

Academic Year	2022-23
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**B.P.H.E. Society's
Ahmednagar College, Ahmednagar
Internal Quality Assurance Cell
CO, PO, and PSO Attainment Sheet**

Department Name	Zoology
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Program Name	B.Sc.
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Program Outcomes(PO)

PO1	To foster curiosity in the students for Zoology.
PO2	To create awareness amongst students for the basic and applied areas of Zoology,
PO3	To orient students about the importance of abiotic and biotic factors of environment and their conservation
PO4	To provide an insight to the aspects of animal diversity.
PO5	To inculcate good laboratory practices in students and to train them about proper handling of lab instruments.
PO6	
PO7	
PO8	
PO9	
PO10	
PO11	
PO12	

Program Specific Outcome(PSO)

PSO1	To foster curiosity, create awareness among students about basic and applied areas of Zoology.
PSO2	To orient students about importance and conservation of biodiversity and components of the environment
PSO3	To inculcate good laboratory practices in students and to train them about proper handling of lab instruments.

Academic Year :	2022-23
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Class		F.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	11151	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Animal Diversity - I	CO1	1	1	1	1	0	1	1	0	
Semester No	1	CO2	1	1	0	0	0	1	1	0	
Teacher Name	Dr. Rahul Gaikwad	CO3	1	0	0	0	0	1	0	0	
Course Outcomes		CO4	1	0	0	1	0	1	1	0	
	CO1	The student will be able to understand classify and identify the diversity of animals.	CO5	1	1	1	1	0	1	1	0
	CO2	The student understands the importance of classification of animals.	Average	1.00	0.60	0.40	0.60	0.00	1.00	0.80	0.00
	CO3	Students will understand the basic principles of classification.									
	CO4	The student will be able to classify animals effectively using the six levels of classification.									
	CO5	The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.									

Class		F.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	11152	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Animal Ecology	CO1	1	1	1	1	0	1	1	0	
Semester No	1	CO2	1	1	1	0	0	1	1	0	
Teacher Name	Ms. Anuja Bhalerao	CO3	1	1	1	1	0	1	1	0	
Course Outcomes		CO4	1	1	1	1	0	1	1	0	
	CO1	The learners will be able to identify and critically evaluate their own beliefs, values and actions in relation to professional and societal standards of ethics and its impact on ecosystem and biosphere due to the dynamics in population.	CO5	1	1	1	1	0	1	1	0
	CO2	To understand anticipate, analyse and evaluate natural resource issues and act on a lifestyle that conserves nature.	Average	1.00	1.00	1.00	0.80	0.00	1.00	1.00	0.00
	CO3	The Learner understands and appreciates the diversity of ecosystems and applies beyond the syllabi to understand the local lifestyle and problems of the community.									

	CO4	The learner will be able to link the intricacies of food chains, food webs and link it with human life for its betterment and for non-exploitation of the biotic and abiotic components.
	CO5	The working in nature to save environment will help development of leadership skills to promote betterment of environment.

Class		F.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	11153			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practical Paper I		CO1	1	1	1	1	0	1	1	0
Semester No	1		CO2	1	1	0	1	0	1	0	0
Teacher Name	Dr. Rahul Gaikwad and Ms. Anuja Bhalerao		CO3	1	1	0	1	0	1	0	0
Course Outcomes			CO4	1	1	1	0	1	1	1	1
	CO1	The student will be able to understand classify and identify the diversity of animals.	CO5	1	1	1	0	0	1	1	0
	CO2	The student understands the importance of classification of animals.	Average	1.00	1.00	0.60	0.60	0.20	1.00	0.60	0.20
	CO3	Students will learn to classify animals using identification key.									
	CO4	Titration to estimate freshwater parameters such as dissolved oxygen, alkalinity and free CO2 will be studied.									
	CO5	Awareness about Eutrophication will be created and what preventive measures can be undertaken to resolve it will be studied.									

Class		F.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	12151			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Animal Diversity - II		CO1	1	1	1	1	0	1	1	0
Semester No	2		CO2	1	1	0	0	0	1	1	0
Teacher Name	Dr. Rahul Gaikwad		CO3	1	0	0	0	0	1	0	0
Course Outcomes			CO4	1	0	0	1	0	1	1	0
	CO1	The student will be able to understand classify and identify the diversity of animals.	CO5	1	1	1	1	0	1	1	0
	CO2	The student understands the importance of classification of animals.	Average	1.00	0.60	0.40	0.60	0.00	1.00	0.80	0.00
	CO3	Students will understand the basic principles of classification.									
	CO4	The student will be able to classify animals effectively using the six levels of classification.									
	CO5	The student knows his role in nature as a protector, preserver and promoter of life which he has achieved by learning, observing and understanding life.									

