

SREE SANKARA COLLEGE, KALADY
Department of Zoology

PROGRAMME OUTCOME

Once this programme is successfully completed, students will have developed following knowledge proficiency, skills and attitudes.

- P.O.1 - Gained Extensive Disciplinary Knowledge.**
- P.O.2 - Acquired communication skills.**
- P.O.3 - Developed critical thinking and problem solving ability.**
- PO.4 - Familiarized research related skills and induced the Scientific Temper.**
- P.O.5 - Able to demonstrate capabilities of digital literacy.**
- P.O.6 - Inculcated & Exhibits leadership skills.**
- P.O.7 - Practices Moral and ethical scientific conduct.**
- P.O.8 - Capable of teamwork.**
- P.O.9 - Self-motivated for lifelong learning.**

COURSE OUTCOME

Once these courses are successfully completed, students will have the specific abilities as stated therein.

CORE COURSE

SEMESTER I

ZY1CRT01: General perspectives in Science & Protistan Diversity.

- CO1. Developed an awareness on the basic philosophy of science, concepts and its scope.
- CO2. Have the conceptual understanding of systematic classification.
- CO3. Familiar with taxa level identification of animals.
- CO4. Appreciates the Protistan diversity and have an insight about the parasitic forms in it.

ZY1CRT01: General perspectives in Science & Protistan Diversity.

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
ZY1CRT01		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem1										
CO1		3	1	2	2	-	-	-	-	1
CO2		2	-	1	-	-	-	-	-	1
CO3		3	1	2	2	-	-	-	-	1
CO4		2	-	1	1	-	-	-	-	1
		10/4	2/2	6/4	1.7	-	-	-	-	4/4
	Weighted Average	2.5	1	1.5	1.7					1
	Rounded off	3	1	2	2					1

SEMESTER II

ZY2CRT02: Animal Diversity – Non Chordata

CO1: Gained an understanding of the diversity of invertebrate life on earth.

CO2: Have the conceptual understanding of systematic classification of invertebrate fauna.

CO3: Familiarize keen observation skill to locate and identify invertebrate fauna and to find the systematic position.

CO4: Can explain the features of *Fenneropenaeus* species and have understood the evolutionary relationship of invertebrate fauna and few pathogenic non-chordates.

ZY2CRT02: Animal Diversity – Non Chordata

PO CO Matrix with average weightages										
		Knowledge	Skills					Attitude		
ZY2CRT02		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 2										
CO1		3						1		2
CO2		3	1	1	1	1				1
CO3		2	1	2	1			1		1
CO4		3	2							1
	Average	2.75	1.33	1.5	1	1		1		1.3
	Rounded	3	1	2	1	1		1		1

SEMESTER III

ZY3CRT03 Animal Diversity – Chordata

CO1: Gained an understanding about the diversity of vertebrates.

CO2: Have the conceptual understanding of systematic classification of vertebrate fauna.

CO3: Familiarize keen observation skill to locate and identify different vertebrate fauna by their salient features and to find the systematic position.

CO4: Can explain the features of Rabbit and have understood the evolutionary relationship of vertebrates.

ZY3CRT03: Animal Diversity – Chordata

PO CO Matrix with average weightages										
		Knowledge	Skills					Attitude		
ZY3CRT03		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem3										
CO1		3								
CO2		3	1							
CO3		3		1	1			1		1
CO4		3	2							
	Average	3	1.5	1	1			1		1
	Rounded	3	2	1	1			1		1

SEMESTER IV

ZY4CRT04: Research Methodology, Biophysics and Biostatistics.

CO1: Have an in-depth knowledge about the principles and procedure of Scientific Research.

CO2: Garnered the skills of scientific Animal Collection from the field, its preservation and rearing in the Lab.

CO3: knowledge about the principle and uses of the instruments in Zoology

CO4: Familiar with the bioethical laws and values.

CO5: Capable of applying statistical methods for the raw data obtained during the biological studies to estimate biodiversity.

ZY4CRT04: Research Methodology, Biophysics and Biostatistics.

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
ZY4CRT04		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 4										
CO1		2	1	1	3	1	1	1		1
CO2		2		1		1	1			1
CO3		2								
CO4		2						3		1
CO5		1	1	1	2	2		2		
	Average	1.8	2	1	2.5	1.4	1	2		1
	Rounded	2	2	1	3	1	1	2		1

SEMESTER V**ZY5CRT05: Environmental Biology and Human Rights**

CO1: The basic concepts of Environmental Sciences, Ecosystems, Natural Resources, Population, Environment and Society are instilled.

CO2: The students are aware about natural resources, its conservation measures and the importance of sustainable use of resources without polluting the environment.

