Shri Shivaji Education Society, Amravati's

Shri Shivaji Arts, Commerce & Science College, Motala, Dist. – Buldhana (M.S.)

Department of Zoology

Program Outcome, Programme Specific Outcomes and Course Outcome

Program Outcome (PO's)

At the time of graduation, Students will be able to

1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
2. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
3. Social Interaction: Elicit views of others, mediate disagreements and help reach conclusions in group settings.
4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
5. Ethics: Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
6. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.
7. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes

Programme Specific Outcomes (PSO'S)

By the end of the programme, Students would be able to

1. Develop a deeper sense with respect to phylum Protozoa to Echinodermata relation to taxonomy, classification, body organization and general characteristics this strengthens students' capability in basic zoology.
2. grasp various the Systematic positions from Protozoa to Echinodermata their pathogenicity and its epidemiology.
3. describe unique characters and recognize life functions of Protozoa, Porifera, Coelenterate, Helminthes, Arthropoda, Annelida, Mollusca and Echinodermata. Improve ability and apply Knowledge of Non-chordates for its execution in Agriculture especially with the phylum Arthropoda.
4. Implement an extensive idea about economic and ecological significance of various non-chordates phylum's in human life.

Department of Zoology

Course Outcome (CO'S)

Sr. No.	Programme	Course	Course Outcome
1	B. Sc I Sem I	Theory- Life and Diversity of Animals (Non-Chordata)	Upon completion of this course successfully, students would be able to 1. Develop a deeper sense with respect to phylum Protozoa to Echinodermata relation to taxonomy, classification, body organization and general characteristics this strengthens students' capability in basic zoology. 2. grasp various the Systematic positions from Protozoa to Echinodermata their pathogenicity and its epidemiology. 3. describe unique characters and recognize life functions of Protozoa, Porifera, Coelenterate, Helminthes, Arthropoda, Annelida, Mollusca and Echinodermata. 4. Improve ability and apply Knowledge of Non-chordates for its execution in Agriculture especially with the phylum Arthropoda. 5. Implement an extensive idea about economic and ecological significance of various non-chordates phylum's in human life.
2	B.Sc I Sem II	Life and Diversity of Animals (Chordata)	Upon completion of this course successfully, students would be able to 1. know what the chordates are. 2. Learn about the different phylum of chordates. 3. confidently explain the general characters and classification of Protochordates upto class Mammalia. 4. understand the level of organization in chordate. 5. explain the origin and evolutionary relationship in different subphylum's of chordates. 6. describe specific features of Protochordates upto class Mammalia. 7. recognize and differentiate life functions of Protochordates upto class Mammalia. 8. understand Migration in fishes and birds, parental care in Amphibians and Poisonous and non-poisonous snakes. 9. explain the adaptations in Birds and Mammals.
3	B.Sc II Sem III	Cell and Development Biology	**Upon completion of this course successfully, students would be able to** 1. Describe the structure and function of cellular organelles. 2. Describe various mode of cellular transport. 3. Compare active transport with passive transport. 4. Describe structure of chromosomes. 5. Differentiate between various types of chromosomes. 6. Define the basic concept of developmental biology, cell division, embryogenesis and emergence of adult organisms. 7. Describe zygote formation and different stages of embryonic development in frog and chick.
4	B.Sc II Sem IV	Advanced Genetics and Animal Ecology	**Upon completion of this course successfully, students would be able to** 1. Describe Mendel's Laws of Inheritance. 2. Differentiate between a monohybrid and a dihybrid cross. 3. Deduce the type of gene interaction from ratio of offspring. 4. Describe linkage and crossing over. 5. Describe various modes of sex determination. 6. Identify the type of syndrome from karyotype. 7. Describe various prenatal diagnostic techniques. 8. Describe effects of water, temperature and light as ecological factors. 9. Identify the type of biotic interaction from given example.

			10. Describe components of ecosystem and structure of terrestrial and marine ecosystem.
5	B.Sc III Sem V	Animal physiology and Economic Zoology	This course helps the student to know about the basic physiology of human body. Student know how their body functions, what are the chemical changes taking place in their body during any action. They know what the hormones are and how their concentration changes with puberty or some also know how their lungs, kidney and other glands work. They also become aware about various beneficiary organisms.
6	B.Sc III Sem VI	Molecular Biology and Biotechnology	Students will able to describe the basic structure of nucleic acids at the molecular level and with a deeper understanding of the structure of DNA. Student will be able to explain how RNA differ from DNA. Understand the mechanism of DNA replication and repair. Have a Deeper understanding of DNA repair mechanisms, including mismatch repair, Base Excision and Nucleotide Excision repair mechanism and their repair of double standard DNA. Student will get a clear concept of the basic principles and application of Biotechnology. Know the basic techniques used in genetic manipulation helping them continue with higher studies in this field.