

MANGALORE



UNIVERSITY

DEPARTMENT OF BIOSCIENCES

MSc BIOTECHNOLOGY

PRACTICALS (HARD CORE COURSES)

BTP 506 MICROBIAL BIOTECHNOLOGY

Course outcome

The student will

- get hand-on practical skills in fermentation
- learn about microbial assays,
- develop pilot scale production of beverages
- experiment on microbial uses in agriculture

Submerged and solid state fermentation

Estimation of microbial biomass

Estimation of microbial enzymes, mycotoxins, organic acids and antibiotics

Microbiological assays (antibiotics, amino acids and vitamins)

Properties of microbial exopolysaccharides (e.g. cell immobilization)

Uses of Chitin and its derivatives

Pilot scale production of alcoholic beverages

Microbial interactions with plants (rhizobia, mycorrhizas) and plant production

Assessment of nitrogen fixation (acetylene reduction test)

Phosphate solubilization in bacteria, fungi and actinomycetes

Qualities of biofuels (e.g. biodiesel, biogas)