

Programme Learning Outcomes (PO) in B.Sc. (Major) Zoology (under CCF)

1. Demonstrate (i) in-depth knowledge and understanding about the fundamental concepts, principles and processes underlying the academic field of Zoology and its different sub-fields (animal diversity, principles of ecology, comparative anatomy and developmental biology of vertebrates, physiology and biochemistry, genetics and evolutionary biology, animal biotechnology, applied Zoology, aquatic biology, immunology, reproductive biology, and insect, vectors and diseases, apiculture, aquarium fish keeping, medical diagnostics, and sericulture) (ii) procedural knowledge that creates different types of professionals in the field of Zoology and related fields such as, apiculture, aquarium fish keeping, medical diagnostics, and sericulture, etc.(iii) skills related to specialization areas within Zoology as well as within sub-fields of Zoology, including broader interdisciplinary sub-fields (Chemistry, Physics and Mathematics).
2. Appreciate the complexity of life processes, their molecular, cellular and physiological processes, their genetics, evolution and behaviour and their interrelationships with the environment.
3. Study concepts, principles and theories related with animal behaviour and welfare.
4. Understand and interpret data to reach a conclusion
5. Design and conduct experiments to test a hypothesis.
6. Understand scientific principles underlying animal health, management and welfare.
7. Accept the legal restrictions & ethical considerations placed for animal welfare.
8. Understand fundamental aspects of animal science relating to management of animals.
9. Assess problems and identify constraints in management of livestock.

Course Learning Outcomes (CO) in B.Sc. (Major) Zoology (under CCF)

CC1 Cell Biology

1. Students get the knowledge about cell structure and function to understand the life sustaining processes.
2. Students understand the normal and abnormal conditions of cell functioning, get basic knowledge about cancer
3. Students get familiar with different tools and techniques in cell biology like microscopy, cell culture, cell fractionation, Freeze fracture replication, Freeze etching etc.
4. Students learn the techniques of cell measurement, cell staining and study cell viability.

Sec-1 Applied Entomology

1. Students get the knowledge about insect and their morphology.
2. Students get familiar with vectors, their adaptations and medical significance.
3. Students understand the taxonomy of insects through this unit.
4. Students learn about the Dipteran insects and its negative role in human pathology.
5. Students understand various disease vectors through this unit.
6. Students learn about the pests and their harmful effects on crop production and become familiar with the pest control measures and the process of pest management.

7. Students are introduced with different bugs and their harmful effect and control measure.
8. Students are demonstrated about different insect vectors and pests through photographs.
9. Students learn about the morphology of different castes of bees and their social behaviour.
10. Students understand the culture methods of honey bees and introduce with different modern instruments.
11. Students gain idea about disease of honey bees and control measures.
12. Students understand about the apiary products and their uses.
13. Students come to know about the modern methods introduced to improve bee Industry.
14. Students learn about the types of silk moths, their geographical distribution, life cycle and host plants.
15. Students become familiar with the process of silk-worm rearing, their disease management and silk production.
16. Students understand general perception and status of Forensic Entomology, its applications and limitations.
17. Students learn to collect and preserve economically important insects.
18. Students learn to prepare project report.

CC-2 Biochemistry

1. Students get knowledge about the structural materials (Carbohydrate, Protein, Lipid, Nucleic acids) of living body.
2. Students understand the molecular structure of the organic body materials and functioning of the materials at molecular level.
3. Students become familiar with the control system of chemical reactions undergoing inside living body through the action of enzymes and feedback mechanism.
4. Students learn to identify organic materials through qualitative tests.
5. Students learn the techniques of quantitative estimations of organic materials.

Sec-2 Aquaculture

1. Students are introduced with some cultivable indigenous and exotic fishes with reference to their flesh quality.
2. Students become familiar with different types of sustainable aquaculture systems like Intensive, Semi-intensive and Extensive.
3. Students understand the water quality of culture ponds how to control and maintain water quality.
4. Students learn the management of fish culture ponds.
5. Students get idea about different categories of fish culture like Cage culture, Pen culture, Cold water fishery, Jeol fishery, Sewage-fed fishery, Mariculture.
6. Students learn the process of induced breeding of carps and use of synthetic hormones in induced breeding.
7. Students become familiar with hatchery management.
8. The students are introduced to Aquarium fishery, its potential as cottage industry and biology of common fishes reared in this industry.
9. Students get knowledge about feed formulation and preparation of compound diets.
10. Students gain knowledge about fish handling techniques, transportation, packaging and marketing.
11. Students get idea about post-harvesting technology and fish by-products and their uses.
12. Students learn about the fishing crafts and gears.

13. Students get an idea about fish diseases, fish pathology and controlling measures.
14. students come to know about the process of prawn breeding and artificial pearl culture.
15. Students learn to identify different freshwater and brakish water cultivable species.
16. Students learn to make project report on aquaculture farm management after field visit.