Course outcomes

Semesters	Name of Papers	Outcomes
SEM I	**ZOL-101 Paper – I (Protozoa to Annelida)** **ZOL-201 Paper – IV Arthropoda to Echinodermata** **And Protochordata**	1. Understand the evolution, history of phylum. 2. Understand about the Non Chordate animals. 3. To study the external as well as internal characters of non chordates. 4. To study the distinguishing characters of non chordates. 5. Understand the economical importance of Molluscs 6. Understand the various internal systems like Digestive system, nervous system with the help of charts. 7. Understand the functions of Gemmules and spicules. 8. Understand the economical importance of Molluscan shells. 9. To obtain an overview of economically important invertebrate fauna. 10. Impart to the student a concrete idea of the evolution, hierarchy and classification of invertebrate phyla To inculcate in the student a love and understanding of the fascinating world of invertebrates 11. Impart to the student a concrete idea of the evolution, hierarchy and classification of invertebrate phyla 12. Understanding the basics of systematic by learning the diagnostic and general characters of various groups 13. Getting an overview of typical examples in each phyla
SEM I	**ZOL-102 Paper – II Cell Biology**	1. Understand the Scope of cell biology, because cell is the basic unit of life. 2. Understand the Main distinguishing characters between prokaryotic and eukaryotic cell. 3. To study and understand the whole cell organelles with their structure and function. 4. Understand the cell cycle and know the importance of various cells in body of organism. 5. Understand the various applications of cells by using cell biology like study of various cancer tumours. 6. To prepare and observe chromosomal arrangements during cell division 7. To study chromosomal aberrations in man 8. Understand the Animal cells and various cell organelles by using microphotographs. 9. Aware the students for Cancer. 10. Understand the Tools and Techniques in cytology.
SEM II	**ZOL-202 Paper – V Genetics - I**	1. Depicting the mechanism of sex determination and dosage compensation in human and other model organisms. 2. To understand basic principles of Mendelian inheritance. 3. To study cell division & chromosome segregation 4. To acquire the chromosome structure, chromatin organization and variation. 5. To learn the concepts of Linkage concept of sex determination and sex linked inheritance. 6. To perform routine blood analysis.

SEM III	**ZOL-301 Paper – VII** **Vertebrate Zoology**	1. Understand the evolution, history of phylum. 2. Understand about the Chordate animals. 3. To study the external as well as internal characters of chordates. 4. To study the distinguishing characters of chordates. 5. Understand the various internal systems like Digestive system, nervous system etc. with the help of charts. 6. To obtain an overview of economically important vertebrate fauna. 7. Impart to the student a concrete idea of the evolution, hierarchy and classification of vertebrate phyla 8. To inculcate in the student a love and understanding of the fascinating world of vertebrates 9. Impart to the student a concrete idea of the evolution, hierarchy and classification of vertebrate phyla 10. Understanding the basics of systematic by learning the diagnostic and general characters of various groups 11. Getting an overview of typical examples in each phyla
SEM III	**ZOL-302 Paper – VIII** **Genetics- II**	1. To educate the students on the underlying genetic mechanism operating in man and state of the art bio-techniques 2. To learn the mechanism of crossing over and inheritance patterns in man. 3. Evolution of the concept of the gene and fine structure of gene. 4. To understand the principles and techniques involved in DNA technology. 5. Strengthening of genetics and cytogenetics principle in light of advancements in understanding human genome and genomes of other model organisms. 6. Description of expression of genome revealing multiple levels of regulation and strategies to manipulate the same in the benefit of the mankind. 7. Imparting knowledge regarding gene mutation, types of gene mutations, methods for detectionof induced mutations. 8. To study the structure of population
SEM IV	**ZOL-401 Paper – XI** **Animal Physiology** **(Special Emphasis On animals)**	1. To understand Reproductive organ: male and female gonads, duct systems and sex accessories, external sexual dimorphisms 2. Understand the Reproductive patterns: Environmental factors and breeding, continuous and seasonal breeders. 3. Understand the Sexual cycles: puberty, oestrous and menstrual cycles. 4. Ovarian event: follicular phase, cycling of non-pregnant uterus and vagina. 5. To understands Pregnancy: conception and blastocyst formation, implantation and delayed implantation, placenta: formation, types and functions, hormones in pregnancy.
SEM.IV	**ZOL-402 Paper – XII** **Biochemistry & Endocrinology**	1. To learn the structure and functions of bio-molecules and their role in metabolism 2. Understand the structure and function of carbohydrate, amino acids, proteins, and lipids. 3. Understand the concept Enzymes and also Vitamins and minerals.

		4. Understand the Principle role of Vitamins in metabolism and deficiency diseases. 5. To improve the student's perspective of health and biology through in-depth study of human Physiology 6. Describe the structure of the major human organ and Explain their role in the maintenance of healthy individuals. 7. Explain the interplay between different organ system & how organs & cells interact to maintain biological equilibria in changing environment
SEM V	**ZOL-501 Paper –XV Ecology**	1. Know the biotic and abiotic components of ecosystem. 2. Food chain & food web in ecosystem. 3. Understand diversity among various groups of animal kingdom. 4. Understand Animal community & ecological adaptation in animals. 5. To understand Scope , importance and management of biodiversity 6. Understand the Population and community ecology, wetland forest and their conservation. 7. Appreciate concepts and method from ecological and physical science and their application in environmental problem solving. 8. Be able to collect and analyse environmental sample, perform statistical analysis of data and interpretation and presentation of research results 9. Knowledge of chemical properties of different compound and a bilogical effects and important cycles, understanding environmental pollution and toxicology
SEM V	**ZOL-502 Pape XVI** **(Elective)** **Entomology I**	1. To understand the origin, evolution and inter relationship of insects with other arthropods. 2. To understand classification and phylogeny of Apterygotes, Exopterygote and Endopterygote insects. 3. To understand the comparative and histological studies of systems such as digestive, respiratory, nervous, circulatory, excretory and reproductive system. 4. To understand Integument and its derivatives. 5. Understand the Studies of the following systems: Digestive, reproduction, nervous co-ordination 6. To understand Light and sound producing organ. 7. To understands Integument: Structure, Chemistry, sclerotization, functions. 8. Ventilators mechanisms and their control.
SEM VI	**ZOL-601 Paper XIX Evolution**	1. To understand Origin of life with respect to prokyariotic and eukaryotic cells. 2. Understand the evidences of organic evolution by anatomical embryological list, paleontological, physiological, genetics and molecular biology evidences. 3. Understand theories of organic evolution, isolation, and speciation. 4. Understand geological time scale, methods and classification of animal distribution and factors affecting animal distribution 5. To create a deep understanding of how evolution worked and general knowledge about the how evolution works. 6. To introduce the student major principles of evolutionary theory and origin of life.
SEM VI	**ZOL-602 Paper XX Entomology II**	1. Understand the fundamentals of agricultural, forest, medical and veterinary entomology. 2. Understand Morphology and Anatomy of Insects. 3. Understand intra specific and inter specific relationships among insects. 4. To understand significance of beneficial and harmful insects with

		5. Reference to their habit and habitat, life cycle, diseases caused by them and their control measures.