Programme Outcomes	
At the end of the programme, student will be able to	
1	Students will be able to understand and acquire knowledge of animal diversity.
2	Students will be able to acquire the knowledge and skills of Zoology.
3	Students will develop evolutionary connections between different taxa.
4	Students will acquire the ability to conduct independent scientific investigations, interpret biological data, and apply statistical methods to solve zoological problems
5	Students will appreciate the importance of wildlife conservation, biodiversity protection and sustainable development, fostering a sense of environmental responsibility.
6	Students will be prepared for careers in education, civil services, social work, NGO, and other fields related to zoology.

Programme Specific Outcomes	
At the end of the programme, student will be able to	
1	Students will be able to understand and acquire knowledge of animal diversity.
2	Students will be able to acquire the knowledge and skills of Zoology.
3	Students will appreciate the importance of wildlife conservation, biodiversity protection and sustainable development, fostering a sense of environmental responsibility.
4	Students will be able to develop their communication skills. They will able to effectively communicate sociological ideas and research results both in orally and writing.
5	Students will be prepared for careers in education, civil services, social work, NGO, and other fields related to zoology

Course Outcomes		
Subject: Sociology		
B.sc: SEMESTER- I, III, V		
Class & Paper	**Course code & course title**	At the end of the course, student will be able to
B. Sc. I Paper - I	SZOOCT1101 Biodiversity of non-chordates.	1.Ability to understand the anatomical organization of organization of organs and systems in representative species. 2.Ability to identify and describe structure and functions of different body parts of non-chordates. 3.Student would be able to prepare temporary and permanent mounting of biological material. 4.Students would make observations of organisms in their natural environment and document them.
Practical (Based on Paper No. SZOOCT 1101)	**SZOOCP1101**	1. Ability to understand the anatomical organization of organs and systems in representative species. 2. Ability to identify and describe structure and functions of different body parts of non-chordates. 3. Students would be able to prepare temporary and permanent mountings of biological material. 4. Students would make observations of organisms in their natural environment and document them.
B.Sc. I GE	**ZOOGE1101: Animal Diversity I**	1. Distinguish between major phyla of animals through a demonstrated understanding of their taxonomic classification and diversity. 2. Describe the distinguishing characteristics of all major phyla 3. Understand the fundamental differences among animal body plans and relate them to function, taxonomic classification, and evolutionary relationships among phyla

		4. identify anatomical structures from prepared tissues
B.Sc. I **Skill Enhance ment Course**	**SZOOSC1101** B) Vermiculture & Vermicompost ing	1. Knowledge of morphology and biology of earthworms used in vermiculture. 2. Ability and skill of rearing earthworms and using them in vermicomposting. 3. Proper operating of implements and equipment used in vermicomposting.
B.Sc. II SZOOCT 1201	Animal Physiology	1. Monitor their blood pressure and identify blood groups. 2. Understand function and types of heart & circulatory system. 3. Appreciate the basic function of kidney, main function of nerves. 4. Understand the structure, development and function of reproductive organs in human.
B.Sc. II SZOOCT 1202	Biochemistry	1. Understand the chemical structure and functions of various biomolecules. 2. Learn the signaling of biomolecules in cell membrane. 3. Understand the correlation between metabolism of different types of biomolecules.
B.Sc. II Practical SZOOCP 1201	Animal Physiology	1. Students able to improve the skills in microscopy, slide preparation, observations, drawings and laboratory techniques. 2. To acquaint the students with operations of the different laboratory equipment. 3. Ability to understand the detection of blood groups of humans. 4. Ability to Understand the estimation of blood cell counts, Hemoglobin content in humans. 5. To acquaint the students with operation of clinical procedures for blood analysis
B.Sc. II Practical SZOOCP 1202	Biochemistry	1. Students able to improve the skills in laboratory techniques. 2. To acquaint the students with operations of the different laboratory equipment. 3. To acquaint the students with operation of clinical procedures for urine analysis
B.Sc. II SZOOMT 1201	Developmental Biology	1.Students learned the major stages of embryonic development, including fertilization, gastrulation, and organogenesis. 2. To explain the processes of cellular differentiation and how they contribute to the formation of tissues and organs. 3. Can able to apply principles of developmental biology to real-world problems, including the understanding of birth defects and developmental disorders. 4. Students can be able to think critically about developmental biology concepts and apply problem-solving skills to complex problems.
B.Sc. II Practical SZOOMP 1201:	Developmental Biology	1. Students will be able to describe the major stages of embryonic development, including fertilization, gastrulation, and organogenesis. 2. To explain the processes of cellular differentiation and how they contribute to the formation of tissues and organs.

