



Department of Zoology
Rabindra Mahavidyalaya
Champadanga Hooghly

NOTICE

Date:18th-August-2023

It is hereby informed to all the teachers and students that Syllabus distribution for Zoology Semester 1 classes will be as following.

Baisakhi Saha

Head of Department
Department of Zoology
Rabindra Mahavidyalaya
Champadanga Hooghly

**Syllabus wise distribution of for 3-Year
Degree/4-Year Honours in Zoology under
Curriculum and Credit Framework for
Undergraduate Programmes (CCFUP) AS
PER NEP, 2020 with effect from 2023-2024**

Semester - II

Major (4 Year & 3 Year)

Department Specific Course

OBJECTIVES OF THE STUDY

This course is designed to give a learner the fundamental understanding of the diversity of Phylum Chordata with emphasis on their origin, key characteristics, classification, distribution, and function. This course will make the students enlightened with the concept of diversity, organization, adaptation, and taxonomic status of Chordates. The course will give an understanding of the systemic physiology of chordates. There will be a discussion about the affinities of chordates to different groups.

COURSE OUTCOMES:

The students will get knowledge to explain the diversity of Protochordates and chordates. Identify the taxonomic position of chordates, their diversity, and their distribution. Gain insights about economic importance and significance of Aquaculture and Pisciculture. Identify and distinguish between poisonous and non-poisonous snakes by observing characteristic features. Students gain knowledge about the composition and significance of venom. Gain insights About The Structural specialties of birds which will help them for Poultry (commercial application). Adaptive radiation of Mammals Will give the insight into diversity and distribution of Mammals

Paper Code and Subject	Unit	TOPICS(Credits:3)	TOTAL NO. LECTURES	Assign Teacher
			(45)	
ZOOL2011: CHORDATES	1	Origin of Chordata: Dipleura concept and the Echinoderm theory of Chordata	2	EM
	2	Introduction to Chordates: General characteristics and outline classification of Phylum Chordata Upto living Subclasses Advanced features of Vertebrates over Protochordata Retrogressive Metamorphosis in <i>Ascidia</i> , Feeding Mechanism In <i>Branchiostoma</i>	2+2+1+1=6	EM
	3	Agnatha: General characteristics and classification of Cyclostomes upto Sub-class	2	Dr. Eureka Mondal
	4	Pieces: General characteristics and classification of Chondrichthyes and Osteichthyes Upto Subclasses Accessory respiratory organs and swim bladder in fishes Osmoregulation and Parental Care in fishes	2+2+2=6	
	5	Amphibia: General characteristics and classification upto living Sub-classes Metamorphosis and Parental care in Amphibia	2+2=4	Dr. Payel Bhattacharjee
	6	Reptilia: General characteristics and classification upto living Sub-classes General features of poisonous and non-poisonous snakes Poison Apparatus and Biting Mechanism in Snakes	2+2+2=6	Dr. Payel Bhattacharjee
	7	Aves: General characteristics and classification upto living Sub-classes Exoskeleton and migration in Birds Principles and aerodynamics of flight in Birds	2+2+1=5	Dr. Payel Bhattacharjee
	8	Mammalia: General characteristics and classification upto living Sub-classes Affinities of Prototheria Exoskeletal derivatives of Mammals Echolocation in Bat and Whale Adaptive radiation in mammals with reference to Locomotory Organs.	2+2+2+2+2=10	Dr. Payel Bhattacharjee
	9	Zoogeographical Realms: Distribution of Birds and Mammals different realms	2+2=4	Dr. Payel Bhattacharjee

Internal

Paper	Syllabus(Unit Wise)	Assigned Teacher	Contact Number & Mail id	Marks Weightage
ZOOLOGY 2011: CHORDATES		Eureka Mondal	8250656417, 9476440223 mondal.eureka87@gmail.com	5
		Palash Kanti Manna/Dr. Payel Bhattacharjee	9732381772, 9382113782 palasmanna84@gmail.com	5
	Total			10

