1. Peripherals – External to the main processing function of the computer itself.
2. Primary Memory – Conventional and cache memory. Both provide immediate access to program instructions and data by the CPU and can be used for the execution of programs.
3. Secondary storage – Below the level of conventional memory, storage in the hierarchy is not immediately available to the CPU.
4. Online Secondary Storage – Low cost, current hard disks store data at a density of nearly 40 Gbits per square centimeter.
5. Off-Line storage – Used as a backup.
6. Server or file server – Data and programs may be stored on a secondary storage device connected to a different computer and accessed through a network connection between the computers.
7. Direct Access Storage Devices (DASDs) – This is what IBM calls disks.
8. Flash Memory – Nonvolatile electronic integrated circuit memory. Frequently the secondary storage of choice because of its small size. But more expensive.
9. Hard disk drives – contain several platters, all mounted on the same axis, with heads on each surface of the platter.
10. Track – With the head in a particular position, it traces out a circle on the disk surface as the disk rotates.
11. Cylinder – Since the heads on each surface all line up, it forms a cylinder.
12. Sectors – Surface of the disk platter is divided into equally sized pie shaped segments.
13. Block – Each sector on a single tracks contains on block of data.
14. CAV (Constant Angular Velocity) – Regardless of the track, the same angle is swept out when a sector is accessed; this, the transfer time is kept constant with the motor rotating at a fixed speed.
15. CLV (Constant Linear Velocity) – Motor speed would be adjusted such that the speed along the track would be constant regardless of the position of the head.
16. Multiple zone recording, zone bit recording, or zone-CAV recording – Instead of adjusting the motor speed, the disk controller buffers the data rate so that the data rate to the I/O interface is constant, despite the variable data rate between the controller and the disk.
17. Seek time – the time that is required to move from one track to another.
18. Rotational Latency Time (rotational delay or latency time) – Wait time for the disk to rotate to the beginning of the correct sector. (avg lat = .5 \* (1 / rotational speed)
19. Transfer time – Since the disk is rotating at a fixed speed, the time required to transfer the block is defined by the number of sectors on a track. (transfer time = (1 / # of sectors \* rotational speed)
20. Interblock gap – separates the block from neighboring blocks.
21. Disk array or drive array – In larger computer environments, with mainframe computer or large PCs that provide program and data storage facilities for a network, it is common to group multiple disks together.
22. Mirrored array – Consists of two or more disk drives. Each disk stores exactly the same data.
23. Majority logic – When three drives are used, errors that are not detected by normal read failures can be found using this method.
24. Striped array – File segment to be stored is divided into blocks. Different blocks are then written simultaneously to different disks.
25. CD-ROM - data storage is similar to magnetic disk data is stored in blocks on the disk. Stores 270,000 blocks of data. Each block is 2352 bytes long and holds 2048 bytes of data. 75 sectors and 60 seconds per minute.
26. DVD technology – Disk is the same size and formatted similarly. However, the use of a laser with a shorter light wavelength allows tighter packing of the disk.
27. Mounted – When the tape is in the tape drive and ready for operation.
28. Linear recording cartridges – Hold 820 meters of one-half inch wide tape in a 102 mm X 105 mm X 21.5 cartridge.
29. Data streaming – technique used for storage and retrieval.
30. Helical scan cartridges – Alternative data cartridge format based on the technology that was originally developed for videotape.
31. Pixel – what images are made of.
32. Resolution – specified either as the size of an individual pixel or as the number of pixels per inch.
33. Raster scan – The actual display is produced by scanning and displaying each pixel, one row at a time from left to right, top to bottom.
34. Interlace – Displaying odd rows and then coming back and displaying the even rows.
35. Progressive Scan Displays – Non-interlaced displays are also called this.
36. Vector Scan – Pixels are displayed in whatever order is necessary to trace out a particular image.
37. Text mode – Pixels of the display screen are divided into blocks, often twenty five rows of eighty. Each block will display a single ASCII character.
38. Outline fonts – Compromise between the simplicity of text mode and the elegance of graphics mode is to transmit the data using an object-based language such as postscript.
39. Bitmapped fonts – Those fonts that are described by laying out the detailed pixel diagram for the characters are known as bitmapped fonts.
40. Liquid Crystal Display (LCD) – Polarizing filter in front of light panel polarizes the light so that most of it is polarized in one direction. Light passes through a matrix of liquid crystal cells.
41. Active Matrix – Display panel contains one transistor for each cell in the matrix.
42. Passive Matrix – Less expensive way provides a single transistor for each row and column of the matrix and activates each cell, one at a time, repetitively, using a scan pattern.
43. Cathode ray tube (CRT) – Three electron guns within the tube shoot beams of electrons from the back of the tube. There is a gun for each of the primary colors, red, blue, and green. A high voltage applied to the inside of the face of the tub attracts the beams to the face. The face of the tube is pained with tiny dots or thin strips of **phosphors**, which glow when struck by electrons. A shadow mask in the tube is designed such that electrons from each gun can strike only phosphors of the matching color.
44. Organic Light-Emitting Diode (OLED) – New screen technology that is poised to supplement or replace LCD. Active technology.
45. Impact printers – used pins that were selectively employed to generate dot matrix representations of the characters on the page.
46. Single color printers normally use laser or inkjet printing technology. More expensive color printing uses thermal wax transfer or dye sublimation.
47. PostScript – Industry standard print command language.
48. Network Interface Unit Controller or Network Interface Card – Handles the physical characteristics of the connection and one or more I/O drivers that mange and steer input data, output data, and interrupts.