PROGRAMME OUTCOME/ COURSE OUTCOMES
BSC PROGRAMME

Bachelor of Science offers theoretical as well as practical knowledge about different subject areas. These courses form the basis of science for coherent understanding of the academic field to pursue multi and interdisciplinary science careers in future. These subject areas include Chemistry, Botany and Zoology in B.Sc. In the three year B.Sc. program the subject of Zoology further offers a huge range of Discipline specific courses like Animal Diversity, Comparative Anatomy, Developmental biology, Physiology, Biochemistry, Genetics, Evolutionary Biology, Animal Biotechnology, Aquatic Biology, Immunology, Applied Zoology, Insect vectors, pest and diseases, Reproductive Biology etc. along with a variety of skill enhancement courses like Apiculture, Sericulture, Medical Diagnostics, Aquarium Fish Keeping and Research Methodology. The programme helps to develop scientific temper and thus prove to be more beneficial for the society as the scientific developments can make a nation or society to grow at a rapid pace through research. The programmes help the students to think critically, follow innovations and developments in science and technology.

B.Sc.Programme (COURSE OUTCOMES):
B.Sc.First year
DSC IA: ANIMAL DIVERSITY (ZOOL 101) THEORY CREDITS: 4
Students will able to describe and comprehend the vast animal diversity on earth. They will able to perceive the insight into diagnostic features of different phyla through the various aspects of physiology, morphology, habits, habitats and adaptations in non-chordates and chordates life forms. They are able to recognize the ecological role of invertebrates and vertebrates.

B.Sc.First year
DSC IA: ANIMAL DIVERSITY (ZOOL 101) PRACTICAL CREDITS:
Learner will able to identify and classify non-chordates and chordates through their distinguishing taxonomic features. Student can distinguish non poisonous and poisonous snakes through its morphological features.

B.Sc.First year
DSC IB: COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES.(ZOOL 102) THEORY CREDITS: 4
The course will help the students to learning about the organization, function and adaptive strengths and weaknesses of our own bodies, and how these traits have been shaped by our evolutionary history. At the end of the course the students will develop skills of integrative and synthetic thinking by demonstrating how to organize anatomical details into general explanations based on developmental, functional and evolutionary principles, how to draw connections between anatomical changes and how to use fundamental concepts of comparative anatomy, to construct scientific explanations and formulate new questions and lines of inquiry.

B.Sc.First year

DSC IB: COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES.(ZOOL 102) PRACTICAL CREDITS: 2

Learner will able to apply define scientific terminology used in the context of vertebrate anatomy. Compare and contrast the anatomical systems of different vertebrates and identify common traits across species and/or groups. Understand the key events in frog and chick embryology development.

B.Sc.Second year

DSC IC: PHYSIOLOGY AND BIOCHEMISTRY (ZOOL 201) CREDITS: 4

The learner will able to understand the physiology at cellular and system level. It helps the students to understand the interactions and interdependence of physiological and biochemical processes. Students are taught about detailed concepts of digestion, respiration, excretion and the functioning of nerves and muscles along with the concepts of endocrine systems and homeostasis thereby gaining fundamental knowledge of animal physiology and biochemistry.

B.Sc. Second year

DSC IC: PHYSIOLOGY AND BIOCHEMISTRY (ZOOL 201) PRACTICALCREDITS: 2

Learner will gain good experimental qualitative skills in conducting experiments, satisfactory analysis of data and interpretation of results. Practical skill promotes the ability to think laterally, in an integrating manner and develop interdisciplinary approach. Student will able to distinguish histological details about endocrine glands and vital organs of human body.

B.Sc.Second year

DSC ID: GENETICS AND EVOLUTIONARY BIOLOGY (ZOOL 202) CREDITS: 4

The student will gain comprehensive and detailed understanding of chromosomal, molecular basis of heredity. The ability to evaluate conclusions that are based on genetic data. The ability to understand the concepts of Mendelian and non Mendelian patterns of inheritance , gene mutation, sex determination, interaction of genes linkage and crossing over and results of genetic experimentation in animals. Student will able to analyze origin of life, evidences of organic evolution, animal distribution and zoogeography, evolutionary history of horse and man.

