FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
Course Curriculum

PART- A: Introduction				
Program: Bachelor in Life Science *(Certificate / Diploma / Degree/Honors)*			Semester - I	Session: 2024-2025
1	Course Code	ZOSC-01T		
2	Course Title	Life on Earth and Unique Attributes of Animal Kingdom		
3	Course Type	Discipline Specific Course		
4	Pre-requisite (if, any)	*As per program*		
5	Course Learning. Outcomes (CLO)	**After successfully completing this course, the students will be able to-** ➢ Develop an understanding of concepts, mechanisms, evolutionary significance and relevance of Origin of life. ➢ Understand General Idea about Invertebrate and Vertebrate animals with special reference and their specific qualities. ➢ Understand and appreciate diversity of life forms. ➢ Apply the knowledge about animals Sciences in daily life.		
6	Credit Value	3 Credits	*Credit = 15 Hours - learning & Observation*	
7	Total Marks	Max. Marks: 100		Min Passing Marks: 40

PART- B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction				
Program: Bachelor in Life Science *(Certificate / Diploma / Degree / Honors)*			**Semester - I**	Session: **2024-2025**
1	Course Code	ZOSC-01P		
2	Course Title	Life on Earth and Unique Attributes of Animal Kingdom		
3	Course Type	Discipline Specific Lab Course		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning Outcomes (CLO)	After successfully completing this course, the students will be able to- ➢ *To demonstrate comprehensive understanding of the current theories and hypotheses regarding the origin of life on Earth,* ➢ *Understand diversity of life forms* ➢ *Identify some distinctive invertebrate and vertebrate animals* ➢ *Apply this Understanding to broader context of life*		
6	Credit Value	1 Credits	*Credit =30 Hours Laboratory or Field learning/Training*	
7	Total Marks	Max. Marks: 50		Min Passing Marks: 20

PART- B: Content of the C

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction				
Program: Bachelor in Life Science *(Certificate / Diploma / Degree / Honors)*			Semester - II	Session: 2024-2025
1	Course Code	ZOSC- 02T		
2	Course Title	Cell Biology and Histology		
3	Course Type	Discipline Specific Course		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning Outcomes (CLO)	After successfully completing this course, the students will be able to- ➢ Acquire knowledge of Cell membrane and function ➢ Understand the functioning of nucleus and extra nuclear organelles and understand the intricate cellular mechanisms involved. ➢ Gain Knowledge of key processes like cell division, ➢ Learn about various tissues of body their structural significance		
6	Credit Value	3 Credits	*Credit = 15 Hours - learning & Observation*	
7	Total Marks	Max. Marks: 100		Min Passing Marks: 40

PART- B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
Department of ZOOLOGY
Course Curriculum

PART- A: Introduction				
Program: Bachelor in Life Science *(Certificate / Diploma / Degree / Honors)*			Semester - II	Session: 2024-2025
1	Course Code	ZOSC-02P		
2	Course Title	Cell Biology and Histology		
3	Course Type	Discipline Specific Lab Course		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning Outcomes (CLO)	After successfully completing this course, the students will be able to- ➢ Understand ultra structure of prokaryote and Eukaryote cell, undertake microscopic study to gain knowledge ➢ learn to identify cell organelles ➢ Explain and demonstrate mitosis and meiosis division in onion root tip, Grass hopper testis, etc ➢ Gain knowledge of Microtomy		
6	Credit Value	1 Credits	*Credit =30 Hours Laboratory or Field learning/Training*	
7	Total Marks	Max. Marks: 50		Min Passing Marks: 20

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction				
Program: Bachelor in Life Science *(Diploma / Degree/ Honors)*		**Semester - III**		Session: 2024-2025
1	Course Code	ZOSC-03T		
2	Course Title	Diversity of Invertebrates		
3	Course Type	Discipline Specific Course		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning. Outcomes (CLO)	**After successfully completing this course, the students will be able to -** ➢ Develop understanding on Invertebrate Animals on the basis of classification and Nomenclature. ➢ Develop understanding how simple/unicellular animals changed into multicellular and diploblastic forms through their anatomy and physiology. ➢ Gain Knowledge of key processes like formation of triploblastic animals (simple to complex form of body plan). ➢ Develop understanding on parasitic adaptations and life cycle of Helminthes. ➢ Develop understanding on the diversity in Artropoda, Mollusca and Echinodermata.		
6	Credit Value	3 Credits	*Credit = 15 Hours - learning & Observation*	
7	Total Marks	Max. Marks: 100		Min Passing Marks: 40

