BARASAT GOVERNMENT COLLEGE
Course Outcome or Learning Outcome
Two year M.Sc. Degree Course
Under CBCS semester system
POST GRADUATE DEPARTMENT OF ZOOLOGY
With effect from the session: 2020 – 2021

Course Name: CORE COURSE-1

Course Code: ZHT 101

Topic Name: NON-CHORDATES – STRUCTURE & FUNCTION

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the basic taxonomy and systematics	L2 Understanding	1,2,3,5,8	1,2,6
CO2	Understand classification of Protozoa, Porifera, Cnidaria and Helminth groups	L2 Understanding	1,2,3,5,6,8	1,2,6
CO3	Acquire knowledge about the biology of these taxonomic categories as well as about some acoelomate, pseudocoelomateparasites for their life cycles, epidemiology, pathology, diagnosis, symptoms and treatments	L2 Understanding	1,2,3,5,6,8	1,2,4,6
CO4	. Gain knowledge about the basics of parasitology such as origin and evolution of parasitism, role of vectors, parasitoids, host-parasite interactions etc	L2 Understanding	1,2,3,5,6,8	1,2,6
CO5	Critically analyze classification of coelomate invertebrates and the structure, function plus biology of these taxonomic categories as well	L4 Analyzing	1,2,3,4,5,6,,8	1,2,6
CO6	They will understand and create awareness about different vector borne diseases and the related life cycles, epidemiology, pathology, diagnosis,	L6 Creating	1,2,3,5,6,,8,9	1,2,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3		3			3			3	2				3			
CO2	2	2	3		3	3		3			3	3				3			
CO3	2	1	3		3	3		3			3	3		2		3			
CO4	2	2	3		3	3		3			3	3				3			
CO5	2	2	3	2	3	3		3			3	3				3			
CO6	2	2	3		3	3		2	3		3	3				3			
Average	2.00	1.67	3.00	2.00	3.00	3.00		2.83	3.00		3.00	2.83		2.00		3.00			

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Course Name: CORE COURSE-2

Course Code: ZHT 102

Topic Name: CHORDATES – STRUCTURE & FUNCTION

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the classification, structure, function and biology of chordates of different taxonomic classes.	L2 Understanding	1,2,3,5,6,8	1,2,6
CO2	Analyze relationship of different classes of vertebrates	L4 Analyzing	1,2,3,4,5,6,7,8	1,2,6
CO3	Identify up to order based upon external characteristics	L3 Applying	1,2,3,5,6,7,8	1,2,4,6
CO4	. Understand the distribution of chordates in different continents and can explain the possible reason of it.	L2 Understanding	1,2,3,5,6,8	1,2,6
CO5	Learn some special topics like metamorphosis, snakebites, parental care of amphibian,	L1 Remembering	1,2,3,5,6,8	1,6
CO6	Experienced with echolocation of mammals, poultry managements and different breeds of domestic animals	L3 Applying	1,2,3,5,6,8	1,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3		3	3		3			3	2				3			
CO2	3	3	3	2	3	3	3	3			3	3				3			
CO3	3	2	3		3	3	3	3			3	3		2		3			
CO4	1	2	3		3	3		3			3	3				3			
CO5	1	1	3		3	3		3			3					3			
CO6	1	1	3		3	3		3			3					3			
Average	1.83	1.67	3.00	2.00	3.00	3.00	3.00	3.00			3.00	2.75		2.00		3.00			

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Course Name: CORE COURSE-3

Course Code: ZHT 103

Topic Name: ANIMAL PHYSIOLOGY & BIOCHEMISTRY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the physiology of muscles, nerves, reproductive systems and bone.	L2 Understanding	1,2,3,5,6,8	1,6
CO2	Develop detail understanding of muscle structure and contraction mechanism, process of respiration and transport of gases	L2 Understanding	1,2,3,5,6,8	1,6,7
CO3	Understand and explain kidney structure and regulation of urine formation, heart structure and functioning.	L2 Understanding	1,2,3,5,6,8	1,6,7
CO4	Explain about the importance and scope of biochemistry; the structure and biological significance of carbohydrates, amino acids, proteins, lipids and nucleic acids.	L3 Applying	1,2,3,5,6,8	1,6,7
CO5	Comprehend the structure and function of immunoglobulins and the concept of enzyme, its mechanism of action and regulation	L4 Analysing	1,2,3,5,6,8	1,6,7
CO6	Acquire the knowledge of DNA replication, transcription and translation, the preparation of models of peptides and nucleotides, biochemical tests for amino acids, carbohydrates, proteins and nucleic acids and measurement of enzyme activity and its kinetics.	L2 Understanding	1,2,3,4,5,6,7,8	1,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	3		3			3					3			
CO2	1	2	3		3	3		3			3					3	3		
CO3	1	2	3		3	3		3			3					3	3		
CO4	1	3	3		3	3		3			3					3	3		
CO5	1	3	3		3	3		2			3					3	3		
CO6	2	3	3	2	3	3	3	2			3					3	3		
Average	1.17	2.33	3.00	2.00	3.00	3.00	3.00	2.67			3.00					3.00	3.00		

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Course Name: CORE COURSE-4

Course Code: ZHT104

Topic Name: ENDOCRINOLOGY AND NEUROBIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Learn details of endocrinology with definition and classification of hormones, their biosynthesis, receptors, mode of molecular actions, physiological function, and feedback controls	L 1 Remembering	1,2,3,5,6,7,8	1,6
CO2	Explain the neuroendocrine system and predict its function with peripheral endocrine glands through feedback	L4 Analyzing	1,2,3,5,7,8	1,6,7
CO3	Understand the structure of brain and improved methods to study it	L2 Understanding	1,2,3,4,5,6,7,8,	1,6,7
CO4	Know the cause, symptom and treatment of neuro degenerative diseases (such as Alzheimer's and Parkinson's diseases) and mental illnesses.	L2 Understanding	1,2,3,5,6,8,9	1,6,7
CO5	Gather knowledge about the treatment of aforesaid diseases.	L2 Understanding	1,2,3,5,6,7,8,9	1,6,7
CO6	Apply the knowledge of neuroendocrinology for career development in higher education and research and development.	L3 Applying	1,2,3,4,5,6,7,8,9	1,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	3	2	3			3					3			
CO2	1	1	3		3	3	2	3			3					3	3		
CO3	1	2	3	1	3	3	1	3			3					3	3		
CO4	1	2	3		3	3		3	2		3					3	3		
CO5	2	2	3		3	3	2	2	3		3					3	3		
CO6	2	3	3	2	3	3	2	3	3		3					3	3		
Average	1.33	1.83	3.00	1.50	3.00	3.00	1.80	2.83	2.67		3.00					3.00	3.00		