Class		F.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	12152	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Cell Biology	CO1	1	1	0	0	0	1	0	0	
Semester No	2	CO2	1	1	0	0	0	1	0	0	
Teacher Name	Ms. Anuja Bhalerao	CO3	1	1	0	0	0	1	0	1	
Course Outcomes		CO4	1	1	0	0	1	1	0	1	
	CO1	The learner will understand the importance of cell as a structural and functional unit of life.	CO5	1	1	0	0	1	1	0	1
	CO2	The learner understands and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.	Average	1.00	1.00	0.00	0.00	0.40	1.00	0.00	0.60
	CO3	The dynamism of bio membranes indicates the dynamism of life. Its working mechanism and precision are responsible for our performance in life.									
	CO4	The cellular mechanisms and its functioning depends on endo-membranes and structures. They are best studied with microscopy.									
	CO5	Overall functioning of cell at organelle level will be understood.									

Class		F.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	12153	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Practical Paper II	CO1	1	1	0	1	0	1	1	0	
Semester No	2	CO2	1	1	0	1	0	1	0	0	
Teacher Name	Dr. Rahul Gaikwad and Ms. Anuja Bhalerao	CO3	1	1	1	0	0	1	1	0	
Course Outcomes		CO4	1	1	1	0	1	1	0	1	
	CO1	The student will be able to understand classify and identify the diversity of animals.	CO5	1	1	1	0	1	1	0	1
	CO2	The student understands the importance of classification of animals.	Average	1.00	1.00	0.60	0.40	0.40	1.00	0.40	0.40
	CO3	Economic importance of various insects will be studied.									
	CO4	Students will learn basic working principle of microscopes and various stains used in cell biology.									
	CO5	Types of blood cells and mitosis mechanism will be visualised and studied.									

Academic Year :	2022-23
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Class		S.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	23151	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Animal Diversity III	CO1	3	1	1	2	3	2	3	1	
Semester No	3	CO2	3	1	1	2	3	2	3	1	
Teacher Name	Dr. Avinash Vanjare	CO3	3	1	1	2	3	2	3	2	
Course Outcomes		CO4	3	1	1	2	3	2	3	3	
	CO1	Understanding the taxonomy of chordates	CO5	3	3	3	3	3	3	3	
	CO2	Understanding the diversity of chordates	Average	3.00	1.40	1.40	2.20	3.00	2.20	3.00	2.00
	CO3	Understand morphology, anatomy and physiology of organisms									
	CO4	Understand ecology, economic importance and conservation of animals									
	CO5	Study in detail a model organism (Scoliodon)									

Class		S.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	23152	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Applied Zoology I	CO1	2	2	2	3	2	3	2	2	
Semester No	3	CO2	2	2	2	3	2	3	3	3	
Teacher Name	Dr. Ivan Aranha	CO3	2	2	2	3	2	3	2	3	
Course Outcomes		CO4	2	2	2	3	2	3	3	2	
	CO1	To understand the basic life cycle of the honeybees, beekeeping tools and equipment. To learn about managing beehives for honey production and pollination.	CO5	2	2	2	3	2	2	3	3
	CO2	To understand the basic information about fishery, cultural, and harvesting methods of fishes. To understand fish preservation techniques.	Average	2.00	2.00	2.00	3.00	2.00	2.80	2.60	2.60
	CO3	To understand the biology, varieties of silkworms and the basic techniques of silk production and harvesting of cocoons.									
	CO4	To learn the different silkworm species and their host plants.									
	CO5	To study types of agricultural pests and Major insect pests of agricultural importance. To study Pest control practices.									

Class		S.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs			
Subject Code	23153			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Practical Paper I		CO1	3	3	2	3	2	3	2	2	
Semester No	3		CO2	3	2	3	3	2	3	2	2	
Teacher Name	Dr. Ivan Aranha		CO3	1	3	2	3	2	3	2	2	
Course Outcomes			CO4	2	2	2	3	2	3	2	2	
	CO1	To understand the origin and advancement of higher vertebrates (tetrapoda).		CO5	2	2	2	3	2	3	2	2
	CO2	To understand general characters of different groups of higher vertebrates.		Average	3.00	3.00	3.00	3.00	3.00	3.00	2.00	2.00
	CO3	The learner understands the biology, varieties of silkworms and the basic techniques of silk production.										
	CO4	The learner understands the types of agricultural pests										
	CO5	Major insect pests of agricultural importance and Pest control practices.										

Class		S.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs			
Subject Code	24151			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Animal Diversity IV		CO1	3	1	1	2	3	2	3	1	
Semester No	4		CO2	3	1	1	2	3	2	3	1	
Teacher Name	Dr. Avinash Vanjare		CO3	3	1	1	2	3	2	3	2	
Course Outcomes			CO4	3	1	1	2	3	2	3	3	
	CO1	Understanding the taxonomy of chordates		CO5	3	3	3	3	3	3	3	
	CO2	Understanding the diversity of chordates		Average	3.00	1.40	1.40	2.20	3.00	2.20	3.00	2.00
	CO3	Understand morphology, anatomy and physiology of organisms										
	CO4	Understand ecology, economic importance and conservation of animals										
	CO5	Study in detail a model organism (Rat)										

Class		S.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs			
Subject Code	24152			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Applied Zoology II		CO1	3	3	3	3	3	3	2	2	
Semester No	4		CO2	2	2	2	3	2	3	2	2	
Teacher Name	Dr. Ivan Aranha		CO3	3	3	3	3	3	3	2	2	
Course Outcomes			CO4	2	2	2	3	2	3	2	2	
	CO1	The learner understands the basics of beekeeping tools, equipment, and managing beehives.		CO5	2	2	2	3	2	3	2	2
	CO2	The learner understands the basic information about fishery, cultural and harvesting methods of fish, and fish preservation techniques.		Average	2.40	2.40	2.40	3.00	2.40	3.00	2.00	2.00
	CO3	The learner understands the biology, varieties of silkworms, and the basic techniques of silk production.										

