MBS-507: MARINE MICROBIOLOGY **40h**

Unit I **12h**

Ecology of Marine water; physical, chemical and biological components in marine water. Stratification of marine ecosystem based on pH, temperature, oxygen and nutrient availability. Extreme conditions prevailing in marine water. Estuaries; definition, physical and chemical properties.

Unit II **14h**

Microbial diversity the marine water and estuaries- algae, fungi and bacteria and actinomycetes. Anoxic environment and its microbes. Methods to study microbial communities in marine water. Methanogens, Sponges, Coral reefs, protozoans and algae and their role in theconstruction of marine ecosystem

Unit III **14h**

Metabolites of Marine Microbes- Bioactive compounds from actinomycetes and algae- their chemical nature, properties and commercial applications . Sampling methods to isolate marine microbes from sea water.Island Biodiversity. Pollution/contamination of marine water by oil spills, hydrocarbons and industrial waters and its management.