

## **Practical No. 2**

**Aim:** To learn how to dismantle and assemble a PC.

### **Theory:**

**Dismantling a PC** involves disassembling it into separate parts. This process is often necessary to identify and fix issues, replace components, or reuse the parts in different devices or for selling. It is a crucial skill for managing and maintaining computer hardware efficiently.

### **Steps for Dismantling a PC:**

1. **Ensure Safety:** Before beginning, confirm that the PC is turned off and disconnected from the wall socket. This precaution prevents the risk of electric shock during the dismantling process. Safety should always be the first priority.
2. **Remove the Outer Case:** Open the computer by removing the cover, chassis, or case. This action reveals the internal components, allowing for further steps in the dismantling process.
3. **Disconnect Cables:** Gently unplug all bus cables and ATX power cables that link the various parts inside the PC. This step is crucial to safely proceed with the dismantling.
4. **Remove Adapter Cards:** If your computer has additional cards, such as a video or sound card, carefully remove them. These components are sensitive and require a gentle approach to prevent damage.
5. **Take Out the Processor:** Gently remove the processor with its heat sink and fan attached. Be sure to handle the processor by its edges to avoid any damage to the delicate components.
6. **Remove Drives:** Extract the hard disk and any optical drives, such as CD or DVD drives, from their slots. This step requires careful handling to avoid damaging the storage devices.
7. **Remove Memory Modules:** Carefully remove the RAM modules by releasing the securing clips at each end of the slots. Ensure gentle handling to prevent damage to the memory sticks.
8. **Remove the Power Supply:** Detach the power supply unit, commonly known as SMPS (Switch Mode Power Supply). Ensure it is completely disconnected from all components before removal.
9. **Remove the Motherboard:** Carefully unscrew and remove the motherboard. Before lifting it out, check for any additional screws and ensure all cables are disconnected to prevent damage.

**Assembling a PC** means putting together a computer by connecting different hardware components. This process allows you to choose parts based on your needs, whether it's for gaming, work, or other uses. By assembling the PC yourself, you can customize its performance and features to suit your requirements.

## Steps for Assembling a PC:

1. **Prepare the Work Area:** Ensure that your workspace is clean and spacious. Gather all necessary components before beginning the assembly process to keep everything organized and accessible.
2. **Prepare the Case:** Open your CPU case and ready it for component installation. Ensure the interior is clean and free of debris to provide a safe environment for the hardware.
3. **Install the Motherboard:** Fasten the motherboard within the case using screws. Make sure it does not directly contact the metal case to prevent any potential short circuits. Use standoffs if available to elevate and stabilize the motherboard.
4. **Install the Processor:** Insert the processor into its designated socket on the motherboard. Ensure it is properly aligned and securely locked into place to avoid any connection issues.
5. **Install the Heat Sink and Fan:** Secure the heat sink and fan onto the processor. If necessary, apply a thin layer of thermal paste to the processor surface first to enhance heat transfer and improve cooling efficiency.
6. **Install the RAM:** Place the memory modules into their designated slots on the motherboard. Gently press down until the clips snap into place, securing the RAM securely.
7. **Install the Power Supply:** Position the SMPS (Switch Mode Power Supply) in its designated spot within the case. Secure it using screws to ensure it stays firmly in place during operation.
8. **Install Hard Drive and Optical Drive:** Install the hard disk drive (HDD) and any optical drives, such as a CD/DVD player, into their respective bays. Make sure each drive is properly aligned and secured with screws to prevent movement and ensure stable connections.
9. **Install Expansion Cards:** Insert any expansion cards, such as graphics or sound cards, into the appropriate slots on the motherboard. Ensure each card is firmly seated and secured with screws if necessary.
10. **Install Cooling Fans:** If additional cooling is required, install extra cooling fans in the designated areas of the case. Secure them properly to ensure efficient airflow and maintain the optimal temperature for the components.
11. **Connect Bus and Power Cables:** Connect all the necessary cables to link the components together. Make sure to follow the motherboard manual for proper cable routing and connections to ensure everything is set up correctly.
12. **Connect Front Panel Connectors:** Connect the front panel connectors, including the power button, USB ports, and audio jacks, to the motherboard. Refer to the motherboard manual for the correct pin layout to ensure proper functionality.
13. **Final Checks:** Before closing the case, carefully review all connections and make sure every component is securely installed. Check for any loose cables or parts, and confirm that everything is properly connected and in place.