

POCs & COs
2025-2026

B. Sc. Part – I Semester – I
ZOOLOGY Paper - I
ZOO 101 ANIMAL DIVERSITY

Theory: 30 hrs.

Marks-50 (Credits: 02)

Course Objectives (COs): Animal Diversity

The course on animal diversity is aimed at making the student to:

1. understand the concept and importance of biodiversity
2. Enable the students to identify the similarities and differences among the animals in different Phyla and classes.
3. develop sensitivity for the conservation of biodiversity in their day-to-day life.
4. equip the students with the skills of dissection.

Unit I

(10 Hrs)

Principles of classification, Five Kingdom classification
Binomial nomenclature
Levels of Organizations in Kingdom Animalia
Germ layers and coelom concept
Different modes of nutrition
Non-chordates concept, Phyla with prominent characters and examples
Phylum Chordata: Characters, subphyla/ classes with prominent characters and examples
Difference between non-chordates and chordates
Generalized body plans of non-chordates (Annelida/Arthropods) and chordates

Unit II

(10 Hrs)

Diversity concept and its importance
Zoogeographical regions and distribution of animals: Global and Indian biodiversity.
Extinct and threatened animals
Hotspots of biodiversity and Biodiversity Centres
Need for conservation and conservation strategies

Unit III

(10 Hrs)

Cockroach: a representative of non-chordates
Habit and habitat
Systematic position
Morphology
Anatomy: Digestive system, nervous system, blood vascular system, Respiratory system, excretory system, reproductive system, and receptor organs.



Program Outcomes (POs): B. Sc. Zoology

PO1: The students will learn about the basic concepts of Zoology and a platform for the entry of students in post-graduation studies, competitive examinations, paramedical fields, and agricultural business will be prepared.

PO2: Students will understand the concepts in zoology and be able to understand, classify, describe, and discuss different aspects of zoology like animal Phyla, conservation of animals, animal physiology, etc.

PO3: Students can apply their knowledge to solve problems related to genetics, and ecology and become competent to apply their knowledge of physiology, ethology, and entomology in their day-to-day life.

PO4: The students acquire various practical skills and dissection skills.

PO5: The students will be able to diagnose problems related to environmental issues, health and hygiene, agriculture and pest management, conservation of natural resources, etc., and try to solve them with scientific aptitude.

PO6: The students will apply their knowledge of zoology for the development of entrepreneurship and also practice it in their day-to-day lives.

Program Specific Outcomes (PSOs): B. Sc. I Zoology

PSO 1: The students will learn about animal diversity, cell biology, genetics, ecology, ethology, evolution, and entomology.

PSO 2: The students will understand various basic concepts and be able to describe them.

PSO 3: The students can apply their knowledge to classify, distribute, and organize the animals.

PSO 4: The students can solve the problems related to patterns of heredity, pedigree analysis, etc.

PSO 5: The students will acquire skills like sketching the diagrams, karyotype analysis, dissection, and other practical skills.



B. Sc. Part – I Semester – II
ZOOLOGY Paper - III
ZOO 201 GENETICS

Theory: 30 hrs.

Marks-50 (Credits: 02)

Course Objectives (COs): Genetics

The course in Genetics is aimed to make the students to:

1. understand heredity and variation.
2. apply their knowledge to draw the genetic crosses based on patterns of heredity.
3. Culture the *Drosophila* and handling skills among the students.
4. enable the students to develop
 - a. a gene map using data of crossing over and linkage study,
 - b. draw, and analyze pedigree
 - c. analyze karyotypes.

Unit I

(10 Hrs)

Molecular Basis of Genetic Information (Central Dogma)

Mendel's work and Principles of Inheritance

Test cross, back cross, and reciprocal cross

Incomplete dominance and co-dominance,

Unit II

(10 Hrs)

Gene interaction (Epistasis): Supplementary gene interaction. Complementary gene interaction

Multiple alleles: definition, ABO blood group system, and coat colour in rabbit,

Sex-linked inheritance: definition, Haemophilia, and colour blindness

Linkage and crossing over: Linkage, types of linkage and process of crossing over, Cytological evidence of crossing over.

