MARIS STELLA COLLEGE (AUTONOMOUS), VIJAYAWADA

A College with Potential for Excellence

NAAC Accredited & ISO 21001: 2018 Certified

PROGRAMME REGISTER - 2023- 2026

DEPARTMENT OF ZOOLOGY

INDEX

PROGRAMME OUTCOMES (POs)
2023-2026

Students of all Undergraduate Programmes at the time of graduation will be able to possess

PO1: Essential Knowledge:

Have comprehensive discipline knowledge and understanding, the ability to engage with different schools of thought and to apply their knowledge in practice including in multidisciplinary or multi-professional contexts.

PO2: Creative, Critical Thinking and Problem-Solving Abilities:

Be effective problem-solvers, able to apply critical and evidence-based thinking to conceive innovative responses to future challenges.

PO3: Teamwork and Communication Skills:

Convey ideas and information effectively to a range of audiences for a variety of purposes and contribute in a positive and collaborative manner to achieving common goals.

PO4: Motivated, Self-directed, and Life-long Learning:

Exhibit life-long skills; broad-based multiple career oriented general skills; self and field-based learning skills; digital skills; preparedness for living, learning and working in any environment.

PO5: Professionalism and Leadership Readiness:

Engage in professional behaviour and have the potential to be entrepreneurial and take leadership roles in their chosen occupations and communities.

PO6: Intercultural and Ethical Competency:

Be responsible and effective global citizens whose personal values and practices are consistent with their roles as responsible members of society.

PO7: Self-awareness and Emotional Intelligence:

Be self-aware and reflective, flexible and resilient and act with integrity and take responsibility for their actions as empowered women.

PO8: Social Responsibility and Effective Citizenship:

Exhibit social responsibility and compassionate commitment; Be sensitive to and demonstrate institution in matters of environment, gender and other social issues to promote an equitable society and sustainable development.

PROGRAMME SPECIFIC OUTCOMES (PSOs)
2023-2026

At the end of the programme students will be able to possess/exhibit:

PSO1: Quantitative Analysis:

Interpret principles, classifications, concepts, theories and mechanisms learnt.

PSO2: Practical and Analytical Skills:

Analyse experimental designs and facts, procedures, properties, and draw inferences.

PSO3: Logical and Critical Thinking:

Apply knowledge and techniques in sample analysis, problem-solving and production.

PSO4: Teamwork and Communication:

Develop communicative competence, creative and critical thinking, practical, technical and employability skills, social sensibility and responsibility.

S. No	Sem.	Course Code	Course Title	Course Outcomes (COs)
1	I	23SCCCCB14	Introduction to Classical Biology	**CO1:** Know the principles of classification and preservation of biodiversity
				CO2: Understand the plant anatomical, physiological and reproductive processes.
				CO3: Have sound knowledge on animal classification, physiology, embryonic development and their economic importance.
				CO4: Outline the cell components, cell processes like cell division, heredity and molecular processes.
				CO5: Comprehend the chemical principles in shaping and driving the macromolecules and life processes.
2	I	23SCCCAB14	Introduction to Applied Biology	**CO1:** Speak about the history, ultrastructure, diversity and importance of microorganisms.
				CO2: Understand the structure and functions of macromolecules.
				CO3: Have knowledge on biotechnology principles and its applications in food and medicine.
				CO4: Outline the techniques, tools and their uses in diagnosis and therapy.
				CO5: Demonstrate the bioinformatics and statistical tools in comprehending the complex biological data.
3	I	23MDCBS12	Principles of Biological Sciences	**CO1:** Understand the relationship between structure and function at all levels.
				CO2: Recognise the mechanisms underlying biological evolution, its patterns, and its significance as biology's overarching unifying principle.
				CO3: Understand the contributions of biology to the resolution of medical, ethical, social, and environmental concerns in human affairs.
4	II	23ZLCCAN23	Animal diversity I- Biology of Non-Chordates	**CO1:** Learn the principles of classification and general characters of Protozoa.
				CO2: Understand the classification and general characters of Porifera and Coelenterata with taxonomic keys.
				CO3: Have knowledge on animal classification of Phylum Platyhelminthes & Nemathelminthes using examples and speak about parasitic adaptation.
				CO4: Outline the animal classification of Phylum Echinodermata & Hemichordata.
				CO5: Comprehend the animal species with suitable examples in relation to the phylogeny.
5	II	23ZLP1AN21	Animal diversity – I Non – Chordates - Practical	**CO1:** Handle microscopes both dissection and compound.
				CO2: Differentiate lower invertebrates from higher invertebrates.
				CO3: Dissect and display prawn nervous system, statocyst and appendages.