	CO4	The learner understands the major insect pests of agricultural and control practices.
	CO5	The learner understands the major insect pests of agricultural and control practices.

Class	S.Y.B.Sc.		Course Outcomes	Program Outcomes					PSOs		
Subject Code	24153			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practical Paper II		CO1	2	3	1	3	2	2	3	2
Semester No	4		CO2	1	2	1	3	1	2	2	1
Teacher Name	Dr. Avinash Vanjare		CO3	2	2	2	2	2	2	2	2
Course Outcomes			CO4	3	3	1	2	2	2	2	2
	CO1	Study snakes and venom	CO5	3	3	3	3	2	3	3	2
	CO2	Museum study of birds, reptiles and mammals	Average	2.20	2.60	1.60	2.60	1.80	2.20	2.40	1.80
	CO3	Morphology, anatomical and physiological study of Rat									
	CO4	Study of aquaculture and Apiculture									
	CO5	Conduct of field visits/ Study tours									

Academic Year :	2022-23
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Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	35151			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Pest Management		CO1	3	2	2	1	2	1	2	3
Semester No	5		CO2	2	1	3	2	2	3	1	2
Teacher Name	Mr. D. G. Bhalsing		CO3	1	2	3	2	1	2	3	1
Course Outcomes			CO4	2	3	1	3	3	2	2	2
	CO1	Description of economic, ecological and sociological benefits of Integrated Pest Management.	CO5	3	2	1	1	1	2	3	2
	CO2	Understand problems resulting from misuse, overuse, and abuse of chemical pesticides.	Average	2.20	2.00	2.00	1.80	1.80	2.00	2.20	2.00
	CO3	Description of pesticide resistance and development.									
	CO4	Identification of tactics used in Integrated Pest Management and ability to distinguish them.									
	CO5	Know how to develop Integrated Pest Management programme and understand society's role in IPM decisions.									

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	35152			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Histology		CO1	2	1	2	3	2	1	2	3
Semester No	5		CO2	1	3	2	2	2	3	1	2
Teacher Name	Mr. D. G. Bhalsing		CO3	3	2	3	2	3	2	2	3
Course Outcomes			CO4	2	2	2	1	2	2	2	2
	CO1	To understand, classify and identify different types of tissues.	CO5	2	3	2	2	1	3	3	1
	CO2	To understand the complexity of various tissues in an organ.	Average	2.00	2.20	2.20	2.00	2.00	2.20	2.00	2.20
	CO3	To learn structure and functions of various tissues.									
	CO4	To understand various diseases related to organs.									
	CO5	To know the role of glands in mammals.									

Class	T.Y.B.Sc.	Course	Program Outcomes	PSOs
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Subject Code	35153	Outcomes	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Biological Chemistry	CO1	2	2	0	0	2	2	0	2	
Semester No	5	CO2	2	2	0	0	2	2	0	2	
Teacher Name	Ms. Anuja Bhalerao	CO3	2	2	0	0	2	2	0	2	
Course Outcomes		CO4	2	2	0	0	2	2	0	2	
	CO1	Learning the basic concepts of chemistry and its application in biological systems.	CO5	2	2	0	0	2	2	0	2
	CO2	Understanding the types of macromolecules essential for biological systems.	Average	2.00	2.00	0.00	0.00	2.00	2.00	0.00	2.00
	CO3	Studying the properties of water, concept of buffer and types of natural buffer systems present in living organisms.									
	CO4	Understanding the clinical and biological significance of essential biomolecules.									
	CO5	Learning the functional aspects of cell at biochemical level.									

Class	T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs			
Subject Code	35154		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Genetics	CO1	3	2	3	3	2	3	2	2	
Semester No	5	CO2	2	3	2	2	3	3	2	2	
Teacher Name	Dr. Ivan Aranha	CO3	2	3	2	3	3	3	2	2	
Course Outcomes		CO4	2	2	2	3	3	3	2	2	
	CO1	To understand the Mendel's laws of Inheritance	CO5	2	2	2	2	3	3	2	2
	CO2	To study the Exceptions to Mendelian Inheritance	Average	2.20	2.40	2.20	2.60	2.80	3.00	2.00	2.00
	CO3	To understand Gene Mutation, Sex-determination, and Population Genetics									
	CO4	To study the Human Population Genetics									
	CO5	To understand the Application of genetics									

Class	T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs			
Subject Code	35155		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Developmental Biology	CO1	2	2	0	0	3	2	0	3	
Semester No	5	CO2	2	2	0	0	2	2	1	2	
Teacher Name	Ms. Anuja Bhalerao	CO3	2	2	0	0	2	2	1	2	
Course Outcomes		CO4	2	2	0	0	2	2	1	2	
	CO1	Understanding basic concepts of involved in development of animals at embryonic stages.	CO5	2	2	0	0	3	2	0	3
	CO2	Studying the concepts of cell determination, differentiation, cell communication and regeneration.	Average	2.00	2.00	0.00	0.00	2.40	2.00	0.60	2.40
	CO3	Understanding the concepts of gametogenesis, fertilisation.									
	CO4	Learning the basic events involved in blastulation and gastrulation.									

