

Assignment: 2

MCQ's:

1. Which of the following precautions should be taken before working on computer hardware?

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

2. What is the purpose of thermal paste during CPU installation?

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

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

a) CMOS battery

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.

-> False

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

-> False

ANSWER IN SHORT:

8. Steps involved in installing a new graphics card in a desktop computer

1. Shut down the computer and unplug the power cable.
2. Open the computer cabinet using a screwdriver.
3. Wear an anti-static wrist strap or touch a metal surface to avoid static damage.
4. Locate the PCI-Express (PCIe) slot on the motherboard.
5. Remove the metal slot cover from the cabinet behind the PCIe slot.
6. Insert the graphics card firmly into the PCIe slot until it clicks.
7. Secure the graphics card to the cabinet using screws.
8. Connect the power cables from the PSU to the graphics card (if required).
9. Close the cabinet and reconnect all cables.
10. Turn on the computer and install the graphics card drivers.

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

RAID (Redundant Array of Independent Disks)

RAID is a technology that combines multiple hard drives to improve data storage performance, reliability, or both.

PRACTICAL APPLICATION:

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

Below are simple, step-by-step points, suitable for exam/college practical answers:

1. Shut down the computer and unplug the power cable.
2. Open the CPU cabinet using a screwdriver.
3. Wear an anti-static wrist strap or touch a metal surface to avoid static electricity.
4. Disconnect the CPU fan power cable from the motherboard (CPU_FAN header).
5. Unscrew or unclip the old CPU fan from the motherboard.
6. Gently remove the old fan from the CPU.
7. Clean old thermal paste from the CPU surface using a soft cloth or isopropyl alcohol.
8. Apply a small amount of new thermal paste on the CPU.
9. Place the new CPU fan properly on the CPU.
10. Secure the fan using screws or clips.
11. Reconnect the fan cable to the CPU_FAN header.
12. Close the cabinet, reconnect power, and turn on the computer.
13. Check if the fan is spinning properly and monitor CPU temperature.

ESSAY:

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

Regular maintenance of computer hardware is important to ensure proper performance, longer life, and safe operation of the system. If hardware is not maintained, dust, heat, and wear can cause system failures.

Importance of Regular Hardware Maintenance

1. Improves Performance
Regular cleaning and checking help the computer run smoothly and faster.
2. Prevents Overheating
Removing dust from fans and heat sinks allows proper air flow.
3. Increases Hardware Lifespan
Well-maintained components last longer and reduce replacement costs.
4. Reduces System Failures
Early detection of loose cables or faulty parts prevents sudden breakdowns.
5. Ensures Data Safety
Proper maintenance reduces the risk of hardware failure and data loss.

Examples of Hardware Maintenance Tasks

- Cleaning dust from CPU fans, power supply, and cabinet.
- Checking and tightening cables inside the CPU cabinet.
- Replacing thermal paste on the CPU when required.
- Updating BIOS and device drivers.
- Checking hard drive health and taking regular backups.
- Ensuring proper ventilation around the computer system.