be used as a diagnostic tool to determine what programs are keeping a PC from running properly.

True    False

36. **CIRCLE ONE:** In order to upgrade your OS version from Windows 98 to Windows XP, the ONLY option you have is to backup your data onto disks, re-format your hard disk using Windows XP, and then restore your data back to the disk.

True    False

37. **CIRCLE ONE:** The proper method to install a hard disk is: mount and attach the drive, autodetect the drive in the CMOS Setup program, run the FDISK program to partition the drive, and then run the FORMAT command to prepare the drive for an operating system

True    False

**Part III. You Are The Repairman - Circle the Letter of the Best Response**

**NOTE:**        These are real-life examples I've faced in the last 6 months. Partial credit MAY be granted for incorrect answers. Select what you think is the **BEST** answer.

38.    You come into an office, and the computer is not working (obviously!). You get no video, and the computer gives one long and two short beeps. When you hit the F1 key, the hard disk light blinks on and off, like it would if it were booting up normally. What would you do?
- a. Try replacing the monitor.
  - b. Try replacing the video card.
  - c. Consider replacing the motherboard.
  - d. Try replacing the power supply.
39.    You come into an office, and the computer is not working. The monitor says "Fixed Disk 0 Error". You try booting off a bootable DOS disk, and you get to the A:\> prompt, but can't get to the C:\> drive. You get a message "Invalid drive specification" when you try to go to C:\>. The hard disk is 2 months old, and the PC is five years old. What would you do?
- a. Try replacing the hard disk; it's still under warranty.
  - b. Try to low-level and re-format the hard disk.
  - c. Try checking the setup program first, and replacing the CMOS battery if needed.
  - d. Try replacing the motherboard.

## ENT 184 - PC HARDWARE: TEST #2

Name: \_\_\_\_\_

Date: \_\_\_\_\_

40. You come into another office, and the computer is not working. Again, the monitor says "Fixed Disk 0 Error". You try booting off a bootable DOS disk, and you get to the A:\> prompt, but can't get to the C:\> drive. You get a message "Invalid drive specification" when you try to go to C:\>. The PC **and** the hard disk are 5 years old. The customer says that the hard disk works OK first thing in the morning, but by noon the hard disk won't read or write at all. You pop the case off, and you notice that the hard disk is VERY HOT. What would you do in this situation?
- Replace the hard disk; overheating is a sign of serious drive failure.
  - Try to low-level and re-format the hard disk.
  - Try checking the setup program first, and replacing the CMOS battery if needed.
  - Try replacing the hard disk controller.
41. You come into an office, and the computer is working, somewhat. The monitor says "**Network locator not responding - Press [Ctrl-Break] to abort**". You know the network was working 5 minutes ago when you left your office. You don't have the diagnostics for the network card with you. You notice on the desk a note mentioning that someone was coming in to do repairs to the phone system and building wiring this week. There was a lightning strike on the building last week, but the computer was working fine until a few minutes ago. What would you do?
- Try replacing the network card.
  - Try checking the network software to see if it was erased.
  - Call the network card manufacturer on the 800-number for assistance.
  - Use a cable scanner first or check the NIC for a link light, to see if the network cable has been damaged or disconnected.
42. You come into an office, and the computer is not working. You try booting off a bootable DOS disk, and you get nothing. You get a message "601" and "1790" when you try to boot up. The PC is 12 months old. The user was operating the computer while the Hoover lady was vacuuming the office, then the user heard a loud popping noise, and suddenly the thing just quit. What would you do?
- Try replacing the hard and floppy disk drives; they're still under warranty.
  - Consider sending the computer back to the company; it's obviously defective.
  - Try replacing the CMOS battery and check the setup program first before anything else.
  - The hard disk/floppy disk controller on the motherboard has failed; replace it.