CO5	Studying the chick embryology in detail.
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Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	35156	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Parasitology	CO1	1	1	1	1	1	1	1	1	
Semester No	5	CO2	1	0	0	1	1	1	1	1	
Teacher Name	Dr. Pande G S	CO3	1	1	1	1	1	1	1	1	
Course Outcomes		CO4	1	0	0	1	1	1	1	1	
	CO1	The students will be able to learn basics and scope of parasitology	CO5	1	2	2	1	1	1	1	
	CO2	The students will be able to learn types of parasites and hosts	Average	1.00	0.80	0.80	1.00	1.00	1.00	1.00	
	CO3	The students will be able to learn morphology, life cycle, pathogenecity, and treatment of common parasites									
	CO4	The students will be able to learn about host parasite relationship									
	CO5	The students will be able to learn about arthropod parasites and their role as vector									

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	35157	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Practical Paper I	CO1	3	2	2	1	2	3	2	1	
Semester No	5	CO2	2	2	1	3	3	3	2	2	
Teacher Name	Mr. D. G. Bhalsing	CO3	1	3	3	2	2	1	3	2	
Course Outcomes		CO4	1	2	2	2	3	2	1	3	
	CO1	Applications of Integrated Pest Management components in various crops and study beneficial insects and plant protection appliances.	CO5	3	2	3	3	1	2	2	
	CO2	Detect damage caused by pests and diseases of honey bees.	Average	2.00	2.20	2.20	2.20	2.20	2.00	2.00	
	CO3	Knowledge of different types of tissues with the help of permanent histological slides.									
	CO4	Study human blood smear and observe different types of blood cells.									
	CO5	Mount tissues like striated and smooth muscle fibre of mammal.									

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	35158	PO1		PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Practical Paper II	CO1	2	2	3	2	3	2	3	2	
Semester No	5	CO2	2	3	3	2	2	3	2	3	
Teacher Name	Ms. Anuja Bhalero & Dr. Ivan Aranha	CO3	3	2	3	2	2	2	3	3	
Course Outcomes		CO4	2	3	3	3	2	3	2	2	

CO1	To determine the enzyme activity	CO5	2	3	2	3	3	2	3	3
CO2	Detection of carbohydrates	Average	2.20	2.60	2.80	2.40	2.40	2.40	2.60	2.60
CO3	Study of monohybrid ratio by providing hypothetical data									
CO4	Study of genetic traits in human beings									
CO5	Temporary preparation of polytene chromosomes									

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	35159			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practical Paper III		CO1	1	1	0	1	2	1	0	1
Semester No	5		CO2	1	1	0	1	2	1	0	1
Teacher Name	Dr. Gaikwad RR and Dr. Pande GS		CO3	1	1	0	1	2	1	0	1
Course Outcomes			CO4	1	1	0	1	2	1	0	1
	CO1	Study of sperm and egg of animals; study of basic embryonic process such as cleavage, blastulation, gastrulation	CO5	1	1	0	1	2	1	0	1
	CO2	Study of chick embryo mounting and embryo culture.	Average	1.00	1.00	0.00	1.00	2.00	1.00	0.00	1.00
	CO3	Study of life cycle, pathogenicity, diagnosis and treatment common human parasitic diseases									
	CO4	Study of vectors: Ticks, fleas, Lice, bed bugs, Mites									
	CO5	Study of gut parasites of cockroaches; collection and submission of various parasites									

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	351510			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Aquarium Management		CO1	2	2	3	2	3	2	3	2
Semester No	5		CO2	2	3	3	2	2	3	2	3
Teacher Name	Dr. Balraj Khobragade		CO3	3	2	3	2	2	2	3	3
Course Outcomes			CO4	2	3	3	3	2	3	2	2
	CO1	Understand basic concepts of aquarium fish keeping and biology of aquarium fishes	CO5	2	3	2	3	3	2	3	3
	CO2	Learn food and feeding and transportation of aquarium fishes	Average	2.20	2.60	2.80	2.40	2.40	2.40	2.60	2.60
	CO3	Understand the maintenance of fish aquarium									
	CO4	Understand physico-chemical parameters of water for fish culture									
	CO5	Understand types of fish breeding									

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	351511			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3

