**COURSE OUTCOME/ PROGRAM SPECIFIC OUTCOME/ PROGRAM OUTCOME**

**DEPARTMENT OF ZOOLOGY**

**S.G.R.R. (P.G.) COLLEGE**

**Course Outcome - Course: - B.Sc. Zoology**

**Theory:-**

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| **Sl. No.** | **Core Papers** | **Particulars** |
| **1.** | **Animal Diversity** | The students would learn about the behavior and importance of animals found in the earth with diverse appearance. As their evolution began in the Ocean over 600 million years ago with tiny creatures that probably do not resemble any living organism today. Since then, animals have evolved into highly diverse kingdom. The course contains the classification of animals vary in complexity –from most primitive unicellular protozoans to sea sponges to crickets to well developed multicellular mammals. |
| **2.** | **Comparative anatomy and Developmental biology of Vertebrates** | Comparative anatomy is an important tool that helps to determine evolutionary relationships between organisms and whether or not they share common ancestors. Anatomical similarities between organisms support the idea that these organisms evolved from a common ancestor. Similarly Developmental biology is the science of explaining how a variety of interacting processes generate an organism’s heterogeneous shapes, size and structural features that arise on trajectory from embryo to adult , or more generally throughout a life cycle. |
| **3.** | **Physiology and Biochemistry** | Biochemistry is an offshoot from Human Physiology. The course makes the students able to understand the difference that Physiology deals with the functions of living beings and the Biochemistry deals with the chemical aspects of animal and their functions. The units of this course also covered the qualitative and quantitative characterizations of the various cell components with the elucidation of the nature and mechanism of the reactions involving the cell components. |
| **4.** | **Genetics and evolutionary Biology** | The course comprises the study of genes, genetic variation, and heredity in organisms with evolutionary forces that include natural selection, genetic drift, genetic draft, developmental constraints, mutations bias and biogeography with the origin of life, diversification and adaptation of life forms over time. |
| **5.** | **Animal Behaviour and Ecology** | The course helps the student to know about how animals respond with their surroundings. The discipline covers study of how organisms interact with one another and with their physical environment, how their distribution and abundance on earth is shaped by both biotic, living-organism-related and abiotic, non living or physical factors under experimental conditions, behaviorisms and natural conditions. |
| **6.** | **Applied Zoology** | Applied zoology is the science of utilizations of animals for the welfare of human beings. In this course students would able to understand the utility of animals, farming of animals and how animals are exploited for human welfare. The study of applied zoology comprises of different types of animals like marine, forest, dairy and poultry. |

**Practical (Lab):-**

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| **Sl. No.** | **Core Papers** | **Particulars** |
| **1.** | **Animal Diversity** | Students would perform basic experiments related to diversity of animals from lower to higher according to their body organization, freshwater sampling method, their habit and habitat, classification, using mounting techniques and as preserved specimens. |
| **2.** | **Comparative anatomy and Developmental biology of Vertebrates** | Students would gain practical knowledge about morphological and anatomical comparison between the animals from Pisces to Mammals along with the study of developmental stages through whole mount and sections through permanent slides, study of different types placenta and examination of gametes by histological sections through permanent slides or photomicrographs. |
| **3.** | **Physiology and Biochemistry** | Students would gain practical knowledge about the structure and function of Mammalian heart, nephron, and neuron. They would also learn about experimental Physiology and Biochemistry, study of activity of digestive enzymes, metabolic phases, study of histological slides of endocrine glands and endocrine diseases. |
| **4.** | **Genetics and evolutionary Biology** | The practical knowledge of Genetics including Mendel’s laws, lethal and Multiple allele, sex linked inheritance, linkages, Gen mapping, Pedigree analysis would support students to know about heredity and disorders of life similarly Theories and Evidences of evolution and Natural selection supports the continuity of life with constant modification. |
| **5.** | **Animal Behaviour and Ecology** | The course structure includes innate and learned behaviour of different animals, their basic respond towards biological rhythms. Similarly biogeochemical cycles, biotic and abiotic factors and ecological niche supports to understand the ecology of earth. |
| **6..** | **Applied Zoology** | In this course students would be able to understand Basic experiments of animal culture, their commercial level production, life history of various pest (Food grain and household) poultry and fish farming. |

**Skill Enhancement Courses:**

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| **Sl. No.** | **SEC Papers** | **Particulars** |
| **1.** | **Apiculture** | The students would gain the knowledge of domestification of honey bees for the collecting honey, bee wax and pollen. Apiculture supplies bee venom for pharmaceutical industry. This process is a profitable rural and an agro based industry. It also helps research institute to study about behavior of bees. |
| **2.** | **Public Health and Hygiene** | Students would learn about nutrition and health, Environment and Health hazards, communicable and non communicable diseases and their control with mental ill-health. |

**Program Specific Outcomes (PSO)**

**B. Sc. Zoology**

**PROGRAMME SPECIFIC OUTCOMES: This undergraduate course in Zoology would provide the opportunity to the students:**

To understand the basic Principles and explore the fundamental concepts of Zoology:-

* + To understand the concepts and significance of the various Zoological phenomena.
  + To carry out experiments to understand the Principle and concepts of Zoology.
  + To apply the theories learnt and the skills acquired to solve real time problems.
  + To understand the basic life phenomena from primitive to most advance form of life with pedigree analysis.
  + To enhance the student’s academic abilities, personal qualities and transferable skills this will give them an opportunity to develop as responsible citizens.
  + To produce graduates who excel in the competencies and values required for leadership to serve a rapidly evolving global community.
  + To motivate the students to pursue PG courses and research in reputed institutions.
  + This course introduces students to the methods of experimental Zoology. Emphasis will be given on cellular and Molecular based study.
  + Providing expertise on understanding the diversity of animals from taxonomic to applied science.