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Course Name: CORE COURSE-5

Course Code: ZHL 101

Topic Name: NON-CHORDATE AND CHORDATE

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Develop an understanding of the characters used to classify	L2 Understanding	1,2,3.4,5,6,7,8	1,2,6
CO2	Being able to differentiate the organisms belonging to different taxa	L4 Analyzing	1,2,3.4,5,6,7,8	1,2,6
CO3	Examine the diversity and evolutionary history of a taxon through the construction of a basic phylogenetic/ cladistics tree.	L5 Evaluating	1,2,3.4,5,6,7,8	1,2,4,6,7
CO4	Learn how to analyse the above stated features	L1 Remembering	1,2,3.4,5,6,7,8	1,2,4,6,7
CO5	Study the adaptive features of the nonchordates and chordates for their respective modes of life.	L2 Understanding	1,2,3.4,5,6,7,8	1,2,6
CO6	Learn to understand the relative position of individual organs and associated structures through dissection of the invertebrate and vertebrate representatives.	L2 Understanding	2,3.4,5,6,7,8	1,2,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3	2	3	2	1	2			3	2				3			
CO2	1	2	3	2	3	3	2	1			3	3				3			
CO3	3	3	3	3	3	3	2	3			3	3		2		3	2		
CO4	2	3	3	2	3	3	2	2			3	2		2		3	2		
CO5	2	1	3	1	3	2	1	1			3	3				3			
CO6		2	3	2	3	2	3	3			3	2		2		3			
Average	1.80	2.00	3.00	2.00	3.00	2.50	1.83	2.00			3.00	2.50		2.00		3.00	2.00		

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Course Name: CORE COURSE-6

Course Code: ZHL 102

Topic Name: BIOCHEMISTRY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Learn the preparation of models of peptides and nucleotides	L2 Understanding	1,2,3.4,5,6,7,8	1,4,6
CO2	Apply the above stated knowledge in the day-today living.	L3 Applying	1,2,3.4,5,6,7,8	1,6
CO3	To solve problems related to the above stated topic.	L3 Applying	1,2,3.4,5,6,7,8	1,4,6
CO4	Estimate practical analysis of the qualitative test of functional groups in carbohydrates, proteins and lipids	L5 Evaluating	1,2,3.4,5,6,7,8	1,3,6
CO5	Illustrate the mechanism of enzyme activity	L4 Analyzing	1,2,3.4,5,6,7,8	1,6,7
CO6	Illustrate the kinetics of the enzyme activity	L4 Analyzing	1,2,3.4,5,6,7,8	1,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	3	3	3	3	3	2	3			3			3		3			
CO2	2	3	3	2	3	3	2	1			3					3			
CO3	3	3	3	3	3	3	2	1			3			3		3			
CO4	1	2	3	2	3	3	3	3			3		3			3			
CO5	2	2	3	2	3	3	3	3			3					3	2		
CO6	2	2	3	2	3	3	3	3			3					3	3		
Average	2.00	2.50	3.00	2.33	3.00	3.00	2.50	2.33			3.00		3.00	3.00		3.00	2.50		

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Course Name: CORE COURSE-7

Course Code: ZHL 103

Topic Name: HISTOLOGY AND HISTOCHEMISTRY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Develop the skills of basics of histology	L2 Understanding	1,2,3.4,5,7,8	1,3,4,6
CO2	Develop the knowledge of tissue staining (Eosin-Haematoxylin, PAS).	L2 Understanding	1,2,3.4,5,7,8	1,3,4,6
CO3	Experience with the identification of several important tissues	L4 Analyzing	1,2,3.5,7,8	1,3,4,6
CO4	Learn the techniques of Trypan Blue & NBT cell viability tests	L1 Remembering	1,2,3.4,5,7,8	1,4,6
CO5	Develop the knowledge of NBT cell viability tests	L2 Understanding	1,2,3.4,5,7,8	1,3,4,6
CO6	Able to apply gathered knowledge in concerned industry	L3 Applying	1,2,3.4,5,6,8	1,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	2	3	3	3		3	3			3		2	3		3			
CO2	1	2	3	3	3		3	3			3		3	3		3			
CO3	1	2	3		3		3	3			3		3	3		3			
CO4	1	2	3	3	3		3	3			3			3		3			
CO5	1	2	3	3	3		3	3			3		3	3		3			
CO6	2	3	3	3	3	2		1			3			3		3			
Average	1.17	2.17	3.00	3.00	3.00	2.00	3.00	2.67			3.00		2.75	3.00		3.00			

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Course Name: CORE COURSE-8

Course Code: ZHT 201

Topic Name: DEVELOPMENTAL BIOLOGY & GAMETE BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Critically understand how a single-celled fertilized egg becomes an embryo and then a fully formed adult by going through three important processes of cell division, cell differentiation and morphogenesis	L2 Understanding	1,2,3,5,6,8	1,2,6,7
CO2	Understand how developmental processes and gene functions within a particular tissue or organism.	L2 Understanding	1,2,3,5,6,8	1,2,6,7
CO3	Understand the basic features of early development such as fertilization, zygote formation, blocks to polyspermy, blastulation, and gastrulation	L2 Understanding	1,2,3,5,6,8	1,6,7
CO4	Understand types of regeneration, metamorphosis, ageing	L2 Understanding	1,2,3,5,6,8	1,6,7
CO5	Understands different techniques and its application to study Development	L2 Understanding	1,2,3,4,5,6,8	1,4,6,7
CO6	Explain the fundamental molecular events behind axis and pattern formation in animal.	L4 Analyzing	1,2,3,4,5,6,8	1,2,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3		3	2		3			3	2				3	3		
CO2	1	2	3		3	2		3			3	3				3	3		
CO3	1	2	3		3	2		3			3					3	3		
CO4	1	2	3		3	2		3			3					3	3		
CO5	2	3	3	2	3	2		3			3			2		3	3		
CO6	1	2	3	2	3	2		3			3	2				3	3		
Average	1.33	2.00	3.00	2.00	3.00	2.00		3.00			3.00	2.33		2.00		3.00	3.00		

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Course Name: CORE COURSE-9

Course Code: ZHT 202

Topic Name: CELL, TISSUE & MOLECULAR BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the structure and functions of plasma membrane and endo-membrane systems.	L2 Understanding	1,2,3,5,6,8	1,6
CO2	Acquire knowledge about replication, transcription, translation, post transcriptional and posttranslational modifications, gene regulation, DNA repair mechanisms.	L2 Understanding	1,2,3,5,6,8	1,6,7
CO3	Understood the genome organization, including various types of genes and genetic disorders.	L2 Understanding	1,2,3,5,6,8	1,6,7
CO4	Describe the cell cycle and stages of cell division and functions of cell organelles	L4 Analyzing	1,2,3,5,6,8	1,6,7
CO5	. Gather Knowledge on various molecular tools and techniques like PCR, southern, northern and western blotting, recombinant DNA technology	L2 Understanding	1,2,3,4,5,6,8	1,4,6,7
CO6	Develop knowledge of microbiology techniques with applications in biomedical science, agriculture and environmental science	L2 Understanding	1,2,3,4,5,6,8	1,4,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	2		3			3					3			
CO2	1	2	3		3	2		3			3					3	2		
CO3	1	2	3		3	2		3			3					3	3		
CO4	1	2	3		3	2		3			3					3	2		
CO5	2	2	3	2	3	2		2			3			2		3	3		
CO6	2	2	3	2	3	2		1			3			3		3	3		
Average	1.33	1.83	3.00	2.00	3.00	2.00		2.50			3.00			2.50		3.00	2.60		

