Section 1: Multiple Choice

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

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.
→ False

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.

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- Power off the computer.
- Open the computer cabinet.
- Locate the PCI Express slot on the motherboard.
- Gently insert the graphics card into the PCIe slot.
- Connect any required power cables.
- Close the case, turn on the system , reboot .
- Install the necessary drivers from the manufacturer's website or CD.

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

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RAID (Redundant Array of Independent Disks) is a method of storing data on multiple hard drives to improve performance or data redundancy.

Common configurations:

- **RAID 0:** Striping – improved speed, no redundancy
- **RAID 1:** Mirroring – redundancy by duplicating data
- **RAID 5:** Striping with parity – combines speed and fault tolerance
- **RAID 10 (1+0):** Combines RAID 1 and 0 – high speed and redundancy

Section 4: Practical Application (done)

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

Section 5: Essay

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

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Regular maintenance of computer hardware ensures optimal performance, and prevents unexpected failures. Dust buildup can cause overheating, which damages components. Ensuring connections are secure can prevent data errors or power issues.

Examples of maintenance tasks include:

- Cleaning dust from fans, vents
- Reapplying thermal paste on the CPU every few years
- Checking and replacing failing hardware like hard drives or RAM
- Updating BIOS firmware when need