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction				
Program: Bachelor in life Science *(Diploma / Degree/ Honors)*			Semester - III	Session: 2024-2025
1	Course Code	ZOSC-03P		
2	Course Title	Diversity of Invertebrates		
3	Course Type	Discipline Specific Lab Course		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning. Outcomes (CLO)	After successfully completing lab course the students will be able to- ➢ Develop understanding on the diversity of life with regard nonchordates. ➢ Gain Knowledge of grouping of animals on the basis of their morphological characteristics. ➢ Develop critical understanding how animals have changed from simple form to complex body plan. ➢ Acquired the detailed knowledge to think and interpret different animal species individually.		
6	Credit Value	1 Credits	*Credit =30 Hours Laboratory or Field learning/Training*	
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20	

PART- B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction

Program: Bachelor in Life Science *(Diploma / Degree/ Honors)*		Semester - IV	Session: 2024-2025
1	Course Code	ZOSC-04T	
2	Course Title	Diversity of Chordates and Comparative Anatomy	
3	Course Type	Discipline Specific Course	
4	Pre-requisite (if, any)	*As per Program*	
5	Course Learning. Outcomes (CLO)	**After successfully completing this course, the students will be able to:** ➢ Develop understanding of the characters used to classify and differentiate the organisms belonging to different taxa and the evolutionary history and relationship between the different classes of chordates. ➢ Acquire knowledge and Develop critical understanding of the comparative anatomy and functioning of complex systems of Pisces to Mammalia. ➢ Learn the comparative account of integument with its derivatives, digestive system and Skeletal and Muscular System. ➢ Understand the Digestive system and its anatomical specializations with respect to different diets and feeding habits and respiratory organs in vertebrates used in aquatic, terrestrial and aerial vertebrates. ➢ Understand the evolution of heart, aortic arches, and Learn the evolution of brain, sense organs and urinogenital system.	
6	Credit Value	3 Credits	*Credit = 15 Hours - learning & Observation*
7	Total Marks	Max. Marks: 100	Min Passing Marks: 40

PART -B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction			
Program: Bachelor in Life Science *(Diploma / Degree / Honors)*		**Semester - IV**	**Session: 2024-2025**
1	Course Code	ZOSC-04P	
2	Course Title	Diversity of Chordates and Comparative Anatomy	
3	Course Type	Discipline Specific Lab Course	
4	Pre-requisite (if, any)	*As per Program*	
5	Course Learning Outcomes (CLO)	After successfully completing lab course the students will be able to - ➢ Develop understanding on the diversity of life with regard to different classes of vertebrates. ➢ Gain knowledge to identify and classify the animals on the basis of their morphological characteristics. ➢ Acquire the detailed knowledge about evolutionary history and relationship between the different classes of vertebrates through salient features some important animals. ➢ Learn comparative account of various systems in all the classes of vertebrates.	
6	Credit Value	1 Credits	*Credit =30 Hours Laboratory or Field learning/Training*
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20

PART B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART-A: Introduction

Program: Bachelor *(Certificate / Diploma / Degree)*	Semester – I/III/V	Session: 2024-2025

1	Course Code	ZOVAC-01	
2	Course Title	Public Health and Hygiene	
3	CourseType	Value Added Course	
4	Pre-requisite(if, any)	*As per Program*	
5	Course Learning. Outcomes(CLO)	➢ Understand the importance of hygiene. ➢ Identify current national and global public health problems. ➢ Aware about the issues of food safety, water safety, vaccination, and obesity. ➢ Create general medical awareness in daily life. ➢ Analyze the measures to live a healthy life.	
6	CreditValue	2 Credits	*Credit = 15 Hours -learning & Observation*
7	TotalMarks	Max.Marks:50	Min Passing Marks:20

PART-B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART-A: Introduction

Program: Bachelor in Life Science *(Certificate / Diploma / Degree)*	Semester – II/IV/V/VI	Session: 2024-2025

