TDC Part II
Paper I, Group B
Inorganic Chemistry

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TOPIC:- LABORATORY

LABORATORY

As discussed above, a lab or a laboratory is a place where experiments are performed. To have a complete knowledge of chemistry laboratory, we must go through the following sections which are discussed below:

1.3.1 Laboratory notebook:

A laboratory notebook also known as lab notebook or practical notebook or lab record or lab manual is a record of experiments conducted in the laboratory. The first page of the notebook is of certificate where the name, class, rolls no., institution name is mentioned. The page next to the certificate is index page where the brief idea of the experiment performed are mentioned which includes serial no., name of the experiment, page no., date of experiment, date of submission and remark by teacher. Students are strictly advised to

fill the index page. After index page certain chemistry notebook contains basic concept of chemistry like logarithm table, antilogarithm table, pH concept etc. while in other notebooks, after index page the proper pages for writing the experiment are given. Left hand side pages are blank or without lines while the right hand side pages are lined provided with experiment no., date, page no. at the top and teacher's signature at the bottom. On the left hand side tables, calculations, chemical reactions, figure is mentioned with a pencil. On the right hand side, we write with a ball point pen. The notebook should be well covered containing a record of experiments performed in the laboratory.

PIPETTE

Pipette is a glass apparatus used in laboratories in order to transfer a fixed volume of solution or liquid. It consists of a long narrow tube provided with a bulb in the middle and a single mark towards the upper side indicating the particular volume as

shown in Figure

1. Pipettes are used in the preparation of solutions. These are generally available in several ranges like 0.5mL, 1 mL, 5mL, 10 mL, 25 mL.

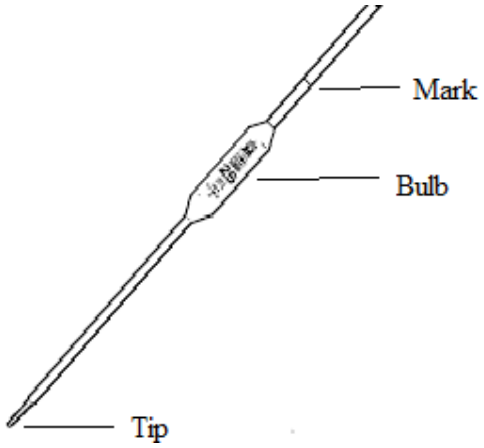

Figure 1. Pipette

A clean pipette is used for transferring a particular volume of a liquid. In order to clean a pipette, fill it with distilled water by sucking with the mouth. Now allow the water to drain. While draining the water, it should be noted that if water drains without leaving drops on the inner surface of the pipette, this shows that pipette is clean. If drops appear on the inner surface of the pipette then clean

it with detergent or soap solution and with tap water followed with distilled water at the end. Now a cleaned pipette is ready to use. Suppose we have to transfer 10 mL of liquid ‘A’ from a beaker to a conical flask using a pipette. We have to follow the steps given below:

- First of all liquid A taken in a beaker. Never pipette the liquid or any solution directly from the stock bottle or container.
- Insert the tip of the 10 mL pipette into the beaker containing liquid A slowly in order to avoid the breakage of the tip. Tip of the pipette should not be pressed against the bottom of the beaker.
- Now hold the pipette in your hand keeping the index finger (finger next to the thumb) free as this finger is used further to cover the pipette.
- Remove the contact of the pipette with the bottom of the beaker and suck liquid A upward above the mark slowly without reaching the mouth. Tilt and roll the pipette so that liquid A

runs through the inner wall of the pipette. Now drain liquid A from the pipette. This process is known as rinsing.

- Again liquid A is filled in the pipette above the mark, remove your mouth and quickly put the index finger over it tightly. By removing the index finger slowly, maintain the liquid up to the mark.
- After maintaining the liquid A up to the mark, now take out the pipette from the beaker with index finger at the top of the pipette tightly attached.
- Insert the pipette into a conical flask slowly without breaking the tip almost at an angle of 20^{o}. Remove the index finger in order to release liquid A into the conical flask. When the entire liquid A is released, touch the pipette to the inner wall of the conical flask in order to remove the liquid attached at the tip. It should be noted that no air is to be blown into the pipette for withdrawing the liquid.