		3. Ability to understand the anatomical organization of organs and systems in representative species. 4. Ability to identify and describe structure and functions of different body parts of invertebrates and vertebrates.
B.Sc. II GE SZOOGE 1201	Poultry Farming	1. Understand evaluate current status, prospects and opportunities in poultry science. 2. Understand the science and scientific methods of poultry farming and management. 3. Differentiate of poultry breeds and their importance.
B.Sc. II SEC SZOOVC 1201: (A)	Hematology	1. Ability to explain composition and functions of blood. 2. Knowledge about compounds used in processing and storage of blood. 3. Skill to be able to use different techniques used in study of blood cells. 4. Ability to collect, preserve and analyze blood samples. 5. Knowledge of changes in blood composition in disease.
B.Sc. III Paper-XII -	Ecology & Zoo-geography	1. Understand and appreciate interactions of organisms with environment and the ecosystem dynamics. 2. Awareness of current environmental issues, and understanding of relation between structure and function of ecosystems. 3. Knowledge of local and geographical distribution and abundance of organisms. 4. Develop an appreciation of scope of modern scientific inquiry in the field of Ecology. 5. Study structural and functional adaptations of organisms to their environment. 6. Study conservation of natural resources and management of pollution
B.Sc. III Paper-XIII (C)-	Entomology-I (General Entomology)	1. To define general entomology and classification of insects. 2. To acquaint students with the morphology and anatomy of selected insect species. 3. To introduce students to insect biology and insect ecology. 4. To acquire knowledge of methods of insect collection, preservation and curation
B.Sc. III SEC ECZ- III (F):	VERMICULTURE AND VERMICOMPOSTING	1. Study the morphology and biology of different species of earthworms used in vermiculture. 2. Acquire knowledge and skill of rearing earthworms and using them in vermicomposting at different scales and under different culture conditions. 3. Train in the operation and use of implements and equipment used in vermicomposting
BA: SEMESTER- II, IV, VI		
Class & Paper	**Course code & course title**	**At the end of the course, student will be able to**
B.Sc. I SZOOCT 1151	Biodiversity of Chordates	1. The student will be able to identify and understand the Biodiversity of Chordates. 2. Ability to understand anatomical relation between different vertebrate classes. 3. The learner will be able to understand the economic importance of Chordates.

B.Sc. I Practical SZOOCP 1151	Biodiversity of Chordates (Based on Paper No. SZOOCT1151)	1. Ability to understand the anatomical organization of organs and systems in representative species. 2. Ability to identify and describe structure and functions of different body parts of vertebrates. 3. Students would be able to prepare temporary and permanent mountings of biological material. 4. Students would be able to relate different bones and be able to articulate them to form an skeleton. 5 Students would make observations of organisms in their natural environment and document them
B.Sc. I GE SZOOGE 1151:	Animal Diversity - II	Upon completion of the course, students will be able to: 1. Distinguish between major phyla of animals through a demonstrated understanding of their taxonomic classification and diversity. 2. Describe the distinguishing characteristics of all major phyla. 3. Understand the fundamental differences among animal body plans and relate them to function, taxonomic classification, and evolutionary relationships among phyla. 4. Illustrate lifecycles, structure, function and reasons for importance of few representative organisms from different groups of animals. 5. Identify anatomical structures from prepared tissues. 6. Observe living animals in the environment and relate observations to theory from the course. 7. Recognize major animal phyla and animals on the basis of their external characteristics.
B.Sc. I SZOOSC 1151:	(C) Aquarium Keeping	1. Describe different types of aquariums and raw material used to fabricate them. 2. Ability to properly handle material and accessories for aquarium fabrication and installation. 3. Identify water parameters and adjust them to normal conditions
B.Sc. II SZOOCT 1251:	Cell Biology and Genetics	On successful completion of the course, the students will be able to 1. Understand the structure and function of the cell as the fundamentals for understanding the functioning of all living organisms. 2. Understand structures and various cellular functions associated with the macromolecules found in cells. 3. Acquire knowledge of Mendelian Genetics and its Extension. 4. Graduates will be able to explain and interpret various processes, phenomena, states and evolutionary tendencies at a biological system level.

