Course Outcomes
Class: F.Y.B. Sc. Zoology under NEP 2020
Semester I
Core Course 01: DIVERSITY IN NON-CHORDATES

CO1	Learners will be able to comprehend the diversity of animals.
CO2	Learners will be able to understand the importance of classification.
CO3	Learners develop insight of particular group and type study.

Skill Enhancement Course 1
ORNAMENTAL FISH BREEDING USC1ZOSEC1

CO1	Students will be able to define ornamental fishery, explain its economic and ecological importance, and identify various types of ornamental fish.
CO2	Students will demonstrate knowledge of breeding techniques, including spawning methods and larval rearing, and apply management practices for maintaining healthy fish populations and optimizing farm productivity.
CO3	Students will gain hands-on experience in designing, building, and maintaining aquariums, including knowledge of water quality management, filtration systems, and the selection of suitable aquatic plants and decorations.

Semester II
Core Course 02: DIVERSITY IN CHORDATES

CO1	Learners will be able to comprehend the diversity of animals.
CO2	Learners will be able to understand the importance of classification.
CO3	Learners develop insight of particular group and type study.

Skill Enhancement Course 2
SERICULTURE (USC2ZOSEC2)

CO1	Students will be able to articulate the definition and history of sericulture, describe significant milestones in its development, and evaluate its current global and national status, including economic and cultural impacts.
CO2	Students will demonstrate the ability to select suitable mulberry varieties, plan and establish efficient mulberry gardens, and manage the rearing process to optimize silk production.
CO3	Students will gain practical skills by examining non-mulberry plants, understanding the anatomy of silkworms, using rearing appliances, and applying their knowledge in real-world settings through field visits to sericulture centers.

Course Outcomes
Class: S.Y.B. Sc. Zoology under NEP 2020
Semester III

Core Course 05: MOLECULAR BIOLOGY

CO1	Demonstrate an ability to describe the structure and functions of DNA and RNA.
CO2	Exhibit proficiency in demonstrated by their ability to explain the mechanisms of transcription and translation.
CO3	Illustrated by their ability to describe splicing mechanisms and the roles of regulatory RNAs

Core Course 06: ANIMAL PHYSIOLOGY

CO1	Learner would be able to correlate the habit and habitat with nutritional, excretory and osmoregulatory structures.
CO2	Learner will be able to correlate the habit and habitat of animals with respiratory and circulatory organs.
CO3	Learner would understand the process of control and coordination by nervous and endocrine regulation, locomotory structures found in the animal kingdom and acquainted with various reproductive strategies present in animals.

Vocational Skilled Course (VSC)
BIODIVERSITY CONSERVATION

CO1	Students will be able to articulate the definition and history of sericulture, describe significant milestones in its development, and evaluate its current global and national status, including economic and cultural impacts.
CO2	Students will demonstrate the ability to select suitable mulberry varieties, plan and establish efficient mulberry gardens, and manage the rearing process to optimize silk production.
CO3	Students will gain practical skills by examining non-mulberry plants, understanding the anatomy of silkworms, using rearing appliances, and applying their knowledge in real-world settings through field visits to sericulture centers.

MINOR COURSE
WONDERS OF THE ANIMAL WORLD

CO1	Able to identify and explain various extraordinary adaptations found in animals, such as extreme morphologies, behavioral strategies, and mimicry techniques.
CO2	Develop the ability to critically analyze the mechanisms of mimicry and camouflage in animals.
CO3	Gain a heightened awareness of the ethical implications of studying and appreciating animal wonders, fostering a sense of responsibility towards conservation and ethical treatment of animal.

OPEN ELECTIVES COURSE:
BIOMIMICRY: INNOVATION INSPIRING INDUSTRIES

CO1	Demonstrate a comprehensive understanding of the principles and applications of biomimicry.
CO2	Identify biomimetic solutions in existing technologies and industries.
CO3	Evaluate the environmental, economic, and social impacts of biomimetic innovations.

Semester IV
Core Course 07: FOUNDATION OF EVOLUTIONARY BIOLOGY AND RESEARCH ETHICS

CO1	Learner will ponder and critically view the different theories of evolution.
CO2	Learner will be able to distinguish between microevolution, macroevolution and megaevolution.
CO3	Learner will understand the ethical aspects of research.

Core Course 08: DEVELOPMENTAL BIOLOGY

CO1	Demonstrate a deep understanding of key developmental biology concepts, including embryonic development, cell signaling pathways, and genetic regulation.
CO2	Proficient in employing a wide range of experimental techniques and methodologies in developmental biology research.
CO3	Exhibit advanced critical thinking skills in developmental biology, contributing to the advancement of scientific knowledge in the field.

SKILL ENHAMCEMENT COURSE
FOOD TOXICOLOGY

CO1	Recognize various types of physical hazards present in food, such as foreign objects, allergens, and packaging materials understand gene-environment interactions
CO2	Recognize the importance of consumer education in promoting informed choices and behaviors related to food safety.

