BSC HONOURS ZOOLOGY

COURSE OUTCOMES

I SEMESTER

COURSE-1,

INTRODUCTION TO CLASSICAL BIOLOGY

1. Learn the principles of classification and preservation of biodiversity

2. Understand the plant anatomical, physiological and reproductive processes.

.3. Knowledge on animal classification, physiology, embryonic development and their economic importance

4. Outline the cell components, cell processes like cell division, heredity and molecular processes.

5. Comprehend the chemical principles in shaping and driving the macromolecules and life processes

COURSE-1,

INTRODUCTION TO APPLIED BIOLOGY

1. Learn the history, ultrastructure, diversity and importance of microorganisms

2. . Understand the structure and functions of macromolecules.
3. 3. Knowledge on biotechnology principles and its applications in food and medicine.
4. 4. Outline the techniques, tools and their uses in diagnosis and therapy.
5. Demonstrate the bioinformatics and statistical tools in comprehending the complex biological data.

II SEMESTER

COURSE-3

ANIMAL DIVERSITY-1 BIOLOGY OF NON –CHORDATES

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

- Describe concept of animal kingdom classification and general characters of Protozoa
- Classify Porifera and Coelenterata with taxonomic keys
- Classify Phylum Platy & Nemathelminthes using examples, parasitic adaptation
- Describe Phylum Annelida & Arthropoda using examples and economic importance of vermicomposting & economic importance of insects.
- Describe Mollusca, Echinodermata & Hemi chordata with suitable examples in relation to the phylogeny

COURSE -4

CELL & MOLECULAR BIOLOGY

The overall course outcome is that the student shall develop deeper understanding of what life is and how it functions at cellular level. This course will provide students with a deep knowledge in Cell and molecular biology by the completion of the course the graduate shall able to –

- Understand the basic unit of the living organisms and to differentiate the organisms by their cell structure.
- Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cell.
- Explain the cell cycle and bioenergetics of the cell
- Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins
- Understand the gene expression phenomenon and biological importance of biomolecules

III SEMESTER

COURSE-5

ANIMAL DIVERSITY-II BIOLOGY OF CHORDATES

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

- Describe general taxonomic rules on animal classification of chordates
- Classify Protochordata to Mammalia with taxonomic keys
- Understand Mammals with specific structural adaptations
- Understand the significance of dentition and evolutionary significance
- Understand the origin and evolutionary relationship of different phyla from Prochordata to Mammalia.

COURSE- 6

PRINCIPLES OF GENETICS

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

- To understand the history of genetics, gain knowledge basic terminology of genetics
- To acquire knowledge on interaction of genes, various types of inheritance patterns existing in animals with reference to non-Mendelian inheritance.
- To acquire knowledge on chromosomal inheritance
- Acquiring in-depth knowledge on various of aspects of genetics involved in sex determination,
- Acquiring in-depth knowledge on human karyotyping, pedigree analysis and chromosomal disorders concepts of proteomics and genomics.

COURSE-7

ANIMAL BIOTECHNOLOGY

This course will provide students with a deep knowledge in animal biotechnology, by the completion of the course the graduate shall able to –

- Get knowledge of the Vectors and Restriction enzymes used in biotechnology
- Describe the gene delivery mechanism and PCR technique
- Acquire basic knowledge on media preparation and cell culture techniques
- Understand the manipulation of reproduction with the application of biotechnology
- Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering.

COURSE-8

EVOLUTION AND ZOOGEOGRAPHY

The overall course outcome is that the student shall develop deeper understanding of what life is and how it functions at cellular level. This course will provide students with a deep knowledge in Evolution and zoo geography, by the completion of the course the graduate shall able to –

- 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
- Explain the different evidences of evolution
- Understand the theories of evolution
- Explain the various tools for evolution
- Map the distribution of animals according to zoological realms

IV SEMESTER

COURSE-9

EMBRYOLOGY

The overall course outcome is that the student shall develop deeper understanding of concepts of embryology. This course will provide students with a deep knowledge in embryology by the completion of the course the graduate shall able to –

- Understand the historical perspective and concepts of embryology
- Acquire knowledge on gametogenesis, fertilization and cleavage patterns
- Understand the fate of germinal layers and extraembryonic membranes
- Explain the process of regeneration in certain animals
- Examine the process of organogenesis

COURSE-10

ANIMSAL PHYSYLOGY ; LIFE SUSSTANING SYSTEMS

The overall course outcome is that the student shall develop deeper understanding of concepts of Physiology. This course will provide students with a deep knowledge in physiology by the completion of the course the graduate shall able to –

- Understand the physiology of digestion and hormonal control of digestion
- Develop a comprehensive picture of respiratory physiology
- Acquire knowledge on the Renal physiology
- Understand the physiology of Nerve and muscle
- Understand the physiology of heart.

