

SCHOOL OF STUDIES IN BIOTECHNOLOGY

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CONSULTANCY & SERVICES OFFERED

We are facilitating **Projects, Dissertations, Internships, and Hands-on-Training** for B.Tech, B.Sc., M.Sc. students, and also providing research services to **PhD** scholars as per their requirements on nominal payment basis. The duration of the project/ dissertation/ internship varies depending on the module and requirements of the students. The School also offers facilities to carry out various qualitative and quantitative research activities on specified equipment on nominal payment basis.

Our School has laboratories dedicated to various fields of Biotechnology including analytical equipments; Gel Doc system, HPLC, Thermocycler, UV-Transilluminator, CO₂ Incubator, UV-Vis Spectrophotometer, High-Speed Centrifuge, Mili Q Water Purification System, Spectrofluorometer, Bio-Safety Cabinet, Cryocans, ELISA Reader, Electrophoresis System, Orbital Shaking Incubator, Air Sampler, Spectro quant Nova-60, Water Quality Analyzer, EC-TDS Analyzer, -20 & -80 °C Deep Fridges, Fluorescence Microscope, Inverted Microscope, Microphotography, Rotary Evaporator, Sonicator, and Automated Plant Tissue Culture Laboratory etc.



**Plant
Biotechnology
Laboratory**

**Mushroom
Biotechnology
Laboratory**

**Stress Biology &
Germplasm Conservation
Laboratory**

**Bioprocess
Laboratory**

**Microbiology
Laboratory**

THRUST AREAS OF RESEARCH

PLANT BIOTECHNOLOGY

- Micropropagation
- Callus culture
- Genetic fidelity assessment
- Abiotic stress tolerance and mitigation strategies:
- Drought, Salt, Cold, Heavy metals

MUSHROOM BIOTECHNOLOGY

- Propagation and conservation of mushrooms of medicinal importance
- Analysis of nutritional and medicinal properties of mushrooms
- Mushroom biofortification
- Functional foods
- Drug discovery
- Bioremediation

STRESS BIOLOGY AND GERMPLASM CONSERVATION

- Ageing-induced metabolic amendments in tropical tree seeds
- Post-harvest handling and storage of tropical tree seeds
- Heavy metal-imposed injuries in seeds/ seedlings
- Salinity-induced responses in seeds/ seedlings
- Microbial remediation of heavy metals and pesticides
- Nanotechnology and its applications
- Molecular biology and gene expression analysis

ENVIRONMENTAL BIOTECHNOLOGY

Water Quality Analysis

- Physical Parameters :
Total Dissolved Solids; Total Suspended Solids; Temperature; Color & Odor & Electrical Conductivity.
- Chemical Parameters:
Acidity & Alkalinity ; Dissolved Oxygen; Chemical Oxygen demand & Biological Oxygen demand.
- Microbiological Parameters:
Coliform (Total & Faecal) ; *E.coli*; Most Probable Number Test; Hydrophytes & Microbiology of water etc.

BIOPROCESS ENGINEERING

- Bioethanol production from lignocellulosic substrates
- Biovalorization of different agricultural wastes for enzyme production, process optimization, kinetic study
- Sustainable energy, such as biohydrogen and bioelectricity generation from various waste substrates
- Exploration of potential of microorganisms for generation of industrial products.

MICROBIAL BIOTECHNOLOGY

- Sterilization procedures
- Preparation of media
- Microbial culture methods (pour plate & streak plate)
- Isolation of microbes from various samples
- Identification of microorganisms by various staining techniques
- Antibiotic sensitivity assay

