

OPEN ELECTIVE

MBE- 459: General Microbiology

40h

UNIT I

12 h

Isolation and Identification of Microbes, Culturing of Microbes- Culture media, Types of culture media. Media for bacteria, fungi, algae and viruses. Pure culture techniques: Different types of inoculation methods - Spread plate, Pour plate and Streak plate methods. Economic importance of Microorganism: Agriculture, Industry, Medicine, Environment.

Unit II

14 h

Classification and general properties of microbes: Virus, Bacteria, Fungi, Algae and protozoans. Distribution of microorganisms in soil, Role of microorganisms in soil fertility. Microbial Interactions- mutualism, commensalism, competition, amensalism, parasitism, predation. Interactions between microbes and plants, Microbes and animals, Microbes and Humans.

Unit III

14 h

Bacterial diseases: Cholera, Typhoid, Tuberculosis, Salmnellosis, Anthrax, Shigellosis. Fungal Disease: Candidiasis, Dermatitidis, Aspergillosis, Mycotoxicosis. Viral Diseases: AIDS, HIV, Rabies, Hepatitis, Poliomyelitis, Small pox, Chicken pox. Control of microbes- Sterilisation, disinfection, antiseptic, pasteurization, radiation, Chemical-phenol and phenolic compounds.