

M.Sc. Environmental Science
Semester-III
ENVIRONMENTAL MICROBIOLOGY

UNIT- I

Microbial world: Introduction of environmental microbiology, relation with other allied sciences, Major groups of micro-organism, Microbial interactions- neutralism, commensalism, synergism, mutualism, competition, ammensalism, parasitism, predation, interaction of microorganisms with plants and animals.

UNIT- II

Aquatic Microbiology: Microbes in aquatic systems, Measuring activity of microbes in water, Pathogens in water, Water health standards, bio-films.

UNIT – III

Biodegradation microbiology: Interaction of biological, chemical and environmental factors in Biodegradation processes. Bioremediation processes; Definition and classification including in situ and ex situ types.

UNIT IV

Soil Microbiology: distribution of different types of soil microorganisms, factors influencing microbial population, Rhizosphere effect, microbes in decomposition, mineralisation and recycling process, bioremediation, solubilisation of phosphates.