

First, take the pH 4.01 solution and dip the probe. The probe should be absolutely immersed inside the solution. Then in the monitor, we'll put there is a calibration setup and we'll press that. Now it will show one point. If you then start, it will start getting the pH of the solution. The reading should be stable.

into the tube. After finishing, always keeps it in the released condition, the maximum volume that can be pipetted.

If we want to exert more than 1 ml, pipette controller is used with the serological pipettes. There's two buttons, upper button when you press, it will withdraws fluid. When you stop, it will hold it in that particular volume. Pressing lower button is going to dispense the liquid.

pH meter: We'll clean the electrode first. For that, we will remove the electrode from the storing solution. Clean it with deionized water, rinse it and then with a tissue, we will wipe for it to be dry.

Calibrating pH meter: Here 3 different solution will be used and this is known as three point calibration method. The solution is provided by the manufacturer. One is of pH 4.01 another is pH 7, other is 10.01. They are all buffered. These three solutions should be allocated into three falcon tubes.

First, take out the probe from the storing solution. Wash the probe thoroughly with de-ionized water. Dab it with a clean tissue. Open the small cap where inside the probe, there's electrolyte reference and it should be opened before measuring any pH.

⑤ Gel Rocket: It has a mixing platform in which boxes are kept. It's motion is uniform and this ensures that the gel inside the boxes is being properly exposed to the stained gel. It ensures proper mixing of different liquids and solid surfaces on between each of them.

⑥ Centrifuge: It's used to centrifuge the samples. It has different types of rotors. Based on that, there are many types of centrifuges. Some are used for plates, some for test tubes.

⑦ Ice Flake machine: It's used to carry out reactions under ice cold conditions. It is connected to a water supply source and it creates ice flakes.

⑧ Water Purification: It's used to de-ionize water for reaction.

How to use a pipette: For a 100 to 1000 microlitre pipette and to collect 1 ml of solution, first of all the pipette should be set at 1000. Pipette should be held upside down. Take out the tip box, slide down the lower portion of the pipette. It will fit very nicely into the tip, give a slight twisting motion while you are pressing down. And the tip will automatically get attached to the pipette. As you keep exerting pressure, the piston keeps on going down until it meets a initial resistance which is called as first stop. Once it reaches there, you can actually exert a bit more force and go down until it reaches the second resistance, second stop. This is for dispensing liquids. For collecting liquids, press down the plunger on the piston until the first stop, hold it there and then dip it

## Introduction to Biochemistry Laboratory Equipments

Paim: To learn about the biochemistry laboratory equipment and safety measurement.

### Laboratory Equipment:

- ① Laminar Air flow Cabinet: In this equipment, there's an airflow filter and it maintains an airflow positive pressure, which prevents outside air from entering the enclosed area and that area is sterile. UV lights sterilize the inner region when not in use and also spirit lamps and burners are kept where they are lighted and get heat sterilized or alcohol sterilized the region. Useful to work with bacterial culture.
- ② Temperature Control Shaker Incubator: It allows us to grow bacteria in a controlled temperature. It shakes for preventing the bacteria from settling down which is detrimental to the growth and it ensures proper aeration of the culture so that the bacteria can survive. The RPM and the temperature can be set as needed.
- ③ Any Heat Block: It's necessary for maintaining the temperature of the reaction at  $100^{\circ}\text{C}$ . Taking the sample we should place it on top of the block and then it will be maintained at  $100^{\circ}\text{C}$  for however long wanted.
- ④ Water Bath: A portion of the tank has water maintained at a certain temperature.