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Course Name: CORE COURSE-10

Course Code: ZHT 203

Topic Name: ECOLOGICAL THEORIES & APPLICATIONS & ANIMAL BEHAVIOUR

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand ecology as an essential subject in today's world	L2 Understanding	1,3,5,6,8	1,2,6
CO2	Be aware of harsh consequences like climate change and role of genetically modified organisms etc	L2 Understanding	1,2,3,5,6,8,9	1,2,6
CO3	Understand different methods to estimate population size and population dynamics including metapopulation models, life tables and population pyra	L2 Understanding	1,2,3,5,6,8	1,2,4,6,7
CO4	Developed the concept of waste in ecosystem management	L2 Understanding	1,3,5,6,8,9	1,6
CO5	Describe various aspects of animal behaviour and chronobiology	L4 Analyzing	1,2,3,5,6,8	1,6
CO6	Learn a wide range of the oretical and practical techniques used to study animal behavior.	L1 Remembering	1,2,3,4,5,6,8	1,2,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1		3		3	2		3			3	2				3			
CO2	1	1	3		3	2		3	3		3	2				3			
CO3	1	2	3		3	2		3			3	3		3		3	3		
CO4	1		3		3	2		3	2		3					3			
CO5	2	1	3		3	2		3			3					3			
CO6	3	3	3	3	3	3		2			3	2		3		3			
Average	1.50	1.75	3.00	3.00	3.00	2.17		2.83	2.50		3.00	2.25		3.00		3.00	3.00		

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Course Name: CORE COURSE-11

Course Code: ZHT204

Topic Name: BIOPHYSICAL TECHNIQUES & BIOSTATISTICS

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Gain knowledge about various tools & techniques used in biological systems	L2 Understanding	1,2,3,5,6,8	1,3,4,6
CO2	Gives them insight about their use in research	L2 Understanding	1,2,3,4,5,6,7,8	1,4,6
CO3	Gain knowledge about statistical methods like measures of central tendencies, probability etc.	L2 Understanding	1,2,3,4,5,6,8	1,4,6,7
CO4	Be able to apply data analysis methods in their research projects.	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO5	Recognize the difference between normal and skewed distribution	L4 Analyzing	1,2,3,4,5,6,8	1,4,6,7
CO6	Be able to apply parametric and non-parametric statistical tests.	L3 Applying	1,2,3,4,5,6,8	1,4,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	2	3		3	3		3			3		2	3		3			
CO2	2	2	3	2	3	3	2	2			3			3		3			
CO3	1	2	3	2	3	3		3			3			3		3	3		
CO4	2	2	3	3	3	3	2	2			3			3		3			
CO5	2	2	3	2	3	3		2			2			3		3	2		
CO6	2	2	3	2	3	3		1			2			3		3	2		
Average	1.83	2.00	3.00	2.20	3.00	3.00	2.00	2.17			2.67		2.00	3.00		3.00	2.33		

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Course Name: CORE COURSE-12

Course Code: ZHL 201

Topic Name: DEVELOPMENTAL BIOLOGY AND CELL & MOLECULAR BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Learn the different aspects of early, late and post embryonic developments	L1 Remembering	1,2,3,5,6,8	1,6
CO2	Build knowledge about implications of developmental biology in various fields, such as in teratogenesis, stem cell biology, in vitro fertilization, cryopreservation, cord blood transfusion etc.	L2 Understanding	1,2,3,5,6,8,9	1,6,7
CO3	Apply the knowledge in real world problem solving	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO4	Apply gathered knowledge in future course of their career development	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO5	Can proceed for higher education and research	L3 Applying	1,3,4,5,6,7,8	1,4,6
CO6	Get new avenues of joining research in related areas also such as therapeutic strategies or related opportunities in industry	L3 Applying	1,3,4,5,6,7,8	1,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	3		3			3					3			
CO2	1	2	3		3	3		3			3					3	3		
CO3	2	2	3	2	3	3	2	1			3			3		3			
CO4	2	2	3	3	3	3	2	1			2			3		3			
CO5	2	2	3	3	3	3	2	3			1			3		3			
CO6	2	2	3		3	3	2	3			1			3		3			
Average	1.67	1.83	3.00	2.67	3.00	3.00	2.00	2.33			2.17			3.00		3.00	3.00		

BARASAT GOVERNMENT COLLEGE
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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-13

Course Code: ZHL 202

Topic Name: ECOLOGY & BIOPHYSICAL METHODS AND BIOSTATISTICS

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand and be able to objectively evaluate the role of behaviour in the protection and conservation of animals in the wild	L2 Understanding	1,2,3,5,6,8,9	1,2,6
CO2	Evaluate behavior of all animals, including humans, in the complex ecological world, including the urban environment.	L5 Evaluating	1,2,3,4,5,6,8	1,2,6
CO3	Engage in field-based research activities to understand well the theoretical aspects taught besides learning techniques for gathering data in the field	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,5,6
CO4	Analyse a biological problem, derive testable hypotheses and then design experiments and put the tests into practice	L4 Analyzing	1,2,3,4,5,6,7,8	1,3,4,5,6
CO5	Get chances to solve the environmental problems involving interaction of humans and natural systems at local or global level viz, Sedgwick Rafter Counter method, BOD estimation etc	L3 Applying	1,2,3,4,5,6,7,8	1,2,6
CO6	Learn ecological implications on blood parasite, gut parasite, flat fish, tree frog, hermit crab, Balanus, Tea mosquito bug, Red Panda, Flying squirrel.	L2 Understanding	1,2,3,5,6,8	1,2,6
CO7	Learns about hypothesis testing and inferential statistics along with the problem- solving methods	L1 Remembering	1,2,3,4,5,6,8	1,3,4,5,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	2	3		3	3		3			2	3				3			
CO2	2	2	3	1	3	3		3			3	2				3			
CO3	2	2	3	1	3	3		3			3		3	3	2	3			
CO4	2	2	3	3	3	3		3			3		3	3	2	3			
CO5	2	2	3	3	3	3		3			3	3				3			
CO6	1	2	3		3	3		3			2	3				3			
CO7	2	2	2	3	3	3		3			2		3	3	2	3			
Average	1.71	2.00	2.86	2.20	3.00	3.00		3.00			2.57	2.75	3.00	3.00	2.00	3.00			

BARASAT GOVERNMENT COLLEGE
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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-14

Course Code: ZHL 203

Topic Name: SEMINAR

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Show competence in identifying relevant information, defining and explaining topics under discussion	L3 Applying	1,2,3,4,5,6,8	1,5,6
CO2	Demonstrate complexity, insight, independent thought, relevance, and persuasiveness.	L4 Analyzing	1,2,3,4,5,8	1,5,6
CO3	Evaluate information and use and apply relevant theories	L5 Evaluating	1,2,3,4,5,6,8	1,4,5,6
CO4	Judge how much to say, speak clearly and audibly in a manner appropriate to the subject, ask appropriate questions,	L5 Evaluating	1,2,3,5,6,8	1,5,6
CO5	Use evidence to support claims	L3 Applying	1,2,3,5,8	1,5,6
CO6	Take part in meaningful discussion to reach a shared understanding	L3 Applying	1,2,3,5,8	1,5,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	3	3	3	3	3	3		3			2				3	3			
CO2	3	3	1	3	3			3			2				3	3			
CO3	3	3	3	3	3	3		3			1			2	3	3			
CO4	3	3	3		3	3		3			3				3	3			
CO5	1	3	3		3			3			1				3	3			
CO6	1	2	2		3			3			3				3	3			
Average	2.33	2.83	2.50	3.00	3.00	3.00		3.00			2.00			2.00	3.00	3.00			

