

PBO-405 PRACTICAL BASED ON TOPIC COVERED IN CBO-405

Plant Anatomy

- To study the vegetative/reproductive shoot apices of *Hydrilla*, *Ceratophyllum*, Grass.
- To study the root apices of *Eichhornia*, *Lemna*, *Allium*.
- To study the Plant Tissues from fresh material and permanent slides: Parenchyma, Aerenchyma, Chlorenchyma, Collenchyma, Sclerenchyma, Xylem, Phloem, Transfusion tissue.
- To study the Wood Anatomy from locally available wood specimens.
- To study the Anomalous Secondary Growth from *Aristolochia* stem, *Mirabilis* stem, *Bougainvillea* stem and *Chenopodium* stem.
- To study the Structural variability in the Leaves of *Helianthus*, *Aloe*, *Calotropis*, *Typha*, *Nymphaea* and Maize.
- To study the comparative examples of Systematic Plant Anatomy with special references to trichomes, stomata, leaf anatomy, nodal anatomy, cellular contents, wood anatomy and flower anatomy.

Plant Ecology

- **Ecological apparatus**
 - Soil thermometer, Sling psychrometer, Abney's meter, Minimum and Maximum thermometer, Cup-anemometer, Flame photometer
- **Phytosociological study**
 - Determine the minimum size of quadrat.
 - Determine the minimum number of quadrat.
 - Determine the quantitative characters of plant community by random quadrat method (Density, Abundance, Frequency and Basal cover).
 - Preparation of frequency diagram of plant community.
 - Evaluation of life form classes of local flora and preparation of Biological spectrum.
- **Biomass and Productivity**
 - Estimation of above and below ground biomass in a grass land area.
- **Soil analysis** (Physical and Chemical characters)
 - Determine the soil moisture content by oven drying method.
 - Estimation of texture of soil by sieve method.
 - Determine the water holding capacity of different type of soil.
 - Electro conductivity of soil.
 - Estimation the buffering action of soil (0.1N Ammonium acetate and 0.1N NaCl).
 - Calculation of Phosphorus, Potassium and pH from the soil.
 - Determine the Sodium, Potassium, Calcium and Phosphorus in plant ash material.
- **Water analysis** (Physical and Chemical characters)
 - Determine the Calcium, Chloride, Total hardness and pH from water.
 - Determine the Biological Oxygen Demand (BOD) and Chemical Oxygen Demand(COD) from water.