Department of Zoology MailId:rabindramahavidyalayazoology@gmail.com

Paper Code and Subject	Unit	Topics (Credits:3)	Total No. Lectures (15)	Assign Teacher
DSC-2011 CHORDATE [Practical]	1	a) Spot Identification of Protochordate: <i>Balanoglossus</i> , <i>Branchiostoma</i>	1	Piyali Pakhira
		b) Spot Identification of Agnatha: <i>Petromyzon</i> , Hagfish	1	Piyali Pakhira
		c) Spot Identification of Fish: <i>Scoliodon</i> , <i>Sphyrna</i> , <i>Pristis</i> , <i>Torpedo</i> , <i>Labeo</i> , <i>Catla</i> , <i>Cirrhinus</i> , <i>Anabas</i> , <i>Ctenopharyngodon</i> , <i>Heteropneustes</i> , <i>Clarias</i> , <i>Exocoetis</i> , <i>Echeneis</i>	3	Piyali Pakhira
		d) Spot Identification of Amphibia: <i>Necturus</i> , <i>Bufo</i> , <i>Hyla</i> , <i>Axolotlarva</i> , <i>Tylototriton</i> .	1	Piyali Pakhira
		e) Spot Identification of Reptilia: <i>Chelone</i> , <i>Varanus</i> , <i>Mabuya</i> , <i>Draco</i> , <i>Vipera</i> , <i>Naja</i> , <i>Hydrophis</i> .	2	Piyali Pakhira
		f) Spot Identification of Mammalia: <i>Bat</i> , <i>Funambulus</i>	1	Piyali Pakhira
	2.	Temporary staining and mounting of cycloid and ctenoid scales.	2	Piyali Pakhira
	3.	Identification of Poisonous and non-poisonous snake.	2	Piyali Pakhira
	4.	Power point presentation on the study of any two animals from two different classes by students. Power point Submission and demonstration	2	Piyali Pakhira/Dr. Payel Bhattacharjee

Internal

Paper	Syllabus(Unit Wise)	Marks Weightage	AssignTeacher	ContactNumber &Mail-id
DSC-2011 CHORDATE [Practical]	Spot identification (6 from Item)	2	Piyali Pakhira/Dr. Payel Bhattacharjee	8250576414,7718534071 tukupakhira@gmail.com 9051141362 drpayelb.rmz@gmail.com
	Staining and mounting (1 from item 2)	1		
	Laboratory Note Book-	1		
	Power point presentation--	1		
	Total	5		

Skill Enhancement Course

Objectives of the Course

The syllabus for Sericulture at undergraduate SEC according to NEP has been framed. The main objective of framing this new syllabus is to give the students a proper understanding of Sericulture. Students will get knowledge about mulberry plant cultivation, different silkworms, culture techniques, silk production, and the knowledge of diseases and enemies of silkworms. The students can be utilized the knowledge in starting their own enterprise after completion of the course.

Course Outcomes:

1. Get Complete Knowledge of Silkworms and their different types.
2. Get knowledge about technology of silkworm culture and making of silk.
3. To Know About Different Diseases On Enemies Of Silkworms.
4. Get a Brief Idea about entrepreneurship in Sericulture.