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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-15

Course Code: ZHT 301

Topic Name: INSECT BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Remember and understand basic insect biology, evolution, trophic adaptations	L2 Understanding	1,2,3,5,6,8	1,2,6
CO2	Understand comparative taxonomy	L2 Understanding	1,2,3,5,8	1,2,6
CO3	Apply the knowledge of taxonomy to identify and classify insects	L3 Applying	1,2,3,4,5,6,8	1,2,3,4,6
CO4	Realise insects impact on society through their role as pests of agricultural, medical, and urban sectors as well as their beneficial roles in ecosystem	L4 Analyzing	1,2,3,5,6,7,8,9	1,2,6
CO5	Understand the concept of IPM strategy in different commercial crops and biological control for invasive pests	L2 Understanding	1,2,3,4,5,6,7,8,9	1,2,6
CO6	Develop knowledge on Remote Sensing Techniques in assessing crop damage and protection	L2 Understanding	1,2,3,4,5,6,7,8	1,2,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	1		3			3	2				3			
CO2	1	2	3		3			3			3	2				3			
CO3	2	2	3	2	3	3		1			3	3	2	3		3			
CO4	2	2	3		3	3	2	1	2		3	2				3			
CO5	2	2	3	3	3	3	2	3	2		3	3				3			
CO6	2	2	3	1	3	3	2	3			3	2	3	3		3			
Average	1.67	1.83	3.00	2.00	3.00	2.60	2.00	2.33	2.00		3.00	2.33	2.50	3.00		3.00			

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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-16

Course Code: ZHT 302

Topic Name: PARASITOLOGY, IMMUNOLOGY & MICROBIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the basic principles of bacteriology, virology, mycology, immunology and parasitology including the nature of pathogenic microorganisms, pathogenesis, diagnosis, transmission, prevention and control of diseases	L2 Understanding	1,2,3,5,8	1,2,6
CO2	Can realise the antigens, antibodies, complement system, cellular and molecular pathways that leads to humoral and cell-mediated immunity including role of MHC.	L3 Applying	1,2,3,5,6,8	1,2,6,7
CO3	Can relate the immunity related diseases with molecular biological events of immune system.	L4 Analyzing	1,2,3,5,6,8	1,6,7
CO4	Understand tumor immunity and about vaccines.	L2 Understanding	1,2,3,5,6,8	1,6,7
CO5	Understand the principles and methods of food preservation, production of different fermented foods,	L2 Understanding	1,2,3,5,6,8	1,6,7
CO6	Be aware of different food borne diseases: their causative agents, foods involved, symptoms and preventive measures	L2 Understanding	1,2,3,5,6,8	1,2, 6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3		3			3			3	2				3			
CO2	2	2	3		3	3		3			3	3				3	2		
CO3	2	2	3		3	3		3			3					3	2		
CO4	2	2	3		3	3		3			3					3	2		
CO5	2	2	3		3	3		3			3					3	3		
CO6	2	2	3		3	3		2			3	3				3	3		
Average	2.00	1.83	3.00		3.00	3.00		2.83			3.00	2.67				3.00	2.40		

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Course Name: CORE COURSE-17

Course Code: ZHT 303

Topic Name: FISH BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the diversity and biology of fishes (both freshwater and marine)	L2 Understanding	1,2,3,5,6,8	1,2,6
CO2	Learn about fisheries management	L1 Remembering	1,3,5,6,8	1,6
CO3	Describe the major groups of fishes and their evolutionary relationships	L2 Understanding	1,2,3,5,6,8	1,2,6
CO4	Describe the morphology, physiology, and biology of fish.	L2 Understanding	1,2,3,5,6,8	1,6,7
CO5	Apply basic strategies to manage fish populations	L3 Applying	1,2,3,5,6,8	1,4,6
CO6	Understand the cause and pattern of Fish migration	L2 Understanding	1,3,5,6,8	1,2,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3		3	2		3			3	2				3			
CO2	2		3		3	2		2			3					3			
CO3	1	2	3		3	3		3			3	3				3			
CO4	1	2	3		3	2		3			3					3	2		
CO5	2	2	3		3	3		2			3			3		3			
CO6	2		3		3	3		2			3	3				3			
Average	1.67	1.75	3.00		3.00	2.50		2.50			3.00	2.67		3.00		3.00	2.00		

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Course Name: DISCIPLINE SPECIFIC ELECTIVE-1

Course Code: ZST 301

Topic Name: ENVIRONMENTAL PHYSIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Learn the biological process by which animals adapt to their environment	L2 Understanding	1,2,3,5,6,8	1,6
CO2	Understand the physiological adaptation to permit the organism to perform special functions	L2 Understanding	1,2,3,5,6,8	1,6
CO3	Learn about the effect of environmental transition on animal.	L1 Remembering	1,2,3,5,6,8	1,6
CO4	Explain how different species of animals may cope with changes in their environment	L3 Applying	1,2,3,5,6,8	1,2,6
CO5	Learn to manage livestock and other domestic animals under various environmental conditions	L2 Understanding	1,3,4,5,6,8	1,6
CO6	Apply gathered knowledge on day to day life	L3 Applying	1,2,3,5,6,8,9	1,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	2	3		3	2		3			3					3			
CO2	1	2	3		3	2		2			3					3			
CO3	1	2	3		3	3		3			3					2			
CO4	1	2	3		3	2		3			3	2				3			
CO5	1		3	1	3	3		2			3					2			
CO6	1	2	3		3	3		2	2		3			2		2			
Average	1.17	2.00	3.00	1.00	3.00	2.50		2.50	2.00		3.00	2.00		2.00		2.50			

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With effect from the session: 2020 – 2021

Course Name: DISCIPLINE SPECIFIC ELECTIVE-2

Course Code: ZST 303

Topic Name: TOXICOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Define and differentiate between natural chemicals and synthetic chemicals, compare how widespread they are and discuss perceptions of their effects	L3 Applying	1,2,3,5,6,8	1,6
CO2	Describe attributes and characteristics of chemicals that make them harmful	L4 Analyzing	1,2,3,5,6,8	1,6
CO3	Demonstrate an understanding of the core concepts of the science of toxicology, including hazard identification, exposure assessment, dose-response assessment and an understanding of the mechanisms of action and effects of toxic chemicals at multiple levels of biological organization.	L3 Applying	1,2,3,4,5,6,8	1,4,6,7
CO4	List and discuss factors influencing the toxic effects of chemicals	L3 Applying	1,2,3,5,6,8	1,6,7
CO5	Analyze, interpret and evaluate health risk from exposure to a variety of chemical hazards, describe technical aspects and experimental approaches in toxicological research, testing and risk assessment.	L4 Analyzing	1,2,3,4,5,6,8	1,4,6
CO6	Describe technical aspects and experimental approaches in toxicological research, testing and risk assessment	L4 Analyzing	1,2,3,4,5,6,8	1,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3		3	3		3			3					3			
CO2	2	2	3		3	3		3			3					3			
CO3	2	2	3	3	3	3		3			3			2		2	2		
CO4	2	2	3		3	3		3			3					3	3		
CO5	2	2	3	3	3	3		3			3			3		2			
CO6	2	2	3	3	3	3		2			3			2		2			
Average	2.00	1.83	3.00	3.00	3.00	3.00		2.83			3.00			2.33		2.50	2.50		