Unit III

(10 Hrs)

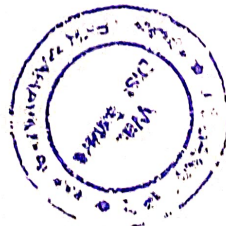
Chromosomal Abnormalities

Human karyotype analysis

Numerical abnormalities: Aneuploidy and Polyploidy,

Chromosomal aberrations: Deletion, Duplication, Inversion, Translocation,

Pedigree analysis



B. Sc. Part – I Semester – I
ZOOLOGY Paper - II
ZOO 102 CELL BIOLOGY

Theory: 30 hrs.

Marks-50 (Credits: 02)

Course Objectives (COs): Cell Biology

The Course on cell biology is aimed at making the students to:

1. understand the general organization of cell organelles and their functions.
2. apply their knowledge to study the functioning of a cell and cell divisions and its regulation.
3. analyze the role of cell organelles and cell cycle checkpoints with examples of anemia, diabetic wounds, and cancer.
4. equip the students with skills like handling the microscope, micrometry, staining techniques, etc.

Unit I

General organization of cell

(10 Hrs)

1. Organization of prokaryotic and eukaryotic cells
2. Nucleus: nuclear membrane, nucleoplasm, chromatin, and nucleolus
3. Chromosome: morphology of metaphase chromosome and its organization (Solenoid model)
4. Cytoskeleton

Unit II

Ultra-structure and functions of

(10Hrs)

1. Plasma membrane (Fluid Mosaic Model)
2. Mitochondria
3. Endoplasmic reticulum
4. Golgi complex
5. Lysosome
6. Ribosome

Unit III

1. Concept of Cell cycle and its regulation

(10 Hrs)

2. Mitosis
3. Meiosis
4. Abnormalities in cell division: Hypoproliferation (Anemia and diabetic wound) and Hyperproliferation (Cancer)

B. Sc. Part – I Semester – I
ZOOOE 101

OE I Title: Diet and Nutrition

Theory: 30 hrs.

Marks-50 (Credits: 02)

Course Objectives (COs): Diet and Nutrition

The course, Diet and Nutrition is aimed at making the students to:

1. understand the components of the diet
2. know the importance of a balanced diet and apply the knowledge to day-to-day life.
3. enable students to calculate the BMI and caloric needs of a person.
4. develop the skill of designing the diet for different physiological and pathological conditions.

Unit I

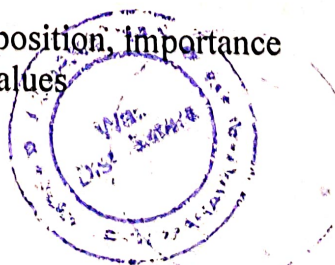
(10 Hrs)

1. Nutrients: Definition, Sources and their importance
 - a. Carbohydrates
 - b. Proteins
 - c. Lipids
 - d. Vitamins
 - e. Minerals:
 - f. Water

Unit II

(10 Hrs)

2. Balanced Diet: Definition, Composition, Importance
3. BMI: Definition, Calculation, Values



B. Sc. Part – I Semester – II
ZOOLOGY Paper - IV
ZOO 202 (ECOLOGY, ETHIOLOGY, EVOLUTION, AND ENTOMOLOGY)

Theory: 30 hrs.

Marks-50 (Credits: 02)

Course Objectives (COs): Ecology, Ethology, Evolution, and Entomology

The Course in ecology, ethology, evolution, and entomology is aimed to make the students to:

1. understand the basic concepts.
2. enable the students to identify the amazing features of the insect world.
3. train students to arrange the animals on a geological time scale.
4. mold the student to apply their knowledge to construct food chains, food webs, and ecological pyramids.

