

Shikshan Prasarak Sanstha's
P.V.P. Mahavidyalaya, Kavathe Mahankal
Department of Zoology

Academic year 2020-21

Vision :

The Department of Zoology is a fostering ground for an individual's comprehensive development and to inculcate fraternal spirit for scientific work & ability to pursue studies far beyond graduation and effective contribution to the society.

Mission :

- To impart knowledge is the basic aim of education. The students are expected acquire the knowledge of animal science, natural phenomenon, manipulation of environment by man.
- Understanding the scientific terms, concepts, facts, phenomenon etc.
- To develop scientific attitude which is the major objective.
- This makes the students open minded, critical observations, curiosity, thinking etc.
- Abilities to apply scientific methods, collection of scientific data, problem solving, organize science exhibitions, clubs etc.
- Appreciation of the subject, contributions of scientists, scientific methods, scientific programs etc.
- To bring about an awareness of health related problems, its prevention and cure.

Programme Outcome (Pos):

After graduating with a degree in Zoology, the students can venture into different fields and can make a career:

PO 1:	Research in different fields of Cell-Biology, Genetics, Physiology, Entomology, Marine Sciences, Food Technology
PO 2:	Forensic Sciences and Forestry
PO 3:	Agrochemicals and Pest Management
PO 4:	Environmental Management and Masters in Business Administration Can become an Entrepreneur in applied sciences
PO 5:	Professional field such as Poultry, Sericulture, Apiculture, Pisci culture, Dairy so on

Programme Specific Outcomes (PSOs):

After graduating with a degree in Zoology, the students can venture into different fields and can make a career:

PSO 1:	Develop insight and improve their analytical and practical knowledge in various aspects of Life Science, Genetics, Molecular Biology, Physiology, Applied Zoology, Embryology, Evolution, Biochemistry Applied Branches and Health
PSO 2:	Acquire vast knowledge in various branches and its application biological sciences such as biochemistry, apiculture, poultry, Fishery, Goat farming, Agriculture, Vermiculture
PSO 3:	To identify the scientific facts behind every natural phenomenon
PSO 4:	Gain knowledge and handling in sophisticated equipment's
PSO 10:	Understanding the morphology and functional characteristics at cellular and sub-cellular (molecular) level

Course Outcomes (Cos)

B.Sc –I (Sem- I) Zoology

Course 1: Paper I- DSC – 110 A (Animal Diversity-I)

CO 1.1	Theory and practical papers touch upon systematics, animal diversity from phyla from Protista to Annelida. and will enhance in understanding the usefulness of systematic in the identification, nomenclature and classification of animal diversity.
CO 1.2	Imparting knowledge of five kingdom classification system and biodiversity related to non-chordates from Protista to Echinodermata

B.Sc –I (Sem- I) Zoology

Course 2: Paper II- Paper-II- DSC – 16 A (Animal Physiology)

CO 2.1	Students will be able to understand the working of nerve cell and its signaling, mechanism of muscle contraction and relaxation
CO 2.2	Student will be able to understand importance of respiratory gases and mechanisms of transportation, Structure and function of kidney and heart.
CO 2.3	Student will be able to understand the types of blood and its function.

B.Sc –I Zoology (Sem-II)**Course 3: Paper-III - DSC – 110 B (Cell Biology and Evolutionary Biology)**

CO 3.1	Students would have a deeper insights into the structure and functions of a living cells, deeper knowledge of cell theory, difference between prokaryotes and eukaryotes and to understand the importance and functions of cell organelle.
CO 3.2	Understanding the evidences of evolution like fossils, connecting links and living fossils and its importance.
CO 3.3	Students will be understand the Lamarckism and Darwinism to understand different changes occurs during the evolution of earth.

B.Sc –I Zoology (Sem-II)**Course 4: Paper-IV- DSC – 16 B (Genetics)**

CO 4.1	students would have a deeper insights into the understanding concepts like of inheritance, Mendelian genetics
CO 4.2	understanding the divergence from Mendelism patterns of inheritance ,co-dominance, Incomplete dominance, multiple alleles and lethal genes.
CO 4.3	Students will be able to the significance of linkage, crossing over, Different types of mutations and Different types Sex determination

B.Sc –I Zoology (Sem I and Sem-II)**Course 5 : Zoology Practical Based on theory Paper DSC- 110A, B and 16 A, B**

CO 5.1	Practical papers touch upon systematics, animal diversity, phyla from Protista to Annelida and will enhance in understanding the systematic in the identification, nomenclature and knowing the actual morphological characters by observing specimen.
CO 5.2	Practical papers touch upon Insect vectors, and vector borne diseases, types of fossils Practical papers touch upon Insect vectors, and vector borne diseases, types of fossils, demonstration of rat, practical's hands on physiological and cytological practical's

B.Sc. – II Zoology (Sem-III)**Course 6: Paper V (Animal Diversity-II)**

CO 6.1	Understanding the Characters, classification and phylogenic relations among Protochordates, Agnatha, Pisces, Amphibians Reptiles, Aves and Mammals.
CO 6.2	Making aware about Venomous and non- Venomous snakes, venom and its effect, snake bite and first aid.

B.Sc. – II Zoology (Sem-III)**Course 7: Paper VI (Biochemistry)**

CO 7.1	Imparting knowledge about nucleic acids (of DNA and RNA) and enzyme nomenclature, Classification, enzyme kinetics, Inhibition, regulations and Isozymes.
CO 7.2	Student will be able to understand the different types of Protein, Lipid and carbohydrate metabolism.

