

# **Assignment 1:**

## **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

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

**ANS.** The RAM stands for (Random Access Memory).

Basically it is used to store data. It is use for temporary data storage. This is one of the nearest chip to the processor.

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

**ANS.** 1 and 2 both(HDD and SSD)

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

**ANS.** The GPU stands for Graphical processing unit. The purpose of GPU is to rendering image, videos and animation.

### **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

**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**

**7. True or False: 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**

- HDD (Hard Disk Drive).
- HDD use spinning disk to store data.
- It is not durable as compare to SSD beacause it is movable therefor it chances to break.
- It is not expensive as compare to SSD.
- It consume more power.

#### **SSD**

- SSD (Sand Disk Drive).
- SSD use flash memory to store data.
- It has no moving parts like HDD therefor it is durable.
- It provides faster data access as compare HDD.

- SSD consume more power than HDD.
- It is expensive as compare to the HDD.

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

**ANS.** The function of BIOS (Basic input / Output system) in a computer system is to check all computer components during startup of computer system. It use POST (Power on self test) to check all computer components BIOS use booting process for loading os from hard disk to ram. Run bootstrap code (locate & load). It use BIOS diagnostic mode to check internal components. Date & Time management. The above mentioned point is the function of BIOS in computer system.

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

**ANS.**

Keyboard – The keyboard allows the user to input text and numbers by pressing keys.

Mouse- The mouse is a pointing device that allows users to navigate on the screen and select items with clicks.

Microphones – The microphone use for audio input in computers.

## 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**

**ANS.**

- **CPU** – Usually cpu is located in the central socket area with heat fan.
- **RAM slot**- It is long slots next to the CPU socket.
- **SATA connectors** – Small L shaped connector near the edge of the board, use for storage drives.
- **PCI-E-slot** – A long slot used for expansion cards like GPUs.

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

**ANS.**

- Power off and unplug the computer.
- Open the computer case.
- Locate the RAM slot.
- Line up the RAM module notch with the slot key.

- Insert the module and press firmly until it clicks into place
- Close the case and power on the system.

## **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 prevents overheating, ensuring optimal performance and preventing hardware damage. Methods include liquid cooling (coolant and radiators), air cooling (fans, heat sinks), and thermal paste for heat transfer. Efficient cooling increases lifespan and reliability of components.

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

**ANS.** Bus width refers to the number of bits that can be transmitted simultaneously across a bus. Wider buses (EXAMPLE. 64-bit vs 32-bit) allow more data to be moved at once, increasing system speed and performance. It is crucial for processing large data sets and improving overall computing efficiency.