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With effect from the session: 2020 – 2021

Course Name: DISCIPLINE SPECIFIC ELECTIVE-3

Course Code: ZHL 301

Topic Name: ENTOMOLOGY & FISHERIES

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Prepare insect keys	L3 Applying	1,2,3,4, 5,6,8	1,3,4,6
CO2	Identify insect keys with the help of supplied keys	L4 Analyzing	1,2,3,4,5,6,7,8	1,2,3,4,6
CO3	Correctly prepares keys to identify fish and classify newly discovered species	L3 Applying	1,2,3,4,5,6,7,8	1,2,3,4,6
CO4	Perform morphometric measurement of fishes	L3 Applying	1,3,4,5,6,7,8	1,2,3,4,6
CO5	Isolate soil micro arthropods by using Tullgren Apparatus	L4 Analyzing	3,4,5,6,7,8	1,3,4,6
CO6	Apply gathered knowledge to solve practical problems	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	3	3	3	3	3		3			2		2	2		3			
CO2	2	3	3	2	3	3	2	1			2	2	3	2		3			
CO3	2	3	3	3	3	3	2	1			3	2	3	2		2			
CO4	1		3	2	3	3	3	3			3	1	2	3		3			
CO5			3	2	3	3	3	3			2		3	3		2			
CO6	2	2	3	2	3	3	3	3			2		2	2		2			
Average	1.80	2.75	3.00	2.33	3.00	3.00	2.60	2.33			2.33	1.67	2.50	2.33		2.50			

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With effect from the session: 2020 – 2021

Course Name: DISCIPLINE SPECIFIC ELECTIVE-4

Course Code: ZHL 302

Topic Name: PARASITOLOGY, IMMUNOLOGY & MICROBIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Develop skills to identify various parasites and microbes	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,6
CO2	Understand method of fixation & staining of various parasites and microbes	L2 Understanding	1,2,3,4,5,6,7,8	1,3,4,6
CO3	Understand the principle and protocols of various immunological techniques that include study of primary and secondary antibody response in hemagglutination test, characterization of purified immunoglobulin preparation by SDS-PAGE, test for cell mediated immune response by measurement of MI response, PCR technique etc	L2 Understanding	1,2,3,4,5,6,7,8	1,4,6
CO4	Develop the skill to isolate and prepare peritoneal macrophages from rat/mice	L3 Applying	1,3,4,5,6,7,8	1,3,4,6
CO5	Identify immunological tissues	L4 Analyzing	1,2,3,5,6,8	1,4,6
CO6	Attain efficiency in laboratory techniques to prepare culture of bacteria and counting of colonies	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3	2	3	3	2	3			3		2	3		3			
CO2	2	2	3	2	3	3	2	3			2		3	2		3			
CO3	2	2	3	3	3	3	2	3			3			2		2			
CO4	2		3	2	3	3	2	3			3		2	3		3			
CO5	2	2	3	3	3	3	2	3			2			3		2			
CO6	2	2	3	3	3	3	2	2			2		2	2		2			
Average	2.00	1.80	3.00	2.50	3.00	3.00	2.00	2.83			2.50		2.25	2.50		2.50			

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With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-1

Course Code: ZET 301

Topic Name: ELECTIVE: ECOLOGY & ENVIRONMENTAL BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Learn the in-depth knowledge of ecology and ecosystems	L1 Remembering	1,3,5,6,8	1,2,6
CO2	Understand population ecology, community ecology	L2 Understanding	1,2,3,5,6,8	1,2,6
CO3	Identify the causes of biodiversity degradation and its Conservation	L4 Analyzing	1,2,3,5,6,8,9	1,2,6
CO4	Gain knowledge on our natural resources and their Management,	L2 Understanding	3,5,6,8,9	1,2,6
CO5	Can apply the basic concepts of ecology for conservation of nature and natural resources	L3 Applying	1,2,3,5,6,8,9	1,6
CO6	Learnt about various energy resources & its applications	L2 Understanding	1,2,3,5,6,8,9	1,2,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1		3		3	3		3			3	3				3			
CO2	1	2	3		3	3		3			2	3				3			
CO3	2	2	3		3	3		3	3		3	3				2			
CO4			3		3	3		3	2		3	3				3			
CO5	2	2	3		3	3		3	3		2					2			
CO6	1	2	3		3	3		2	3		2	3				2			
Average	1.40	2.00	3.00		3.00	3.00		2.83	2.75		2.50	3.00				2.50			

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With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-2

Course Code: ZET 301

Topic Name: ELECTIVE: PARASITOLOGY & IMMUNOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Learn to describe the mechanisms for transmission, virulence and pathogenicity in pathogens and diagnose the causative agents	L2 Understanding	1,2,3,5,6,8	1,6
CO2	Describe pathogenesis and treatment for important diseases like malaria, leishmaniasis, trypanosomiasis, toxoplasmosis, schistosomiasis, cysticercosis, filariasis.	L3 Applying	1,2,3,5,6,8	1,6
CO3	Assess the importance of incidence, prevalence and epidemiology in microbiological diagnostic activities	L4 Analyzing	1,2,3,5,6,8	1,4,6
CO4	Develop skills for diagnosis of diseases and treatment of patient or host	L3 Applying	1,2,3,4,5,6,8	1,4,6
CO5	Apply gathered knowledge in practical life.	L3 Applying	1,2,3,5,8	1,4,6
CO6	Able to highlight advance research in the field of parasitology and Immunology	L4 Analyzing	1,2,3,4,5,6,8	1,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	2		3			2					3			
CO2	1	2	3		3	3		3			2					3			
CO3	2	2	3		3	3		3			3			3		2			
CO4	2	2	3	2	3	3		3			3			3		2			
CO5	2	2	3		3			3			3			3		2			
CO6	2	2	3	2	3	3		2			3			3		2			
Average	1.67	1.83	3.00	2.00	3.00	2.80		2.83			2.67			3.00		2.33			

BARASAT GOVERNMENT COLLEGE
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With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-3

Course Code: ZEL 301

Topic Name: ELECTIVE: ECOLOGY & ENVIRONMENTAL BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Gain the knowledge of performing quantitative parameters in terrestrial and aquatic systems,	L2 Understanding	1,2, 3,4,5,6,7,8	1,3,4,6
CO2	Learn the quantification of LD50/LCt50 value of any toxic chemical.	L2 Understanding	1,2,3,4,5,6,7,8	1,3,4,6
CO3	Evaluation of effect of toxicant on animal tissues (histochemical and biochemical changes	L5 Evaluating	1,3,4,5,6,7,8	1,3,4,6
CO4	Develope skills for preparation of vermi bed for composting	L4 Analyzing	1,3,4,5,6,7,8	1,3,4,6
CO5	Learn the uses of vermicomposting	L1 Remembering	1,2,3,5,6,7,8	1,4,6
CO6	Can proceed for research in environmental biology	L3 Applying	1,2,3,5,6,7,8,9	1,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3	2	3	3	2	3			3		2	3		3			
CO2	1	2	3	3	3	3	1	3			2		3	2		3			
CO3	2		3	2	3	3	2	1			3		3	2		2			
CO4	2		3	3	3	3	2	1			3		2	3		3			
CO5	2	2	3		3	3	2	3			2			3		2			
CO6	2	2	3		3	3	2	3	2		2		1	2		2			
Average	1.67	1.75	3.00	2.50	3.00	3.00	1.83	2.33	2.00		2.50		2.20	2.50		2.50			

