Assignment

MODULE 2:

**INSTALLATION AND MAINTENANCE OF HARDWARE AND ITS COPONENTS**

**SECTION 1 : MULTIPLE CHOICE**

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

Ans : B) Wear an anti-static wrist strap to prevent damage from electrostatic discharge.

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

Ans: D) To prevent the CPU from overheating.

1. Which tool is used to measure the output voltage of power supply unit (PSU)?

ANS: A) MultiMeter

1. Which component is responsible for storing BIOS setting, such as date and time, even when the computer is power off?

Ans: A) CMOS battery

**SECTION 2: true or false**

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

Ans : TRUE

1. A post ( power-on self-test) error indicates a problem with the CPU.

Ans : TRUE

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

Ans : TRUE

**SECTION 3: Short answer**

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

Ans: Installing a graphics card is not difficult, if we follows simple steps .

Here we do step-step installing a new graphics card .

Step-1 : Firstly we need to do turn off our PC by clicking the start button, then “power” and “shut down”.

Step-2 : we need to do off switch off power and remove main cable, SMPs power cable, VGA cable, mouse and keyboard wire and we step by step disassemble case .

Step-3 : We need to do put-out motherboard from case and there we see on motherboard near the fan and heat sink AGP slot and PCI express slot ,there we fit graphic card and connect the one or two PCI Express power connectors to the card.

Step-4 Reattach the side panal and reconnect all cables we had disconnected, including the cable to the monitor.

Step-5 : After the computer starts normally install the appropriate drivers.

1. What is RAID, and what are some common RAID configuration?

Ans : RAID full form is “ REDUNDANT ARRAY OF INDEPENDENT DISKS”.

Raid is having backup copies of our important files stored in different places on hard drives or solid-state drives . When one drive stop working, our data is still safe because we have other copies stored on the other drives. It is Database management system is a technology that joined multiple physical disk drives into a single logical unit for data storage.

Main purpose is to improve data reliability, availability and performance.

**SECTION 4 : Practical application**

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

Ans : For to replace a CPU fan, we follow below easy steps .

Step -1 : identify the CPU fan.

* Firstly, we need to identify the CPU fan and its model, we find the CPU fan on the processor, It is a square- shaped chip on the motherboard .
* Fan have label or sticker with the model number and manufacture name .
* We need to know model and the size of fan to buy a compatible replacement.

Step-2 : Turn off and unplug computer

* Our second step is to turn off and unplug the PC from the power source , we also disconnects external devices, like monitor, keyboard, mice, or speakers .

Step-3 : Open the case and locate the fan

* Our third step is to open case and locate the fan, we need screwdriver or a tool kit to open case, when we open case we put safely screws and parts that are remain, after open case we need to see fan attached to the processor.

Step-4 : Remove the fan and clean the processor

* Our fourth step is to remove the fan and clean the processor, we need to carefully detch fan from the processor by losing the screws or unclipping the bracket we also disconnect the cable from the motherboard and take out fan.
* After we need to clean dirt and thermal paste on the processor. We can use soft cloth or brush or isopropyl alcohol or cotton swab.

Step-5 Install the new fan and apply thermal paste

* Our fifth step is to install the new fan and apply to on thermal past. We make sure that new fan is compatible with our processor and our motherboard. We also check the orientation and direction of fan before installing . after we need to apply thin layer of thermal paste on processor by securing the screws or clipping the bracket, we also connect to cable to the motherboard and make sure that it is not loose or tangled.

Step-6 : close the case and test the fan

* Our six and last step is to close case and test fan, we need to reassemble the case and reconnected external device that we disconnected .
* We need to plug in the PC to power source and turn it on , we check fan is working properly or not and there are only noises or errors .
* Here, we successfully replaced our CPU FAN .

**SECTION 5: Essay**

1. Discuss the importance of regular maintenance for computer hardware and provide example of maintenance tasks.

* Regular computer hardware maintenance is very important for our devices running smoothly and preventing costly repairs and buy new hardware components .

Here we see some of the benefits of regular computer maintenance :

1. Our software update

* Firstly we need to do is to update our software regularly , like our operating system , application, drivers, and security software.
* Update our software can fix bugs, improve compatibility, enhance features and protect our computer from malware and hackers.

1. Clean up our disk

* Second we need to clean up our disk and free up some memory . some times, our computer create a lot of temporary files, cache file, duplicate files, unused programs and other junk that can slow down our system and cause errors. We use some command like tempt or preach for unnecessary files .
* We can use the disk cleanup tool of our operating system or to scan our disk and delete programs that we don’t use anymore and move some files to an external device

1. Defragment our disk

* Our hard disk drive we should defragment our disk regularly .
* It meaning rearranging the data on our disk so that it is stored in contiguous blocks. this can improve our disks performance, speed up our access time . our solid state drive we don’t need to defragment our disk , it can reduce its lifespan.

1. Scan for malware

* Malware is bad software that can harm our computer or compromise our privacy .
* Malware infect our computer through various sources, like email attachment, downloads, websites or removable devices.
* To remove or prevent malware, we should scan our computer regularly with a reliable antivirus or anti- malware software.

1. Backup our data

* Backup our data means making copy of our important files and storing them in safe location, like external hard drive, cloud service , dvd.
* It is our data save from losing our valuable information in case of disk failure , a malware attack , or natural disaster, we should backup our data regularly .

1. Clean our hardware

* We need to clean our hardware regularly , dust can accumulate inside or outside our computer.
* We need to turn off and unplug our computer ,open case and use soft cloths , vacuum cleaner to gently remove dust
* We need to also wipe the screen ,the keyboard and mouse.