CO3: Have understood the basic concepts of toxicology, their impact on human health and remedial measures and design surveys, sampling and experiments based to study the environmental impacts.

CO4: Developed a consciousness regarding Biodiversity and the manifestation of Human rights.

ZY5CRT05: Environmental Biology and Human Rights

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
ZY5CRT05		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 5										
CO1		3	1	1				1		1
CO2		3	1	1	1			1		1
CO3		3		1	1	1		1		1
CO4		3								
	Average	3	1	1	1	1		1		1
	Rounded	3	1	1	1	1		1		1

SEMESTER V

ZY5CRT07: Evolution, Ethology & Zoogeography

CO1: The knowledge about the evolutionary history of earth - living organism and non-living things are gained.

CO2: Have acquired the basic understanding about evolutionary concepts and theories.

CO3: Familiar with the distribution of animals on earth, its pattern, evolution and causative factors.

CO4: Basic knowledge on animal behavioural patterns and their role has been achieved.

ZY5CRT07: Evolution, Ethology & Zoogeography

PO CO Matrix with average weightages										
ZY5CRT07		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 5										
CO1		3		1						
CO2		3			1					1
CO3		3						1		
CO4		3								
	Average	3		1	1			1		1
	Rounded	3		1	1			1		1

SEMESTER V

ZY5CRT08: Human Physiology, Biochemistry, And Endocrinology

CO1: Would have gained a deep knowledge about biochemistry, physiology and endocrinology.

CO2: Capable of explaining the basic structure and types of foods and metabolic process taking place inside the body and cell.

CO3: Have understood the physiological activities and its regulation within the human body.

CO4: Students will acquire a broad understanding of the hormonal regulation of physiological processes in invertebrates and vertebrates.

ZY5CRT08: Human Physiology, Biochemistry, And Endocrinology

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
ZY5CRT08		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 5										
CO1		3								
CO2		3		1						
CO3		3		1						1
CO4		3								1
	Average	3		1						1
	Rounded	3		1						1

VI SEMESTER

ZY6CRT09: Developmental Biology

CO1: Gain an exhaustive knowledge about the human reproductive physiology and the significance of sex education and reproductive health.

CO2: Get acquainted with the structure and functioning of the mammalian gamete.

CO3: Have an insight into the mechanism of fertilization and realize the significance of fertilization.

CO4: Proficient in identifying appropriate developmental stages of frog and chick embryo.

CO5: Able to relate developmental defects with the lifestyle and environmental toxins and capable of applying clinical interventions for the purpose of counselling.

ZY6CRT09: Developmental Biology

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
ZY6CRT09		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 6										
CO1		3								
CO2		3								
CO3		3								
CO4		3		1						
CO5		3	1	1	1					1
	Average	3	1	1	1					1
	Rounded	3	1	1	1					1

VI SEMESTER

ZY6CRT10: Microbiology & Immunology

CO1: Have gained the knowledge on the correlation between structure and function of microorganisms.

CO2: Aware about the correlation between structure and function of immune cells.

CO3: Will be in a position to understand the health related problems and their origin

CO4: Have understood the efficiency of our immune system in maintaining our health and wellbeing.

ZY6CRT10: Microbiology & Immunology

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
ZY6CRT10		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 6										
CO1		3								1
CO2		3								1
CO3		3	1	1						1
CO4		3								1
	Average	3	1	1						1
	Rounded	3	1	1						1

VI SEMESTER

ZY6CRT11: Biotechnology, Bioinformatics & Molecular biology

CO1: Have studied and understood the structural and functional details of the basic unit of life at the molecular level.

CO2: Became familiar with the emerging field of biotechnology and its basic principles useful for biological studies.

CO3: Gained knowledge about the applications of biotechnology in medical, industrial, environmental and agricultural areas and Nano medicine.

CO4: Explored the emerging field of bioinformatics which will provide a basic understanding that facilitates further study and research.

ZY6CRT11: Biotechnology, Bioinformatics & Molecular biology

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
ZY6CRT11		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 6										
CO1		3								
CO2		3								1
CO3		3				1				1
CO4		3			1	2				1
	Average	2			1	1.5				1
	Rounded	2			1	2				1

VI SEMESTER

ZY6CRT12: Occupational Zoology (Aquaculture, Apiculture, Vermiculture & Quail farming)

CO1: Equipped with the basic practical skills in Apiculture to begin an apiary and turn it into a profitable business venture.

CO2: Gained the scientific knowledge of maintenance and management of Earthworms.

CO3: Developed the knowledge and skill to manage and maintain a Quail Farm for economical gains.

CO4: Generated the desirable skills required for undertaking aquaculture of fish and pearls at a professional level in different water bodies and enclosures and maintain aquarium.