BARASAT GOVERNMENT COLLEGE
Course Outcome or Learning Outcome
Two year M.Sc. Degree Course
Under CBCS semester system
POST GRADUATE DEPARTMENT OF ZOOLOGY
With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-4

Course Code: ZEL 301

Topic Name: ELECTIVE: PARASITOLOGY & IMMUNOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the fundamental complement of numerous diseases which have significant impact on human health	L2 Understanding	1,2,3,5,6,8	1,3,6
CO2	Learn the techniques of animal handling, injection of antigen along with preparation of serum	L2 Understanding	1,2,3,4,5,6,7,8	1,3,4,6
CO3	Learn how to isolate spleen, thymus and bone marrow cells	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,6
CO4	Develop the skill for parasite fixation, staining and mounting	L4 Analyzing	1,2,3,4,5,6,7,8	1,3,4,6
CO5	Apply the knowledge in practical field	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO6	Highlight interesting research ideas towards the advancement and enrichment of knowledge in the field of Parasitology	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	3		3			3		2			3			
CO2	1	2	3	2	3	3	2	3			2		3	3		3			
CO3	2	2	3	2	3	3	2	2			3		3	2		2			
CO4	2	2	3	3	3	3	2	2			3		3	3		3			
CO5	2	2	3	3	3	3	2	3			3			3		2			
CO6	2	2	3	3	3	3	2	3			3		2	2		3			
Average	1.67	1.83	3.00	2.60	3.00	3.00	2.00	2.67			2.83		2.60	2.60		2.67			

BARASAT GOVERNMENT COLLEGE
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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-18

Course Code: ZHT 401

Topic Name: TAXONOMY, BIODIVERSITY & CONSERVATION BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Acquire an in-depth knowledge on taxonomic categories, taxonomic characters (kinds, measurements, weighting & analysis), numerical taxonomy (phenetic and cladistic schools), construction of phenogram and cladogram, polarity decision, parsimony, out group comparison, phylogenetic groups (monophyly, paraphyly, polyphyly).	L2 Understanding	1,2,3,5,6,8	1,4,6
CO2	Determine genetic distance, phylogenetic trees, trends in taxonomy (cytotaxonomy, chemotaxonomy, molecular taxonomy, basics of barcoding.	L3 Applying	1,2,3,4,5,6,8	1,4,6
CO3	Applications of DNA barcode, constraints of DNA taxonomy; parataxonomy), ICZN (its operative principles, interpretation and application of important rules, Zoological Nomenclature), procedures and keys in taxonomy	L3 Applying	1,2,3,4,5,6,8	1,4,6,7
CO4	Understand the diversity and relationships in animal world, to develop a holistic appreciation on the phylogeny, diversity of life, ability to look at .	L2 Understanding	1,2,3,5,6,8	1,2,4
CO5	Study organismic diversity at various levels species, genetic and ecosystem, valuation of biodiversity, learn to measure and estimate biodiversity,	L2 Understanding	1,2,3,5,6,8	1,2,4,6
CO6	Learn to assess wildlife threat status and issues, threats responsible for decimation of biodiversity & wildlife	L2 Understanding	1,2,3,5,6,8,9	1,2

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	2		3			3			3		3			
CO2	2	2	3	2	3	2		3			3			2		3			
CO3	2	3	3	2	3	3		1			3			2		3	3		
CO4	2	2	3		3	3		1			3	2		3					
CO5	1	2	3		3	3		3			2	2		3		2			
CO6	2	2	3		3	3		3	3		2	3							
Average	1.67	2.00	3.00	2.00	3.00	2.67		2.33	3.00		2.67	2.33		2.60		2.75	3.00		

BARASAT GOVERNMENT COLLEGE
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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-19

Course Code: ZHT 402

Topic Name: EVOLUTIONARY BIOLOGY & POPULATION GENETICS

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the process and theories in evolutionary biology	L2 Understanding	1,2,3,5,6,8	1,2,6
CO2	Develop an interest in the debates and discussion taking place in the field of evolutionary biology	L3 Applying	1,2,3,5,6,8	1,2,6
CO3	Understand the emergence of land vertebrates, origin and evolution of primates and man.	L2 Understanding	1,2,3,5,6,8	1,2,6
CO4	Gain knowledge in theory and analytical methods in population genetics.	L2 Understanding	1,2,3,4,5,6,8	1,2,4,6
CO5	Solve biological problems with the help of population genetics.	L3 Applying	1,2,3,5,6,8	1,2,4,6
CO6	Identify relevant question in population genetics and can propose strategies to solve the problems, use previously acquired knowledge	L3 Applying	1,2,3,4,5,6,8	1,2,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	3	3		3	3		3			3	2				3			
CO2	2	2	3		3	3		3			3	2				3			
CO3	2	2	3		3	3		3			3	2				3			
CO4	2	3	3	2	3	3		3			3	3		3		3			
CO5	2	3	3		3	3		3			2	3		3		2			
CO6	2	3	3	3	3	3		2			2	3		2		3			
Average	2.00	2.67	3.00	2.50	3.00	3.00		2.83			2.67	2.50		2.67		2.83			

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Course Name: CORE COURSE-20

Course Code: ZHT 403

Topic Name: APPLIED BIOLOGY & BIOTECHNOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the cell & animal tissue culture, microbial fermentation and production of small and macromolecules	L2 Understanding	1,2,3,5,6,8	1,6,7
CO2	Conceptualize the production of small and macromolecules, soil micro arthropods and their types	L2 Understanding	1,2,3,5,6,8	1,6
CO3	Study their role in soil formation and soil fertility.	L3 Applying	1,2,3,5,6,8	1,6
CO4	Gain in depth knowledge of vector biology : resurgence of Malaria, major malaria vectors of India : their distribution, bio ecology, potentiality and present susceptibility status.	L2 Understanding	1,2,3,5,6,8	1,6,7
CO5	Experience the concept of bioremediation and phytoremediation, biosensors,	L4 Analyzing	1,2,3,5,6,8	1,6,7
CO6	Develop knowledge of vaccine development, modern culture techniques of fish & management, vermiculture	L3 Applying	1,2,3,4,5,6,8	1,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3		3	3		3			3					3	2		
CO2	2	2	3		3	3		3			3					3			
CO3	2	2	3		3	3		3			3					3			
CO4	2	2	3		3	3		3			3					3	3		
CO5	2	2	3		3	3		3			2					2	3		
CO6	2	2	3	2	3	3		2			2					3	3		
Average	2.00	1.83	3.00	2.00	3.00	3.00		2.83			2.67					2.83	2.75		

