

Assignment 2

Module -2: Installation and Maintenance of Hardware

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 : 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 : CMOS battery

Section 2: True or False

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

Ans : True

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

Ans : False

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

Ans : False

Section 3: Short Answer

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

Ans :

1. Power off the computer and unplug it
2. Open the cabinet
3. Remove the old GPU
4. Insert the new GPU into the PCIe slot
5. Secure it with screws
6. Connect power cables
7. Close the cabinet and power on
8. Install GPU drivers

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

Ans :

Raid (redundant array of independent disks) is a technology that combines multiple physical drives like HDD OR SSD into one or more logical units for improve performance .

Common RAID types:

- RAID 0: High performance, no data safety
- RAID 1: Data mirroring (high safety)
- RAID 5: Balance of speed and safety
- RAID 10: High speed + high safety

Section 4: Practical Application

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

Ans :

1. Shut down and unplug the computer
2. Open the cabinet
3. Disconnect CPU fan cable
4. Remove fan clips or screws
5. Clean old thermal paste
6. Apply new thermal paste

7. Install the new fan
8. Connect fan cable
9. Close cabinet and start PC

Section 5: Essay

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

Ans :

Regular maintenance of computer hardware is very important to keep a computer system working smoothly, efficiently, and safely. Without proper maintenance, hardware components can fail, performance can decrease, and data may be lost.

Importance of Regular Hardware Maintenance :

- Improves System Performance
- Prevents Overheating
- Reduces Unexpected Hardware Failures
- Ensures Data Safety
- Saves Money
- Improves System Stability
- Enhances User Experience

Examples of Hardware Maintenance Tasks

- Cleaning dust from CPU fans, cabinet, and vents
- Checking and tightening internal cables
- Updating BIOS, firmware, and device drivers
- Replacing thermal paste on the CPU
- Monitoring system temperature and fan speed