Microbiology

Isolation and idenfication of microbes from various sources

Antimicrobial Resistance (AMR) Surveillance

Culture Media preparation and Optimization

Pathogen Prevalence & Profiling

Diagnostic Method Comparison

Bacterial toxin characterization from various sources

Fungal morphology and pathology studies

Molecular biology

Genomic DNA isolation from bacteria, plants and animal cells.

RNA isolation and gene expression studies.

PCR-based gene amplification.

Dectection of SNP markers, gene expression

16S rRNA gene sequencing-based bacterial identification.

Molecular detection of antibiotic resistance genes.

Detection of virulence-associated genes.

Molecular characterization of microorganisms.

Agarose gel electrophoresis.

Comparative analysis of gene sequences.

Phylogenetic tree construction.

Biochemistry

Carbohydrate Biochemistry

Protein Biochemistry

Enzymology

Lipid Biochemistry

Antioxidant and Oxidative Stress Studies

Phytochemical and Plant Biochemistry

Clinical Biochemistry

Biochemical Toxicology

Analytical Biochemistry

Herbal Research

Soxhlet extraction of secondary metabolites

Qualitative phytochemical screenings (tannins, flavonoids)

In-vitro antioxidant evaluations (DPPH, FRAP assays)

Synergistic anti-inflammatory herbal formulation trials

Nutraceutical product compounding and formulation

Alternative therapeutic formulation bio-evaluations

Cosmetic herbal raw ingredient testing

Synthesis of nanoparticles with herbal

Food & Agricultural Microbiology

Food Safety & Contamination

Antimicrobial Plant Extracts

Enzyme Production

Plant-Microbiome Interactions

Environmental & Applied Microbiology

Bioremediation

Water Quality Assessment

Soil Biodiversity