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

Course Curriculum

PA	ART-A: Intro	duction		
Pro (Cei	gram: Bachelor in Life rtificate / Diploma / Degree	Science 2/Honors)	Semester - I	Session: 2024-2025
jeronski	Course Code	ZOSC-01T	and the second s	
2	Course Title	Life on Earth a	nd Unique Attributes of	Animal Kingdom
3	Course Type	Life on Earth and Unique Attributes of Animal Kingdom 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
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P	ART-A:	ntroductio	n	
Pr (Co	ogram: Bachelor in ertificate / Diploma / De	n Life Science gree / Honors)	Semester - I	Session: 2024-2025
- Total	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)			
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		

ART- A: II	ntroduction	n		
		Semester - II	Session: 2024-2025	
Course Code	ZOSC- 02T			
Course Title	Cell Biology and Histology			
Course Type	Discipline Specific Course			
Pre-requisite (if, any)	As per Program			
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,			
Credit Value	3 Credits	The state of the s	urs - learning & Observation	
Total Marks	Max. Marks:	100	Min Passing Marks: 40	
	ogram: Bachelor in artificate / Diploma / De Course Code Course Title Course Type Pre-requisite (if, any) Course Learning Outcomes (CLO)	ogram: Bachelor in Life Science ortificate / Diploma / Degree / Honors) Course Code Course Title Course Type Pre-requisite (if, any) After successft Acquire known outcomes (CLO) Course Learning Outcomes (CLO) Credit Value After Successft Acquire known outcomes (CLO) Credit Value Credit Value Course Learn about Credit Value Course Learn accessful outcomes (CLO)	ogram: Bachelor in Life Science ortificate / Diploma / Degree / Honors) Course Code Course Title Course Type Discipline Specific Course Pre-requisite (if, any) After successfully completing this couplet and the functioning of nucleounderstand the intricate cellular median points and the intricate cellular median points are considered as a Credit value and Credit = 15 Hours are considered as a Credit = 15 Hours a	

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

Course Curriculum

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P	ART-A: Intro	duction				
	ogram: Bachelor in ertificate / Diploma / De		Semester - II	Session: 2024-2025		
janesk	Course Code	ZOSC-02P				
Z	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 Labo	ratory or Field learning/Training		
7	Total Marks	Max. Marks:	50	Min Passing Marks: 20		

-	COLLEGE CONTRACTOR				
-		ntroductio			
P	rogram: Bachelor in (Diploma/Degree		Semeste	r-III	Session: 2024-2025
1	Course Code	ZOSC-03T			
2	Course Title	Diversity of Inv	ertebrates		
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
		2 29 2 8 2005			

80	ART- A:	A second	OT COMMICCULUM		
	Fig. 8	ntroductio	n		
P ₁	rogram: Bachelor in hiploma / Degree/ Honor	n life Science	Semester - III	Session: 2024-2025	
Annual	Course Code	ZOSC-03P			
2	Course Title	Diversity of Inv	vertebrates		
3	Course Type	Discipline Spec	Discipline Specific Lab Course		
4	Pre-requisite (if, any)				
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		pratory or Field learning/Training	
7	Total Marks	Max. Marks:	50	Min Passing Marks: 20	
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The season of th	ART-A:	ntroduction		
Pi	ogram: Bachelor in (Diploma / Degree)	n Life Science (Honors)	Semester - IV	Session: 2024-2025
1	Course Code	ZOSC-04T	A the first phase of the second secon	
2	Course Title		ordates and Comparativ	vo A no of
3	Course Type	Discipline Spec	ific Course	e Anatomy
4				ropram
C).	Course Learning. Outcomes (CLO)	the organisms relationship b Acquire know anatomy and to Learn the co digestive syste Understand the respect to diff vertebrates use Understand the	erstanding of the character's belonging to different tax etween the different classe yledge and Develop critical functioning of complex system and Skeletal and Muscine Digestive system and ifferent diets and feeding ed in aquatic, terrestrial and e evolution of heart, aorticing and and urinogenital systems.	understanding of the comparative of Pisces to Mammalia. integument with its derivatives, ular System. Its anatomical specializations with habits and respiratory organs in daerial vertebrates. arches, and Learn the evolution of em.
6	Credit Value	3 Credits	Credit = 15 Hou	rs - learning & Observation
7	Total Marks	Max. Marks:	100	Min Passing Marks: 40
PAR	PT -R. Content of	the Course		

P/	ART-A: In	itroduction	1	
Program: Bachelor in Li (Diploma / Degree / Honors)		1	Semester - IV	Session: 2024-2025
1	Course Code	ZOSC-04P		
2	Course Title	Diversity of Cho	rdates and Comparative A	natomy
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 Labor	ratory or Field learning/Training
7	Total Marks	Max. Marks:	50	Min Passing Marks: 20

P	ART-A: Introdu	ction		
	ogram:Bachelor ertificate / Diploma / De	gree)	Semester – I/III/V	Session: 2024-2025
1	Course Code	ZOVAC-01		Annual Property and Control of the C
2	Course Title	Public Health a	nd 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		
7	TotalMarks	Max.Marks:50		Iin Passing Marks:20