Subject Name	Poultry Management		CO1	1	1	0	0	2	1	0	1
Semester No	5		CO2	1	1	0	0	2	1	0	1
Teacher Name	Prof. DG Bhalsing & Dr. Pande GS		CO3	1	1	0	0	2	1	0	1
Course Outcomes			CO4	1	1	0	0	2	1	0	1
	CO1	The Students will be able to understand Poultry framing Practices	CO5	1	1	0	0	2	1	0	1
	CO2	The Students will be able to understand poultry breeding techniques	Average	1.00	1.00	0.00	0.00	2.00	1.00	0.00	1.00
	CO3	The Students will be able to understand poultry rearing techniques									
	CO4	The Students will be able to understand poultry feeding and feed ingredients									
	CO5	The Students will be able to understand poultry diseases and their treatment. Understand marketing of poultry products									

Class	T.Y.B.Sc.		Course Outcomes	Program Outcomes					PSOs		
Subject Code	36151			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Medical & Forensic Zoology		CO1	1	1	1	1	1	1	1	1
Semester No	6		CO2	1	0	0	1	1	1	1	1
Teacher Name	Dr. Pande G S		CO3	1	1	1	1	1	1	1	1
Course Outcomes			CO4	1	0	0	1	1	1	1	1
	CO1	Students will be able to understand basic principals of medical and forensic Zoology	CO5	1	2	2	1	1	1	1	1
	CO2	Students will be able to understand Scientific methods in Crime investigation	Average	1.00	0.80	0.80	1.00	1.00	1.00	1.00	1.00
	CO3	Students will be able to understand advancements in the fields of Medical and Forensic science									
	CO4	Students will be able to understand modern tools, techniques and skills in forensic investigations									
	CO5	Students will be able to describe principles of forensic science and its significance to society									

Class	T.Y.B.Sc.		Course Outcomes	Program Outcomes					PSOs		
Subject Code	36152			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Animal Physiology		CO1	2	2	3	2	3	3	2	1
Semester No	6		CO2	2	3	3	2	2	3	2	2
Teacher Name	Dr. Ivan Aranha		CO3	3	2	3	2	2	1	3	2
Course Outcomes			CO4	2	3	3	3	2	2	1	3
	CO1	To study the various physiological organ-systems and their importance to the integrative functions of the human body.	CO5	2	3	2	3	3	2	2	2
	CO2	Understand Concept of energy requirements and Various aspects of Digestive physiology	Average	2.20	2.60	2.80	2.40	2.40	2.20	2.00	2.00

CO3	To study the Circulatory system with medical conditions and Understand Respiratory mechanism and gases transport.
CO4	To study the Eliminations of waste materials from the body and Develop understanding in Structure and functions of muscles.
CO5	Understand formation of gametes and function of endocrine glands.

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	36153			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Molecular Biology		CO1	3	3	0	0	3	3	1	2
Semester No	6		CO2	2	3	0	0	2	3	0	2
Teacher Name	Ms. Anuja Bhalerao		CO3	2	3	0	0	2	3	0	2
Course Outcomes			CO4	3	3	0	0	2	3	0	2
CO1	The course aims to provide students with an introduction of the underlying molecular mechanisms of various biological processes in cells and organisms.		CO5	2	3	0	0	2	3	1	2
CO2	To understand the Structure of DNA and RNA, DNA and RNA as genetic material		Average	2.40	3.00	0.00	0.00	2.20	3.00	0.40	2.00
CO3	To learn the central dogma of cell at molecular level.										
CO4	To understand the concept of gene regulation and gene expression.										
CO5	To understand the DNA Damage and Repair.										

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	36154			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Entomology		CO1	1	1	1	0	2	1	0	1
Semester No	6		CO2	1	1	1	0	2	1	0	1
Teacher Name	Dr. Pande G S		CO3	1	1	1	0	2	1	0	1
Course Outcomes			CO4	1	1	1	0	2	1	0	1
CO1	The students will be able to understand basic concepts in Entomology and its scope		CO5	1	1	1	0	2	1	0	1
CO2	The students will be able to understand morphology, anatomy and development of insects		Average	1.00	1.00	1.00	0.00	2.00	1.00	0.00	1.00
CO3	The students will be able to understand insect and their role as vectors										
CO4	The students will be able to understand how to implement pest control methods										
CO5	The students will be able to understand social organization in insects										

Class	T.Y.B.Sc.	Course	Program Outcomes					PSOs		
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Subject Code	36155	Outcomes	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Techniques in Biology	CO1	3	3	0	0	3	3	0	2	
Semester No	6	CO2	3	3	0	0	3	3	0	2	
Teacher Name	Dr. Rahul Gaikwad	CO3	3	3	0	0	3	3	0	2	
Course Outcomes		CO4	3	3	0	0	3	3	0	2	
	CO1	To learn various types of techniques involved in assessment of various biomolecules.	CO5	3	3	0	0	3	3	0	2
	CO2	To understand the basic principle and working mechanism of various biochemical techniques.	Average	3.00	3.00	0.00	0.00	3.00	3.00	0.00	2.00
	CO3	To learn variations in all the different types of biochemical techniques and their specific applications.									
	CO4	To learn the separation techniques used for purification of specific biomolecule from a mixture.									
	CO5	To study haematological techniques and histochemical staining of biological samples.									

