

## **TRAINING MODULE – BASIC PROTEIN BIOLOGY**

**COURSE DURATION: 6 DAYS**

### **DAY 1: Introduction to Protein Biology and Essential Calculations**

- Overview of proteins: structure, function, and their role in biological system
- Basic calculations and reagent preparation

### **DAY 2: Protein Isolation Technique**

- Protein extraction from various samples
  1. Bacteria
  2. Plant
  3. Tissue

### **DAY 3: Quantification of Proteins**

- Overview of the Lowry and Bradford methods, principles, and sensitivity

### **DAY 4: Quality Control of Protein Samples Using SDS-PAGE**

- Overview of SDS-PAGE and its role in assessing protein size, purity, and integrity
- Explanation of SDS, gel composition, and electrophoresis principles
- Preparation of gel (casting, loading) and buffer setup for protein separation

### **DAY 5: Running SDS-PAGE**

- Running extracted protein samples through SDS-PAGE
- Staining and visualizing the gel to assess protein quality and purity

### **DAY 6: Report Submission and Certificate Issue**