MANGALORE UNIVERSITY

DEPARTMENT OF BIOSCIENCES

MSc BIOTECHNOLOGY

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)