

Economic Zoology, Microbiology and Immunology

Course Code: BEB509

Contact Hours: 60

Credit: 04 (L-3, T-1, P-0)

MM: 100

Course Outline:

Course Objectives:

1. To introduce variety of approaches to the study the economic zoology, microbiology immunology and getting basic idea about the relationships among animals and to their environment.
2. To understand the major principles of evolutionary theory, and ranges from the origins of life, through the evolution of specific characters of simple animals.
3. To learn about the origins of advanced characters among Economic zoology, microbiology and immunology.
4. To explore diversity of chordates ranging from protochordates to vertebrates.
5. To learn about the evolutionary significance of the economic zoology.
6. To explore basic characters of vertebrates and their adaptations to the different Environmental conditions.

UNIT I: Apiculture- Different species of Apis, culture method, honey bee products – bee-wax and their uses, chemical composition of honey. **Sericulture-** Different types of silkworms, Sericulture and extraction of silk.

UNIT II: Pisciculture and aquaculture- induced spawning, culture of Indian major carp, exotic carp, ornamental fish culture, fish spoilage and preservation- Freezing, canning, salting, smoking; Prawn culture; Pearl culture.

UNIT III: General characteristics, structure and types of viruses; Life cycle of bacteriophage; Diseases caused by Protozoans: Entamoeba histolytica, Plasmodium species, Trypanosoma.

UNIT IV: Bacteria: structure, nutrition and reproduction. Genetic recombination in bacteria: transformation, conjugation & transduction.

UNIT V: Cells and organs of the immune system; Innate and acquired immunity; Anatomical barriers.


UNIT VI: Antigens and their characteristics, Antibody: structure and types, functions of antibody.


UNIT VII: T-cell – structure, receptor and maturation (signal hypothesis excluded); B-cell – activation and differentiation. MHC: Structure and Function.


Course Outcomes:

After completing the course, the students will be able to:

1. Understand the cell division, chromosome segregation and chromosome structure.
2. Understand the structure of nucleic acids, gene expression, mutation, selection and migration.
3. Understand the gene expression and gene regulation in Eukaryotes.
4. Explore the applications of gene mutation, repair and breeding methods in plants
5. Understand nuclear genome organization as well as genes and gene numbers.


Dean
Faculty of Education
Invertis University
Bareilly-243123, U.P


Registrar
Invertis University
Bareilly


Head
Department of Education
Faculty of Education & Mass Comm.
Invertis University, Bareilly (UP)