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

COURSE CURRICULUM

p	ART-A: Introduct	The state of the s	TOT CONVICULON		
	ogram: Bachelor in Li (Certificate / Diploma /		Semester – II/IV/V/VI	Session: 2024-2025	
1	Course Code	Course Code ZOSEC-01			
2	Course Title	Vermiculture an	nd Vermicomposting		
3	Course Type	Skill Enhancem		emente delle conditte della film della di escribita della conditte della conditta della pietici di una pietici	
4	Pre-requisite (if, any)	The second secon	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	

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28) COURSE CURRICULUM

ni ila a salama New S. (21)		PART A: IN	TRODUCTI	ON	
Pro	gram: Certificate Course	Semester- I		W 2 3	Session: 2024-25
1	Course Code	AEC 01			
2	Course Title	Environmental S	tudies	***************************************	Approximation and the second s
3	Course Type	Ability Enhancer	ment 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			
		CO 02: explain e			
		CO 03: develop s			
		CO 04: examine	correction me	easures	s of the environment
6	Credit Value	02 C	01 Credit =	15 H	rs. Teaching-Learning
7	Total Marks	Max. M	arks: 50		Minimum Pass marks: 20
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P	ART- A:	ntroductio	n		
1	ogram: Bachelor i		Semester - III	Session: 2024-2025	
1	Course Code	ZOSE- 01T			
2	Course Title	Parasitology			
3	Course Type	Discipline Spec	ific Elective	4	
4	4 Pre-requisite (if, any) As per Program			ogram	
5	Course Learning. Outcomes (CLO)	including their hosts. > Gain insights including med pathogenesis. > Develop the a parasitic infect > Understand the	into the interactions betchanisms of host invasion bility to recognize clinications e epidemiology of parasiti effectively about parasit	ic diseases, including educating	
6	Credit Value	3 Credits	Credit = 15 Hour	s - learning & Observation	
7	Total Marks	Max. Marks:	100	Min Passing Marks: 40	
DA	DADT D. Contant of the Course				

p	ART- A: II	ntroductio	n	
	rogram: Bachelor in Diploma / Degree/ Honor		Semester - III	Session: 2024-2025
1	Course Code	ZOSE- 01P	The second secon	
2	Course Title	itle Parasitology		
3	Course Type	ourse 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 Labo	pratory or Field learning/Training
7	Total Marks	Max. Marks:	50	Min Passing Marks: 20
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The Person of th			SE CURRICULUM	
P	ART- A: Intro	duction		
	ogram: Bachelor in Lif ploma / Degree/Honors		Semester -IV	Session: 2024-2025
1	Course Code	ZOSE-02T		And Annual Control of the Control of
2	Course Title	Ecology and W	ildlife 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

		SE COKKICOLUM	
ART-A: Introdu	ction		
		Semester -IV	Session:2024-2025
CourseTitle	Ecology and Wildlife Conservation & Management		
CourseType			
Pre-requisite(if, any)	As per Program		
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.		
CreditValue	1 Credits Credit = 30 Hours Laboratory or Field learning/Training		
TotalMarks	Max.Marks:		Min Passing Marks:20
	ogram:Bachelor in ience(Diploma / Degre CourseCode CourseTitle CourseType Pre-requisite(if, any) Course Learning. Outcomes(CLO)	ART-A: Introduction ogram:Bachelor in Life ience(Diploma / Degree/ Honors) CourseCode ZOSE-02P CourseTitle Ecology and W CourseType Discipline Spec Pre-requisite(if, any) After succes Understant collection Learn to d Understant collection Learn to d Understant Analyse c Create aw CreditValue 1 Credits	ogram:Bachelor in Life ience(Diploma / Degree/ Honors) CourseCode CourseTitle CourseType Discipline Specific Elective Lab Course Pre-requisite(if, any) After successfully completing this course Understand practical fieldwork skills, collection and methods of analysis use Understand soil profile and characteris Analyse chemical parameters of vario CreditValue CreditValue Semester -IV Semester -IV Semester -IV Analyse chemical parameter of N Course Learn to design and implement ecology Understand soil profile and characteris Create awareness about local faunaand CreditValue Credit -30 Hours Labo

		Part A: Introductio	73			
Pro	ogram: Certificate course	Class: B.Sc. III rd. Year	Year: 2024	Session 2024:2025		
1	Course code		ZOOL: 5T			
2	Course Title	Animal Behaviour, Chrono	biology and Ecol	ogy		
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 behaviour in the protection wild. 	able to objectively evaluate the role of tection and conservation of animals in the			
		 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 e 				
		 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 humans and natural syste 	problems involvi	ng interaction of		
)	Credit value					
7	Total Marks	Max. Marks: 50	Minimur	n. Passing Marks: 17		

		Part A: Introduction
Pro	gram: Certificate Co	urse Class:B.Sc. III rd Year Year:2024 Session:2024-2025
1	Course Code	ZOOL-6T
2	Course Title	Microbiology, Parasitology, Immunology and Applied Zoology
3	Course Type	Theory
4	Pre-requisite (if any)	No
Outcomes (CLO) After completing Understan chemother diseases. Understan immunity, Understan viability. Understan sericulture Understan		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

Progr	am : Degree course	Part A: Introduction Class: B.Sc.III Year Year -2024 Session :-2024-2024
1	Course code	The Charles of the Ch
		ZOOL-3P
3	and the second s	Lab course - 3
4	Pre-Requisite(If Any)	No
Course Type Pre-Requisite(If		 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 server.
Cri	edit Value 2	Some poultry, and vermicomposting
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