

TDC Part II
Paper I, Group B
Inorganic Chemistry



Department of Chemistry

L.S COLLEGE MUZAFFARPUR

B. R. A. BIHAR UNIVERSITY

Dr. Priyanka

TOPIC:- ANALYTICAL BALANCE

ANALYTICAL BALANCE

Before knowing how to use an analytical balance, let us discuss about these balance. Analytical balances are used in laboratories in order to measure small masses. These balances contain a measuring pan on which a sample is placed. Measuring pans are always placed inside a transparent chamber having doors so that while weighing these doors remains closed and weighing is exact. In laboratories, we use mechanical analytical balance which is also known as chemical balance and digital analytical balance also known as electronic balance as shown in Figure 4. Now a day for quick weighing, electronic balances are preferred over chemical balance. Let us discuss the working of digital analytical balance which is shown in Figure 4. Some digital analytical balance reads mass up to four digit after decimal while some reads two or three digits after decimal in grams. The balance with four digit after decimal gives more

accurate results. For weighing a liquid or a powder like substance, we require an appropriate container in which these substances are placed.

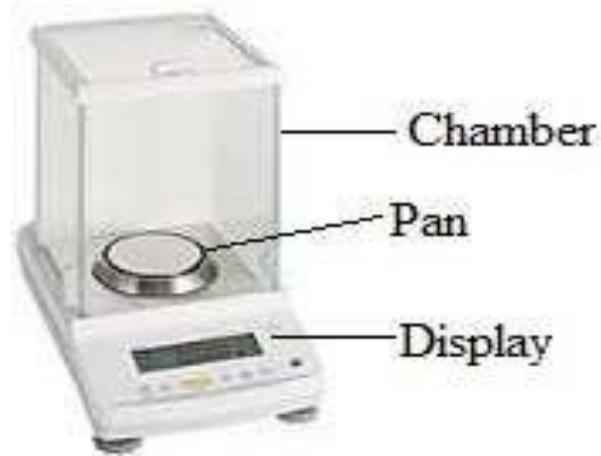


Figure 4. Digital analytical balance

For the measurement of a solid substance, we can directly measure it as no container is required to place the solid. Follow the given points while weighing a liquid or a powder substance:

- Check the measuring pan of the balance. If it is clean then continue the next step.
- Switch on the digital analytical balance and press on button of the balance.
- Now open the door of the weighing chamber and

place a container on the measuring pan. Close the door and observe the reading. The reading will show the mass of the container.

- Now on the balance, there is a tare button. This is used to neglect the mass of the container. Press this tare button and we will observe the zero reading with the container which is placed over the measuring pan. This is done in order to read the mass of a given sample directly from the display.
- Open the door and the substance to be weighed is added into the container with the help of the spatula. Now close the door of the chamber and read the display which indicates the mass of the given sample.

In order to measure a solid substances, switch on the balance, check the reading i.e. zero. Now open the door of the chamber, place a solid substance directly into the measuring pan. Close the door so that weighing errors are minimized and read the

display in gram. The display indicates the mass of the solid substance. After using digital analytical balance, check whether the measuring pan is clean or not. If it is not clean, clear it and then cover it.