* The device which sends the data to the system by user called as a input system like microphone, keyboard, mouse, joystick, scanner, floppy drive.

1. What is output device?

* output device is a piece of peripheral computer hardware equipment that receives data from the system and converts it into human-readable form. The most popular output devices are Monitor, Printer, Projector, Speaker, Plotter, Headphone.

1. What is CPU?

* CPU is the heart and brain of the computer. It receives data as input. The central processing unit (CPU) is simply the central processor.

1. What are the types of CPU?

* There is a 6 type of CPU .

1. single-core
2. dual-core
3. Quad-core
4. Hexa-core
5. Octa-core
6. Deca core
7. What do we need to keep the CPU Healthy?

* Use heat sink, thermal paste, cooling fan, liquid cooling to keep the CPU healthy.

1. Do a practical to remove processor and apply thermal paste in it and install it again.

* Done in lab.

1. Do a practical to Identify CPU and its Sockets.

* Done in lab.

1. What is memory?

* A memory is just like a human brain. It is used to store data and instructions. Computer memory is the storage space in computer where data is to be processed and instructions required for processing are stored.

1. What are the types of memory?

* Memory is primarily of three types.

1. Cache Memory

2. Primary Memory/Main Memory

3. Secondary Memory

1. Do a practical to identify memory types.

* Done in lab.

1. Do a practical to install memories in system

* Done in lab.

1. Do a practical to identify main memory frequencies.

* Done in lab.

1. What is bios?

* Bios is a basic input/output system. All connected hardware detail stored in bios. Bios chip is identified by name of “Winbond” or “mBios”

1. Describe working process of BIOS.

* There are 4 types of working process of bios.

1. Post : test the computer hardware and make sure no errors exists before loading the operating system.
2. Bootstrap loader : locate the os. If a capable os is located, bios will pass control to it(bootloader). Required file to run pc is located in this.
3. Bios driver : low level drivers that give the computer basic operational control over your computers hardware.
4. Bios or cmos driver : configuration program that allows you to configure hardware setting including system setting such as computer password, time and date.
5. Cmos cell : it is used for indicating date and time. if we want to reset the bios just remove the cmos cell (complementary metal-oxide semiconductor).
6. Do a practical to reset bios when system is on.

* Done in lab.

1. Do a practical of Hard resetting the BIOS.

* Done in lab.

1. Do a practical of identifying BIOS chip from the motherboard.

* Done in lab.

1. What is CMOS?

* It is a physical portion of the motherboard. CMOS is a memory chip that holds configuration settings and is supported by the onboard battery called CMOS battery.

1. What is motherboard?

* A motherboard is one of the most essential parts of a computer system. It holds together many of the crucial components of a computer, including the central processing unit (CPU), memory and connectors for input and output devices.

1. **Describe types of motherboards.**

* There is a two types of motherboard.

1. Non-integrated :
   * + - * Assemblies such as I/O port connectors, hard drive connectors, CD drive connectors etc installed as expansion boards.
         * these types of motherboards are repairable.
         * this type of motherboards is used in laptops.
         * cheap and easy to produce.
         * If something goes wrong such as bend or broken pin or defective controller can be repaired with minor cost.
2. Integrated :
   * + - * Assemblies are integrated or built right onto the board.
         * these types of motherboards are not repairable.
         * this type of motherboards are used in laptops.
         * Cheaper to produce but are expensive to repair.
         * Fast, powerful, feature rich motherboard at reasonable price.
3. Do a practical by identifying parts of motherboard.

* Done in lab.

1. Do a practical by removing all removable parts from the motherboard.

* Done in lab.

1. What is system bus?

* Is a path that connects the CPU, memory and other devices on the motherboard. Data is transferred form one system component to another using these lines

1. What is chipset and types of chipset?

* A chipset is a collection of electronic components that work together to enable the functioning of a computer system. It is typically made up of two main parts: the Northbridge and the Southbridge. The Northbridge handles high-speed communication between the processor, memory, and graphics card, while the Southbridge manages the slower, peripheral devices such as USB ports, hard drives, and audio interfaces.
* There are two types of chipset.
  + - 1. North bridge chip
      2. South bridge chip

1. Describe how does the Northbridge chipset work what is SMPS? And its purpose DO a practical to install SMPS.

* The northbridge handles the high-speed communication between the CPU, memory, and graphics card. A switching regulator is included in an electronic power supply called a switched-mode power supply (SMPS) to facilitate effective electrical power conversion. An SMPS converts voltage and current while transferring power to DC loads via a DC or AC source, just like other suppliers.
* Practical done in lab.