Unit 1

2. Ecology

(10 hrs.)

- a. Introduction and Scope of Ecology
- b. Basic concepts in ecology: Biosphere, biome, Species, Population, Community, Niche
- c. Ecosystem: Definition, concept, types, pond ecosystem, and grassland ecosystem
- d. Food chain, food web
- e. Ecological pyramids
- f. Ecological adaptations
- g. Symbiotic relationships

Unit 2

3. Ethology and Evolution

(10 hrs.)

Ethology

- a. Introduction to the study of animal behavior
- b. Mimicry in Monarch butterfly and stick insect
- c. Camouflage in chameleon and Leaf insect
- d. Courtship behavior in scorpion and weaver birds
- e. Social behavior in honeybee

Evolution

- a. Types of fossils, Formation and dating of fossils
- b. Incompleteness of Fossil record
- c. Geological time scale

Unit 3

4. Entomology–

- a. Introduction to Entomology

(10 hrs.)

SHIVAJI UNIVERSITY KOLHAPUR

NAME OF FACULTY: FACULTY OF SCIENCE AND TECHNOLOGY

PROGRAM NAME: B.Sc. PART- II (NEP 2.0)

1: YEAR OF IMPLEMENTATION: 2025-26

2: PREAMBLE

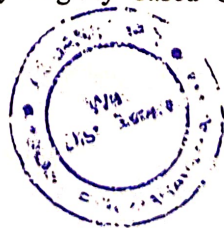
With immense pleasure, we present herewith the B.Sc.-II, Zoology, NEP 2020 syllabus of Shivaji University, Kolhapur. While designing the syllabi, we have taken into consideration that the learner must get thorough information and knowledge about the field of Zoology from classical to applied fields. During the course of syllabi design, rounds of meetings were conducted among the teachers to deliberate upon the units to be kept for the syllabi. Also, from industry experts suggestions were taken to include more interesting and fruitful topics that will enhance their skills in the field.

The B.Sc. II Syllabus is designed as a perfect blend of traditional and advanced knowledge of the field. The practical's are perfectly distributed into identification to improve the knowledge of the learners and also performing practical's to provide a hands-on experience to the learners. The Open Elective Course, Skill Enhancement Course and Vocational Skill Course are designed with concepts and topics that will really be helpful to the learners in industry or on field.

Looking into the prepared syllabus, we are sure that the learners will enjoy the syllabus of B.Sc. II NEP 2020 presented to them for their 3 and 4 semesters. We are sincerely thankful to the staff of the Zoology Department, industry experts, and our BOS members for their valuable contribution in the construction of this syllabus. We hope you all enjoy the syllabus. Happy learning, and valuable suggestions and recommendations are most welcome.

3: PROGRAMME LEARNING OUTCOMES (PLOs)

The Programme Learning Outcomes (PLOs) for a B.Sc. Part II in Zoology can generally include the following, though they may vary slightly based on the specific university or curriculum:



4. Caloric needs: Definition, Caloric need calculation based on age, and occupation (10 Hrs)
- Unit III**

5. Designing a diet for
- Weight loss
 - Weight gain
 - Bodybuilding
 - Diabetic patients
 - A patient with Cardiovascular disorder
 - A sports person

References

- John E. Hall and Michael Hall (1984). Guyton and Hall textbook of medical physiology. Pp. 1091.
- Sumati R. Mudambi and M. V. Rajagopal (2007). Fundamentals of Food, Nutrition and Diet Therapy. New Age International Publishers. New Delhi. Pp. 425.
- Shubhangini A. Joshi (2015). Nutrition and dietetics. McGraw Hill Education Private Ltd. pp. 645.
- Nutrition Sciences by B. Srilakshmi (2006). New Age International (P) Ltd. Publishers. Pp. 406

**B. Sc. Part – I Semester – II
ZOOOE 201**

OE II Title: Vermiculture

Theory: 30 hrs.

