PAPER-V MICROBIAL ECOLOGY AND BIOLOGY OF PARASITISM

(Questions will be set from each Unit)

UNIT - I Microbial Ecology

1. An Introduction to Metabolic diversity of microbes. 2. Microbes living in extreme environments and their potential for use in Biotechnology. 3. Ecological role of microorganisms in general. 4. Plant microbe Symbiosis (With special reference to Microrhyzae) and animal microbe symbiosis. 5. Micro-organisms in formation of different soils.

UNIT - II Microbial Ecology

1. Role of microbes in Biogeochemical and Nutrient Cycling processes. Ex. - Carbon, Nitrogen, Sulphur and Phosphorus Cycle. 2. Microbes in Metal Cycling. 3. Aquatic Micro - organisms : fresh water microbiota, Sea water microbiota. 4. Role of Micro - organisms in Water purity and water purity test. 5. Sewage waste water treatment. 6. Methods used in environmental studies.

UNIT - III Biology of Parasitism

1. General Introduction and terms employed. Classes of parasites and host. Tabular information for spread of parasitic infection.
2. Host Parasite relationship.
3. Geographical distribution, habitat, Morphology, Lifecycle, Pathogenesis, clinical features, Lab diagnosis - (Adult and egg), treatment and Prophylaxis of Protozoan parasites pathogenic to man (Rhizopoda, Flagellata, Sporozoa Ciliata.)

UNIT - IV Biology of Parasitism

1. Brief accounts of life history, mode of infection and pathogenicity of the following pathogens with reference to man, prophylaxis and treatment.
   - A. Platyhelminthes parasites - pathogenic to man.
   - B. Nemathelminthes parasites - pathogenic to man.
2. Ectoparasites - pathogenic to man. As vectors of human diseases.
3. Parasitic adaptations in parasites.
4. Evolution of parasitism.