**Module -1**

**Understanding of Hardware and Its Components**

**Section 1: Multiple Choice**

**Which of the following is NOT a component of the CPU?**

**1. ALU**

**2. RAM**

**3. CU**

**4. 1 and 3 both**

**ANS : 2) RAM is not part of the CPU.**

**2. What is the function of RAM in a computer?**

**ANS: The function of RAM (Random Access Memory) in a computer is to provide temporary, high-speed storage that the CPU can quickly access while performing tasks. RAM holds data and instructions that are actively used or processed by the system.**

**3. Which of the following is a primary storage device?**

**1. HDD**

**2. SSD**

**3. SD card**

**4. 1 and 2 both**

**ANS: 1 AND 2 BOTH**

**4. What is the purpose of a GPU?**

**ANS: The purpose of a GPU (Graphics Processing Unit) is to handle the rendering of images, video, and animations to be displayed on a computer screen. It performs parallel processing tasks that involve manipulating and rendering graphics, which is far more efficient for visual tasks than relying solely on the CPU**

**Section 2: True or False**

**5. The motherboard is the main circuit board of a computer**

**where other components are attached.**

**ANS: TRUE**

**6. A UPS (Uninterruptible Power Supply) is a hardware**

**device that provides emergency power to a load when the input power**

**source fails.**

**ANS: TRUE**

**7. An expansion card is a circuit board that enhances the**

**functionality of a component.**

**ANS: TRUE**

**Section 3: Short Answer**

**8. Explain the difference between HDD and SSD.**

**ANS: HDD consists of a spinning disk (platter) coated with a magnetic material and a read/write head that reads and writes data on the disk’s surface**

**And SSDs, on the other hand, use**[**flash memory**](https://www.geeksforgeeks.org/what-is-flash-memory/)**to store data instead of a spinning disk. SSDs have no moving parts, making them much faster, more durable, and less susceptible to mechanical failure than HDDs.**

**# Features of Hard Disk Drive (HDD)**

**High Storage Capacity, Lower Cost, Larger Size, Slower Performance, Mechanical Parts**

**\* Advantage of HDD: Cost-Effective, High Storage Capacity, Availability**

**\* Disadvantages of HDD : Slower Speed, More Fragile, Higher Power Consumption**

**# Features of Solid State Drive (SSD)**

**Fast Performance, Compact Size, Lower Power Consumption, Higher Cost, No Mechanical Parts.**

**\* Advantage of SSD: Faster Performance, Durability, Lower Power Consumption**

**\* Disadvantages of SSD: Higher Cost, Limited Storage Capacity.**

**9. Describe the function of BIOS in a computer system.**

**ANS: BIOS, computer**[**program**](https://www.britannica.com/technology/computer-program)**that is typically stored in**[**EPROM**](https://www.britannica.com/technology/EPROM)**and used by the**[**CPU**](https://www.britannica.com/technology/central-processing-unit)**to perform start-up procedures when the computer is turned on. Its two major procedures are determining what**[**peripheral devices**](https://www.britannica.com/technology/input-output-device)**(keyboard,**[**mouse**](https://www.britannica.com/technology/mouse-computer-device)**, disk drives, printers, video cards, etc.) are available and loading the**[**operating system**](https://www.britannica.com/technology/operating-system)**(OS) into main memory. After start-up, the BIOS program manages data flow between the OS and the**[**peripherals**](https://www.merriam-webster.com/dictionary/peripherals)**, so neither the OS nor the application programs need to know the details of the peripherals (such as hardware addresses). In the early 21st century, BIOS was supplanted by United Extensible Firmware Interface (UEFI), which can handle much larger drives and operate faster than BIOS.**

**10. List and briefly explain three input devices commonly used with**

**computers.**

**ANS: keyboard, mouse, scanner.**

**Keyboard: is the most common and very popular input device which helps in inputting data to the computer. The layout of the keyboard is like that of traditional typewriter, although there are some additional keys provided for performing additional functions. Keyboards are of two sizes 84 keys or 101/102 keys, but now keyboards with 104 keys or 108 keys are also available for Windows and Internet.**

**Mouse: Controls a pointer that is displayed on the monitor. Has usually arrow like shape, Can have one or more buttons and a wheel button to scroll over the pages, Used to select commands and to control information.**

**Scanner: is an input device which works more like a photocopy machine. It is used when some information is available on a paper and it is to be transferred to the hard disc of the computer for further manipulation. Scanner captures images from the source which are then converted into the digital form that can be stored on the disc. These images can be edited before they are printed.**