ZY6CRT12: Occupational Zoology (Aquaculture, Apiculture, Vermiculture & Quail farming)

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
ZY6CRT12		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 6										
CO1		3	1	2	2	1	1	1		2
CO2		3	1	2	2	1	1	1		2
CO3		3	1	2	2	1	1	1		2
CO4		3	1	2	2	1	1	1		2
	Average	3	1	2	2	1	1	1		2
	Rounded	3	1	2	2	1	1	1		2

VI SEMESTER**ELECTIVE COURSE****ZY6CBT04: Nutrition, Health and Lifestyle Management**

CO1: Gained a general concept of health and the parameters that define health and wellness.

CO2: Understood the principles of nutrition and its role in health.

CO3: Familiar about the food safety, food laws & regulations.

CO4: Acquired the knowledge and understanding about the life style diseases.

CO5: Will be able to talk about the significance of good life style practices, physical fitness and healthy food habits for the management of life style disease.

ZY6CBT04: Nutrition, Health and Lifestyle Management

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
ZY6CBT04		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 6										
CO1		3								
CO2		3								
CO3		3								1
CO4		3	1							1
CO5		3	3	1	1					2
	Average	3	2	1	1					1.3
	Rounded	3	2	1	1					1

Complementary Course

COMPLEMENTARY ZOOLOGY COURSES OFFERED BY ZOOLOGY DEPARTMENT FOR MODEL I – BSc BOTANY.

PSO

1. Inculcated a love and understanding of the fascinating world of invertebrates and Vertebrates.
2. Familiar about the physiology of their own body and capable of taking precautionary measures to safeguard their health.
3. Have gained hands on training experience about the methodology and perspectives of applied branches of zoology with a view of educating youngsters on the possibilities of self-employment.

ZY1CMT01: Non Chordate Diversity

CO1: Studied the scientific classification of invertebrate fauna and conceptualized the unity of life with the encompassing diversity.

CO2: Learnt the physiological and anatomical peculiarities of some invertebrate phyla through type study.

CO3: Got the concrete idea about systematics by learning the diagnostic and general characters of various groups.

ZY1CMT01: Non Chordate Diversity

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
ZY1CMT01		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 1										
CO1		3		1						1
CO2		3								1
CO3		3			1					1
	Average	3		1	1					1
	Rounded	3		1	1					1

ZY2CMT02: Chordate Diversity

CO1: Studied the scientific classification of vertebrate fauna and conceptualized the unity of life with the encompassing diversity.

CO2: Developed curiosity, respect and observational skills to study chordates with the help of their salient features and identify them.

CO3: Understood the physiological and anatomical peculiarities of frog as a representative of chordates.

ZY2CMT02: Chordate Diversity

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
ZY2CMT02		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 2										
CO1		3		1						1
CO2		3		2	2					1
CO3		3			1					1
	Average	3		1.5	1					1
	Rounded	3		2	1					1

ZY3CMT03: Physiology and Immunology

CO1: Appreciates the correlation between structure and function of organisms.

CO2: Aware of the health related problems, their origin and treatment.

CO3: Realized the efficiency of our immune system in defending our body.

CO4: Bears the ability to prevent common diseases by carefully preventing chances of infection and taking care of individual health by a proper life style.

ZY3CMT03: Physiology and Immunology

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
ZY3CMT03		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 3										
CO1		3								
CO2		3	1	1	1	1				1
CO3		3								1
CO4		3	1	2	1	1				1
	Average	3	1	1.5	1	1				1.5
	Rounded	3	1	2	1	1				2

ZY4CMT04: Applied Zoology

CO1: Acquired the basic knowledge and skills in Sericulture for self-employability

CO2: Equipped with the scientific knowledge for employability and self-employability skills in Apiculture.

CO3: Capable of venturing into profitable business in Aquaculture with the technological understandings.

CO4: Can confidently be a start-up in Vermiculture.

ZY4CMT04: Applied Zoology

PO CO Matrix with average weightages										
		Knowledge	Skills				Attitude			
ZY4CMT04		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
		DK	CS	CT&PS	R&ST	DL	LS	M&E	TW	SMLL
Sem 4										
CO1		3	1	3	2					1
CO2		3	1	3	2					1
CO3		3	1	3	2					1
CO4		3	1	3	2					1
	Average	3	1	3	2					1
	Rounded	3	1	3	2					1

LEGENDS

DK - Disciplinary Knowledge

CS – Communication Skill

CT&PS- Creative Thinking and Problem Solving skill

R&ST- Research & Scientific Temper

DL- Digital Literacy

LS- Leadership Skills

M&E- Moral and Ethical etiquettes

TW- Team Work

SMLL- Self Motivated for Lifelong Learning