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With effect from the session: 2020 – 2021

Course Name: DISCIPLINE SPECIFIC ELECTIVE-5

Course Code: ZST 403

Topic Name: GENETIC DISEASES/DISORDERS & MANAGEMENT

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the fundamental genetics like Mendelian and Non-Mendelian inheritances, linkages, mutations	L2 Understanding	1,2,3,4,5,6,8	1,6
CO2	Learn about . sex determination of various animals, extra chromosomal inheritances, transposable genetic elements etc	L2 Understanding	1,2,3,4,5,6,8	1,6
CO3	Understand the various aspects of several genetic disorders	L2 Understanding	1,2,3,5,6,8	1,6,7
CO4	Develop knowledge on health problem caused by one or more abnormalities in the genome.	L2 Understanding	1,2,3,5,6,8	1,6,7
CO5	Learn the management of aforesaid concepts.	L3 Applying	1,2,3,5,6,8	1,4,6
CO6	Understand the basis of the genetic abnormalities, ranging from minuscule to major -- from a discrete mutation in a single base in the DNA of a single gene to a gross chromosomal abnormality involving the addition or subtraction of an entire chromosome or set of chromosomes.	L3 Applying	1,2,3,5,6,8	1,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	2	3	2	3	3		3			3					3			
CO2	1	1	3	2	3	3		3			3					3			
CO3	2	2	3		3	3		3			3					3	2		
CO4	1	2	3		3	3		3			3					3	2		
CO5	2	2	3		3	3		3			3			3		2			
CO6	1	2	3		3	3		2			2					3	3		
Average	1.50	1.83	3.00	2.00	3.00	3.00		2.83			2.83			3.00		2.83	2.33		

BARASAT GOVERNMENT COLLEGE
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With effect from the session: 2020 – 2021

Course Name: DISCIPLINE SPECIFIC ELECTIVE-6

Course Code: ZST 404

Topic Name: TOOLS & TECHNIQUES

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Understand the purpose of the technique, its proper use and possible modifications/ improvement	L2 Understanding	1,2,3,5,6,8	1,6
CO2	Learn the theoretical basis of technique, its principle of working and its correct application.	L2 Understanding	1,2,3,5,6,8	1,6
CO3	Comprehend the construction, repair and adjustment of any equipment required for a technique	L2 Understanding	1,2,3,4,5,6,8	1,4,6
CO4	Learn the accuracy of technique, maintenance of laboratory equipment's/ tools, safety hazards and precautions.	L2 Understanding	1,2,3,4,5,6,8	1,6,7
CO5	Understand the technique of cell and tissue culture, preparation of solution of given percentage and molarity, process of preparation of buffer	L2 Understanding	1,2,3,4,5,6,8	1,4,6
CO6	Learn the techniques of separation of amino acids, proteins and nucleic acids	L3 Creatinh	1,2,3,4,5,6,8	1,4,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	3		3			3					3			
CO2	1	2	3		3	3		3			3					3			
CO3	2	2	3	3	3	3		3			3			2		3			
CO4	2	2	3	3	3	3		3			3					3	2		
CO5	2	3	3	3	3	3		3			2			3		3			
CO6	2	3	3	3	3	3		2			2			2		3	3		
Average	1.67	2.17	3.00	3.00	3.00	3.00		2.83			2.67			2.33		3.00	2.50		

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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-21

Course Code: ZHL 401

Topic Name: TAXONOMY, BIODIVERSITY & WILDLIFE INCLUDING FIELD TRAINING

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Prepare taxonomic keys (Insect/Fish as a model), estimate species density, diversity index – Shannon Index, Richness Index, Relative abundance, Species evenness, Similarity Index	L3 Applying	1,2,3,4,5,6,8	1,3,4,6
CO2	Analyse Dominance Diversity Index	L4 Analyzing	1,2,3,4,5,6,8	1,3,4,6
CO3	Perform sampling and census technique, pug mark analysis for wildlife in the field	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,6
CO4	Know use and application of global positioning system (GPS) and laser range finder in the study of biodiversity	L2 Understanding	1,2,3,4,5,6,8	1,3,4,6
CO5	Participate actively in field excursion	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO6	preparing field note book on the estimation/assessment of biodiversity of any terrestrial or aquatic ecosystem	L3 Applying	1,2,3,5,6,7,8	1,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	1	3	2	3	3		3			3		2	3		3			
CO2	2	3	3	2	3	3		3			3		3	2		3			
CO3	2	2	3	2	3	3	2	2			3		3	2		2			
CO4	2	2	3	3	3	3		2			3		2	3		3			
CO5	2	2	3	2	3	3	2	3			2			3		2			
CO6	2	2	3	3	3	3	2	3			3		3	2		2			
Average	2.00	2.00	3.00	2.33	3.00	3.00	2.00	2.67			2.83		2.60	2.50		2.50			

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With effect from the session: 2020 – 2021

Course Name: CORE COURSE-22

Course Code: ZHL 402

Topic Name: COMPREHENSIVE VIVA

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Develop skills to face interview panel	L3 Applying	1,2,3,5,6,8	4,6
CO2	Gain knowledge in every aspect of the subject	L2 Understanding	1,2,3,5,6,8	4,6
CO3	Learn how to converse, present thought.	L1 Remembering	1,3,5,6,8	4
CO4	Practice how to answer impromptu questions before an expert panel	L3 Applying	1,2,3,5,6,8	4
CO5	Learn how to highlight a point .	L2 Understanding	1,2,3,5,6,8	4,6
CO6	Learn how to present yourself in front of a board.	L2 Understanding	1,3,5,6,8	4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	3	3	3		3	3		3						3		3			
CO2	3	3	1		3	3		3						3		3			
CO3	3		3		3	3		3						3					
CO4	3	3	3		3	3		3						3					
CO5	3	3	3		3	3		3						3		2			
CO6	3		2		3	3		3						2		2			
Average	3.00	3.00	2.50		3.00	3.00		3.00						2.83		2.50			

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Course Outcome or Learning Outcome
Two year M.Sc. Degree Course
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With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-5

Course Code: ZET 401

Topic Name: ELECTIVE: ECOLOGY & ENVIRONMENTAL BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Develop the concept of ecological modelling, autecology of species, habitat ecology, ecotoxicology & public health	L3 Applying	1,2,3,5,6,8	1,2,6
CO2	Gather knowledge about , environmental monitoring & impact assessment management of environmental quality	L2 Understanding	1,2,3,5,6,8	1,2,6
CO3	Understand the importance of bio diversity and the consequences of bio diversity loss	L2 Understanding	1,2,3,5,6,8	1,2,6
CO4	learn about the judicious utilization of natural resource, follow the concept of green technology and the eco-friendly practices and other prospects of environment protection	L2 Understanding	1,2,3,5,6,8,9	1,6,7
CO5	Understand and practice appropriate legal/regulatory and ethical issues in the context of the work environment.	L2 Understanding	1,2,3,5,6,8	1,6
CO6	Design research projects to collect information to assess the current practices, and interpret the results of a statistical analysis of data, and use this to make informed decisions	L6 Creating	1,2,3,4,5,6,8	1,4,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	3	3	3		3	3		3			3	3				3			
CO2	1	2	3		3	3		3			3	2				3			
CO3	2	2	3		3	3		3			3	2				3			
CO4	2	2	3		3	3		3	3		3					3	3		
CO5	2	2	3		3	3		3			1					2			
CO6	1	2	3		3	3		2			2			2		3	3		
Average	1.83	2.17	3.00		3.00	3.00		2.83	3.00		2.50	2.33		2.00		2.83	3.00		

