

Name: Katrodiya Rakshit

**Assignment 1**

**t**

**:**

**Module**

**-**

**1:**

**Understanding of Hardware and Its**

**Components**

# Section 1: Multiple Choice

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

* **RAM**

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

* **RAM function store data and program**

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

* ***HDD***
* ***SSD***

1. What is the purpose of a GPU?

* **GPU stands for graphics processing unit it is a part of Hardware component**

# Section 2: True or False

1. True or False: The motherboard is the main circuit board of a computer

* **TURE**

1. 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.

* **TURE**

1. True or False: An expansion card is a circuit board that enhances the functionality of a component.

* **TURE**

# Section 3: Short Answer

1. Explain the difference between HDD and SSD.

* **HDD:**

**Random access time 5-10 MS**

**Read latency time high**

**50MB/S to 100MB/S**

**Low reliability**

* **SSD:**

**Random access time 0.1 ms**

**Read latency time very low**

**100MS/s to 500MB/S**

**Hight Reliability**

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

* **BIOS is the firmware that controls and configures the basic function of a computer system**

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

**3 input device is:**

1. **KEYBOARD**
2. **MOUSE**
3. **SCANNER**

* **KEYBOARD: A keyboard is a typewriter-style device that allows users to input text, number, and commands into a computer**
* **MOUSE: A mouse is a pointing device that allows users to interact with graphical user interfaces and select items on a computer screen**
* **SCANNER: A scanner is an input device that captures image or documents and converts them into digital format**

## Section 4: Practical Application

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

* **Done**

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

* **Enter the RAM slot on your motherboard push the looking tab at end of each line up the RAM stick with the slot ensuring that the notch of the RAM stick matches that of the slots be sure that’s its cantered between the latch looks**

# Section 5: Essay

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

**Cooling may be designed to reduce the ambient temperature within the case of a computer such as by exhausting hot air or to cool a single component or small area**

1. **Air Cooling:**

* **Air cooling uses fans to circulate air through the system, dissipating heat from compose While effective for low-to-moderate systems, air cooling can be limited in high-performance systems.**
* **Example: Case fens, CPU coolers, and power supply fans**

1. **Liquid Cooling:**

* **Liquid cooling uses a liquid coolant to absorb heat from components, which is then dissipated through a radiator its more effective than air cooling, especially for high-performance system**

1. **Heat Pipes:**

* **Heat pipes use a select tube filled with a liquid that vaporizes and condenses to transfer heat from one lo action to another**

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

**Types of Bus Width:**

1. **Address Bus Width: Determines the number of memory location that can be addressed**
2. **Data Bus Width: Determinate number of bits that can be transferred between components in a single cycle**
3. **Instruction Bus Width: Determines the number of bits that can be transferred during instruction fetch.**
4. **Control bus width: The control bus width determines the amount of data that can be transferred in a single clock cycle**

**Common Bus Widths:**

**In summary, bus Width is a critical aspect of computer architecture that determines the amount of data that can be transferred between components in a single clock cycle a wider bus Width can improve system system** **performance, increase data transfer rates, and enable faster access to larger amounts of memory**