Assignment..﻿Module 1 : understanding of hardware and its components...﻿Section 1 : Multiple choice questions.﻿1)Which of the following is NOT a component of the CPU?﻿Ans : (2) RAM ﻿2) What is the function of RAM in a computer?﻿Ans : ﻿RAM (Random Access Memory) is a type of volatile memory that stores data and programs currently being used by the CPU for quick access, allowing for faster processing.﻿3) Which of the following is a primary storage device?﻿Ans : (4) 1 and 2 both ﻿4) What is the purpose of GPU ? ﻿Ans : ﻿A GPU (Graphics Processing Unit) is a specialized electronic circuit designed to rapidly manipulate and alter memory to accelerate the creation of images, videos, and animations. ﻿SECTION 2 : true and false ﻿5) The motherboard is the main circuit board of a computer where other components are attached.﻿Ans : TRUE ﻿6) A UPS (Uninterruptible Power Supply) is a hardware device that provides emergency power to a load when the input power source fails.﻿Ans : TRUE ﻿7) An expansion card is a circuit board that enhances the functionality of a component.﻿Ans : TRUE ﻿SECTION 3 : Short answer﻿﻿8) Explain the difference between HDD and SSD.﻿Ans : ﻿Uses spinning platters and read/write heads to store data magnetically. They are generally cheaper and offer higher storage capacity but are slower and more susceptible to physical damage. ﻿SSD (Solid State Drive):﻿Uses flash memory to store data, similar to a large USB drive. They are significantly faster, more durable, and consume less power but are typically more expensive than HDDs of comparable capacity. ﻿9)Describe the function of BIOS in a computer system.﻿Ans : ﻿BIOS (Basic Input/Output System) is firmware stored on a chip on the motherboard. Its primary function is to initialize and test hardware components during the boot process (POST - Power-On Self-Test) and then hand over control to the operating system. ﻿10) List and briefly explain three input devices commonly used with ﻿computers.﻿Ans : ﻿Keyboard:﻿Allows users to input text, numbers, and commands into the computer. ﻿Mouse:﻿A pointing device used to control a cursor on the screen and interact with graphical user interfaces. ﻿Microphone:﻿Captures sound input, enabling voice communication, recording, and voice commands. ﻿SECTION 4 : Practical Application..﻿11) Identify and label the following components on a diagram of a ﻿motherboard:﻿● CPU﻿● RAM slots﻿● SATA connectors﻿● PCI-E slot﻿Ans : ﻿CPU:﻿The central processing unit, usually located under a heatsink/fan assembly, often near the center of the motherboard.﻿RAM slots:﻿Long, narrow slots where RAM modules are inserted, typically located near the CPU socket.﻿SATA connectors:﻿Small, L-shaped connectors used to connect storage devices like HDDs and SSDs, usually found along the edge of the motherboard.﻿PCI-E slot:﻿Long slots used for expansion cards like graphics cards, typically located below the CPU and RAM slots.﻿12) Demonstrate how to install a RAM module into a computer.﻿Ans : ﻿Step 1:﻿Open the computer case and locate the RAM slots on the motherboard.﻿Step 2:﻿Open the clips at both ends of the RAM slot.﻿Step 3:﻿Align the notch on the RAM module with the notch in the RAM slot.﻿Step 4:﻿Gently push down on both ends of the RAM module until the clips snap into place, securing the module.﻿SECTION 5 : Essav ﻿13) Discuss the importance of proper cooling mechanisms in a computer ﻿system. Include examples of cooling methods and their effectiveness﻿Ans : ﻿Proper cooling is crucial for maintaining optimal performance and longevity of computer components. Overheating can lead to system instability, reduced lifespan of components, and even permanent damage.﻿Examples of cooling methods:﻿Air Cooling:﻿Uses heatsinks and fans to dissipate heat away from components like the CPU and GPU. Effective for most systems, but performance can be limited by fan noise and dust accumulation.﻿Liquid Cooling (Water Cooling):﻿Uses a liquid coolant circulated through a closed loop to transfer heat away from components to a radiator, where it is dissipated. More efficient and quieter than air cooling, especially for high-performance systems.﻿Thermal Paste:﻿Applied between the CPU/GPU and their respective heatsinks to improve heat transfer efficiency by filling microscopic gaps.﻿14) Explain the concept of bus width and its significance in computer ﻿architecture.﻿Ans : ﻿Bus width﻿refers to the number of parallel lines or wires in a data bus that can transmit data simultaneously. A wider bus allows more data to be transferred at once, increasing the data transfer rate and overall system performance.﻿Significance:﻿A wider bus width enables faster communication between components like the CPU, RAM, and other peripherals, leading to quicker data processing and improved system responsiveness. For example, a 64-bit bus can transfer data twice as fast as a 32-bit bus, assuming the same clock speed.