ASSIGNMENT

**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.

ANS= (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.

ANS= (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

ANS= (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

ANS= (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. (True)

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

7. True or False: 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.

ANS= To install a new graphics card in a desktop computer, you can follow these steps:

1. **Turn off and unplug the computer**
2. **Discharge static electricity**
3. **Open the computer case**
4. **Remove the old graphics card**
5. **Insert the new graphics card**
6. **Secure the card**
7. **Connect the power cables**
8. **Connect the monitor**
9. **Close the computer case**
10. **Reconnect the power supply and start the computer**

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

ANS= RAID stands for Redundant Array of Independent Disks. It's a storage technology that uses multiple disks to store data, which can improve data reliability, performance, and availability.

Common RAID configurations are:

RAID 0

RAID 1

RAID 5

RAID 6

RAID 10

**Section 4: Practical Application**

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

ANS= To replace a CPU fan in a desktop computer, you can follow these steps:

1. **Turn off the computer**: Turn off the computer and unplug it.
2. **Open the case**: Open the side panel of the computer to access the fan.
3. **Locate the fan**: Find the CPU fan.
4. **Remove the fan**: Take off the fan and clean the processor.
5. **Apply thermal paste**: Put a thin layer of thermal paste on the processor. You can use a plastic card to spread it out.
6. **Install the new fan**: Put the new fan on the heatsink and screw it in. Make sure the fan's air circulation direction is correct.
7. **Connect the fan**: Connect the fan to the motherboard, where the old fan was. The connector should be labeled "CPU FAN".
8. **Close the case**: Close the computer case and test the fan.

**Section 5: Essay**

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

ANS= Regular maintenance for computer hardware is important because it improves performance, extends the lifespan of the hardware, and protects data.

Benefits of regular maintenance are:

* **Improved performance**: Regular maintenance can remove obstacles that slow down your computer.
* **Enhanced security**: Keeping your system updated protects against the latest security threats.
* **Extended lifespan**: Regular maintenance can extend the lifespan of your hardware.
* **Safeguarded data**: Regular maintenance can help you create backups of your data.

Examples of maintenance tasks

* **Cleaning**: Clean the keyboard, case, and monitor.
* **Updating**: Update your operating system, browser, and apps.
* **Running antivirus scans**: Run regular virus scans and malware removal.
* **Backing up**: Back up your files.
* **Cleaning up disk space**: Clean up your disk space and free up memory.
* **Optimizing power settings**: Optimize your computer's power settings.
* **Defragmenting**: Defragment your hard drive.
* **Organizing files**: Organize your files.
* **Troubleshooting**: Troubleshoot and repair issues.
* **Monitoring**: Monitor and test performance.