**Answer the following very short questions:**

**a.** IPO system stands for Input, Process, and Output system. It is a basic framework used to describe the flow of information in a computer system or program.

**b.** Computer is known as a "dumb machine" because it lacks the ability to think, reason, or make decisions on its own. It can only perform tasks that it is programmed to do by a human operator.

**c.** Analog computers are also known as special-purpose computers because they are designed to perform specific types of calculations or simulations. They are optimized for handling continuous data and are often used in scientific and engineering applications.

**d.** ALU stands for Arithmetic Logic Unit. It is a component of the central processing unit (CPU) in a computer that performs arithmetic operations (such as addition, subtraction, multiplication, and division) and logical operations (such as comparisons and Boolean logic).

**e.** Storage refers to the area in a computer system where data and instructions are stored for later use. It can be in the form of primary storage (such as RAM) or secondary storage (such as hard drives or solid-state drives).

**f.** Impact printers produce sound because they work by physically striking an ink ribbon against the paper to create characters or images. The sound is generated by the mechanical impact of the printer mechanism.

**g.** The power supply unit (PSU) is responsible for providing power to the various components of a computer system. It converts the electrical power from an outlet into the appropriate voltages required by the computer hardware.

**h.** RISC stands for Reduced Instruction Set Computer. It is a type of computer architecture that uses a small and highly optimized set of instructions to perform tasks. RISC processors typically have simpler instructions and execute them at a faster rate compared to complex instruction set computers (CISC).

**i.** The Latin name for computer is "Computare".

**j.** Computer is known as an information processing machine because its main function is to process data and information. It can receive input, perform computations, store and retrieve information, and produce output based on the processed data.

**Answer the following short questions:**

**a.** Computer needs a user for several reasons:

To provide input and instructions to the computer.

To interpret and make sense of the output produced by the computer.

**b.** The parts of the CPU (Central Processing Unit) are:

Control Unit: It manages and coordinates the activities of the CPU.

Arithmetic Logic Unit (ALU): It performs arithmetic and logical operations.

Registers: They store data and instructions temporarily during processing.

**c.** A supercomputer is a powerful and high-performance computer designed to solve complex problems and process large amounts of data quickly. It is not considered a general-purpose computer because it is specialized and optimized for specific tasks, such as scientific research, weather forecasting, or simulating nuclear reactions.

**d.** The full form of MICR is Magnetic Ink Character Recognition, which is a technology used for reading characters printed with magnetic ink. The full form of OCR is Optical Character Recognition, which is a technology used to recognize and convert printed or handwritten text into digital format.

**e.** Four features of a computer are:

**Speed**: Computers can process data at high speeds.

**Accuracy**: Computers perform tasks with a high level of accuracy.

**Storage** **Capacity**: Computers can store large amounts of data.

**Versatility**: Computers can be programmed to perform a wide range of tasks.

**f.** Two microcomputers used in daily life are:

Personal Computers (PCs): Desktop or laptop computers used by individuals for various purposes.

Smartphones: Mobile devices that have computing capabilities and can perform a variety of tasks.

**g.** [Diagram not provided]

**h.** Differences between CRT and LED monitors:

**Technology**: CRT monitors use cathode ray tubes and phosphor screens, while LED monitors use light-emitting diodes for backlighting.

**Size and Weight**: CRT monitors are generally bulkier and heavier compared to LED monitors.

**i.** Two uses of computers in the hospital area are:

**Electronic Medical Records:** Computers are used to store and manage patient information, medical history, and treatment records.

**Medical Imaging:** Computers are used for processing and analyzing medical images such as X-rays, CT scans, and MRIs.

**j.** Analog computer is a type of computer that uses continuous physical quantities to represent and manipulate data. It solves mathematical problems using analog circuits and components. An example of an analog computer is an analog calculator used for solving differential equations.

**k.** Software refers to a collection of programs, data, and instructions that tell a computer how to perform specific tasks. The user is the person who interacts with the computer system and utilizes software to perform various operations or tasks.

**l.** A microprocessor is a single integrated circuit that contains the functions of a central processing unit (CPU) of a computer. It is responsible for executing instructions and performing calculations in a computer system. The first microprocessor was the Intel 4004, released in 1971.

**m.** Registers are small, high-speed storage locations within the CPU that hold data and instructions temporarily during processing. They are important because they provide quick access to frequently used data and instructions, which helps improve the overall speed and efficiency of the computer.

**n.** Secondary memory refers to non-volatile storage media used to store data and programs for long-term use. It retains data even when the power is turned off. Types of secondary memory include hard disk drives (HDDs), solid-state drives (SSDs), optical discs (such as CDs and DVDs), and flash memory devices (such as USB drives and memory cards).

**Answer the following long questions:**

**a.** Computers are famous nowadays for several reasons:

**Increased Efficiency**: Computers have significantly increased the speed and efficiency of various tasks, such as data processing, communication, and problem-solving.

**Information Access**: Computers provide easy access to vast amounts of information and resources through the internet, enabling quick research and learning.

**Automation**: Computers automate repetitive tasks, reducing human effort and increasing productivity in various fields, such as manufacturing, finance, and administration.

**Communication and Connectivity**: Computers facilitate communication and connectivity through email, instant messaging, video conferencing, and social media platforms, connecting people globally.

**b.** Devices that make up a computer system include:

**Input Devices**: These devices are used to enter data and instructions into the computer. Examples include keyboards, mice, scanners, and microphones.

**Output Devices**: These devices are used to display or present the processed information to the user. Examples include monitors, printers, speakers, and projectors.

**Central Processing Unit (CPU**): It is the brain of the computer that performs calculations, executes instructions, and manages data.

**Memory**: It stores data and instructions temporarily or permanently. Examples include RAM (Random Access Memory) and storage devices like hard drives or SSDs.

**c.** Differences between impact and non-impact printers:

**Mechanism**: Impact printers use a physical impact to create characters on paper, typically by striking an ink ribbon against the paper. Non-impact printers, such as inkjet or laser printers, use non-contact methods like spraying ink or using lasers to create characters.

**Noise**: Impact printers produce noise due to their mechanical impact, while non-impact printers operate silently.

**Print Quality**: Impact printers generally produce lower print quality compared to non-impact printers. The characters created by impact printers may appear less sharp and have limited resolution.

**Speed**: Non-impact printers are generally faster than impact printers in terms of printing speed. Impact printers require the physical impact mechanism, which slows down the printing process.

**Maintenance**: Impact printers often require more maintenance due to the mechanical components involved in the impact mechanism. Non-impact printers, on the other hand, have fewer moving parts and require less maintenance.