Marks-50 (Credits: 02)

Course Objectives (COs): Vermiculture

- The course, Vermiculture is aimed at acquiring knowledge about vermiculture, and its importance.
- It is aimed at understanding the biology of earthworm and earthworm culture.
- It is aimed to enable the students to become familiar with the procedure of setting up a vermicomposting bed.
- It is aimed so that the students can use the vermicompost and vermivash in their fields.

Unit I

(10 Hrs)

- Introduction to vermiculture: definition, meaning, history
- Different useful species of earthworms, local and exotic species of earthworms
- Role of earthworms in soil ecosystem
- Basic characteristics of earthworms suitable for vermicomposting.

(10 Hrs)

Unit II

- Biology of earthworm: Habit habitat, Systematic position, Morphology, General body plan
- Reproduction and Life cycle of an earthworm
- Methods of vermicomposting: (a) Low-cost floor beds, (b) Tank system

4: COURSE OUTCOMES (COs)

Semester III

Zoology Major

1. Fundamental of Chordates

COURSE OUTCOMES (COs):

- CO1. Understand the Morphology and anatomy of Chordate.
- CO2. Enable the students to identify the similarities and differences among the animals in different classes of Chordate animals.
- CO3. Apply their knowledge to study the functioning of different organs and systems of chordates.
- CO4. Enable the students to identify venomous and non-venomous snakes.

2. Biochemistry

Course Outcomes

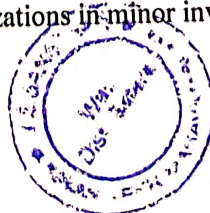
- CO-1: Enable the students to understand the structure, types and classification of proteins, carbohydrates and fats.
- CO-2: Enable the students to understand enzymes and enzyme action.
- CO-3: Metabolic pathways of various bio-molecules and their functional significance.
- CO-4: Enable the students to acquire the skills of biochemical tests and estimations.

Zoology Minor

1. Fundamentals of Non-Chordates

Course Outcomes (COs)

- CO1: Understand structure and functions of Protozoa (Paramecium)
- CO2: Analyze the anatomical and physiological systems in Annelida (Earthworm)
- CO3: Compare and contrast functional adaptations in diverse invertebrate groups
- CO4: Explore behavioral and structural specializations in minor invertebrates



Knowledge and Understanding:

1. **Core Zoological Concepts:** Understanding the classification, structure, function, and anatomy of chordate animals.
2. **Reproductive Physiology and Biochemistry:** Knowledge of reproductive physiological processes in animals and their biochemical basis.
3. **Applied Entomology:** Managements and control of vector and vector borne diseases.

Skills Development:

4. **Laboratory Techniques:** Biochemical techniques.
5. **Fieldwork Proficiency:** Skills in animal identification, sampling, and understanding biodiversity through field studies.

Applications:

8. **Problem-Solving in Zoology:** Application of zoological knowledge for handling real world issues related to Public health and Pest management.

Generic Outcomes:

9. **Teamwork and Leadership:** Ability to collaborate effectively in group projects and lead field or laboratory initiatives.
10. **Preparation for Higher Studies:** Foundation for advanced education or professional courses in zoology or related fields.

These outcomes align with the aim of equipping students with theoretical knowledge, practical skills, and an understanding of ethical and environmental aspects of zoology.

Semester IV

Zoology Major

1. Reproductive Biology

Course Outcome

- CO1: Understand the structure, organization, and functions of male and female reproductive systems in animals.
- CO2: Enable to explain the hormonal regulation of reproduction and its role in gametogenesis, ovulation, and spermatogenesis.
- CO3: Analyze the mechanisms of reproductive cycles, including estrous and menstrual cycles, and their physiological significance.
- CO4: Understand the principles and applications of assisted reproductive technologies (ART) such as IVF, ICSI, and surrogacy.
- CO5: Explore the causes and treatments of infertility in males and females, along with emerging diagnostic tools.
- CO6: Learn about reproductive health, contraceptive methods, and their societal implications.