1	Course Code	ZOSEC-01	
2	Course Title	Vermiculture and Vermicomposting	
3	Course Type	Skill Enhancement Course	
4	Pre-requisite (if, any)	*As per Program*	
5	Course Learning Outcomes (CLO)	After successfully completing this course, the students will be able to: ➢ Learn the identifiable features of earthworm species for vermiculture and vermicomposting. ➢ Cultivate the skills of vermiculture. ➢ Understand the challenges in vermiculture and vermicomposting. ➢ Analyze the features of different vermicomposting methods. ➢ Create entrepreneurial prospects in this field.	
6	CreditValue	2 Credits (1C + 1C)	*Credit = 15 Hours –Theoretical learning and = 30 Hours Laboratory or Field learning/Training*
7	Total Marks	Max.Marks:50	Min Passing Marks:20

PART-B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)

COURSE CURRICULUM

PART A: INTRODUCTION				
Program: Certificate Course		Semester- I Sem		Session: 2024-25
1	Course Code	AEC 01		
2	Course Title	Environmental Studies		
3	Course Type	Ability Enhancement Course (AEC)		
4	Prerequisite (If Any)	As per requirement		
5	Course Outcome (CO)	At the end of this course, students will be able to – CO 01: relate the basic concept of the environment CO 02: explain environmental alterations CO 03: develop skills in environmental measurement CO 04: examine correction measures of the environment		
6	Credit Value	02 C	01 Credit = 15 Hrs. Teaching-Learning	
7	Total Marks	Max. Marks: 50		Minimum Pass marks: 20

PART B CONTENT OF THE COURSE

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)

DEPARTMENT OF ZOOLOGY

COURSE CURRICULUM

PART- A: Introduction				
Program: Bachelor in Life Science *(Diploma / Degree/Honors)*			**Semester - III**	Session: 2024-2025
1	Course Code	ZOSE- 01T		
2	Course Title	Parasitology		
3	Course Type	Discipline Specific Elective		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning. Outcomes (CLO)	➢ Students should comprehend the life cycles of various parasites, including their modes of transmission, intermediate hosts, and definitive hosts. ➢ Gain insights into the interactions between parasites and their hosts, including mechanisms of host invasion, evasion of host defenses, and pathogenesis. ➢ Develop the ability to recognize clinical manifestations associated with parasitic infections ➢ Understand the epidemiology of parasitic diseases ➢ Communicate effectively about parasitic diseases, including educating the public.		
6	Credit Value	3 Credits	*Credit = 15 Hours - learning & Observation*	
7	Total Marks	Max. Marks: 100		Min Passing Marks: 40

PART- B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART- A: Introduction				
Program: Bachelor in Life Science *(Diploma / Degree/ Honors)*			**Semester - III**	Session: 2024-2025
1	Course Code	ZOSE- 01P		
2	Course Title	Parasitology		
3	Course Type	Discipline Specific Elective Lab Course		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning. Outcomes (CLO)	At the end of this course, the students will be able - ➢ Identify common parasitic Protozoa and Helminth. ➢ Learn techniques for studying growth of bacteria and its staining. ➢ Learn the techniques for examine Sputum, Blood, Urine and Stool samples for pathology		
6	Credit Value	1 Credits	*Credit =30 Hours Laboratory or Field learning/Training*	
7	Total Marks	Max. Marks: 50		Min Passing Marks: 20

PART -B: Content of the Course

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)

DEPARTMENT OF ZOOLOGY

COURSE CURRICULUM

PART- A: Introduction				
Program: Bachelor in Life Science *(Diploma / Degree/Honors)*			**Semester -IV**	Session: 2024-2025
1	Course Code	**ZOSE-02T**		
2	Course Title	**Ecology and Wildlife Conservation & Management**		
3	Course Type	**Discipline Specific Elective**		
4	Pre-requisite (if, any)	*As per Program*		
5	Course Learning. Outcomes (CLO)	**After successfully completing this course, the students will be able to:** ➢ Understand the concepts of fundamental ecological principles, including energy flow, nutrient cycling, and population dynamics. ➢ Apply the knowledge of ecology to understand equilibrium of nature. ➢ Analyze the strategies of Populations to survive and sustain. ➢ Evaluate the significance of biodiversity and its conservation. ➢ Create awareness about wildlife and nature.		
6	Credit Value	3 Credits	*Credit = 15 Hours - learning & Observation*	
7	Total Marks	Max. Marks: 100		Min Passing Marks: 40

