GOVORNMENT CHANDU LAL CHADRAKAR ARTS & SCIENCE COLLEGE,
PATAN, DIST- DURG
DEPARMENT OF ZOOLOGY
B.Sc. I Year (2023-2024)

PROGRAM OUTCOME

Equip and acquire the knowledge of disciplinary along with allied biological sciences. They identify, classify and differentiate diverse chordates and non-chordates based on their morphological, anatomical and systemic organization.

Imparting quality education, students learn about the fundamentals along with classical and the recent advances in zoology. The minimum time required to accomplished the course is three years.

PROGRAM SPECIFIC OUTCOME

General features and classification of phylum and classes like Protozoa to Hemichordata, classes from Pisces to Mammals improved the knowledge about animals special adaptations and evolutionary relationship. Student will learn about the animal behaviours; biological rhythms/clock , the morphological, function of various cell organelles, cell division and cell signalling

Understand the concept of ecology; biodiversity measurements, conservation and management. help to aware about natural resources and their importance in sustainable development.

Tools and techniques information help to take appropriate steps towards diagnosis, conservation of endemic and endangered animal species.

Procedural knowledge of animals will provide students professional advantages in teaching, research and taxonomist recruitment in various government organizations; including Zoological Survey of India and National Parks/Sanctuaries.

Skilled enhancement courses like vermiculture, aquaculture, sericulture and apiculture will inculcate skills involved in rearing fish, bees and silk moth which would help them in starting their own ventures and generating self-employment making them successful entrepreneurs to improve applied zoology and make the Nation self-reliant and sufficient.

Couse Learning Outcome (CLO)
B.Sc. I YEAR
ZOOL-1T, ANIMAL DIVERSITY: NON-CHORDATA AND CHORDATA, COMPARATIVE ANATOMY AND PHYSIOLOGY OF NON-CHORDATES

Credit Value- Theory-4

Couse Learning Outcome (CLO)-

Upon completion of the course students should be able to:

- Learn about the importance of systematic , taxonomy and phylogeny to get a concrete idea of evolution of non-chordate phyla.
- Understand the various morphological, anatomical structures and functions of animals of different phyla.
- Get the knowledge about economic, ecological and medical significance of various animals in human welfare.
- Understand the important parasites and their control measures.
- Comparison of the anatomy and physiology of the different taxa of non-chordates.

ZOOL-2T,Cell BIOLOGY, HISTOLOGY AND COMPARATIVE ANATOMY & PHYSIOLOGY OF CHORDATES

Credit Value- Theory-4

Couse Learning Outcome (CLO)-

At the end of this course, the students will be able:

- Understand the basic structure, functioning of the cell and cell organelles and understand the intricate cellular mechanisms involved.
- Understand the tissue, how tissue are produced from cells in a normal course and about any malfunctioning which may lead to benign and malignant tumor.
- Develop an understanding of the evolution of vertebrate thus integrating structure, function and development.
- Understand the morphological, anatomical and physiological adaption in diverse habitats.
- Develop and understanding of the evolution of vertebrates thus integrating structure, function and development.

ZOOL-1P, LAB COURSE-1

Credit Value- Practical-2

Couse Learning Outcome (CLO)-

After completion of the practical work the outcome will be:

- Able to know animal diversity in the form of museum/ Slide for invertebrate and invertebrates.
- Capable to enumerate biology of invertebrates
- Capable to explore anatomy of animals
- Able to understand cytological, histological and osteological configuration for animal Life.
- Capable to explain hematology of animal system.
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B.SC. II YEAR (2023-2024)
ZOOL-3T, GENETICS, DEVELOPMENTAL BIOLOGY & EVOLUTION

Credit Value- Theory-4
Couse Learning Outcome (CLO)-
After successfully completing this course, the students will be able to:

- Apply the principles of Mendelian inheritance on interaction of genes.
- Various methods of sex determination in animal kingdom.
- Understand the cause and effect of alterations in chromosome number and structure.
- Know the Recent Assisted Reproductive Techniques.
- Develop critical understanding how a single-celled fertilized egg becomes an embryo and then fully formed adult by going through three important processes of cell division, cell differentiation and morphogenesis
- Understand the general patterns and sequential developmental stages during embryogenesis and understand how the developmental processes lead to establishment of body plan of multicellular organisms.
- Understand evolution through natural selection, and other forces.

ZOOL-4T, BIOCHEMISTRY AND MOLECULAR BIOLOGY

Credit Value- Theory-4
Couse Learning Outcome (CLO)-
At the end of this course, the student will be able

- Understand the structure and biological significance of carbohydrates, amino acids, proteins, lipids and nucleic acids.
- Understand the concept of enzyme, its mechanism of action and regulation.
- Learn the preparation of models of peptides and nucleotides.
- Learn biochemical tests for amino acid, carbohydrates, proteins and nucleic acids.
- Develop an understanding of concepts, mechanisms and evolutionary significance and relevance of molecular biology in the current scenario
- Understand the process of DNA replication, transcription and translation.

ZOOL-2P, LAB COURSE-2
PRACTICAL

Credit Value- 2
Couse Learning Outcome (CLO)-
After completion of practical work the outcome will be:

- Able to understand and explain Mendel's law of Inheritance
- Capable to analyze inheritance of gene by pedigree analysis
- Able to know laboratory culture of Drosophila
- Able to understand cytological, histological and osteological configuration for animal life.
- Capable to understand Human Keryotype and Numerical alteration in chromosomes
- Capable to explain Evolution and evidences
- Capable of performing tests for identification of biological macromolecules
- Able to estimate nucleic acid and Isolation of DNA.