HW Presentation Topics: (3 minutes- 4 slides, Title(1), Topic(2), Thanks(1))

1. **What is a Central Processing Unit (CPU)?**
    - Explain the role of the CPU as the brain of the computer, responsible for processing instructions.
2. **What is RAM (Random Access Memory)?**
    - Discuss the function of RAM as short-term memory that stores data temporarily while the computer is running.
3. **The Role of a Graphics Processing Unit (GPU)**
    - Provide a simple overview of how the GPU handles graphics rendering in computers and gaming systems.
4. **What is a Power Supply Unit (PSU)?**
    - Explain how the PSU converts electrical power from an outlet into usable power for the computer's components.
5. **How Does a Hard Disk Drive (HDD) Work?**
    - Cover the basics of HDD storage, how data is written to and read from a spinning disk.
6. **What is a Network Interface Card (NIC)?**
    - Introduce the NIC as the component that allows computers to connect to a network, either via Ethernet or Wi-Fi.
7. **The Role of a Heat Sink and Cooling in Computers**
    - Explain how heat sinks and cooling fans prevent components like the CPU and GPU from overheating.
8. **How Do USB Flash Drives Store Data?**
    - Discuss how USB flash drives use flash memory to store data and why they are convenient for transferring files.
9. **How Does a Computer Boot Up?**
    - Provide a basic explanation of the boot process, from power-on to loading the operating system.

10. **What is a Peripheral Device? (Mouse, Keyboard, Printers)**
    - Explain the role of external devices (peripherals) that connect to the computer to provide input/output functionality.
11. **How Does a Solid-State Drive (SSD) Work?**
    - Explain how SSDs store data using flash memory, and how they differ from traditional hard drives.
12. **What is a Motherboard?**
    - Describe the function of the motherboard as the main circuit board that connects all computer components.
13. **Introduction to Computer Ports: USB, HDMI, and Ethernet**
    - Provide a basic explanation of different types of ports and their purposes in connecting peripherals and external devices.
14. **How Do Optical Drives Work? (CD/DVD/Blu-ray)**
    - Cover how optical drives read data from discs using lasers.
15. **The Difference Between RAM and Storage**
    - Explain how RAM is temporary memory, while storage (HDD/SSD) holds data permanently.
16. **What is a BIOS/UEFI?**
    - Describe how the BIOS/UEFI manages the startup process of a computer and connects hardware components.
17. **What is a CMOS Battery?**
    - Explain how the CMOS battery maintains system settings and keeps the computer's clock running when powered off.
18. **The Role of a Cooling Fan in a Computer System**
    - Introduce how fans are used to cool down components like the CPU and GPU, preventing overheating.
19. **What is an External Hard Drive?**
    - Discuss the purpose of external hard drives as portable storage devices for data backup and transfer.

20. **How Does a Touchscreen Work?**
    - Provide a simple overview of how capacitive touchscreens detect touch using electrical properties of the human body.
21. **How Does a USB Hub Work?**
    - Explain how a USB hub expands a single USB port into multiple connections.
22. **Understanding HDMI vs VGA for Video Output**
    - Compare the HDMI and VGA connectors, focusing on their use for transmitting video signals.
23. **What is a PCIe Slot on a Motherboard?**
    - Describe the role of PCIe slots for connecting expansion cards like GPUs, sound cards, and network cards.
24. **How Does a Computer Monitor Work?**
    - Give an introduction to how monitors display images, covering basic concepts like pixels and screen resolution.
25. **The Role of a Sound Card**
    - Explain how sound cards process audio and allow computers to output sound through speakers and headphones.
26. **What is a Power Cord and Why Is It Important?**
    - Describe the function of a power cord and how it delivers power to the computer.
27. **How Does a Webcam Work?**
    - Provide a basic explanation of how webcams capture video for live streaming or video conferencing.
28. **The Role of USB Flash Drives in Data Transfer**
    - Discuss how USB flash drives allow quick transfer of data between computers.
29. **Introduction to Laptop Chargers**
    - Explain how laptop chargers convert power and provide the necessary energy to keep laptops running and charged.

30. **How Do Wireless Keyboards and Mice Work?**
    - Describe how wireless keyboards and mice communicate with a computer via Bluetooth or RF signals.
31. **The Importance of Surge Protectors in Computer Systems**
    - Explain how surge protectors protect computer hardware from voltage spikes and electrical surges.
32. **What is an HDMI Cable?**
    - Describe the role of an HDMI cable in transmitting high-definition video and audio signals between devices.