Assignment module 2 : Installation and Maintenance of Hardware and Its

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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

Assignment module 2 : Installation and Maintenance of Hardware and Its

Section 2: True or False ✅

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

True – When installing a new hard drive, it must be formatted before use.

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

True – A POST (Power-On Self-Test) error indicates a problem with hardware, including the CPU.

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

False – It is not safe to remove a USB flash drive without ejecting it first.

Assignment module 2 : Installation and Maintenance of Hardware and Its

Section 3: Short Answer

1.8. Steps involved in installing a new graphics card in a desktop computer:

1. Turn off the computer and unplug all power cables.
2. Open the computer cabinet and locate the PCIe slot.
3. Remove the metal slot cover from the case.
4. Insert the graphics card firmly into the PCIe slot.
5. Secure the card with screws and connect power cables if required.
6. Close the cabinet, power on the computer, and install the required drivers.

Assignment module 2 : Installation and Maintenance of Hardware and Its

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

RAID (Redundant Array of Independent Disks) is a storage technology that combines multiple hard drives to improve performance, reliability, or both.

Common RAID configurations include:

- RAID 0 – Improves performance (no data protection).
- RAID 1 – Provides data redundancy through mirroring.
- RAID 5 – Offers a balance of performance and fault tolerance.

Assignment module 2 : Installation and Maintenance of Hardware and Its

Section 4: Practical Application

3.10. How to replace a CPU fan in a desktop computer:

Shut down the computer and disconnect the power supply.

Open the computer case and locate the CPU fan.

Disconnect the fan cable from the motherboard.

Remove the old fan carefully.

Apply thermal paste if required.

Install the new CPU fan and connect it to the motherboard.

Close the case and turn on the computer to check operation.

Assignment module 2 : Installation and Maintenance of Hardware and Its

Section 5: Essay

4.11. Importance of regular maintenance for computer hardware:

Regular maintenance of computer hardware is essential to ensure smooth performance, increase lifespan, and prevent hardware failures. Dust and dirt accumulation can cause overheating, leading to system crashes or permanent damage. Regular maintenance also helps detect issues early, reducing repair costs.

Examples of maintenance tasks include cleaning internal components, updating device drivers, checking cables and connections, replacing faulty fans, and ensuring proper ventilation. Regular hardware maintenance improves system reliability, performance, and overall user productivity.