6	II	23ZLCCCM23	Cell & Molecular Biology	**CO1:** Speak about the basic unit of the living organisms and to differentiate the organisms by their cell structure.
				CO2: Outline the fine structure and function of plasma membrane and different cell organelles of eukaryotic cell.
				CO3: Comprehend the cell cycle and bioenergetics of the cell.
				CO4: Understand the gene expression phenomenon and biological importance of biomolecules.
				CO5: Have Knowledge on the central dogma of molecular biology and flow of genetic information from DNA to proteins.
7	II	23ZLP2CM21	Cell & Molecular Biology - Practical	**CO1:** Differentiate mitosis and meiosis.
				CO2: Test the presence of Biomolecules.
				CO3: Identify biomolecules present in the body and their importance.
8	III	23ZLCCAC33	Animal Diversity II - Biology of Chordates	**CO1:** Describe the general taxonomic rules and classification of chordates.
				CO2: Identify bony fishes from cartilaginous fishes, their systems and migration.
				CO3: Differentiate the poisonous snakes from non-poisonous snakes with their external features.
				CO4: Articulate flight adaptation and migration in birds.
				CO5: Understand the significance of dentition and its evolutionary significance.
9	III	23ZLP3AC31	Animal Diversity II - Biology of Chordates - Practical	**CO1:** Identify the specimens provided and learn how they are developed from primitive to advanced animals.
				CO2: Explain the adaptation of chordate animals (fish to mammals).
				CO3: Perform dissection on Shark Nervous system and mount scales and brain.
10	III	23ZLCCPG33	Principles of Genetics	**CO1:** Understand the history of genetics, gain knowledge on basic terminology of Genetics.
				CO2: Articulate interaction of genes, various types of inheritance patterns existing in animals with reference to non-Mendelian inheritance.
				CO3: Have knowledge on chromosomal inheritance.
				CO4: Explain the various aspects of genetics involved in sex determination.

				CO5: Acquiring in-depth knowledge on human karyotyping, pedigree analysis and chromosomal disorders concepts of proteomics and genomics.
11	III	23ZLP4PG31	Principles of Genetics - Practical	**CO1:** Deduce, infer and interpret the results of genetic problems.
				CO2: To acquaint students on Human karyotype & pedigree analysis basics with problems and arrangement of the same.
12	III	23ZLCCAB33	Animal Biotechnology	**CO1:** Imbibe knowledge of the Vectors, modification system and Restriction enzymes used in biotechnology.
				CO2: Describe gene delivery mechanism, DNA sequencing and PCR technique.
				CO3: Acquire basic and skills on media preparation, knowledge on hybridoma technology, Stem cell and cell culture techniques.
				CO4: Understand the manipulation of reproduction with the application of biotechnology.
				CO5: Explain the applications of Biotechnology in the fields of industry, fish farming and gene therapy.
13	III	23ZLP5AB31	Animal Biotechnology - Practical	**CO1:** Articulate the types of vector used in Biotechnology cloning.
				CO2: Speak about the steps involved in separation of compounds by paper chromatography.
				CO3: Do the sterilization of glass and plastic wares and prepare the culture Media.
14	III	23ZLCCEZ33	Evolution & Zoogeography	**CO1:** Understand the principles and forces of evolution of life on earth, the process of evolution of new species and apply the same to develop new and advanced varieties of animals.
				CO2: : Identify different evidences of evolution
				CO3: Understand the theories of evolution
				CO4: Explain the various theories and tools for evolution.
				CO5: Map the distribution of animals according to zoological realms.
15	III	23ZLP6EZ31	Evolution & Zoogeography - Practical	**CO1:** Differentiate the types of fossils.
				CO2: Identify the missing and connecting links.