2. Applied Entomology

Course Outcome

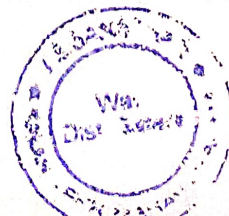
- CO1. Acquire the knowledge of non-beneficial insects.
- CO2. Understand the interaction of insect vectors with humans and spread of diseases.
- CO3. Aware the managements and control of vector and vector borne diseases.

Zoology Minor

1. Physiology, Endocrinology and Histology

Course Outcomes (COs):

- CO1: Understand fundamental principles of animal physiology
- CO2: Explain the mechanisms of respiration in vertebrates
- CO3: Understand circulatory system functions and blood physiology
- CO4: Comprehend excretory physiology and osmoregulatory mechanisms
- CO5: Identify sources, roles, and deficiency symptoms of vitamins
- CO6: Understand the endocrine system and hormonal regulation
- CO7: Identify and describe the histological structure of mammalian digestive organs



CO5: Recognize the medical and economic significance of invertebrates

2. Biodiversity, Wild life management and Toxicology

Course Outcomes (COs)

CO1: Understand the Concept and Importance of Biodiversity

CO2: Demonstrate Knowledge of Wildlife Management Principles

CO3: Describe Key Features of National Parks and Sanctuaries in India

CO4: Understand Basic Principles of Toxicology

CO5: Develop Awareness of Environmental and Wildlife Conservation Challenges

3. OE - Aquarium Construction and Maintenance:

Course Outcomes

CO1. Acquire knowledge of ornamental fishes which is highly professional and attractive avenues for youth.

CO2. Enable to acquire skills of aquarium setup and aquarium fish keeping.

CO3. Enable to acquire skills of Fish transportation and management.

4. VSC – I Domestic and Pet Animal Feed Preparation:

Course Outcomes (COs)

CO1. Understand the student the dietary needs of animals

CO2. Enables the students to design the feed for the animals according to their physiological conditions.

CO3. Acquire the skill of feed preparation of animals.

CO4. To develop entrepreneurship qualities in the field of animal feed production

5. SEC - Poultry Farming

Course Outcome (COs)

CO1. To understand different breeds and techniques in poultry farming.

CO2. To acquire the skills of poultry management.

CO3. Students gain confidence to pursue entrepreneurship in farming and assess the economics of a farm.

4. SEC - Dairy Farming

- CO1. Students gain knowledge of different breeds and their selection in dairy farming.
- CO2. Acquire the skills of Dairy farm management
- CO3. Acquire the skills of shed construction and maintenance
- CO4. Students gain self-confidence to become dairy entrepreneurs.

5: OBJECTIVES OF THE PROGRAMME

- To provide quality education in a branch of Biological sciences i.e. Zoology with different specializations.
- To provide quality education offering skill based programs and motivate the students for self-employment in applied branches of Zoology
- To conduct field visits for experiential learning.
- To facilitate Higher education & research in zoology.

6: DURATION OF THE COURSE: ONE YEAR (SEMESTER III AND IV)

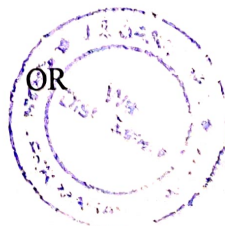
TEACHING HOURS: All courses under the B. Sc. II will be of 2 credits each. The theory courses will be taught for 30 hours and practical courses for 60 hours. All the major and minor subjects will have Practical Courses. In addition VSC, OE and SEC have practical modules.

7: MEDIUM OF INSTRUCTIONS: The medium of instructions shall be English/Marathi (for OE).

