ASSIGNMENT 3

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) Multi meter

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

a) CMOS battery

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

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

To install a new graphics card in a desktop computer, first, power off the computer and unplug it from the power source. Open the case by removing the side panel. Locate the PCIe slot on the motherboard where the graphics card will be installed. If necessary, remove the metal bracket cover from the rear of the case. Insert the graphics card into the PCIe slot, ensuring it is properly seated. Secure the card with a screw to the case. Connect any required power cables from the power supply to the card. Close the case, plug the computer back in, and power it on. Finally, install the necessary drivers for the new graphics card, either from the included disk or by downloading them from the manufacturer's website.

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

RAID (REDUNDANT ARRAY OF INDEPENDENT DISKS) IS A TECHNOLIGY THAT COMBINES MULTIPLE HARD DRIVES OR SSD TO IMPROVE PERFORMANCE ,REDUNDANCY OR BOTH

COMMON RAID configuration

(1) RAID 0

-INCREASES SPEED BY SPLITTING DATA ACROSS MULRIPLE DRIVES.HIGH PERFORMANCE.NO DATA REDUNDANCY IF ONE DRIVE FAIL ALL DATA IS LOST

(2) RAID1

-CREATES AN EXACT COPY OF DATA ON TWO DRIVES FOR REDUNDANCY.DATA PROTECTION.USERS TWICE THE STORAGE.

(3) RAID 5

-COMBINES SPEED AND REDUNDANCY USING PARITY DATA.GOOD BALANCE OF PERFORMANCE AND DATA PROTECTION.REQUIRES AT LEAST 3 DRIVES AND HAS SOME PERFORMANCE OVERHEAD.

(4) RAID 10

-COMBINES RAID 1 AND RAID 0 FOR BOTH SPEED AND REDUNDANCY.HIGH PERFORMANCE.REQUIRES ATLEAT 4 DRIVES .

(5) RAID 6

- SIMILKAR TO RAID 5 BUT WITH DOUBLE PARITY FOR EXTRA REDUNDANCY.CAN TOLERATE TWO DRIVE FAILURES.REQUIRES AT LEAST 4 DRIVES AND HAS HIGHER OVERHEAD.

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

To replace a CPU fan, first power down the computer, unplug it, and open the case. Locate the old CPU fan and disconnect it from the motherboard. Unscrew the fan from its mount and carefully remove it. Clean the CPU surface and apply new thermal paste if needed. Install the new fan, securing it with screws and connecting it to the motherboard.

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

Regular maintenance for computer hardware is vital for optimal performance and longevity. Tasks include cleaning dust from components, updating drivers, checking for software updates, monitoring temperatures, and testing hardware health. This helps prevent overheating, improves efficiency, and extends the life of components.