				CO3: Discuss on the phylogeny of horses and adaptive radiation with the help of Darwin's Finches.
16	III	23MDCHH32	Health and Hygiene	**CO1:** Outline the importance of health, hygiene and nutrition for a healthy life.
				CO2: Summarize the health care programmes of India
				CO3: Explain community and personal health and Hygiene.
17	IV	23ZLCCEB43	Embryology	**CO1:** Understand the historical perspective and concepts of embryology.
				CO2: Speak on gametogenesis, fertilization and cleavage patterns.
				CO3: Understand the fate of germinal layers and extra embryonic membranes.
				CO4: Explain the process of regeneration in certain animals.
				CO5: Observe the process of organogenesis.
18	IV	23ZLP7EB41	Embryology - Practical	**CO1:** Identify the early developmental stages.
				CO2: Articulate the developmental stages of chick.
				CO3: Differentiate different part of placenta.
19	IV	23ZLCCAL43	Animal Physiology: Life Sustaining Systems	**CO1:** Speak about the physiology of digestion and hormonal control of digestion.
				CO2: Develop a comprehensive picture of respiratory physiology.
				CO3: Differentiate the Renal physiology with reference to water and acid-base balances.
				CO4: Identify the physiology aspects of Nerve and muscle.
				CO5: Narrate the structure, function and physiology of heart.
20	IV	23ZLP8AL41	Animal Physiology: Life Sustaining Systems - Practical	**CO1:** Examine different organs of mammals
				CO2: Do the qualitative tests for biomolecules, sugar and albumin.
				CO3: Estimate the percentage of haemoglobin.
21	IV	23ZLCCIM43	Immunology	**CO1:** Articulate the roles of innate recognition receptors in immune responses.

				CO2: Compare and contrast humoral versus cell-mediated immune responses.
				CO3: Distinguish various cell types involved in immune responses and associated functions.
				CO4: Distinguish and characterize antibody isotypes, development, and functions.
				CO5: Understand the significance the Major Histocompatibility Complex in terms of immune response and transplantation.
22	IV	23ZLP9IM41	Immunology-Practical	**CO1:** Describe about the immune organs.
				CO2: Identify Blood groups using Kit.
				CO3: Perform various tests like ELISA and Widal.
23	V	23ZLCCPM53	Poultry Management I	**CO1:** Evaluate the status of Indian Poultry Industry.
				CO2: Explain the Scientific Poultry keeping.
				CO3: Inspect different breeds of chicken.
				CO4: Learning about desi and indigenous breeds.
				CO5: Knowledge about Central Avian Research Institute.
24	V	23ZLP10PM51	Poultry Management I - Practical	**CO1:** Identify different types of Poultry rearing practices.
				CO2: Evaluate the efficacy of different types. of poultry practices in maximizing yield
				CO3: Understand the importance of different. hybrid breeds in poultry
25	V	23ZLCCPP53	Poultry Management II	**CO1:** Suggest measure for Health care in Poultry
				CO2: Evaluate the economics of poultry production
				CO3: Elaborate the poultry Breeder flock management
				CO4: Hatchery Practices – Management principles of incubation
				CO5: Fertility disorder- etiology, diagnosis and corrective measures
26	V	23ZLP11PP51	Poultry Management II - Practical	**CO1:** Identify different types of Poultry rearing practices
				CO2: Evaluate the efficacy of different types of poultry practices in maximizing yield

				CO3: Understand the importance of different hybrid breeds in poultry
27	V	23ZLEC11AQ53	Sustainable Aquaculture Management	**CO1**: Evaluate the current status of aquaculture at the National level.
				CO2: Classify the different types of ponds used in aquaculture.
				CO3: Demonstration of induced breeding techniques of Carp fishes.
				. **CO4**: Acquire critical knowledge on commercial importance of shrimps.
				CO5: Identification of fin and shell fish diseases.
28	V	23ZLP1211AQ51	Sustainable Aquaculture Management - Practical	**CO1**: Laboratory identification of the characters Indian Major carps.
				CO2: Estimate physico - chemical characteristics of water used for aquaculture.
				CO3. Visiting a Hatchery/Farm/ Aqua diagnostic center to examine the diseases of fin and shell fish.
29	V	23ZLEC12LM53	Live Stock Management - I	**CO1:** Relate the anatomy of udder with letdown of milk.
				CO2: Identify and manipulate the reproductive behavior of cattle.
				CO3: Inspect the economics of dairy farming.
				CO4: r-DNA technology-Cloning.
				CO5: Awareness on cross breeding of cattle and grading up of buffaloes.
30	V	23ZLP1312LM51	Live Stock Management - Practical- I	**CO1:** Examine the points of dairy cow.
				CO2: Understand the behavioral changes of cow during the reproductive period.
				CO3: Differentiate the merits and demerits of cross breeds in cattle.
31	V	23ZLEC22LP53	Live Stock Management - II	**CO1:** Identify and suggest the suitable housing system for the dairy farming
				CO2: Understand management practices for the dairy farms
				CO3: Learn the process of milk pasteurization

