

**SVRK GOVERNMENT DEGREE COLLEGE**

**NIDADAVOLE, WG Dt.**

**ZOOLOGY COURSE OUTCOMES**

The study of Zoology has the following outcomes:

**ZOOLOGY – SEMESTER I**

**PAPER – I: ANIMAL DIVERSITY – BIOLOGY OF NONCHORDATES**

Course Outcomes: By the completion of the course the graduate is able to –

**CO1** Describe general taxonomic rules on animal classification

**CO2** Classify Protozoa to Coelenterata with taxonomic keys

**CO3** Classify Phylum Platyhelminthes to Annelida phylum using examples from parasitic adaptation and vermin composting

**CO4** Describe Phylum Arthropoda to Mollusca using examples and importance of insects and Molluscans

**CO5** Describe Echinodermata to Hemi chordata with suitable examples and larval stages in relation to the phylogeny

**CO6** Describe various systems and their function in animals that belong to non chordates

**ZOOLOGY – SEMESTER II**

**PAPER – II: ANIMAL DIVERSITY – CHORDATES**

**Course Outcomes:**

By the completion of the course the graduate should able to -

**CO1** Describe general taxonomic rules on animal classification of chordates

**CO2** Classify Protochordata to Mammalia with taxonomic keys

**CO3** Understand Mammals with specific structural adaptations

**CO4** Understand the significance of dentition and evolutionary significance

**CO5** Understand the origin and evolutionary relationship of different phyla from Prochordata to mammalia.

**ZOOLOGY – SEMESTER III**

**PAPER – III: CELL BIOLOGY, GENETICS, AND EVOLUTION**

This course will provide students with a deep knowledge in Cell Biology, Genetics and Evolution and by the completion of the course the graduate shall able to –

**CO1** To understand the basic unit of the living organisms and to differentiate the organisms by their cell structure.

**CO2** Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cell.

**CO3** To understand the history of origin of branch of genetics, gain knowledge on heredity, interaction of genes, various types of inheritance patterns existing in animals

**CO4** Acquiring in-depth knowledge on various of aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders

**CO5** Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins.

**CO6** Understand the principles and forces of evolution of life on earth, the process of evolution of new species and apply the same to develop new and advanced varieties of animals for the benefit of the society

## **ZOOLOGY – SEMESTER IV**

Paper – Iv: Embryology Physiology, and Ecology

### **Course Outcomes:**

This course will provide students with a deep knowledge in Embryology Physiology, and Ecology and by the completion of the course the graduate shall able to –

**CO1** Understand the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems.

**CO2** Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with a special knowledge of hormonal control of human reproduction.

**CO3** Describe the structure, classification and chemistry of biomolecules and enzymes responsible for sustenance of life in living organisms

**CO4** Develop broad understanding about the basic principles of Ecology

**CO5** Describe the key events in early embryonic development starting from the formation of gametes upto gastrulation and formation of primary germ layers.

## **ZOOLOGY – SEMESTER V**

Paper – V: ANIMAL BIOTECHNOLOGY

### **Course Outcomes:**

- CO1** Understand the the tools of Recombinant DNA technology.
- CO2** Understand the basics of PCR, DNA sequencing
- CO3** Describes reproductive technologies and Transgenic animals
- CO4** Develop broadunderstanding about the process and applications of fermentation
- CO5** Understands the applications of Biotechnology.

## **ZOOLOGY – SEMESTER V**

Paper – VI: ANIMALHUSBANDRY

### **Course Outcomes:**

- CO1** Understand the principles of Poultryfarming and management of chicks
- CO2** Understand the basics of poultry feed management
- CO3** Describes various Bacterial and Viral diseases of poultry
- CO4** Developes clear knowledge of Breeds of diary cattle and buffaloes
- CO5** Gains knowledge of care and management of diary animals.

## **ZOOLOGY – SEMESTER VI**

Paper – VII: IMMUNOLOGY

- CO1** Understand the types of Immunity and various types of cells and organs that participate in immunological reactions.
- CO2** Understand basic properties of antigens and factors influencing immunogenecity.
- CO3** Describe the structure, classification and and functions of antibodies
- CO4** Develop broadunderstanding about MHCs and properties of cytokines
- CO5** understand types of vacciens and vaccination.

## **ZOOLOGY – SEMESTER VI**

### **Cluster Elective Paper – VIII**

#### **Aquaculture**

The main objective to introduce Aquaculture technology as job or market oriented course is to impart knowledge and skills for empowering the existing undergraduate B.Sc. programs and to make them ready for jobs through involvement of industry from the beginning.

#### **COURSE OUTCOMES**

**CO1:** Learn about the concept of Blue Revolution, types of aquaculture systems and scope of Aquaculture at Global, India and Andhra Level.

**CO2:** Understand the concepts of Ecology, and nutrient cycles in culture ponds.

**CO3:** Acquire knowledge of different types of ponds and their functional classification.

**CO4:** Understand the Important factors involved in construction of ideal fish pond.

**CO5:** Understand the characters and classification of cultivable Fin and Shell fish and commercial importance of crustaceans, Molluscs and Fish.

**CO6:** Gain Knowledge of feeding habits, gut content analysis and growth factors in fishes.

**CO7:** Understand and learn breeding in fishes, breeding habits, method of induced breeding in fishes.

**CO8:** Understand Nutritional requirements of cultivable fishes and factors affecting energy partitioning and feeding.

**CO9:** Know different types of feed and FCR and different types of feeders.

**CO10:** Gain Knowledge of Feed manufacture and storage methods of feeds.

**CO11:** Learn the Status, Scope and Prospects of fresh water aquaculture in the world, India and AP.

**CO12:** Learn about Major Cultivable Indian Carps and Exotic fish Species introduced in India.

**CO13:** Know about recent developments in the culture of clarius, anabas and murrels and special systems of aquaculture.

**CO14:** Gain knowledge of commercially valuable Fresh water prawns of India and their culturing methods.

CO15: Learn about culturing of brackish water Prawn Species *P.mondon* and *L.vannamei* and hatchery technology's involved.

CO16: To provide students with knowledge about fish diseases and pathological aspects of diseases.

CO17: Learn about Fungal, Viral and Bacterial diseases of finfish.

CO18: Gain the Knowledge of basic concepts of economics with reference to fisheries and various factors influencing the fishery products price.

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