

TRAINING MODULE – BASIC MICROBIOLOGY

COURSE DURATION: 5 DAYS

DAY 1: Overview of Microbiology, Lab Safety, and Aseptic Techniques

- Classification of microorganisms (bacteria, viruses, fungi, and protists)
- Microbial structure and morphology
- Introduction to lab safety protocols (PPE, waste disposal, emergency procedures)
- Principles of aseptic technique: sterile handling, proper use of Bunsen burners
- Practice aseptic transfers and workspace setup, GLP, and GMP

DAY 2: Microscopy and Media Preparation

- Microscopic observation of microorganisms
- Calculations and media preparation

DAY 3: Staining Techniques and Interpretation

- Gram staining: Differentiates between Gram-positive and Gram-negative bacteria
- Endospore staining: Identifies sporulating bacteria
- Flagella staining: Finds motility in microbes

DAY 4: Cultivation and Preservation Techniques for Microorganisms

- Plating methods: Streaking, spread plate, and pour plate
- Cryo-preservation of microorganisms

DAY 5: Report Submission and Certificate Issue