Assignment:

Module 1:

Section1:

1. Which of the following is NOT a component of the CPU?

Ans: RAM.

1. What is the function of RAM in a computer?

Ans: RAM (Random access memory) is used as temporary storage for data and important instructions given to the processor to access quickly. For examples: Loading the applications, browsing the internet. Also, RAM volatile memory.

1. Which of the following is a primary storage device?

Ans: SSD.

1. What is the purpose of a GPU?

Ans: Graphics processing unit is like a assistant to the CPU that focuses on handling visual information and complex calculations, making your games, videos, and other tasks running smoothly.

Section 2: True or False.

1. The motherboard is the main circuit board of a computer where other components are attached.

Ans: True

1. A UPS (Uninterruptible Power Supply) is a hardware device that provides emergency power to a load when the input power source fails.

Ans: True.

1. An expansion card is a circuit board that enhances the functionality of a component.

Ans: True.

Section3: Short answers:

1. Explain the difference between HDD and SSD.

Ans: HDD SSD

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| 1. HDDs use magnetic platters and a moving read/write head to access data. | 1 SSDs use flash memory chips like USB drive to store data electronically. |
| 1. They are slow than the SSDs. | 2 They are much faster than the HDDs, with quicker boot times, application loading and file transfers. |
| 1. HDDs are less expensive and are available in large capacities up to 22TB | 3 SSDs are expensive and are available in smaller capacities than HDDs for a comparable price. |
| 1. They are less durable and more susceptible to damage from drops and shocks because of their moving parts. | 4 With no moving parts in SSDs they are highly durable and more resistant to physical shock. |
| 1. The spinning platters are audible sometimes. | 5 As there are no moving parts They don’t make any audible sound. |

1. Describe the function of BIOS in a computer system

Ans: BIOS (Basic Input/Output System) is a type of firmware that’s stored on a chip on a computer’s motherboard. Its main function is to check all the parts of the system are working good on its operating system. It performs the POST (power on self-test) immediately after turning on the computer and it tests if the hardware is working correctly. The BIOS determines the boot order, which is the sequence of devices (like a hard drive, SSD, or USB drive) it will check for a functioning operating system. Once it locates a bootable OS, it hands over control of the system to the OS.

1. List and briefly explain three input devices commonly used with computers

Ans: 1. Webcam: A webcam is a digital video camera that is connected to a computer, either as a standalone peripheral or built into a laptop. Its primary function is to capture video and still images, which can be used for video conferencing, live streaming, or security monitoring.

2. Mouse: A mouse is a pointing device that you move on a flat surface to control a cursor or pointer on the computer screen. It typically has one or more buttons and a scroll wheel, allowing you to select items, open files, drag and drop objects

3. Scanner: A scanner is a device that captures images, text, or objects from a physical source (like a document or a photograph) and converts them into a digital format that can be stored and edited on a computer. It's essentially a digital copier.

Section 5: Essay

13. Discuss the importance of proper cooling mechanisms in a computer system. Include examples of cooling methods and their effectiveness.

Ans: Any computer system's capacity to control heat is tied to its longevity and efficiency. Modern components such as the Graphics Processing Unit (GPU) and Central Processing Unit (CPU) have grown in power and become major heat generators. This heat can cause a variety of problems in the absence of an cooling system, ranging from a brief drop in performance to irreversible hardware damage. Thus, a key component of computer maintenance and design is comprehending and putting into practice efficient cooling solutions, which guarantee system stability, prolong component lifespan, and preserve peak performance under demanding loads.

Air cooling is the most popular and economical cooling technique. Usually, a combination of fans and heat sinks is used in this system. A heat-producing component (such as the CPU or GPU) is directly exposed to a heat sink, which is frequently constructed of a thermally conductive material like copper or aluminum. The heat from the component is absorbed by the heat sink's vast surface area, which includes pipes and fins. The heat is subsequently dispersed and removed from the component by a fan that circulates air over the heat sink. This approach is the norm for most personal computers and is quite dependable. By positioning the case fan correctly, a clear airflow path may be created, drawing cool air into the system and expelling heated air.

In summary, adequate cooling is a vital requirement for a computer system to be healthy, not just an optional addition.Performance and hardware longevity are directly impacted by the cooling system selection, whether it is a sophisticated liquid cooling loop or a conventional air cooler. Without it, there is a significant chance of component damage and thermal throttling.