Assignment: 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?

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?

Ans - d) To prevent the CPU from overheating.

3. Which tool is used to measure the output voltage of a power supply unit (PSU)?

Ans - a) Multimeter

4. Which component is responsible for storing BIOS settings, such as date and time, even when the computer is powered off?

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.

Ans - False

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

Ans - False

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

Ans - True

- Section 3: Short Answer

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

Ans -   1. Open pc case and find the graphic card slot.
2. Place the graphic card in the slot, and press down gently until it locks into place.
3. Connect the power cable to the graphic card.
4. Close the pc case.
5. Connect power supply to pc and start.

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

Ans -   RAID stands for Redundant Array of Independent Disks. Simply put, it's the process of using multiple hard drives to make a redundant copy of data.
Should a drive in a RAID array fail, the data remains secure through a variety of mechanisms. RAID technology spreads your files over several
drives in your workstation or servers to protect your valuable data in the event of a drive failure. How the data is protected varies based on the configured RAID level.

● Section 4: Practical Application

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

Ans - 1. The first step is to identify the cpu fan and its model number.
2. Turn off and unplug the computer.
3. Open the case and locate the fan.
4. Remove the fan and clean the processor.
5. Install the new fan and apply thermal paste.

● Section 5: Essay

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

Ans - Hardware maintenance helps you identify existing issues and resolve them before they turn into
complex problems that could result in data loss or system outage.
Example - 1. Cleaning and dusting
2. Update drivers
3. Replacing and Updrading components
4. Troubleshooting and repairing issues

1. Cleaning and Dusting -

Dust and durt can accumulate on the hardware over time, causing overheating and malfunction.
Cleaning and dusting the hardware regularly can prevent these issues and extend the lifespan of the
devices.
To clean and dust the hardware, you should use a soft cloth, a compressed air can,and a vacuum
cleaner.

2. Update drivers

Drivers are software programs that control the functionality and communication of the hardware
devices.
Updating them regularly can improve the performance, compatibility, and security of the hardware,
as well as fix any bugs or errors.
To update the drivers you should check the manufacturer's website or use a software tool that can
scan and update them automatically.

3.Replacing and Updrading components

Hardware components can wear out, break down, affecting the efficiency and functionality of the IT
infrastructure.
Replacing and upgrading them can enhance the speed, capacity,and features of the hardware, as
well as reduce the risk of failure and downtime.
To replace and upgrade components.

4.Troubleshooting and repairing issues

Hardware issues can arise due to various factors, such as power surges, physical damage, software
conflicts, or human errors.
Troubleshooting and repairing them can restore the normal operation and functionality of the
hardware,as well as prevent further damage or data loss.
To troubleshoot and repair issues, you should use diagnostic tools and methods, such as error
codes, LED indicators, log files, or multimeters, to identify the source and cause of the problem.
Steps and procedures to fix the problem, such as resetting,reconnecting, or replacing the faulty
parts.