B.Sc.Second year

DSC ID: GENETICS AND EVOLUTIONARY BIOLOGY (ZOOL 202) PRACTICAL CREDITS: 2

Student will develop problem solving skills and able to identify normal and abnormal human karyotypes. Learner can distinguish different types of homologous and analogous organs, vestigial organs and evolutionary pattern in horse and man.

B.Sc.Second year

SEC I: MEDICAL DIAGNOSTICS (ZOOL 203) CREDITS: 4

Students will be introduced to diagnostics method for analysis of blood and urine. They will be able to understand causes, types, symptoms, complications, diagnosis and prevention of Infectious and non infectious diseases. They will also get a brief idea about tumours, their types and diagnostic techniques.

B.Sc.Second year

SEC II: APICULTURE (ZOOL 204) CREDITS: 4

Course will provide the education on bee improvement and to increase the public awareness about health aspects of honey and its byproducts. Student will get an insight into bee keeping tools and equipment and will learn to manage beehives for honey production; harvest and marketing. Learner perceives the knowledge about life cycle of honey bee, ecological and economical important species of honey bee for apiculture. Disease management strategies and entrepreneurship in apiculture.

B.Sc.Final year

DSE IA:

INSECT VECTORSAND DISEASES (ZOOL 302 A) CREDITS: 4

The course enhances the understanding of fundamental complement of numerous diseases which have significant impact on human health and understanding of insect vector host interactions of many important diseases like Malaria, Filaria, Dengue, Chikungunya etc. Students perceive the knowledge about the concepts of Entomology, awareness about insect vectors and precautionary measures. This will help to improve their health and hygiene practices.

B.Sc.Final year

DSE IA:

IMMUNOLOGY (ZOOL 302 A) CREDITS: 4

Learner will able to understand about principles of instruments used in cytology. Student will able to understand the importance of cell organelles and its function. The course improves the understanding about stem cells, transplantation immunology, cancer biology, provides the basic knowledge regarding immune system, types of immunity, properties of antigen antibodies and allows the student to create insight as how to improve their immune system and good health.

B.Sc.Final year

DSE IA:

IMMUNOLOGY (ZOOL 302 A) PRACTICAL CREDITS: 2

Students develop the skill of squash preparation method to study mitosis and meiosis. Permanent slide preparation techniques like double staining technique can enhance laboratory soft skills in students. Student will able to identify different types of cell organelles and blood cell types.

B.Sc.Final year

DSE IA:

APPLIED ZOOLOGY (ZOOL 302 A) CREDITS: 4

Course improves the understanding of host parasite relationship, epidemiology of diseases like rickettsia, spirochaetes, helminthes pathogenicity, Students understands about importance of transgenic animals and assisted reproductive technology. Imparts

the knowledge about silk worm rearing, mulberry cultivation, pest and diseases associated with silk worm, types of poultry breed, nutritive value of egg, poultry farming, and diseases associated with poultry fowls. The course provides the technical knowledge about dairy management. Sericulture, poultry and dairy are agro based industries in India that enables a student to get self employment.

B. Sc. Final year
DSE IA:
APPLIED ZOOLOGY (ZOOL 302 A) CREDITS: 4

Learner will able to identify different bacterial strains like *Salmonella typhi, Mycobacterium tuberculosis, Borrelia recurrentis, Treponema pallidum, Rickettsia prowazekii* and different types of helminthes worms. Course improves the understanding about identification of food fishes of Karnataka and lifecycle of Bombyx mori. Student gain the analytical skill by performing estimation of milk and lactometer test experiments. Project work will provide the ground reality knowledge about agro based industries and provides ample opportunities to interaction with farmers, enable them to get self employment.