

## Department of Biosciences MSc Biosciences

## **BSP555 ENVIRONMENTAL PHYSIOLOGY LAB**

## **Course Outcomes:**

After successful completion of the course, students will be able to:

- Expand the knowledge in environmental physiology conducting experiments with application point of view.
- Know how to determine blood indices, blood pressure and thermal tress.
- Demonstrate rate of transpiration, effect of temperature on the rate of respiration.
- Know how to check the seed health and effect of salinity on seed germination.
- Gain the skill to find out the viability of seeds, inducers and inhibitors of germination.
- Realize how plant responses against salinity and metal stress.
- Know how to apply radioisotope methodology
- 1. Haematology -
  - 1.1 Determination of blood indices
  - 1.2 Determination of blood pressure.
- 2. Respiration -
  - 2.1 Estimation of oxygen consumption by the organism under stressed condition (thermal stress).
  - 2.2 Demonstration of rate of transpiration by photometry.
  - 2.3 Effect of temperature on the rate of respiration.
- 3. Seed physiology
  - 3.1 Seed health testing.
  - 3.2 Determination of percent viability of seeds by germination method.
  - 3.3 Germination inducers and inhibitors
  - 3.4 Determination of  $\beta$ -amylase activity in germinating seeds.
  - 3.5 Effect of salinity on seed germination.
- 4. Stress Physiology-
  - 4.1 Plant responses against salinity and metal stress
  - 4.2 Radioisotope methodology and its principles (GM Counter and Scintillation Counter)