1. How to check smps?

* Insert one end of the bent paper clip into the green terminal and the other end to the black terminal. Turn on the SMPS with the wire inserted.

1. List out the types of storage devices.

* Storage devices mean the devices which are being used to store the information or data in bulk.
* The storage devices like,
* RAM, ROM, Floppy disk, Hard disk, Pen drive, SSD, Sd card, memory card, CD, DVD, Cloud and Virtual storage.

1. Describe the working process of storage devices.

* The device is made up of a spinning disk with magnetic coatings and heads that can both read and write information in the form of magnetic patterns.
* Binary data is primarily stored on the hard disk drive(HDD).

1. Do a practical to Remove storage devices and reinstall it and make a gpt disk.

* Done in lab.

1. What is SATA?

* SATA also referreed to as serial ATA stands for Serial Advanced Technology Attachment.
* an industry standard bus interface for connecting a computer’s host bus adapter storage devices such as hard disk drivers(HDD), optical drivers and solid-state drivers(SDD).
* Serial ATA (SATA) Cable.

1. Describe the working of SATA.

* Serial ATA (serial Advanced Technology Attachment or SATA) is a command and transport protocol that defines how data is transferred between a computer’s motherboard and mass storage devices.
* Such as hard disk drivers (HDDs), optical drivers and solid-state drivers (SDDs).

1. Do a practical to install SATA.

* Done in lab.

1. What is SCSI storage and type of scsi?

* Small Computer System Interface (SCSI) is a set of standards for physically connecting and transferring data between computers and peripheral devices, best known for its use with storage devices such as hard disk drives.

1. What is I/O ports?

* An input/output (I/O) port also known as an I/O interface, is a connection point on a computer or electronic devices that allows data to be transferred between the devices and external devices or peripherals.
* It serves as a channel for communication, enabling information to flow into and out of the device.

1. List out the I/O ports available Do a practical to identify the I/O ports

* Some available I/O ports are as follow:

1. Serial Port : Used for external modems and older computer mouse.
2. Parallel Port : Used for scanners and printers.
3. Universal Serial Bus (or USB) Port : Connects all kinds of external USB devices such as printer, mouse, etc.
4. Firewire Port : Transfer large amount of data at a very fast speed.
5. Ethernet Port : Connects to a network and high speed internet.

PRACTICAL : Done in lab

36. What is Boot Process?

* Booting can be done either through hardware (pressing the start button) or by giving software commands. Therefore, a boot device is a device that loads the operating system. Moreover, it contains the instructions and files which start the computer. Examples are, the hard drive, floppy disk drive, CD drive, etc.

37. Describe the boot process in Linux?

* Linux Boot Process Stages:
* The boot loader catches the kernel image over the disk and ships it into memory to begin the computer. The kernel boots the devices and drivers. The kernel mounts the common filesystem. The kernel begins a program called init with a zero method ID.

38. List out the types of display?

* 8 types of display that is,

1. RGB

2. CRT

3. Plazma

4. LCD

5. LED

6. OLED

7. AMOLED

8. QLED

39. What is printer? And type of printer.

* A printer is a hardware output device that is used to generate hard copy and print any document. A document can be of any type such as a text file, image, or the combination of both. It accepts input command by users on a computer or on other devices to print the documents. For example, if you have to submit a project report at your college, you need to create a soft copy of your report and print it with the help of the printer.
* 4 types Printer are there that is,

1. Dotmatrix Printer

2. Colorjet Printer

3. Laser Printer

4. 3D-Printer

40. Do a practical to install the printer

* Done in lab.

41. Do a practical to Troubleshoot the improper printing.

* Done in lab.

42. What are the parts of laptop?

* The parts of laptop include display screen, keyboard, base panel, top panel, Cooling Fan, RAM, hard disk, palm rest assembly, battery, hinges, speaker, optical drive, antenna etc.

43. Do a practical to disassemble the laptop.

* Done in lab.