

Practical 1: Identify Basic Terms and Components of a Computer

– Summary Report

A computer is an electronic device that processes data and converts it into useful information. It works using a combination of hardware (physical parts) and software (programs).

Is practical ka main aim hai basic computer terms, hardware components, aur unki functioning ko identify karna aur unka summary banana.

Basic Terms of a Computer

(A) Data

- Raw facts & figures.
- Example: numbers, text, symbols.
- Computer isse process karta hai to information banti hai.

(B) Information

- Processed & meaningful data.
- Example: Marks ka total, sorted list, generated reports.

(C) Hardware

- All the physical components of a computer that we can touch.
- Example: CPU, RAM, keyboard, mouse, monitor.

(D) Software

- Programs or instructions that tell the hardware what to do.

- Two types:
 - System Software (OS like Windows, Linux)
 - Application Software (MS Word, Browsers)

(E) Input

- Data given to the computer via input devices.
- Example: Keyboard typing, mouse click, scanning.

(F) Output

- Results produced by the computer.
- Example: Display on monitor, printed page, audio.

(G) Processing

- CPU performs operations on data.
- Includes: calculations, comparisons, decision making.

(H) Storage

- Where data is saved permanently or temporarily.
- Example: RAM, Hard Disk, SSD, Pen Drive.

(I) Booting

- The process of loading the operating system when the computer starts.

Basic Components of a Computer

(A) Input Devices

Devices that send data to the computer.

Common Input Devices:

- Keyboard – text input
- Mouse – pointer control
- Scanner – captures images
- Microphone – audio input
- Webcam – video input

(B) Output Devices

Devices that show results to the user.

Common Output Devices:

- Monitor – display
- Printer – hard copy output
- Speakers – sound output
- Headphones – audio output

(C) System Unit (CPU Cabinet)

This is the main core of the computer.

Components Inside System Unit:

1. Motherboard

- Main circuit board.
- All components connect here.
- Controls communication between components.

2. Processor (CPU)

- Called the *brain of the computer*.
- Performs calculations and processing.
- Two main parts:
 - ALU (Arithmetic Logic Unit) – calculations & logic
 - CU (Control Unit) – controls operations

3. RAM (Random Access Memory)

- Temporary memory.
- Stores active data and programs.
- Volatile (data is lost when power off).

4. ROM (Read Only Memory)

- Permanent memory.
- Stores boot instructions (BIOS/UEFI).

5. Storage Drives

- HDD (Hard Disk Drive) – magnetic storage, high capacity

- SSD (Solid State Drive) – faster, uses flash memory
- NVMe SSD – extremely fast storage

6. SMPS (Power Supply Unit)

- Converts AC to regulated DC power
- Supplies electricity to all components.

7. Expansion Cards

- Additional cards installed in PCIe slots
 - Graphics Card (GPU)
 - Sound Card
 - Network Card
 - WiFi/Bluetooth Card

(D) Storage Devices (External & Internal)

Internal Storage:

- HDD
- SSD
- NVMe
- ROM

External Storage:

- Pen Drive
- Memory Card
- External Hard Disk
- CD/DVD
- Cloud Storage

(E) Peripheral Devices

Optional but useful devices.

Examples:

- Printer
- Scanner
- Webcam
- Projector
- Game Controller

Working of a Computer (Cycle)

Computer works on the IPO Cycle:

1. Input

User provides data via input devices.

2. Processing

CPU processes the data.

3. Output

Meaningful information is produced on output devices.

4. Storage

Information is saved for future use.