Module -1: Understanding of Hardware and Its Components

Section 1: Multiple Choice

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

**Answer:- 4. 1 and 3 both**

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

**Answer:- The function of RAM in a computer is to temporarily store data.**

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

**Answer:- 4. 1 and 2 both**

4. What is the purpose of a GPU?

**Answer:-The purpose of a GPU (Graphics Processing Unit)** **is to handle and accelerate the rendering of images, videos, and animations for display on a screen.**

Section 2: True or False

5.The motherboard is the main circuit board of a computer where other components are attached.

**Answer:-True**

6.A UPS (Uninterruptible Power Supply) is a hardware device that provides emergency power to a load when the input power source fails.

**Answer:-True**

7.An expansion card is a circuit board that enhances the functionality of a component.

**Answer:-True**

Section 3: Short Answer

8.Explain the difference between HDD and SSD.

**An HDD (Hard Disk Drive) uses spinning disks to read and write data, while an SSD (Solid State Drive) uses flash memory with no moving parts. SSDs are faster, more durable, and quieter than HDDs, but usually more expensive.**

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

**The BIOS (Basic Input/Output System) starts the computer when it is turned on. It checks the hardware and loads the operating system. It also lets you change basic system settings like boot order and time**.

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

* **Keyboard – Used to type text and enter commands.**
* **Mouse – Used to point, click, and interact with items on the screen.**
* **Scanner – Converts physical documents or images into digital form.**

Section 4: Practical Application

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

● CPU

● RAM slots

● SATA connectors

● PCI-E slot

**Done in Lab.**

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

1. **Turn off the computer and unplug it.**
2. **Open the case.**
3. **Find the RAM slots on the motherboard.**
4. **Align the notch on the RAM stick with the slot.**
5. **Press the RAM stick down firmly until both clips click into place.**
6. **Close the case and power on the computer.**

Section 5: Essay

13. Discuss the importance of proper cooling mechanisms in a computer system. Include examples of cooling methods and their effectiveness.

**cooling is important to keep a computer running efficiently and prevent damage. When components like the CPU or GPU get too hot, they can slow down or overheat, which may cause crashes or hardware failure.**

**Common cooling methods include:**

* **Air cooling – Uses fans and heat sinks. It is affordable and works well for most systems.**
* **Liquid cooling – Uses water or coolant to transfer heat. It’s more effective for high-performance computers like gaming PCs but more expensive.**
* **Thermal paste – Applied between the CPU and heat sink to improve heat transfer.**

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

**Bus width refers to how many bits of data a computer can transfer at once. A wider bus means more data can move at the same time, which improves speed and performance. For example, a 64-bit bus can transfer twice as much data as a 32-bit bus. It’s important because it affects how fast the CPU communicates with memory and other parts of the system.**