8: ELIGIBILITY FOR ADMISSION:

Eligibility requirements for admission to B. Sc. Part-II (Level 5.0):

- i) The students passing or ATKT the B. Sc. Part-I (or Undergraduate Certificate in Science) shall be allowed to enter upon the B. Sc. Part-II (or Undergraduate Diploma in Science).



CO8: Apply knowledge of physiology, endocrinology, and histology to understand health and disease

2. Economic Zoology and Parasitology

Course Outcomes (COs)

CO1: Describe the economic importance of major fin fishes such as Rohu, Catla, Mrigal, and Tilapia, and explain their role in aquaculture and nutrition.

CO2: Identify commercially important shellfishes like lobster, prawn, crab, mussel, and sepia, and explain their significance in the seafood industry.

CO3: Illustrate the process of fish farming, including the construction and maintenance of fish farms, and evaluate various fishing crafts and gears used in the industry.

CO4: Recognize different breeds of goats, and demonstrate knowledge of their feeding, housing, and economic value in rural and commercial farming systems.

CO5: Understand basic principles of dairy science, including the production and processing of milk and various milk products.

CO6: Define and classify parasites based on their nature and host interaction.

CO7: Describe the morphology, anatomy, life cycle, and reproductive features of Ascaris, and understand its pathogenicity and control measures.

CO8: Analyze the structural and physiological adaptations of parasites, particularly Ascaris, for their survival within the host.

3. OE - Apiculture

CO1. Understand honey bees life cycle, their social organization, and the importance of different species

CO2. Acquire skills of handling basic tools, equipment's, and management of beehives

CO3. To understand the importance and economy of products and by-products of beekeeping.

CO4. To develop entrepreneurial skills for self-employment in beekeeping

CO5. Acquire the skills for scientific management of honey bee colonies

SHIVAJI UNIVERSITY, KOLHAPUR

Revised Syllabus for Bachelor of Science

B. Sc. III – Zoology – To be implemented from June 2020

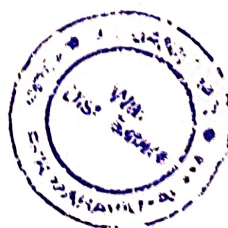
GENERAL OBJECTIVES OF THE COURSE

1) Aims:

1. To impart the knowledge of animal science to the pupils.
2. To make the pupils to use the knowledge in their daily life.
3. To make the pupils aware of natural resources and environment.
4. Application of knowledge in Zoology for nutrition, agriculture & live stock.
5. To provide practical experiences which form a part of their learning processes.
6. To develop aptitude for scientific work & ability to pursue studies far beyond graduation.
7. To encourage the pupils to take life science as a carrier which is the need now a days.
8. To make the pupils fit for the society.

2) Objectives –

1. To impart knowledge is the basic aim of education. The students are expected to acquire the knowledge of animal science, natural phenomenon, manipulation of nature & environment by man.
2. Understanding the scientific terms, concepts, facts, phenomenon & their interrelationships.
3. Applications of the knowledge.
4. To develop skills in practical work, experiments & laboratory materials, instruments.
5. To develop interests in the subject & scientific hobbies.
6. To develop scientific attitude which is the major objective? This makes the students open minded, critical observations, curiosity, thinking etc.
7. Abilities to apply scientific methods, collection of scientific data, problem solving, organize science exhibitions, clubs etc.
8. Appreciation of the subject, contributions of scientists, scientific methods, scientific programs etc.



SHIVAJI UNIVERSITY, KOLHAPUR

Revised Syllabus for the Bachelor of Science in Zoology

(As per NEP- 2.0)

Applicable from the Academic Year 2026 –27

1. Title: B. Sc. III Zoology, Shivaji University, Kolhapur Revised Syllabus as per NEP – 2.0

2. Faculty: Faculty of Science and Technology.

3. Year of Implementation: From June 2026

4. Objectives of a Bachelor of Science (B.Sc.) in Zoology Program include:

GENERAL OBJECTIVES OF THE COURSE

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8. Appreciation of the subject, contributions of scientists, scientific methods, scientific programs etc.