				CO4: Understand the manufacturing strategies and different products
				CO5: Learn about Different products
32	V	23ZLP1522LP51	Live Stock Management - II - Practical	**CO1:** Design a model of dairy farm layout
				CO2: Understand procedure of milk pasteurization at milk processing centers
				CO3: Identify various important management practices in dairy farming
				CO4: Explain the pre- requisites for starting a dairy farm
33	V	23ZLEC21PH53	Postharvest Technology of fish & Fisheries	**CO1:** Identify the types of preservation methods employed in aquaculture
				CO2: Choose the suitable Processing methods in aquaculture
				CO3 : Maintain the standard quality control protocols laid down in aqua industry
				CO4: Identify the best Seafood quality assurance system
				CO5: Understand the Quality Assurance, Management and Certification
34	V	23ZLP1421PH53	Postharvest Technology of fish & Fisheries - Practical	**CO1:** Identify the quality of aqua processed products.
				CO2: Determine the quality of fishery by products.
				CO3: Analyze the protocols of aqua processing methods

Mapping of COs with PSOs &POs

S. No.	Sem.	Course code	Course Title	COs	PSOs	POs
1	1	23SCCCCB14	Introduction to Classical Biology	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
2	I	23SCCCAB14	Introduction to Applied Biology	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
3	1	23MDCBS12	Principles of Biological Sciences	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
4	II	23ZLCCAN23	Animal diversity I- Biology of Non-Chordates	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
5	II	23ZLP1AN21	Animal diversity – I Non-Chordates - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**

6	II	23ZLCCCM23	Cell & Molecular Biology	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
7	II	23ZLP2CM21	Cell & Molecular Biology - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
8	III	23ZLCCAC33	Animal Diversity II - Biology of Chordates	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
9	III	23ZLP3AC31	Animal Diversity II - Biology of Chordates - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
10	III	23ZLCCPG33	Principles of Genetics	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
11	III	23ZLP4PG31	Principles of Genetics - Practical	**CO1:**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2:	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
12	III	23ZLCCAB33	Animal Biotechnology	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2,**	**PO1, PO2,**

					PSO3, PSO4	**PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
13	III	23ZLP5AB31	Animal Biotechnology - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
14	III	23ZLCCEZ33	Evolution & Zoogeography	**CO1**	**PSO1, PSO2, PSO3,PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
15	III	23ZLP6EZ31	Evolution & Zoogeography - Practical	**CO1**	**PSO1, PSO2, PSO3,PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
16	III	23MDCHH32	Health and Hygiene	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4**
17	IV	23ZLCCEB43	Embryology	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2,**	**PO1, PO2,**

					PSO3, PSO4	**PO3, PO4, PO7**
18	IV	23ZLP7EB41	Embryology - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
19	IV	23ZLCCAL43	Animal Physiology: Life Sustaining Systems	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
20	IV	23ZLP8AL41	Animal Physiology: Life Sustaining Systems - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
21	IV	23ZLCCIM43	Immunology	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4,**

						PO7
22	IV	3ZLP9IM41	Immunology-Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
23	V	23ZLCCPM53	Poultry Management I	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
24	V	23ZLP10PM51	Poultry Management I - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
25	V	23ZLCCPP53	Poultry Management II	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**

26	V	23ZLP11PP51	Poultry Management II - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
27	V	23ZLEC11AQ53	Sustainable Aquaculture Management	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
28	V	23ZLP1211AQ51	Sustainable Aquaculture Management - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
29	V	23ZLEC12LM53	Live Stock Management - I	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**

30	V	23ZLP1312LM51	Live Stock Management - Practical- I	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
31	V	23ZLEC22LP53	Live Stock Management - II	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
32	V	23ZLP1522LP51	Live Stock Management - II - Practical	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
33	V	23ZLEC21PH53	Postharvest Technology of fish & Fisheries	**CO1**	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO4	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO5	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
34	V	23ZLP1421PH51	Postharvest	**CO1**	**PSO1, PSO2,**	**PO1, PO2,**

			Technology of fish & Fisheries - Practical		**PSO3, PSO4**	**PO3, PO4, PO7**
				CO2	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**
				CO3	**PSO1, PSO2, PSO3, PSO4**	**PO1, PO2, PO3, PO4, PO7**

