**Assignment module 2 :**

**Installation and Maintenance of Hardware and Its:**

**Section 1: Multiple choice answer**

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.

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.

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

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

**Section 2: True or False**

5. When installing a new hard drive, it is essential to format it before use = TRUE

6. A POST (Power-On Self-Test) error indicates a problem with the CPU.= TRUE

7. : It is safe to remove a USB flash drive from a computer without ejecting it first.=FALSE

**Section 3: Short Answer:**

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

* Step 1: Preparing Your PC Before you can install a new graphics card, your PC needs to be prepared. ...
* Step 2: Remove Expansion Slot Plates ...
* Step 3: Open Your PCIe Slot ...
* Step 4: Install the Graphics Card ...
* Step 5: Attach Your PSU Connectors ...
* Step 6: Connect Your Monitors and Boot the PC ...
* Step 7: Install or Update Drivers ...

9. What is Raid ? What are some common RAID configuration ?

- RAID (Redundant Array of Independent Drives or Redundant Array of Inexpensive Disks) is a t technology used to enhance data storage performance and reliability. It involves combining multiple drives in parallel.

Here are most commonly use RAID are

RAID 0 , RAID 1 , RAID 5 , RAID 10

**Section 4: Practical Application:**

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

* **Power Off and Unplug:**
* **Open the Case :**
* **Locate the CPU Fan :**
* **Disconnect the Fan Cable :**
* **Remove the Old Fan :**
* **Clean the Heatsink:**
* **Apply New Thermal Paste :**
* **Install the New Fan :**
* **Reconnect the Fan Cable :**
* **Close the Case :**



Section 5: Essay Writing :

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

* **Enhanced Performance and Efficiency**:
  + Regular maintenance optimizes hardware performance.
  + Examples:
    - **Dusting Your Keyboard**: Use compressed air to remove dust and debris from your keyboard.
    - **Wiping Down Your Monitor**: Keep your screen clean by gently wiping it with a dry lint-free cloth.
    - **Cleaning Your Mouse**: Unplug the mouse, remove the bottom panel, and clean the ball with a lint-free cloth.
    - [**Thorough System Cleaning:** Every 3-6 months, clean your entire hardware system using a computer vacuum](https://us.norton.com/blog/how-to/computer-maintenance)
* **Increased Reliability**:
  + Monitoring hardware health ensures reliability.
  + Examples:
    - **Regular Cleaning**: Dust and debris can cause overheating. Clean fans, vents, and components.
    - [**Check Cable Connections**: Ensure all cables are securely connected](https://us.norton.com/blog/how-to/computer-maintenance).
* **Improved Security**:
  + Regular updates protect against vulnerabilities.
  + Examples:
    - **Software Updates**: Keep your OS, browser, and apps up to date.
    - [**Malware Scans**: Perform full scans regularly](https://us.norton.com/blog/how-to/computer-maintenance)
* **Data Protection**:
  + Maintenance helps prevent sudden crashes and data loss.
  + Examples:
    - **Delete Unneeded Files**: Regularly remove unnecessary files.
    - **Create System Restore Points**: In case of issues, restore your system.
    - [**Defragment Your Hard Drive**: Optimize storage and improve performance](https://www.megatronicstech.com/5-essential-routine-computer-maintenance-tasks/).
* **Extended Lifespan**:
  + Proper maintenance can significantly prolong your computer’s life.
  + Examples:
    - **Virus Prevention**: Use reliable antivirus software.
    - **Monitor Hardware Health**: Address issues promptly.
    - [**Keep Components Clean**: Dust-free components last longer](https://us.norton.com/blog/how-to/computer-maintenance)