TRAINING MODULE – BASIC MOLECULAR BIOLOGY

COURSE DURATION: 5 DAYS

DAY 1: Introduction to Laboratory Standards and Instrumentation

- General instructions on GLP and instruments
- Calculations and reagent preparations
- Brief hands-on on equipment's handling and maintenance

DAY 2: Nucleic Acid Isolation from Diverse Biological Samples

- Overview on key principles and methodologies for nucleic acid isolation
- DNA/RNA isolation from different sources
    1. Bacteria
    2. Plant
    3. Blood

DAY 3: DNA/RNA Purification and Quantification Techniques

- DNA/RNA purification techniques, including column-based, precipitation, and bead-based purification methods
- Quantification using gel electrophoresis and interpretation of results, including troubleshooting for anomalies

DAY 4: Polymerase Chain Reaction (PCR) Techniques and Data Analysis

- Principles and setup of PCR
- Interpreting PCR data and troubleshooting errors

DAY 5: Report Submission and Certificate Issue