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**Assignment**

**Module 1: Understanding of Hardware and its components.**

**Section 1: Multiple** **choice.**

1. Which of the following is NOT a component of the CPU?

Ans: RAM.

Reason: While crucial for storing data and instructions, RAM is not considered part of the CPU itself; it is a separate memory unit that the CPU accesses to retrieve data.

2.**what is the function of RAM in computer?**

Ans: RAM (Random access memory) function s as pc temporary, high

Strong data and instructions that the CPU needs to

access for active processes.

3.**Which of the speed or space, following is a primary storage device?**

Ans: 4. 1 and 2 both.

Reason: **HDD (Hard Disk Drive)** HDDs are still considered a

primary storage device because they directly interact with

the CPU for accessing data frequently.

**SSD (Solid State Drive):**

Like HDDs, SDD are also considered primary storage devices as

they are used to store the operating system and frequently accessed files, although they offer significantly faster performance compared to HDDs

work.

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

Ans: The purpose of GPU is to accelerate the rendering of images, videos and animations for etc.

**Section 2: True or false**

5.**True or false: The motherboard is the main circuit board of a computer where other components are attached**.

Ans: True.

Reason: the statement is true because the motherboard is the central circuit board in a computer that connects and allows communication between all other components.

6.**True or false: A UPS (uninterruptible power supply) is a hardware, device that provides emergency power to a load when, the input power source fails.**

Ans: True.

Reason: A UPS is a hardware device that provides emergency power from a stored.

7.**True or false. An expansion card is a circuit board that enhances the functionality of a component?**

Ans: True.

Reason: A An expansion card is a circuit board that can be inserted into a pc.

**Section 3: short Answer:**

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

Ans: HDDs use spinning magnetic disks and a mechanical arm to read and write data, while SSD use flash, chips with no moving parts.

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

Ans: BIOS (Basic Input/ Output System) is to initialize and test the computer's hardware and load the operating system when the system is powerd on.

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

Ans: 1. Keyboard

* **Function:** The most standard input device, a keyboard is used to enter data, such as letters, numbers, and symbols, and to issue commands into a computer.
* **Explanation:** It works by registering the press of a key and sending a corresponding signal to the computer.

 2. Mouse

* **Function:** A handheld pointing device used to control the cursor on the screen and select items by clicking its buttons.

3. Microphone

* **Function:** Used to capture audio input from the surrounding environment.
* **Explanation:** It converts sound waves, such as speech or music, into digital signals that the computer can process, record.

**Section 4:** **Practical application**

11. Identify and label the following components on a diagram of a motherboard**:**

Ans: 1**. Central Processing Unit (CPU) Socket**

* **Function:** Holds the CPU, which is the "brain" of the computer.
* **Appearance:** A square or rectangular component, often with a lever arm, that holds the processor in place.

**2. RAM (Memory) Slots**

* **Function:** Holds the Random access Memory (RAM) modules, which provide temporary storage for data the CPU needs quick access to.
* **Appearance:** Long, narrow clips hold memory sticks in place.

**3. SATA connector**

The data connector is a thin, wafer-style connector that transfers data between the storage device and the motherboard.

* **Pins 1, 4, 7:** These are ground pins.
* **Pins 2 & 3 (A+ and A-):** These form a twisted-pair for transmitting data.
* **Pins 5 & 6 (B- and B+):** These form a twisted-pair for receiving data.

**4.PC/E sloat:**

PC/E sloat diagrams shows a long narraw connectors

On a motherboard that is used to attach expansion

Cards like graphics network ,or sound cards.

12. **Demonstrate how to install a RAM module into a computer?**

Ans: To install a RAM module first shut down and unplug the computer, then open the case and ground yourself to prevent static discharge. Next, align the notch on the RAM stick with the one in the slot on the motherboard, press down firmly on module until it clicks into place, and reassemble the computer. Finally, turn the computer back on to verify that the new RAM is recognized.

**Section 5 : Essay**

**13. Discuss the importance of proper cooling mechanisms in a computer**

**system Include examples of cooling methods and their effectiveness.**

Ans: Proper cooling is vital for computer performance and

longevity, preventing damage, and ensuring system stability by dissipating heat

generated by components like the CPU and GPU.

**14.** **Explain the concept of bus width and its significance in computer**

**Architecture.**

Ans: Bus width is the number of parallel lines in a computer's bus, which determines how bits of data can be transferred simultaneously.

Its significance lies in its direct impact on system performance: a wider bus can transfer more data at once, leading to faster processing and improved overall performance.