ENT 184 - PC HARDWARE: TEST #2

Name: \_\_\_\_\_

Date: \_\_\_\_\_

43. A computer user calls you frantically. She just spilled a gallon of water (which was for the office plants) all over the PC. The PC was not turned on when the spill occurred. She's afraid she ruined her new computer, and that she'll have her pay docked to buy a new one. What would you do?
- a. Make arrangements to get another computer; break it to her gently, though.
  - b. Just let it air-dry; the water will evaporate.
  - c. Disassemble the computer, dry each piece thoroughly, reassemble it, and then try it out.
  - d. Get a hair-dryer and try to blow-dry the computer.
44. You come into an office, and the computer is not working. The monitor says "Keyboard error", but the user swears the keyboard is plugged in. He even turns the computer around to show you how it's plugged in to the computer. There is a keyboard, and a mouse, both plugged into the computer. Both have the same kind of plug at the end of the cable. What would you do?
- a. Replace the keyboard; it's obviously defective.
  - b. The keyboard BIOS chip on the motherboard must have failed; I'll replace it.
  - c. Make sure that the keyboard is plugged into the keyboard plug, and the mouse into the mouse plug BEFORE doing anything else.
  - d. Replace the cable on the keyboard; it may have been damaged.
45. You come into an office, and the computer is not working. Nothing happens when you turn on the computer; no beeps, lights, or sounds. The monitor and PC are properly plugged in, both to the surge suppressor and to the units. The surge suppressor's fuse is blown, and you replace the fuse. Nothing happens. You smell the faint smell of burned circuits. At that moment, the person who also works in that office walks in and around you, with a hot cup of coffee he heated in the microwave a few minutes ago. His computer is fine, but it's plugged into another wall socket in the office. What would you do?
- a. Test the wall socket to see if there is power **before** doing anything else.
  - b. Consider replacing the power supply; it may have been fried.
  - c. Replace the surge suppressor; it may have been fried.
  - d. Consider replacing the computer with another one.
46. You come into an office, and the computer is not working. You determine that the hard drive is not working, and you replace it with a new one. However, the PC that contained the dead hard drive is EXACTLY like 100 other PCs in that office. What is the best and fastest way to get the user's PC back in running order again?
- a. Reload all of the software straight from scratch..
  - b. Use a product recovery CD, even if it is for another brand and model of PC
  - c. "Regghost" your PC using the Ghost software and an image file made for that PC
  - d. Call Microsoft technical support for additional information

**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

47. You come into an office, and the computer is not working properly. The setup program is fine, the hard disk is working, the monitor seems OK, but the computer just won't boot up from the hard disk. You can boot up from a bootable DOS disk, and you can get to the C:\> drive and execute programs, but you can't boot from C:\>. COMMAND.COM and the two hidden files are NOT erased. As you are working, someone mentions how they saw what looked like a green caterpillar on their screen last week. What would you do?
- a. Check the inside of the PC for caterpillar infestation.
  - b. Re-format the hard disk using the `FORMAT C: /S` command.
  - c. Check your hard disk for viruses with a scanning program on a write-protected floppy disk.
  - d. Check to see if the hard disk controller is working; swap in another hard disk & test it.
48. You come into an office, and the computer IS working properly. However, the user can't print a document to their local printer (the one plugged directly to the computer). Of the following 4 things to do, what would you do FIRST?
- a. Check to see if the printer driver is set up properly in the word processing software.
  - b. Check to see if the printer is turned on and the printer cable is connected properly.
  - c. Check to see if the network software is working properly.
  - d. Check to see if the printer is out of paper.
49. You come into an office and the computer is not working. NOTHING happens when you turn on the PC. Occasionally, you can get the PC to power-up, and when it does, you get three short beeps. You replace the power supply with a new one that you know works; no change. You replace the motherboard with a new, good one; same story. Quite frankly, you are stumped. What would you do in this situation?
- a. Throw the PC out the window, just like in the Apple commercial you saw last week.
  - b. Try swapping in another motherboard & power supply; the ones I just installed may have been damaged in transit.
  - c. Remove everything that's non-essential; power the system up, and try to isolate the problem to one malfunctioning unit.
  - d. Send the PC back to the manufacturer for repair in the factory.
50. You come into a computer lab at school, and the particular computer you are dealing with IS working properly. However, the user can't get the PC to respond to any commands from the keyboard. The keyboard is plugged in properly, and it is true: nothing happens when you type on the keyboard. The student was writing an assigned program in PASCAL (a programming language), and he had just started up the program he wrote when the system just locked up. Of the following 4 things to do, what would you do FIRST?
- a. Open the case to see if the hard drive is still operating.
  - b. There is NO hardware fault; re-boot the computer by pressing the Reset button.
  - c. Check to see if the network has gone down in the last few minutes.
  - d. Consult the PASCAL manual and see if there is something helpful in it.

**ENT 184 - PC HARDWARE: TEST #2**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**COMMENTS/QUESTIONS ABOUT THE CLASS OR TEST:** (Optional - If you have questions, please include them here. Thanks.)

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Thanks for attending the class. May you have success in repairing computers!  
Also, keep in touch with me for PC fixing opportunities this summer.  
My home number is 301/782-3585; cell is 202-680-9503.  
Email is [LLOYDWA@pgcc.edu](mailto:LLOYDWA@pgcc.edu)