Assemble and Disassemble a Desktop PC:

Purpose: This guide outlines the safe and correct steps for assembling and disassembling a desktop computer.

Tools Required: Phillips-head screwdriver, anti-static wrist strap, thermal paste (if required), cable ties.

# A. ASSEMBLY STEPS

## Step 1: Prepare the Workspace

Use a clean, flat surface. Wear an anti-static wrist strap to prevent ESD damage.

## Step 2: Install the Power Supply (PSU)

Align the PSU with the mounting holes in the case. Secure it with screws. Route the cables through the cable management area.

## Step 3: Install the CPU on the Motherboard

Open the CPU socket latch. Align the CPU (triangle mark) with the socket. Place it gently and close the latch.

## Step 4: Apply Thermal Paste (if needed)

Apply a pea-sized drop of thermal paste to the center of the CPU (skip if the cooler comes with pre-applied paste).

## Step 5: Install the CPU Cooler

Mount the cooler onto the CPU. Lock it in place using the retention mechanism. Connect the CPU fan header to the motherboard.

## Step 6: Install RAM Modules

Open the DIMM slot latches. Align the RAM notch with the slot. Firmly press down until the latches click.

## Step 7: Mount the Motherboard in the Case

Install motherboard standoffs in the case. Align the motherboard with the I/O shield and standoffs. Screw the motherboard in place.

## Step 8: Install Storage Devices (SSD/HDD)

Mount the drives in appropriate bays (2.5" or 3.5"). Secure them with screws or tool-less brackets. Connect SATA data and power cables.

## Step 9: Install the Graphics Card (GPU)

Remove PCIe slot covers as needed. Insert the GPU into the PCIe x16 slot. Secure it with screws. Connect PCIe power cables from the PSU if needed.

## Step 10: Connect Front Panel Connectors

Power switch, reset switch, HDD LED, and front USB/audio. Refer to the motherboard manual for correct pin placement.

## Step 11: Connect Power Cables

24-pin ATX power to motherboard. 8-pin CPU power. SATA power to drives. PCIe power to GPU.

## Step 12: Perform a Power-On Self Test (POST)

Plug in monitor and keyboard. Power on the system and check for display output and BIOS access.

## Step 13: Cable Management and Final Check

Route cables neatly using cable ties. Close side panels and secure with screws.

# B. DISASSEMBLY STEPS

## Step 1: Power Off and Unplug

Shut down the PC. Unplug the power cable and all peripherals.

## Step 2: Open the Case

Remove side panels by unscrewing or sliding them off.

## Step 3: Disconnect Power Cables

Unplug 24-pin, 8-pin CPU, SATA, and GPU power cables.

## Step 4: Remove Front Panel Connectors

Gently unplug USB, audio, and front panel connectors.

## Step 5: Remove GPU

Unscrew and release GPU latch. Carefully pull GPU out of the PCIe slot.

## Step 6: Remove Storage Devices

Unplug SATA data/power. Unscrew or unclip SSD/HDD drives.

## Step 7: Unscrew and Remove the Motherboard

Unscrew motherboard from standoffs. Carefully lift out the board with CPU, cooler, and RAM still attached.

## Step 8: Remove RAM Modules

Open latches on each side and pull RAM sticks out gently.

## Step 9: Remove CPU Cooler

Disconnect fan header. Unscrew or unlatch the cooler from the socket.

## Step 10: Remove CPU

Lift the CPU socket latch. Gently remove the CPU without touching the pins.

## Step 11: Remove the PSU

Unscrew PSU from the case and pull out all cables.

## Step 12: Clean and Store Components

Use anti-static bags. Organize screws and parts for reassembly or storage.