MINOR COURSE
ECONOMIC ZOOLOGY

CO1	Understand the culture techniques of prawn, pearl
CO2	Understand silkworms rearing and their products.
CO3	Understand the Bee keeping equipments and apiary

OPEN ELECTIVES COURSE:
BIOMIMICRY: INNOVATION INSPIRING INDUSTRIES

CO1	Demonstrate a comprehensive understanding of the principles and applications of biomimicry.
CO2	Identify biomimetic solutions in existing technologies and industries.
CO3	Evaluate the environmental, economic, and social impacts of biomimetic innovations

Class: T.Y.B. Sc. Zoology
Semester V

CORE COURSE 11: PRINCIPLES OF TAXONOMY, MODERN TRENDS IN TAXONOMY AND STUDY OF INVERTEBRATES

CO1	Learners will understand the rules of nomenclature and other theories, concepts and principles of taxonomy.
CO2	The learners will be familiarized with classification up to Nematoda and their distinctive features.
CO3	Learners will get an idea of higher groups of invertebrate animal life, their classification and their peculiar aspects.
CO4	Learners will get an idea of general characteristics and details of invertebrate animal systems.

CORE COURSE 12: HAEMATOLOGY AND IMMUNOLOGY

CO1	Learner shall be familiar with the fundamental concepts in haematology.
CO2	Learners shall get familiar with different terminologies and diagnostic tests performed in a pathological laboratory, along with diagnostic approaches in haematological disorders.
CO3	Learners would comprehend the types of immunity and the components of immune system and realize the significant role of immune system in giving resistance against diseases.
CO4	Learners shall understand immune related pathologies and the principles and applications of vaccines.

CORE COURSE 13: HISTOLOGY, TOXICOLOGY, ENZYMOLOGY AND BIOSTATISTICS

CO1	Learners would appreciate the well- planned organization of tissues and cells in the organ systems.
CO2	The course will prepare learners to develop broad understanding of the different areas of toxicology and develop critical thinking of students.
CO3	Learners will be able to understand basics of enzyme structure and function and able to comprehend variations in enzyme activity and kinetics along with the enzyme assay procedures and the therapeutic application of enzymes.
CO4	The learners will be able to collect, organize, analyze data using parametric and non-parametric tests and able to set up a hypothesis and verify the same using limits of significance.

Discipline Specific Elective 14
BIOTECHNIQUES AND INTRODUCTION TO ENDOCRINOLOGY

CO1	Learn the theoretical basis of technique, its principle of working and its correct application.
CO2	Learn the construction repair and adjustment of any equipment required for a technique
CO3	Learn the maintenance laboratory equipment's/ tools, safety hazards and precautions.
CO4	Understand the technique of cell and tissue culture

Skill Enhancing Course 1
OCEANOGRAPHY, AQUACULTURE PRACTICES, MARKETING AND FINANCE

CO1	Learner shall understand the operations of various types of nets and fishing method.
CO2	Learner will understand breeding techniques and skills for culture of major carps and comprehend hatchery and nursery management of major carps.
CO3	Learner will be equipped to carry out entrepreneurial operations in fresh water prawn unit and gain the knowledge about how to breed and rear ornamental fishes and commercially viable fish species.
CO4	Learner shall understand breeding techniques, hatchery management and rearing techniques of fin- fish and shell fishes.

Semester VI

Core Course 15

PHYLUM CHORDATA, GROUP EUCHORDATA- I, GROUP EUCHORDATA II AND TYPE STUDY - SHARK

CO1	Learners will get an idea of origin of Chordates, its taxonomy up to class with reference to phylogeny and their special features.
CO2	Learners will understand the characteristic features and examples of superclass Pisces and Tetrapoda.
CO3	Learners will understand the characteristic features and examples of class of Reptilia, Aves and Mammalia.
CO4	Learners will get an idea of vertebrate animal life after studying one representative animal Shark.

Core Course 16

MOLECULAR BIOLOGY, GENETIC ENGINEERING, HUMAN GENETICS AND BIOINFORMATICS

CO1	Learner shall get an insight into the intricacies of chemical and molecular processes that affect genetic material and significance of molecular biology.
CO2	The learners shall get acquainted with the vast array of techniques used to manipulate genes which can be applied in numerous fields like medicine, research, etc. for human benefit.
CO3	The learners shall become aware of the impact of changes occurring at gene level on human health and its diagnosis.
CO4	Learner shall become aware of the computational point of view of studying the genomes

Core Course 17
DEVELOPMENTAL BIOLOGY

CO1	Learners can understand embryo development by studying the important process of cell differentiation, stages of development and morphogenesis.
CO2	Learners get acquainted with process of early and late embryonic development in animals.
CO3	Learners get acquainted with post Embryonic Development and Implications of Developmental Biology.
CO4	Learners will be able to understand the processes involved in embryonic development and its application.

Discipline Specific Elective 18
WILD LIFE CONSERVATION AND MANAGEMENT

CO1	Learners will understand the different factors affecting environment, its impact and environment management laws.
CO2	Learners will be able to understand the wildlife habitat projects for animal protection.
CO3	Learners will understand the paradigms of discovery and commercialization of biological resources and knowledge gained by self-medication by animals.
CO4	The learners will become acquainted with how and why different animal species are distributed around the globe.

Skill Enhancing Course 2
Marine resources, Post-harvest and Farm Engineering

CO1	Learner will be familiar with deep sea and coastal fishery and understand the commercial potential of major landing centres of the fishes.
CO2	Learner shall understand crustacean and molluscan fisheries and about performance of landing centres with reference to crustacean and molluscan fishery.
CO3	Learners will acquire the knowledge and would put in to practice the preservation and processing techniques for commercial ventures.
CO4	Learner will gain sound knowledge about the fish by-products and value-added products and explore good manufacturing practices while manufacturing these products.