B.Sc. II SZOOCT 1252:	Evolutionary Biology & Genetic Engineering	On successful completion of the course, the students will be able to 1. Distinguish between key evolutionary theories (Lamarckism, Darwinism, etc.) through a demonstrated understanding of their principles. 2. Describe the mechanisms of natural selection, genetic drift, and speciation in evolutionary processes. 3. Understand the biological species concept, Hardy-Weinberg Principle, and adaptive radiation in the context of evolution. 4. Explain the foundational concepts of genetic engineering and its significance. 5. Illustrate the structure, types, and functions of DNA and RNA, along with the genetic code's role. 6. Comprehend the principles of recombinant DNA technology, including enzymes, vectors, and techniques like PCR and blotting. 7. Recognize the concepts behind CRISPR-Cas9, transgenesis, and cloning and their theoretical applications. 8. Describe the construction of recombinant DNA, cDNA/genomic libraries, and DNA fingerprinting applications.
B.Sc. II Practical SZOOCP 1251:	Cell Biology and Genetics (Based on Paper No. SZOOCT1251)	1. Students would be able to prepare temporary squash preparations of onion root tips for mitosis. 2. Demonstrate the genetic traits in Man. 3. Ability to culture Drosophila flies in the laboratory. 4. Ability for mounting of salivary glands of Drosophila larva
B.Sc. II Practical SZOOCP 1252	Evolutionary Biology and Genetic Engineering (Based on Paper No. SZOOCT1252)	Upon completion of the course, students will be able to: 1. Analyze morphological, anatomical, and fossil evidences of evolution using charts, models, and specimens. 2. Calculate allele and genotype frequencies in a population using Hardy-Weinberg Principle. 3. Perform molecular techniques like DNA estimation, study principles and applications of gel electrophoresis, PCR, and RT-PCR. 4. Explain cloning and transgenesis through the case study of Dolly the sheep and transgenic animals. 5. Understand principle of DNA fingerprinting and its applications in forensic science and evolutionary studies. 6. Assess the impact of mass extinctions on biodiversity through case studies. 7. Observe evolutionary specimens through field excursions and museum visits.

B.Sc. II SZOOMT 1251	Cell Biology	1. Students will be able to understand the ultrastructure of the cell, cell membrane and cell organelles. 2. The students will be able to understand the details of the cell cycle, cell division and chromosomes. 3. Students will acquire knowledge of the cell with a molecular level.
B.Sc. II Practical SZOOMP 1251:	cell Biology (Based on Paper No. SZOOMT1251)	1. Students would be able to prepare temporary squash preparations of onion root tips for mitosis. 2. Students will able to describe, sketch, analyze, and explain the structure and function of the cell organelles. 3. Students could describe, sketch, analyze, and explain the structure and function of nucleus and chromatin structure, its location. 4. Students will able to describe, sketch, analyze, and explain the basic principle of life. 5. They could also demonstrate and explain how a cell divides leading to the growth of an organism. 6. Students will able to describe, sketch, analyze, and explain the abnormality in structural and functional aspects of cells. 7. Students will able handle and use microscopes and camera Lucida
B.Sc. II SZOOGE 1251:	Goat Farming	1. Understand evaluate current status, prospects and opportunities in goat farming. 2. Will be able to understand the science and scientific methods of goat farming and management. 3. Able to start their own business. 4. He can also guide the newly entered in goat farming business
B.Sc. II SZOOVC 1251 - VCZ- II	D) Medical Lab Techniques	1. Students will be able to describe laboratory safety protocols and regulations, including biosafety and biohazard handling. 2. To explain the principles of laboratory testing, including specimen collection, processing, and analysis. 3. To analyze and interpret laboratory results, including quality control and quality assurance. 4. To pursue ongoing education and professional development, including staying current with advances in medical laboratory technology
B.Sc. III Paper: Paper- XIV-	Ethology, Biometry and Bioinformatics	1. To study the behavior of organism in nature; and generate interest in complexities of ethology. 2. To understand the basic concepts and techniques of Biometry. 3. To get acquainted with and apply the fundamentals of statistical methods. 4. To give students an introduction to the basic practical techniques of bioinformatics.

		5. To study the application of biological databases for problem solving in research
B.Sc. III Paper: Paper-XV	(C)-Entomology-II (Applied Entomology)	1. To acquire knowledge of ecology and biology of insects of medical and agricultural importance. 2. To study the different beneficial and harmful insect species. 3. Understand insect pest management techniques like cultural, physical, Biological, chemical, IPM etc. 4. To study various types of insecticides and problems associated with their use. 5. To acquire knowledge and skill of application of insecticides & maintenance of pest control equipment
B.Sc. III Paper-XVI -	Paper- XVI - Ecology, Zoo-geography, Ethology, Biometry and Bioinformatics	1. Assimilate skills of water testing and analysis. 2. Study adaptations of animals to different ecological and zoo-geographic conditions. 3. Study animal responses to different environmental signals. 4. Learn different techniques to analyze data using a computer. 5. Explore different online biological databases and download biological information
B.Sc. III Paper-XVII-	Entomology {XVII (C)}	1. Demonstrate awareness of, and skill to identify, classify and describe anatomical parts, organ systems and morphology of insects. 2. Explain the different methods of collection, preservation and curating of insect's specimens. 3. Ability to handle equipment and other tools used in chemical and biological control of insect pests
B.Sc. III SECZ – IV (H):	SERICULTUR	1. Study the cultivation of mulberry plant, silk worm; identify and manage mulberry diseases. 2. Acquire skill to carry out silk worm rearing and post-cocoon processing. 3. Study silkworm diseases, their control and prevention.