

## DEPARTMENT OF ZOOLOGY

### Course Objectives

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#### CORE COURSE

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#### SEM- I

##### Animal Diversity I

- a. To learn the basics of systematic and understand the hierarchy of different categories.
- b. To learn the diagnostic characters of different phyla through brief studies of examples.
- c. To obtain an overview of economically important invertebrate fauna.

#### SEM- II

##### Animal Diversity II

- a) To learn the general characteristics and classification of different classes of vertebrates.
- b) To understand the vertebrate evolutionary tree.
- c) To understand general aspects of applied interest.

#### SEM- III

##### Methodology and Perspectives of Zoology

- a) To learn the fundamental characteristics of science as a human enterprise
- b) To understand how science works
- c) To study to apply scientific methods independently

#### SEM- IV

##### Cell Biology

- a) To study the ultra-structure of prokaryotic and eukaryotic cells

#### SEM- V

##### Genetics and Biotechnology

- a) To learn the mechanism of crossing over and inheritance patterns in man.
- b) To understand the principles and techniques involved in DNA technology and get an overview of modern techniques like PCR, Hybridoma technology, gene therapy and human cloning

### **Immunology and Microbiology**

- a) To enable the student to understand the principles and mechanisms of immunology
- b) To learn the malfunctioning and disorders of the immune system
- c) To get a broad understanding of microbes and their economic importance with special reference to pathogenic forms

### **Physiology and Biological chemistry**

- a) To study the different systems and the inherent disorders/ deficiencies involved therein.
- b) To learn the structure and functions of bio-molecules and their role in metabolism

### **Public Health and Hygiene (Open course)**

- a) To learn the principles of nutrition and dietetics
- b) To understand the ill effects of modern lifestyle
- c) To study the advantages of being hygienic

## **SEM VI**

### **General Informatics, Bioinformatics and Molecular Biology**

- a) To review the basic concepts and functional knowledge in the field of informatics
- b) To create awareness about nature of the emerging digital knowledge society
- c) To create awareness about social issues and concerns in the use of digital technology
- d) To learn the nature, application and scope of Bioinformatics

### **Developmental Biology and Experimental Embryology**

- a) To study the various stages involved in the developing embryo
- b) To study the initial developmental procedures involved in Amphioxus, Frog and chick
- c) To procure information on state- of- the art experimental procedures in embryology.

### **Ecology, Ethology, Evolution and Zoogeography**

- a) To learn the principles, applications and management of environmental science.
- b) To study the inherent morphological and physiological bases of behavioral pattern exhibited by vertebrates.
- c) To get an exhaustive knowledge of organic evolution with special reference to man.

### **Economic Zoology - Vermiculture and Apiculture (Elective Course)**

- a) To learn the basic procedure and methodology of vermiculture
- b) To learn the scope and methodology of apiculture

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## **COMPLIMENTARY COURSE**

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### **SEM I**

#### **Animal Diversity I**

- a) Impart to the student a concrete idea of the evolution, hierarchy and classification of invertebrate phyla
- b) Understanding the basics of systematics by learning the diagnostic and general characters of various groups
- c) Getting an overview of typical examples in each phyla
- d) To study the economic importance of invertebrates with the special reference to insect pests

### **SEM II**

#### **Animal Diversity II**

- a) Learn the evolution, hierarchy and classification of different classes of chordates
- b) To get an overview of the morphology and physiology of typical examples.
- c) To study the adaptations and economic importance of specific vertebrates.

### **SEM III**

#### **Functional Zoology**

- a) To study the structure and function of each system in the human body.
- b) To study the etiology of common physiological disorders, syndromes and diseases.

### **SEM IV**

#### **Applied Zoology**

- a) To learn the basic principles involved in the culture and breeding of common edible and ornamental fishes of Kerala and the art of aquarium keeping.
- b) To get a basic understanding of human genomics and reproductive biology including stem cell research and prenatal diagnostic techniques