BARASAT GOVERNMENT COLLEGE
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With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-6

Course Code: ZET 401

Topic Name: ELECTIVE: PARASITOLOGY & IMMUNOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Acquire broad understanding of immune system and parasites; Types of immunity, antigens-antibodies and their properties	L2 Understanding	1,2,3,5,6,8	1,6
CO2	Learn about . Complement system, MHC's and immune responses	L1 Remembering	1,2,3,5,6,8	1,2,6
CO3	. Understand the types of hypersensitivity reactions and auto immune diseases	L2 Understanding	1,2,3,5,6,8	1,2,6,7
CO4	Develop concepts of tumour immunology and transplantation immunology	L3 Applying	1,2,3,5,6,8	1,6,7
CO5	Elucidate the fundamental complement of numerous diseases (caused by diverse ecto- and endo-parasites) which have significant impact on human health	L3 Applying	1,2,3,5,6,8	1,6,7
CO6	Understand vector host interactions of many important neglected tropical diseases like Malaria, Filaria, Dengue, Kala-azar etc.	L2 Understanding	1,2,3,5,6,8	1,6,7

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	2		3			3					3			
CO2	1	2	3		3	3		3			2	2				3			
CO3	2	2	3		3	3		3			2	2				3	2		
CO4	2	2	3		3	3		3			3					3	3		
CO5	2	2	3		3	2		3			1					2	2		
CO6	2	2	3		3	3		2			2					3	3		
Average	1.67	1.83	3.00		3.00	2.67		2.83			2.17	2.00				2.83	2.50		

BARASAT GOVERNMENT COLLEGE
Course Outcome or Learning Outcome
Two year M.Sc. Degree Course
Under CBCS semester system
POST GRADUATE DEPARTMENT OF ZOOLOGY
With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-7

Course Code: ZEL 401

Topic Name: ELECTIVE: ECOLOGY & ENVIRONMENTAL BIOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Gain the knowledge of performing productivity determination of different ecosystems.	L2 Understanding	1,2,3,5,6,8	1,3,4,6
CO2	Evaluate Diversity Index of terrestrial/aquatic communities	L5 Evaluating	1,2,3,4,5,6,7,8	1,3,4,6
CO3	Can apply develop statistical methods for problem solving	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO4	Use different software for ecological analysis.	L3 Applying	1,2,3,4,5,6,8	1,3,4,6
CO5	Develop field study methods for wildlife study & participate in field excursion	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO6	Prepare field note book on the estimation of biodiversity of any terrestrial or aquatic ecosystem.	L6 Creating	1,2,3,4,5,6,7,8	1,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	1	3		3	3		3			3		3	2		3			
CO2	1	3	3	2	3	3	2	3			2		3	2		3			
CO3	2	3	3	2	3	3	2	2			2			2		3			
CO4	2	3	3	3	3	3		2			3		3	3		3			
CO5	2	2	3	3	3	3	3	3			3			2		2			
CO6	1	2	3	3	3	3	3	3			2		3	2		3			
Average	1.50	2.33	3.00	2.60	3.00	3.00	2.50	2.67			2.50		3.00	2.17		2.83			

BARASAT GOVERNMENT COLLEGE
Course Outcome or Learning Outcome
Two year M.Sc. Degree Course
Under CBCS semester system
POST GRADUATE DEPARTMENT OF ZOOLOGY
With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-8

Course Code: ZEL 401

Topic Name: ELECTIVE: PARASITOLOGY & IMMUNOLOGY

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Develop skill of whole mount preparation of trematode and cestodes	L2 Understanding	1,2,3,4,5,6,7,8	1,3,4,6
CO2	Learn the technique of isolation of peritoneal macrophage, immunofluorescence and FACS	L2 Understanding	1,2,3,4,5,6,7,8	1,3,4,6
CO3	Compare a normal and transformed cell and draw cell using camera lucida.	L4 Analyzing	1,2,3,4,5,6,7,8	1,4,6
CO4	Raise antisera in animal	L3 Applying	1,2,3,4,5,6,7,8	1,3,4,6
CO5	Follow disease diagnosis and pathogen identification through different experiments using advanced tools in different research laboratories	L3 Applying	1,2,3,4,5,6,7,8	1,4,6
CO6	Convey the aim, methods, results, and conclusions of a scientific experiment by presenting a lab report	L6 Creating	1,2,3,4,5,6,7,8	1,3,4,6

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	1	2	3	3	3	3	2	3			3		3	3		3			
CO2	1	2	3	3	3	3	2	3			2		3	2		3			
CO3	2	2	3	3	3	3	2	2			3			2		3			
CO4	2	2	3	3	3	3	2	2			3		1	3		3			
CO5	2	2	3	3	3	3	2	3			3			2		3			
CO6	2	2	3	3	3	3	3	3			2		2	2		3			
Average	1.67	2.00	3.00	3.00	3.00	3.00	2.17	2.67			2.67		2.25	2.33		3.00			

BARASAT GOVERNMENT COLLEGE
Course Outcome or Learning Outcome
Two year M.Sc. Degree Course
Under CBCS semester system
POST GRADUATE DEPARTMENT OF ZOOLOGY
With effect from the session: 2020 – 2021

Course Name: ELECTIVE PAPER-9

Course Code: ZEL 402

Topic Name: DISSERTATION/PROJECT/REVIEW/LABORATORY EXCHANGE PROGRAMME

Course Outcome:

CO, PO & PSO Mapping

Sl No	Course outcome	Knowledge level Blooms Level	POs Mapping	PSOs mapping
CO1	Gain in-depth knowledge in the major field of study.	L2 Understanding	1,2,3,5,6,8	1,6
CO2	Comprehend how to properly address a problem CO3. Design experiments to reach specific conclusions.	L3 Applying	1,2,3,4,5,6,7,8	4,5,6
CO3	Create, analyze and critically evaluate different technical/research solutions.	L6 Creating	1,2,3,4,5,6,7,8	4,5
CO4	Clearly present and discuss the conclusions by preparing power point presentation.	L3 Applying	1,2,3,4,5,6,7,8	4,5
CO5	.Develop oral/writing ability, ability of compilation of scientific resources published in journals	L6 Creating	1,2,3,4,5,6,7,8	4,5,6
CO6				

Program Articulation Matrix (CO-PO Matrix)

PO, PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9
CO1	2	3	3		3	3		3			2					3			
CO2	3	3	3	2	3	3	2	3						3	3	3			
CO3	2	3	3	2	3	3	2	2						3	2				
CO4	2	2	3	3	3	3	2	2						2	3				
CO5	2	2	3	3	3	3	2	3						3	2				
CO6														2	2	3			
Average	2.20	2.60	3.00	2.50	3.00	3.00	2.00	2.60			2.00			2.60	2.40	3.00			