

ADVANCED MICROBIOLOGY TECHNIQUES (20 DAYS)

- ❖ Introduction and safety aspects of microbiology lab
- ❖ Instructions and handling of microbiology equipments & tools
- ❖ Process of Sterilization & decontamination
- ❖ Microbial culture media and its importance
- ❖ Isolation of microorganisms from soil, Air and water
 - Soil – Serial dilution Method
 - Air- Viable plate count method
 - Water – Pour plate method
- ❖ Plating techniques-Pour, Spread, Streak
- ❖ Streaking methods-Simple, Quadrant, T-Streak
- ❖ Pure culture preparation- Sub culturing of microbes in solid and liquid media
- ❖ Screening of desired organism
 - Morphological behavior of microbes
 - Staining techniques(simple, Gram's, spore, Negative, capsule)
 - Identification by Biochemical test
- ❖ Growth studies of microbial cultures at shake flask by UV-VIS Spectrophotometer Estimation
- ❖ Industrial application of microbes
 - Casein hydrolysis
 - Starch hydrolysis
 - Cellulose hydrolysis
- ❖ Antibiotic sensitivity assay

