

## **Assignment Module 2**

### **Installation and Maintenance of Hardware and Its Components**

#### **Section 1: Multiple Choice**

1. Which of the following precautions should be taken before working on computer hardware?
- a) Ensure the computer is plugged in to prevent electrostatic discharge.
  - b) Wear an anti-static wrist strap to prevent damage from electrostatic discharge.
  - c) Work on carpeted surfaces to prevent slipping.
  - d) Use magnetic tools to handle components more easily.

**Answer:- b) Wear an anti-static wrist strap to prevent damage from electrostatic discharge.**

2. What is the purpose of thermal paste during CPU installation?
- a) To insulate the CPU from heat.
  - b) To provide mechanical support for the CPU.
  - c) To improve thermal conductivity between the CPU and the heat sink.
  - d) To prevent the CPU from overheating.

**Answer:-c) To improve thermal conductivity between the CPU and the heat sink**

3. Which tool is used to measure the output voltage of a power supply unit (PSU)?
- a) Multimeter
  - b) Screwdriver
  - c) Pliers
  - d) Hex key

**Answer:-a) Multimeter**

4. Which component is responsible for storing BIOS settings, such as date and time, even when the computer is powered off?
- a) CMOS battery
  - b) CPU
  - c) RAM

d) Hard drive

**Answer:-a) CMOS battery**

### Section 2: True or False

5. True or False: When installing a new hard drive, it is essential to format it before use.

**Answer:-True**

6. True or False: A POST (Power-On Self-Test) error indicates a problem with the CPU.

**Answer:-False**

7. True or False: It is safe to remove a USB flash drive from a computer without ejecting it first.

**Answer:-False**

### Section 3: Short Answer

8. Describe the steps involved in installing a new graphics card in a desktop computer.

**Answer:-The process begins with powering off and disconnecting the system. The case is then opened to access the motherboard. The PCIe x16 slot is identified, and any obstructing expansion slot covers are removed. The graphics card is firmly inserted into the slot and secured with screws. Power connectors from the PSU are attached if required. Upon reassembly, the system is booted and the appropriate GPU drivers are installed to ensure proper functionality.**

9. What is RAID, and what are some common RAID configurations?

**Answer:-RAID (Redundant Array of Independent Disks) is a data storage virtualization technology that combines multiple physical drives into one logical unit to improve performance, redundancy, or both. Common configurations.**

#### Section 4: Practical Application

10. Demonstrate how to replace a CPU fan in a desktop computer.

**Answer:-Begin by disconnecting power and removing the side panel. Detach the CPU fan connector from the motherboard. Release the mounting mechanism (e.g., clips, screws, or a bracket) and carefully lift the old fan assembly. Clean the CPU surface with isopropyl alcohol to remove residual thermal paste. Apply a new, pea-sized amount of thermal paste. Install the new fan, secure it using the appropriate mechanism, and reconnect it to the CPU\_FAN header on the motherboard. After closing the case, power the system to verify that the fan is operational and temperatures remain stable.**

#### Section 5: Essay

11. Discuss the importance of regular maintenance for computer hardware and provide examples of maintenance tasks.

**Answer:- Regular maintenance of computer hardware is essential to ensure optimal system performance, reliability, and longevity. Preventive care reduces the risk of hardware failure, mitigates overheating, and helps maintain a clean and safe operating environment.**

- 1. Dust Management**
- 2. Component Inspection**
- 3. Thermal Management**
- 4. Drive Maintenance**