

Revision : ----	Document Code: WI- ML- 2488	Document Title: Standard Operating Procedure (SOP) for AND GF-300 Laboratory Digital Balance	 دانشگاه گجرات وحدت، بہداشتی و درمائی آستان محمد والسلام و برکتی
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Standard Operating Procedure: Analytical Digital Balance

Device Model: AND-GF300

Manufacturer: AND (United Kingdom)

1. Purpose

To establish a standardized protocol for the operation, leveling, and maintenance of the **AND-GF300 Analytical Balance** to ensure highly accurate and reproducible mass measurements.

2. Scope of Operation

This procedure applies to the weighing of laboratory reagents and chemical substances within the precision range of **0.001 g to 0.1 g**.

3. Responsibility

The responsibility for strictly adhering to this protocol lies with the designated laboratory experts and technicians.

4. Operating Procedure

A. Pre-operational Setup (Leveling & Power)

- Placement:** Position the balance on a flat, stable, clean, and dry surface, ideally an anti-vibration table.
- Leveling:** Check the integrated **spirit level (bubble level)**. Adjust the balance's leveling feet until the bubble is perfectly centered within the circle. This is critical for ensuring the accuracy of the weighing mechanism.
- Power Connection:** Connect the device to a power outlet protected by a **standard voltage stabilizer/surge protector**. This is mandatory to prevent electrical fluctuations from damaging the sensitive electronic circuitry.

B. Weighing Process

- Initialization:** Turn on the device using the **ON** switch. Allow the device to stabilize (warm up) for a few minutes if required by the manufacturer.
- Preparation:** Place a piece of **sterile weighing paper** (or a weigh boat) onto the weighing pan.
- Tare/Zeroing:** Press the **[Zero]** or **[Tare]** button to reset the display to **0.000 g**, accounting for the weight of the paper.
- Weighing:** Carefully add the substance to the weighing paper until the desired mass is achieved. Close the draft shield (if applicable) to prevent air currents from affecting the reading.

C. Post-operational Shutdown

- Power Off:** After completing the task, press the **OFF** button to switch off the device.

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5. Safety Instructions

- Cleaning Safety:** When cleaning, focus on the weighing pan and the air vents. Ensure no liquid enters the internal electronic housing.
- Disassembly Warning:** **NEVER** attempt to disassemble the device. Only components that are designed to be removable without specialized tools should be handled.

6. Maintenance and Care

- Environmental Control:** Protect the balance from direct sunlight, extreme temperature fluctuations, and strong air drafts (e.g., AC vents), as these interfere with sensor stability.
- Power Management (Critical):** **DO NOT** unplug the balance from the main power source after use. The device should remain in **Standby Mode**. Unplugging the device causes it to lose its thermal equilibrium, necessitating a long **warm-up period** before the next use and potentially compromising calibration. Always use the **OFF** button instead of pulling the plug.
- Calibration & Sensitivity:** Regular leveling of the feet and periodic sensitivity/calibration checks are mandatory to maintain analytical precision.
- Spill Management:** In the event of a chemical spill on the weighing pan or the balance platform, **immediately and carefully** clean the area using appropriate cleaning materials to prevent corrosion of the metal components.

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