5. Program Outcomes (POs):

After successful completion of the Programme, students will be able to:

PO1: Acquire fundamental and advanced knowledge of animal structure, function and evolution.

PO2: Understand comparative anatomy and physiological adaptations in vertebrates.

PO3: Apply biological principles to analyze organ systems and their evolutionary trends.

PO4: Interpret anatomical and physiological data using appropriate biological terminology.

PO5: Relate structure and function of organ systems to survival and adaptation.

PO6: Students will gain fundamental knowledge of Zoology which will help them for PG studies and Research.

PO7: Students will be able to know good laboratory practices and lab safety.

PO8: Apply gene manipulation techniques in animal biotechnology.

PO9: Develop transgenic and cloned animals for pharma and organ production.

PO10: Create advanced methods to improve animal health and productivity.

PO11: Analyze and classify biological data effectively.

PO12: Summarize data using central tendency and dispersion measures.

PO13: Assess relationships between variables via correlation analysis.

PO14: Apply gene manipulation techniques in animal biotechnology.

PO15: Develop transgenic and cloned animals for pharma and organ production.

PO16: Create advanced methods to improve animal health and productivity.

PO17: Analyze and classify biological data effectively.

PO18: Summarize data using central tendency and dispersion measures.

PO19: Assess relationships between variables via correlation analysis.

6. Program Specific Outcomes:

PSO-1. Students will be able to explain fundamental concepts of Animal Physiology, Anatomy, Molecular Biology, Developmental Biology, Aquaculture fisheries, Biostatistics, Laboratory Techniques, Sericulture, Pest control etc.

PSO-2. Students will be able to prepare and qualify for competitive examinations

PSO-3. Students will understand good laboratory practices and safety.

PSO-4. Students will develop research-oriented skills.

7. Program Education Outcomes:

PEO-1: Students after graduation (Graduates) will possess strong analytical, critical thinking, and problem-solving skills relevant to the areas in Zoology and they will be prepared for careers in various sectors.

PEO-2: Graduates will be able to utilize their Zoological knowledge and skills to address societal needs and challenges include areas like environmental sustainability, healthcare, Animal Husbandry etc.

PEO-3: Graduates will demonstrate a commitment to lifelong learning and professional development, and they will possess strong communication, teamwork, and leadership skills.

PEO-4: Graduates will be equipped to pursue further education, such as an M.Sc. or Ph.D., in Zoology or related disciplines and will be able to work effectively in multidisciplinary and interdisciplinary environments.

PEO-5: Graduates will be equipped to innovate and develop solutions that benefit society.

8. The B. Sc. III Course (Zoology) (Level 5.5) will be of Two Semesters (Sem. V and Sem VI).

9. Pattern of Examination: The Examinations will be conducted semester-wise for Theory and Practical.

10. Fee structure: As per Shivaji University guidelines.

11. Eligibility Criteria for Admission to B. Sc. Part III (Level 5.5): Please see B. Sc. Rules and Regulations of Shivaji University, Kolhapur

12. Medium of Instruction: English

13. Structure of course: Given in Framework Chart

14. Scheme of Teaching and Examination:

a. Each theory course paper constitutes of 3 units require 30 hours of teaching lectures and there shall be two lectures per theory (2 Cr) course per week.

b. B. Sc. III Zoology Course will be of 44 Credits (1100 marks).

c. Examination of each **theory course** shall be of **50 marks** (40 university examination + 10 internal assessment). University examination of 40 marks (1.5 hours' duration) will be conducted at the end of each Semester. Internal assessment of 10 marks will be done before the semester examination during each semester.

d. Examination of practical course shall be of 100 marks (4 Cr) and 50 marks (2 Cr) per semester.

e. Pattern and Nature, marking scheme for theory and Practical Examination for Major Specific SEC and VSC courses are included in syllabus.