B.Sc. – II Zoology (Sem-IV)**Course 8 : Paper VII: (Reproductive Biology)**

CO 8.1	Imparting knowledge of histological structures of mammalian reproductive organs
CO 8.2	Imparting knowledge of hormones
CO 8.3	Imparting knowledge of modern technique like IVF, ET, EFT, IUT, ZIFT, GIFT, ICSI, PROST

B.Sc. – II Zoology (Sem-IV)**Course 9 : Paper VIII: (Applied Zoology – I)**

CO 9.1	Students will able to understand the Transmission, Prevention and control of diseases: Tuberculosis, Typhoid.
CO 9.2	To understand the Economic importance of different insects
CO 9.3	To understand the Principles of poultry breeding, Management of breeding stock and broilers, Processing and Preservation of eggs.
CO 9.7	Imparting knowledge of some crop pests, house hold pests, store rain pests and their biological control.

B.Sc –II Zoology (Sem I and Sem-II)**Course 10 : Zoology Practical I (Paper V and VI) and Practical II (Paper VII and VIII)**

CO 10.1	Practical papers touch upon systematics, animal diversity, phyla from Hemichordata to Mammals and will enhance in understanding the systematic in the identification, nomenclature and knowing the actual morphological characters by observing specimen.
CO 10.2	Practical papers touch upon Insect vectors, and vector borne diseases, types of fossils, demonstration of rat, practical hands on physiological and cytological practical's.

B.Sc –III (Sem- V) Zoology**Course 11: Paper IX: DSE-E29 (Comparative Anatomy of Vertebrates)**

CO 11.1	Imparting knowledge of integuments and endoskeleton among the vertebrates.
CO 11.2	Imparting knowledge of basic structural and functional parts of digestive and respiratory system from lower vertebrates to higher vertebrates.
CO 11.3	Imparting knowledge of excretory and nervous system of various classes of vertebrate

B.Sc –III (Sem- V) Zoology

Course 12: Paper X: DSE-E29 (Molecular Cell Biology and Animal Biotechnology)

CO 12.1	Understanding the molecular concepts in biology
CO 12.2	Getting aware about various Animal Biotechnology.
CO 12.3	Understanding the synthesis of protein

B.Sc –III (Sem- V) Zoology

Course 13: Paper XI: DSE-F30 (Biotechniques and Biostatistics)

CO 13.1	Understanding the many biostatistics terms such as tabulation, measure of central tendency, Graphical representation of data, Dispersion and correlation
CO 13.2	Getting aware about application of biotechnology in medicine, animal husbandry and agriculture
CO 13.3	Imparting knowledge about production of cloned and transgenic animals.

B.Sc –III (Sem- V) Zoology

Course 14 : Paper XII: DSE-F31 (Aquatic biology and Endocrinology)

CO 14.1	Getting aware about environment, Understanding and getting knowledge about the aquatic biomass of various zones and biology of lakes and streams.
CO 14.2	Understanding the anatomy, histology, role, regulation and disorder various endocrine glands of human

B.Sc –III (Sem- VI) Zoology

Course 15: Paper XIII: DSE-E30 (Developmental Biology of Vertebrates)

CO 15.1	Understanding the gametogenesis and detailed development of chick upto 72 hrs.
CO 15.2	Understanding the early developmental process of frog
CO 15.3	Imparting the knowledge of placenta formation, types and its significance.

B.Sc –III (Sem- VI) Zoology

Course 16: Paper XIV: DSE-E32 (Immunology)

CO 16.1	Imparting the knowledge of immunology
CO 16.2	Understanding the cells and organs of immune system, and basic properties of antigens
CO 16.3	Students will be able understand the structure, function ,antigen – antibody interaction of and hybridoma technology.

B.Sc –III (Sem- VI) Zoology

Course 17: VI- Paper XV: DSE-E31(Applied Zoology-II)

CO 17.1	Understanding the economic importance of apiculture, Pearl culture.
CO 17.2	Imparting knowledge about animal Husbandary and goat farming
CO 17.3	Understanding the fisheries industry and economic importance of fishes and prawn culture.

B.Sc –III (Sem- VI) Zoology
Course 18: Paper XVI: DSE-F32 (Insect Vectors and Histology)

CO 18.1	Getting aware about various pathogenic insect vectors
CO 18.2	Understanding the Histological structure of mammalian organs

B.Sc –III (Sem- VI) Zoology
Course 18: Paper XVI: DSE-F32 (Insect Vectors and Histology)

CO 18.1	Getting aware about various pathogenic insect vectors
CO 18.2	Understanding the Histological structure of mammalian organs

B.Sc –III (Sem- VI) Zoology

Course 19: Zoology Practical Based on theory Papers IX to XVI

CO 19.1	Practical I: Practical papers touch upon integuments and endoskeleton, comparative study of heart, brain respiration and digestive system of lower to higher vertebrate.
CO 19.2	Imparting the knowledge of Developmental stages of frog, chick embryo, histology of placenta, study of gametes of rat and frog and preparation of W.M. of chick embryo.
CO 19.3	Practical II: Practical papers touch upon economic importance of apiculture, Pearl culture, prawn culture, animal Husbandry and goat farming.
CO 19.4	Imparting the study of lymphoid organs, histology of lymphoid organs and practicals of physiology and cell biology like study types of blood cells, determination of A, B, O blood group, cell counting and viability and demonstration of ELISA and Electrophoresis.
CO 19.5	Practical III: Practical papers touch upon preparation of permanent slides through microtechniques and study of example in biostatistics.
CO 19.6	Imparting practical's like chromatography, DNA isolation and study of techniques like PCR, DNA fingerprinting etc.
CO 19.7	Practical IV: Practical papers touch upon practical based on limnology, study of instruments used in limnology.
CO 19.8	Imparting the study of Insect vectors, Vector borne diseases and Histology of Mammalian Organs