Class	T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs			
Subject Code	36156		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	
Subject Name	Evolutionary Biology	CO1	3	2	2	3	2	3	2	2	
Semester No	6	CO2	2	2	3	3	2	2	2	3	
Teacher Name	Dr. Balraj Khobragade	CO3	3	3	2	2	3	3	3	2	
Course Outcomes		CO4	2	3	3	2	3	2	3	3	
	CO1	Students will be able to learn most of the essential aspects of Evolutionary Biology in detail which will help them in acquiring better understanding regarding the subject.	CO5	3	2	3	3	2	2	3	3
	CO2	Explain important processes, principles and concepts and critically evaluate theories and empirical research within evolutionary biology	Average	2.60	2.40	2.60	2.60	2.40	2.40	2.60	2.60
	CO3	Apply evolutionary theory and concepts to address empirical and theoretical questions in evolutionary biology									
	CO4	Independently investigate evolutionary questions using literature and analyses of empirical data.									
	CO5	Communicate the principles, theories, problems and research results associated with questions that lie within the evolutionary framework to students									

Class	T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	36157		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practical Paper I	CO1	1	1	0	0	2	1	0	1
Semester No	6	CO2	1	1	0	0	2	1	0	1

Teacher Name	Dr. Pande GS & Dr. Ivan Aranha		CO3	1	1	0	0	2	1	0	1
Course Outcomes			CO4	1	2	1	1	1	1	1	1
CO1	Students will be able to carry out laboratory routine urine analysis; Quantitative determination of serum urea, uric acid and Calcium		CO5	2	1	1	1	1	1	1	1
CO2	Students will be able to carry out Forensic analysis of hair, scale patterns, morphology, hair examination		Average	1.20	1.20	0.40	0.40	1.60	1.00	0.40	1.00
CO3	Students will be able to carry out Forensic analysis of fingerprints, and basics of forensic entomology and its application in crime investigation										
CO4	Preparation of haemin and haemochromogen crystals										
CO5	To estimate the blood glucose										

Class	T.Y.B.Sc.		Course Outcomes	Program Outcomes					PSOs		
Subject Code	36158			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practical Paper II		CO1	1	2	2	1	3	2	1	3
Semester No	6		CO2	2	2	3	3	2	2	1	3
Teacher Name	Ms. Anuja Bhalerao & Dr. Pande G S		CO3	1	1	1	1	1	1	1	1
Course Outcomes			CO4	1	1	1	1	1	1	1	1
CO1	Estimation of DNA and RNA.		CO5	1	1	1	1	1	1	1	1
CO2	Learning biosafety techniques, preparing paper model of DNA, isolation of DNA from Bacteria.		Average	1.20	1.40	1.60	1.40	1.60	1.40	1.00	1.80
CO3	Study of morphology (grasshoppers/Cockroach/Plant bug), insect head articulations and mouthparts										
CO4	Study of insect legs, wings and their modifications; Dissection of digestive, Reproductive systems and mounting of mouthparts.										
CO5	Study of insect vectors, pests, life cycle stages. Field visit to Sanctuary/Park/Reserve to study diversity										

Class	T.Y.B.Sc.		Course Outcomes	Program Outcomes					PSOs		
Subject Code	36159			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Practical Paper III		CO1	1	2	2	1	3	2	1	3
Semester No	6		CO2	2	2	3	3	2	2	1	3
Teacher Name	Dr. RR Gaikwad & Dr. Balraj Khobragade		CO3	2	3	3	2	3	2	2	3
Course Outcomes			CO4	3	3	2	3	2	3	3	2
CO1	Learning tissue collection, fixation and block preparation and staining		CO5	3	2	3	2	2	2	3	2
CO2	Studying population frequency, population density, alpha and beta biodiversity indices.		Average	2.20	2.40	2.60	2.20	2.40	2.20	2.00	2.60
CO3	Understand morphology and evolution of man and ape.										
CO4	Understand types of fossils; animal adaptations and evidences of evolution.										
CO5	Record zoogeographical distribution of animals.										

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	361510			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Environmental Impact Assessment		CO1	3	2	3	2	2	2	2	3
Semester No	6		CO2	3	3	2	3	3	3	3	2
Teacher Name	Dr. Balraj Khobragade		CO3	2	2	3	2	3	2	3	2
Course Outcomes			CO4	2	3	3	2	2	3	2	3
	CO1	Understand concepts of environment, pollution and sustainable development.	CO5	2	3	2	3	3	3	2	2
	CO2	Understand Environmental Protection Acts.	Average	2.40	2.60	2.60	2.40	2.60	2.60	2.40	2.40
	CO3	Knowledge of Environmental Impact Assessment (EIA).									
	CO4	Understand EIA Process and its Stakeholders.									
	CO5	Knowledge of Scheme for Accreditation of EIA Consultant Organisations.									

