

Dissertation Topics

ENVIRONMENTAL BIOTECHNOLOGY

- Study on Micro Biology of Air.
- Limnological study of Ponds, Rivers and Lakes.
- Isolation of bacteriophage from natural water bodies.
- Biological removal of color and dye from waste water.
- Effect of heavy metals toxicity on growth and survival of free immobilized biocatalysts.
- Microbial examination of potable water supplied in various hospitals and public places.
- Removal of Eutrophic Nutrients (NO_3^{+++} & PO_4^{---}) from waste water by immobilized bed column.
- Effect of Pesticides (Herbicides, Insecticides & Fungicides) on growth and survival of free living & immobilized biocatalyst (bacteria)

INDUSTRIAL BIOTECHNOLOGY

- Cultivation of Edible Mushrooms.
- Formulations of herbal cosmetics.
- Study and estimations of Vitamins.
- Biotechnological study on Lemon grass.
- Bioconversion of vegetable oils in to biodiesel.
- Study on Salt and Osmotic tolerance of Bacteria.
- Study on Stevia, as an alternative source of sugar.
- Production of Biogas from sugarcane bagasse waste.
- Biotechnological production of Wine and Herbal Wine.
- Extraction & Bioconversion of Jatropha Oil into Bio Diesel.
- Survey, collection and study of important medicinal plants.
- Immobilization Technology of Biocatalyst: Potentials & Prospects.
- Antibacterial and antifungal properties of various medicinal plant extract.
- Bioconversion of organic waste products in bio-ethanol /bio-gas production.
- Study on Bio Technological evaluation and applications of Exopolysaccharides.
- Extra cellular production of proteases/lipases for biotechnological exploitations.
- Fermentation and Extraction of Bio Ethanol from sugarcane juice and other sources.
- Extraction, purification and characterization of Amylase, Protease and Lipase enzymes.
- Extraction, purification and identification of phyto pigments/Amino-acids/lipids by TLC.
- Mass production, extraction and characterization of Exopolysaccharides from microbes.
- Isolation, Purification and characterization of bacterial mutants by spontaneous mutational engineering.
- Fermentation of used *Jatropha* seed cakes by the help of cellulose digestion bacteria for the production of bio-gas.

AGRICULTURAL/PLANT BIOTECHNOLOGY

- Plant tissue culture.
- Stem and root grafting technology.
- Hydroponic production of Fruits & Vegetables.
- Study on Salt and Osmotic tolerance of Bacteria.
- Study on Stevia, as an alternative source of sugar.
- Production of Biogas from sugarcane bagasse waste.

Vermi composting of house hold and agricultural waste.

- Extraction & Bioconversion of Jatropha Oil into Bio Diesel.
- Survey, collection and study of important medicinal plants.
- Survey collection and mass cultivation of Azolla sp. for use as Bio Fertilizer.
- Isolation and characterization of amylase producing bacteria from the soil.
- Isolation and characterization of anti biotic producing bacteria from the soil.
- Formulation of Bio Fertilizers and examination of stability, viability and shelf life.
- Optimization of amylase production by *Bacillus* sp under immobilized conditions.
- Bio Fertilizer strain improvement for increasing efficiency and ecological viability.
- Isolation and characterization of phosphate solubilizing bacteria for use as bio-fertilizer.
- Isolation and Characterization of Nitrogen fixing bacteria / Cyanobacteria for use as Bio Fertilizer.
- Isolation of pure bacteria for anaerobic digestion of cellulose for fermentation of organic waste.
- Applications of Phytochemicals in industry and healthcare, biocide, bio fungicide and bio pesticides.
- Effect of Bio-fertilizer on growth and productivity of agricultural crop/Medicinal and aromatic plants.
- Isolation and characterization un-induced ammonia /amino-acids excreting bacteria for use as bio-fertilizer.
- Fermentation of used *Jatropha* seed cakes by the help of cellulose digestion bacteria for the production of bio-gas.

FOOD BIOTECHNOLOGY

- Study and estimations of Vitamins.
- Examination of Microbial Toxins in Food and Beverages.
- Study on shelf life of various Food and Cosmetic products.
- Microbiological examination of food products, beverages as a measure of quality assurance.
- Microbiological examination of Milk/Milk products/Herbs and Spices as measure of quality assurance.

MEDICAL/PHARMA BIOTECHNOLOGY

- Study on Stevia, as an alternative source of sugar.
- Study on drug sensitivity of Human Pathogenic Bacteria.
- Survey, collection and study of important medicinal plants.
- Antibacterial and antifungal properties of various medicinal plant extract.
- Isolation and Characterization of Urinary Tract infection causing bacteria.
- Evaluation of anti diabetic and anti oxidant properties of various herbal extracts using animal model.

MOLECULAR BIOTECHNOLOGY

- Isolation of DNA from bacteria.
- Isolation of RNA from bacteria.
- Isolation of bacterial plasmid from *E. coli*.
- Study on nutrient transport systems in microbes.
- Study on Bio Technological evaluation and applications of Exopolysaccharides.
- Mass production, extraction and characterization of Exopolysaccharides from microbes.
- Isolation and purification and determination of molecular weight of stress tolerant protein from bacteria using SDS-PAGE.