FOUR YEAR UNDERGRADUATE PROGRAM(2024 – 28)
DEPARTMENT OF ZOOLOGY
COURSE CURRICULUM

PART-A: Introduction				
Program:Bachelor in Life Science *(Diploma / Degree/ Honors)*			**Semester -IV**	Session:2024-2025
1	CourseCode	ZOSE-02P		
2	CourseTitle	Ecology and Wildlife Conservation & Management		
3	CourseType	Discipline Specific Elective Lab Course		
4	Pre-requisite(if, any)	*As per Program*		
5	Course Learning. Outcomes(CLO)	**After successfully completing this course, the students will be able to:** ➢ Understand practical fieldwork skills, including sampling techniques, data collection and methods of analysis used in ecological research. ➢ Learn to design and implement ecological experiments. ➢ Understand soil profile and characteristics. ➢ Analyse chemical parameters of various water bodies. ➢ Create awareness about local faunaand evaluate biodiversity of an area.		
6	CreditValue	1 Credits	*Credit =30 Hours Laboratory or Field learning/Training*	
7	TotalMarks	Max.Marks:50		Min Passing Marks:20

Part A: Introduction				
Program: **Certificate course**		Class: **B.Sc. III rd. Year**	Year: **2024**	Session **2024:2025**
1	Course code	**ZOOL: 5T**		
2	Course Title	Animal Behaviour, Chronobiology and Ecology		
3	Course type	Theory		
4	Pre requisite	NO		
5	Course learning Out comes (CLO)	After successfully completing this course, the students will be able to: • Learn a wide range of theoretical and practical techniques used to study animal behaviour. • Develop skills, concepts and experience to understand all aspects of animal behaviour. • Objectively understand and evaluate information about animal behaviour and ecology encountered in our daily lives. • Understand and be able to objectively evaluate the role of behaviour in the protection and conservation of animals in the wild. • Consider and evaluate behaviour of all animals, including humans, in the complex ecological world, including the urban environment. • Know the evolutionary and functional basis of animal ecology. • Understand what makes the scientific study of animal ecology a crucial and exciting endeavour. • Analyse a biological problem, derive testable hypotheses and then design experiments and put the tests into practice. • Solve the environmental problems involving interaction of humans and natural systems at local or global level.		
6	Credit value	4		
7	Total Marks	Max. Marks: 50		Minimum. Passing Marks: 17

Part A: Introduction

Program: Certificate Course		Class: B.Sc. III rd Year	Year: 2024	Session: 2024-2025
1	Course Code	ZOOL – 6 T		
2	Course Title	Microbiology, Parasitology, Immunology and Applied Zoology		
3	Course Type	Theory		
4	Pre-requisite (if any)	No		
5	Course Learning Outcomes (CLO)	After completing this course, the students will be able to - • Understand causative agents, pathogenesis, diagnosis, prophylaxis, and chemotherapy for various bacterial, viral, protozoan, and helminthic diseases. • Understand the concept of immune mechanisms, their pathways, acquired immunity, hypersensitivity, and autoimmune disorders. • Understand the aquaculture techniques, their problems, and commercial viability. • Understand the techniques and commercial significance of apiculture, sericulture, and lac culture. • Understand the basic and technical skills related to dairy management, poultry, and vermicomposting.		
6	Credit Value	4		
7	Total Marks	Max. Marks: 50	Min Passing Marks : 17	

Part A: Introduction				
Program : Degree course		Class: B.Sc.III Year	Year -2024	Session :-2024-2025
1	Course code	ZOOL-3P		
2	Course Title	Lab course - 3		
3	Course Type	Practical		
4	Pre-Requisite(If Any)	No		
5	Course Learning Outcome (CLO)	At The end of Course Students will be able to - • Learn a wide range of practical techniques used to study animal behaviour. • Develop skills, concepts and experience to understand all aspects of animal behaviour. • Objectively understand and evaluate information about animal behaviour and ecology encountered in our daily lives. • Understand and be able to objectively evaluate the role of behaviour in the protection and conservation of animals in the wild. • Consider and evaluate behaviour of all animals, including humans, in the complex ecological world, including the urban environment. • Understand causative agents, pathogenesis, diagnosis, prophylaxis, and chemotherapy for various bacterial, viral, protozoan, and helminthic diseases. • Understand the concept of immune mechanisms, their pathways, acquired immunity, hypersensitivity, and autoimmune disorders. • Understand the aquaculture techniques, their problems, and commercial viability. • Understand the techniques and commercial significance of apiculture, sericulture, and lac culture. • Understand the basic and technical skills related to dairy management, poultry, and vermicomposting.		
6	Credit Value	2		
7	Total marks	Maximum marks : 50 Minimum marks: 17		