

Semester- IV

Microbiology and Animal Behaviour (4+2 Credits) = 6 Credits

Microbiology

Introduction to microbiology: kinds of microbes, Typical structure of a bacterium, Gram positive and Gram negative bacteria and virus. With reference to (COVID)

Microbes of medical importance: Bacteriophages, Mycobacterium, Rickettsia, Actinomycetes and Mycoplasma.

A brief knowledge of AIDS.

Environmental use of microorganisms: Nutrient cycle, Metal recovery, petroleum recovery, pest control, waste water treatment and Bioremediation.

Industrial microbiology- Food production, dairy products, fermented food, alcoholic beverages, microbial spoilage, food preservation. A brief knowledge of Antibiotics.

Animal Behaviour

Patterns of behaviour: Stereotype innate behaviour: Kinases, Taxes and Reflexes. Concepts of (i) Fixed action patterns (ii) Sign or key stimulus or releasers and (iii) Innate releasing mechanism, Instinctive behaviour. Learned behaviour: Habituation, Conditioned reflexes, Selective learning , Insight learning, Imprinting, Song learning in birds. Hormonal control of Behaviour

Communication: Chemical, Visual, Auditory, Electric and tactile, Dance language of honey bees, Biological clocks. Bird migration with particular reference to the mechanisms of navigation. Introduction to Socio-biology: Social structure in primates

Practical

Suggested books:

1. Mechanism of Animal Behaviour Peter Marlar & J. Hamilton.
2. Animal Behaviour by David McFarland.
3. Animal Behaviour John Alcock.
4. Pelczar Microbiology
5. Davies Microbiology