Class		T.Y.B.Sc.	Course Outcomes	Program Outcomes					PSOs		
Subject Code	361511			PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
Subject Name	Project		CO1	1	1	1	1	2	1	1	1
Semester No	6		CO2	1	1	1	1	2	1	1	1
Teacher Name	Prof. DG Bhalsing, Dr. Balraj Khobragade, Dr. Pande GS, Dr. Ivan Aranha, Dr. Avinash Vanjare, Dr. Gaikwad RR		CO3	1	1	1	1	2	1	1	1
Course Outcomes			CO4	1	1	1	1	2	1	1	1
	CO1	To design, and plan a scientific research work	CO5	1	1	1	1	2	1	1	1
	CO2	To learn to review and refer scientific literature	Average	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00
	CO3	To learn how to execute experimental work									
	CO4	To learn to analyze results of experiments and observations									
	CO5	To learn to Publish Research findings. To Present research findings in Conferences and other scientific gatherings									

CO-PO Mapping

		Course	PO1	PO2	PO3	PO4	PO5	
FY	FY	1	11151	1.00	0.60	0.40	0.60	0.00
		2	11152	1.00	1.00	1.00	0.80	0.00
		3	11153	1.00	1.00	0.60	0.60	0.20
		4	12151	1.00	0.60	0.40	0.60	0.00
		5	12152	1.00	1.00	0.00	0.00	0.40
		6	12153	1.00	1.00	0.60	0.40	0.40
SY	SY	1	23151	3.00	1.40	1.40	2.20	3.00
		2	23152	2.00	2.00	2.00	3.00	2.00
		3	23153	3.00	3.00	3.00	3.00	3.00
		4	24151	3.00	1.40	1.40	2.20	3.00
		5	24152	2.40	2.40	2.40	3.00	2.40
		6	24153	2.20	2.60	1.60	2.60	1.80
TY	TY	1	35151	2.20	2.00	2.00	1.80	1.80
		2	35152	2.00	2.20	2.20	2.00	2.00
		3	35153	2.00	2.00	0.00	0.00	2.00
		4	35154	2.20	2.40	2.20	2.60	2.80
		5	35155	2.00	2.00	0.00	0.00	2.40
		6	35156	1.00	0.80	0.80	1.00	1.00
		7	35157	2.00	2.20	2.20	2.20	2.20
		8	35158	2.20	2.60	2.80	2.40	2.40
		9	35159	1.00	1.00	0.00	1.00	2.00
		10	351510	2.20	2.60	2.80	2.40	2.40
		11	351511	1.00	1.00	0.00	0.00	2.00
		12	36151	1.00	0.80	0.80	1.00	1.00
		13	36152	2.20	2.60	2.80	2.40	2.40
		14	36153	2.40	3.00	0.00	0.00	2.20
		15	36154	1.00	1.00	1.00	0.00	2.00
16	36155	3.00	3.00	0.00	0.00	3.00		
17	36156	2.60	2.40	2.60	2.60	2.40		
18	36157	1.20	1.20	0.40	0.40	1.60		
19	36158	1.20	1.40	1.60	1.40	1.60		
20	36159	2.20	2.40	2.60	2.20	2.40		
21	361510	2.40	2.60	2.60	2.40	2.60		
22	361511	1.00	1.00	1.00	1.00	2.00		

CO-PO ATTAINMENT

Percentage CO-PO ATTAINMENT

PO1	PO2	PO3	PO4	PO5
0.52	0.312	0.208	0.312	0
0.52	0.52	0.52	0.416	0
0.52	0.52	0.312	0.312	0.104
0.413333	0.248	0.165333	0.248	0
0.52	0.52	0	0	0.208
0.52	0.52	0.312	0.208	0.208
2.52	1.176	1.176	1.848	2.52
1.68	1.68	1.68	2.52	1.68
3	3	3	3	3
2.04	0.952	0.952	1.496	2.04
2.016	2.016	2.016	2.52	2.016
2.2	2.6	1.6	2.6	1.8
1.144	1.04	1.04	0.936	0.936
1.36	1.496	1.496	1.36	1.36
1.04	1.04	0	0	1.04
1.144	1.248	1.144	1.352	1.456
1.36	1.36	0	0	1.632
0.52	0.416	0.416	0.52	0.52
2	2.2	2.2	2.2	2.2
2.2	2.6	2.8	2.4	2.4
1	1	0	1	2
1.496	1.768	1.904	1.632	1.632
0.68	0.68	0	0	1.36
0.52	0.416	0.416	0.52	0.52
1.496	1.768	1.904	1.632	1.632
1.248	1.56	0	0	1.144
0.52	0.52	0.52	0	1.04
2.04	2.04	0	0	2.04
1.352	1.248	1.352	1.352	1.248
1.2	1.2	0.4	0.4	1.6
1.2	1.4	1.6	1.4	1.6
2.2	2.4	2.6	2.2	2.4
2.016	2.184	2.184	2.016	2.184
0.68	0.68	0.68	0.68	1.36