Mapping of Courses with PSOs

Course Title	Course Code	PSO1	PSO2	PSO3	PSO4
Introduction to Classical Biology	23SCCCCB14	✔	✔	✔	✔
Introduction to Applied Biology	23SCCCAB14	✔	✔	✔	✔
Animal Diversity I: Biology of Non-Chordates - Minor	23ZLCCAN23	✔	✔	✔	✔
Animal Diversity I: Biology of Non-Chordates – Practical - Minor	23ZLP1AN21	✔	✔	✔	✔
Cell & Molecular Biology	23ZLCCCM23	✔	✔	✔	✔
Cell & Molecular Biology - Practical	23ZLP2CM21	✔	✔	✔	✔
Animal Diversity II: Biology of Chordates - Minor	23ZLCCAC33	✔	✔	✔	✔
Animal Diversity II: Biology of Chordates - Practical - Minor	23ZLP3AC31	✔	✔	✔	✔
Principles of Genetics	23ZLCCPG33	✔	✔	✔	✔
Principles of Genetics - Practical	23ZLP4PG31	✔	✔	✔	✔
Animal Biotechnology	23ZLCCAB33	✔	✔	✔	✔
Animal Biotechnology - Practical	23ZLP5AB31	✔	✔	✔	✔
Evolution & Zoogeography	23ZLCCEZ33	✔	✔	✔	✔
Evolution & Zoogeography - Practical	23ZLP6EZ31	✔	✔	✔	✔

Embryology - Minor	23ZLCCEB43	✔	✔	✔	✔
Embryology - Practical - Minor	23ZLP7EB41	✔	✔	✔	✔
Animal Physiology: Life Sustaining Systems - Minor	23ZLCCAL43	✔	✔	✔	✔
Animal Physiology: Life Sustaining Systems - Practical - Minor	23ZLP8AL41	✔	✔	✔	✔
Immunology	23ZLCCIM43	✔	✔	✔	✔
Immunology - Practical	23ZLP9IM41	✔	✔	✔	✔
Poultry Management I - Minor	23ZLCCPM53	✔	✔	✔	✔
Poultry Management I - Practical - Minor	23ZLP10PM51	✔	✔	✔	✔
Poultry Management II - Minor	23ZLCCPP53	✔	✔	✔	✔
Poultry Management II – Practical - Minor	23ZLP11PP51	✔	✔	✔	✔
Sustainable Aquaculture Management	23ZLEC11AQ53	✔	✔	✔	✔
Sustainable Aquaculture Management - Practical	23ZLP1211AQ51	✔	✔	✔	✔
Live Stock Management I	23ZLEC12LM53	✔	✔	✔	✔
Live Stock Management I - Practical	23ZLP1312LM51	✔	✔	✔	✔
Post-Harvest Technology of Fish & Fisheries	23ZLEC21PH53	✔	✔	✔	✔
Post-Harvest Technology of Fish & Fisheries – Practical	23ZLP1421PH51	✔	✔	✔	✔

Live Stock Management II	23ZLEC22LP53	✔	✔	✔	✔
Live Stock Management II - Practical	23ZLP1522LP51	✔	✔	✔	✔

Mapping of Courses with POs

Course	PO1 Essential Knowledge	PO2 Creative and critical thinking and problem solving abilities	PO3 Teamwork and communi-cation skills	PO4 Motivation and preparation in life- long learning	PO5 Professionalism and leadership readiness	PO6 Intercultural and ethical competency	PO7 Self-awareness and emotional intelligence	PO8 Social Responsibility and Effective Citizenship
Classical Biology	✔	✔	✔	✔				
Applied Biology	✔	✔	✔	✔				
MDCBS	✔	✔	✔	✔				
AN	✔	✔	✔	✔				
P1AN	✔	✔	✔	✔				
CM	✔	✔	✔	✔				
P2CM	✔	✔	✔	✔				
AC	✔	✔	✔	✔				
P3AC	✔	✔	✔	✔				
PG	✔	✔	✔	✔				
P4PG	✔	✔	✔	✔				
AB	✔	✔	✔	✔				

P5AB	✔	✔	✔	✔				
EZ	✔	✔	✔	✔				
P6EZ	✔	✔	✔	✔				
MDCHH	✔	✔	✔	✔				
EB	✔	✔	✔	✔			✔	
P7EB	✔	✔	✔	✔			✔	
AL	✔	✔	✔	✔			✔	
P8AL	✔	✔	✔	✔			✔	
IM	✔	✔	✔	✔			✔	
P9IM	✔	✔	✔	✔			✔	
PM	✔	✔	✔	✔			✔	
P10PM	✔	✔	✔	✔			✔	
PP	✔	✔	✔	✔			✔	
P11PP	✔	✔	✔	✔			✔	
AQ	✔	✔	✔	✔			✔	
P12AQ	✔	✔	✔	✔			✔	
LM	✔	✔	✔	✔			✔	

LP13LM	✔	✔	✔	✔			✔	
PH	✔	✔	✔	✔			✔	
P14PH	✔	✔	✔	✔			✔	
LP	✔	✔	✔	✔			✔	
P15LP	✔	✔	✔	✔			✔	
	✔	✔	✔	✔			✔	