COURES-11

IMMUNOLOGY

The overall course outcome is that the student shall develop deeper understanding of concepts of immunology. This course will provide students with a deep knowledge in immunology by the completion of the course the graduate shall able to –

- Articulate the roles of innate recognition receptors in immune responses
- Compare and contrast humoral versus cell-mediated immune responses
- Distinguish various cell types involved in immune responses and associated functions;
- Distinguish and characterize antibody isotypes, development, and functions
- Understand the role of cytokines in immunity and immune cell activation;
- Understand the significance the Major Histocompatibility Complex in terms of immune response and transplantation.

V SEMESTER

COURSE-12

POULTRY MANAGEMENT-1 POULTRY FARMING

Students at the successful completion of the course will be able to • Evaluate the status of Indian Poultry Industry.

- Explain the Scientific Poultry keeping.
- Compare the diversified Poultry practices.
- Inspect the different breeds of chicken

On successful completion of this practical course, student shall be able to:

- Identify different types of Poultry rearing practices.
- Evaluate the efficacy of different types of poultry practices in maximizing yield.
- Understand the importance of different hybrid breeds in poultry

COURSE.-13

POULTRY MANAGEMENT-11

(POULITY PRODUCTION AND MANEGEMENT

Students at the successful completion of the course will be able to.

- Suggest measure for Health care in Poultry.
- Evaluate the economics of poultry production
- Elaborate the poultry Breeder flock management.
- Differentiate the poultry hatchery practice

COURSE-14

A SUSTAINABLE AQUACULTURE MANEGEMENT

Students at the successful completion of this course will be able to

- Evaluate the present status of aquaculture at the Global level and National level.
- Classify different types of ponds used in aquaculture.
- Demonstrate induced breeding of carps.
- Acquire critical knowledge on commercial importance of shrimps.
- Identify fin and shell fish diseases.

COURSE-14A

SUSTAINABLE AQUACULTURE MANAGEMENT

On successful completion of this practical course, student shall be able to:

- Identify the characters of Fresh water cultivable species.
- Estimate physico chemical characteristics of water used for aquaculture.
- Examine the diseases of fin and shell fish.
- Suggest measures to prevent diseases in aquaculture.

COURSE-14 B

LIVE STOCK MANAGEMENT-1

(BIOLOGY OF DAILY ANIMALS)

Students at the successful completion of the course will be able to • Select the suitable breeds of livestock for rearing

- Relate the anatomy of udder with let-down of milk
- Identify and manipulate the reproductive behaviour of cattle
- Inspect economics of dairy farming
- Apprise the various breeding techniques employed in livestock
- Differentiate the merits and demerits of cross breeds in cattle

COURSE-15A

POTHARVEST TECHNOLOHY OF FISH AND FISHERISE

Students at the successful completion of this course will be able to

- Identify the types of preservation methods employed in aquaculture
- Choose the suitable Processing methods in aquaculture
- Maintain the standard quality control protocols laid down in aqua industry
- Identify the best Seafood quality assurance system

On successful completion of this practical course, student shall be able to:

- Identify the quality of aqua processed products.
- Determine the quality of fishery by products by observation.
- Analyse the protocols of aqua processing methods

COURSE 15 B

LIVE STICK MANAGEMENT-11

(DAILY PRODUCTION AND MANAGEMENT)

Students at the successful completion of the course will be able to • Identify and suggest the suitable housing system for the dairy farming.

- Understand management practices for the dairy farming.
- Learn the process of milk pasteurization.
- Prepare cream from milk.

On successful completion of this practical course, student shall be able to:

- Design a model dairy farm layout
- Understand procedure of milk pasteurization at milk processing centres .
- Identify various important management practices in dairy farming.