PO1	PO2	PO3	PO4	PO5
52	52	52	52	#DIV/0!
52	52	52	52	#DIV/0!
52	52	52	52	52
41.333333	41.333333	41.333333	41.333333	#DIV/0!
52	52	#DIV/0!	#DIV/0!	52
52	52	52	52	52
84	84	84	84	84
84	84	84	84	84
100	100	100	100	100
68	68	68	68	68
84	84	84	84	84
100	100	100	100	100
52	52	52	52	52
68	68	68	68	68
52	52	#DIV/0!	#DIV/0!	52
52	52	52	52	52
68	68	#DIV/0!	#DIV/0!	68
52	52	52	52	52
100	100	100	100	100
100	100	100	100	100
100	100	#DIV/0!	100	100
68	68	68	68	68
68	68	#DIV/0!	#DIV/0!	68
52	52	52	52	52
68	68	68	68	68
52	52	#DIV/0!	#DIV/0!	52
52	52	52	#DIV/0!	52
68	68	#DIV/0!	#DIV/0!	68
52	52	52	52	52
100	100	100	100	100
100	100	100	100	100
100	100	100	100	100
84	84	84	84	84
68	68	68	68	68

CO-PSO MAPPING

CO-PSO ATTAINMENT

Percentage CO-PSO ATTAINMENT

FY
SY
TY

	Course	PSO1	PSO2	PSO3
1	11151	1.00	0.80	0.00
2	11152	1.00	1.00	0.00
3	11153	1.00	0.60	0.20
4	12151	1.00	0.80	0.00
5	12152	1.00	0.00	0.60
6	12153	1.00	0.40	0.40
1	23151	2.20	3.00	2.00
2	23152	2.80	2.60	2.60
3	23153	3.00	2.00	2.00
4	24151	2.20	3.00	2.00
5	24152	3.00	2.00	2.00
6	24153	2.20	2.40	1.80
1	35151	2.00	2.20	2.00
2	35152	2.20	2.00	2.20
3	35153	2.00	0.00	2.00
4	35154	3.00	2.00	2.00
5	35155	2.00	0.60	2.40
6	35156	1.00	1.00	1.00
7	35157	2.20	2.00	2.00
8	35158	2.40	2.60	2.60
9	35159	1.00	0.00	1.00
10	351510	2.40	2.60	2.60
11	351511	1.00	0.00	1.00
12	36151	1.00	1.00	1.00
13	36152	2.20	2.00	2.00
14	36153	3.00	0.40	2.00
15	36154	1.00	0.00	1.00
16	36155	3.00	0.00	2.00
17	36156	2.40	2.60	2.60
18	36157	1.00	0.40	1.00
19	36158	1.40	1.00	1.80
20	36159	2.20	2.00	2.60
21	361510	2.60	2.40	2.40
22	361511	1.00	1.00	1.00

	Course	PSO1	PSO2	PSO3
	11151	0.52	0.416	0
	11152	0.52	0.52	0
	11153	0.52	0.312	0.104
	12151	0.413333	0.330667	0
	12152	0.52	0	0.312
	12153	0.52	0.208	0.208
	23151	1.848	2.52	1.68
	23152	2.352	2.184	2.184
	23153	3	2	2
	24151	1.496	2.04	1.36
	24152	2.52	1.68	1.68
	24153	2.2	2.4	1.8
	35151	1.04	1.144	1.04
	35152	1.496	1.36	1.496
	35153	1.04	0	1.04
	35154	1.56	1.04	1.04
	35155	1.36	0.408	1.632
	35156	0.52	0.52	0.52
	35157	2.2	2	2
	35158	2.4	2.6	2.6
	35159	1	0	1
	351510	1.632	1.768	1.768
	351511	0.68	0	0.68
	36151	0.52	0.52	0.52
	36152	1.496	1.36	1.36
	36153	1.56	0.208	1.04
	36154	0.52	0	0.52
	36155	2.04	0	1.36
	36156	1.248	1.352	1.352
	36157	1	0.4	1
	36158	1.4	1	1.8
	36159	2.2	2	2.6
	361510	2.184	2.016	2.016
	361511	0.68	0.68	0.68

	Course	PSO1	PSO2	PSO3
	11151	52	52	#DIV/0!
	11152	52	52	#DIV/0!
	11153	52	52	52
	12151	41.333333	41.333333	#DIV/0!
	12152	52	#DIV/0!	52
	12153	52	52	52
	23151	84	84	84
	23152	84	84	84
	23153	100	100	100
	24151	68	68	68
	24152	84	84	84
	24153	100	100	100
	35151	52	52	52
	35152	68	68	68
	35153	52	#DIV/0!	52
	35154	52	52	52
	35155	68	68	68
	35156	52	52	52
	35157	100	100	100
	35158	100	100	100
	35159	100	#DIV/0!	100
	351510	68	68	68
	351511	68	#DIV/0!	68
	36151	52	52	52
	36152	68	68	68
	36153	52	52	52
	36154	52	#DIV/0!	52
	36155	68	#DIV/0!	68
	36156	52	52	52
	36157	100	100	100
	36158	100	100	100
	36159	100	100	100
	361510	84	84	84
	361511	68	68	68