

**Sri Gavisiddeshwar Arts, Science and Commerce College Gavimath Campus, Koppal-
583 231, Karnataka**

Department of Zoology

Zoology Program Outcomes, Program Specific Outcomes and Course Outcomes

Program Outcomes:

- To inspire and motivates the students to gain the knowledge across diverse fields of Zoology.
- To know the life cycles and mode of reproduction in variety of animals.
- To develop skills and Entrepreneur from our students accordingly subjects like Sericulture, Apiculture, Aquaculture, included.
- To prepare our students with good quality to appear for competitive examinations.
- To empower our students with practical skills to comprehend the Physiology and other functions of each and every vital systems.
- Students will be able to check the most literature, identify pertaining works for a related topic, and appraise the scientific content of these works.
- Students will make clear about how organisms function at the level of the gene, genome, cell, tissue, organ and organ-system. Drawing on this knowledge, they will be able to give specific examples of the physiological adaptations, development, reproduction, and behaviour of different forms of life.
- To develop advanced knowledge and understanding relevant to Zoology. To provide opportunity to students with a broad understanding of animals and their interactions with the environment.
- To provide students with the practical skills of conducting field work and research work.
- Understanding about various concepts of genetics and its importance in human health Apply the knowledge and understanding of Zoology to daily life of works. Develops kindness, care and empathy towards the animals.
- Understand the ecological diversity of organisms and their habitat and evolutionary significance.
- Develop positive attitude towards sustainable development.

Course Outcomes of B.Sc. Zoology

- To study the classification of organisms and Salient features of Nonchordates with examples.
- To study the comparative anatomy and Salient features of Chordates with examples
- To study the histology of various organs, microtome technique, and Dairy, poultry, apiculture, Vermiculture, Aquaculture.
- To study the physiology of Digestion, Respiration, Excretion, Circulation, Nervous system etc. To study the mechanism and functions of endocrine system.
- To study the cell organelles, modern trends in reproduction, gametogenesis, cleavage, fertilization, development of human foetus, frog and chick embryology, placenta.
- To study biotic and abiotic factors, habitats, population, community, ecosystem, food chain and food webs, zoogeography, distribution of animals, wildlife conservation.
- To study the social organization in honeybee and termites, zoogeography, ethology and evolutionary biology.
- To study Mendelian principles, interaction of genes, linkage and crossing over, human genetics, blood grouping, basic techniques of Biotechnology.

Program Specific Outcomes:

B.Sc. Part-I, Semester-I

Paper I: Z.I. Biology of Non-chordates

After completion of course, students are able to understand the following points.

- Understand of general taxonomic rules on animal classification.
- Understand the General characters, classification up to classes with examples of phylum protozoa.
- To know the General characters, classification up to classes with examples of porifera and coelenterate.
- Comprehend the Morphology and Life cycle of Taenia solium.
- Understand the Key characters of Ascaris & Wucheraria bancrofti.
- Comprehend the General characters & classification upto classes with examples and Concept of vermiculture.
- Understand the details of Prawn (Type study): Appendages, digestive system & Nervous system, reproductive system.
- To know the general characters and classification of mollusca and echinodermata.

Practical Zp-1: Biology of Nonchordata

- Identifications of non-chordate (fresh and preserved) along with larval forms and sections.
- Knowledge of classification of Non-chordates along with studies on various physiological functions and interactions of non-chordate organisms with examples.
- Students understand the various parts of animals by Dissecting of earthworm, cockroach and prawn.

B.Sc. Part-I, Semester-II

Paper II: Z. 2.Chordate Biology and Comparative Anatomy

After completion of the course, students are able to understand the following points.

- Imparts conceptual knowledge of Hemichordate, Urochordate, and Cephalochordate.
- Understand the general characters of cyclostomes and fishes.
- Understand the knowledge of different systems of the fish body.
- Gains the knowledge of salient characters and classification of Amphibians, Reptiles and Birds.
- Understand the detailed knowledge of comparative study on fish, amphibian, reptile, birds and mammals.

Practical Zp-2: Biology of Chordata and Comparative Anatomy

- Knowledge of classification of protochordates and chordates along with studies on various physiological functions and interactions of chordate organisms with examples
- Identifications of chordate specimens (fresh and preserved) along with larval forms and sections.
- Understand the comparative anatomy by using charts and specimens.

B.Sc. Part-II, Semester-III

Paper III: Z.3 Economic Zoology & Histology

- Understand the aim and scope of poultry.
- Gains the knowledge about fisheries, sericulture, apiculture, poultry, dairy along with crop pest management techniques.
- Gain skill about apiary maintenance.
- Understand the structure and functions of different mammalian organs.
- Understand the histological structure of endocrine glands.

Practical Zp-3: Economic Zoology & Histology

- Understand the nutritional value of fishes- Catla, Mrigala, Anabas, Mackeral, Sardine, Mugil, Rohu, Channa, Shark.
- Field visit to poultry, Dairy, and aquaculture farms.
- Field visit to veterinary hospital and silk rearing centre.

B.Sc. Part-II, Semester-IV

Paper IV: Z.4 Physiology and Biochemistry

- Understand the detailed concepts of digestion, respiration, excretion.
- To know physiology functions of muscle contraction and nervous system.
- Understand the knowledge about bio molecules, enzymes, and vitamins.
- Gain knowledge about hormones and endocrine organs function.

Practical Zp-4: Physiology and Biochemistry

- Imparts the practical knowledge of different types of cells.
- Gain skill about qualitative analysis of carbohydrates, proteins and fats.
- Students able to conduct various blood grouping tests.

B.Sc. Part-III, Semester-V

Paper V: Z.5.1 Cell biology and Developmental Biology

- Basic concepts of Cell and Molecular Biology along with various cellular functions
- Knowledge about cell cycle and cell division.
- Knowledge of cancer cells.
- Imparts the knowledge of basic information frog's egg and hen' egg.
- Basic aspects of fertilization and types.
- Gains the knowledge about modern techniques used in developmental biology.

Practical Zp-5.1

- Students gain skill to prepare whole mount of embryos of chick.
- Imparts the knowledge about various cell organelles.
- Gains the knowledge about fixatives and stains.

B.Sc. Part-III, Semester-V**Paper VI: Z.5.2 Environmental biology and wild life zoology**

- Imparts knowledge to the student regarding habitats ecology, types of ecosystem, population and wild life and wild life conservation.
- Students gain fundamental knowledge of environmental pollutions due to overwhelming use of resources and their effects over ecosystem and learn about natural resources and conservation.

Practical Zp-5.2

- Students gain skill about quantification of various ecological parameters like estimation of CO₂ , oxygen and total estimation of hardness of water.
- Dissertation works on the ecology related in and around the college made students aware of the biodiversity of their locality.

B.Sc. Part-III, Semester-VI**Paper VII: Z.6.1: Genetics and Biotechnology.**

- Basic concepts of Mendelian and non mandelian genetics.
- Imparts the knowledge about Molecular Biology along with functions of DNA and RNA.
- Gains the knowledge about Genetic Engineering.

Practical Zp-6.1

- Students are able to solve different genetical problems.
- Gains the knowledge about detection of different types of blood groups.

B.Sc. Part-III, Semester-VI**Paper VIII: Z.6.2: Ethology, Evolution and Zoo Geography**

- Gains knowledge in the areas of animal behaviour, zoogeographical regions.
- Understand the basic aspects of evolution and its process.

Practical Zp-6.2

- Students are able to collect in nature camouflaged animal photographs.
- Gains the knowledge of fossils.
- Understand the basic concepts of evolutionary aspects.