ZOO2051: SERICULTURE	Paper Code and Subject	Unit	TOPICS (Credits :3)	TOTAL NO. LECTURES (30)	Assign Teacher
		1	History Of Sericulture; the systematic position of silk moths; different species of silk moths, their description	5	
		2	Biology of Mulberry Plants: Description Mulberry. Salient Features of family Moraceae; Phyto-geography and systematic of the genus <i>Morus</i> L. And Its Species; Morphology and anatomy of mulberry plant; Different cultivars of mulberry; Floral Biology of mulberry: Structure of male and female flowers, catkins	6	
		3	Mulberry Cultivation: Processes Of Cultivation, irrigation process, application of fertilizer both inorganic and organic likes vermicomposting. Diseases of mulberry plants Leaf: Leaf spot, Powdery mildew, Leaf Rust, Leaf Blight. Diseases Of Mulberry Root: Root rot disease, Root knot disease. Pest management of Mulberry plants, Major and Minor: Name, pattern attack, prevention and control.	6	
		4	Silkworm Morphology: of the egg, larva, pupa, adult of <i>Bombyx mori</i> . Silkworm Anatomy <i>Bombyx mori</i> : Digestive System: Larva, Circulatory system: Larva, pupa, adult, Nervous System: Larva, adult, Silk Gland: Larva, Reproductive System: Adult.	5	
		5	Silkworm Diseases of <i>Bombyx mori</i> : Protozoan disease, Bacterial Disease, Fungal disease, Viral Disease, Sot to Silkworm Pests of <i>Bombyx mori</i> : Uzfily, Ants, Dermestid Beetles.	5	
		6	Mulberry Silkworm Rearing: Model rearing house, Rearing appliances, disinfection, disinfectants, bed cleaning, feeding of worms. Rearing of larvae: techniques of rearing of different stages of larvae.	6	
		7	Harvesting of cocoon: Sex determination of cocoon, harvesting of cocoon.	3	
		8	Post Cocoon And Silk Collection Technology: Cocoon Stifling (sun drying, steam stifling, hot air stifling) and storage. Deflossing, cocoon riddling, mixing or blending, cocoon cooking, brushing. Types Of Reeling Machines, reeling operation, reeling end formation. Degumming, bleaching, dyeing silk yarn. Twisting, Reeling, Re-reeling, lacing, skeining and testing of raw silk material Weaving Of silk.	5	
		9	Entrepreneurship Sericulture: Sericulture Source Of Employment and livelihood; the role of CSB in supporting and guiding entrepreneurship	4	

Internal

Paper	Syllabus (Unit Wise)	Assign Teacher	Contact Number & Mail Id	Marks Weightage
ZOOL2051: SERICULTURE				10



Minor

OBJECTIVES OF THE STUDY:

This course is designed to give a learner the fundamental understanding of the diversity of Phylum Chordata with emphasis on their origin, key characteristics, classification, distribution and functioning. This course will make the students enlightened with the concept of diversity, organization, adaptation and taxonomic status of Chordates. The course will give the understanding of systemic physiology of chordates. There will be discussion about the affinities of chordates to different groups.

COURSE OUTCOMES:

At the end of the syllabus students learn the Systematic and biology of non chordates through their adaptive features and their body organization. Comprehend the identification of species and their evolutionary relationships.

Paper Code and Subject	Unit	TOPICS (Credits:3)	TOTAL NO. LECTURES	Assign Teacher
			(45)	
ZOOL2021: CHORDATES	1	Origin of Chordata: Dipleura concept and the Echinoderm theory of Chordata	2	
	2	Introduction to Chordates: General characteristics and outline classification of Phylum Chordata Upto living Subclasses Advanced features of Vertebrates over Protochordata	2	
	3	Agnatha: General characteristics and classification of Cyclostomes upto Classes (Young, 1981).	2	
	4	Pieces: General features and outline Classification upto Subclasses (Romer, 1959). Accessory respiratory organs in fishes. Osmoregulation in fishes.	8	
	5	Amphibia: General features and outline Classification up to living orders (Duellman Trueb, 1986). Metamorphosis and Parental care in Amphibia.	8	Dr. Payel Bhattacharjee
	6	Reptilia: General features and outline Classification up to living Subclass (Young, 1981). Venom types and Biting mechanism in venomous snakes. Clinical symptoms of snake bite.	8	Dr. Payel Bhattacharjee
	7	Aves: General features and outline Classification up to orders (Young, 1981). Migration in birds.	8	Dr. Payel Bhattacharjee
	8	Mammalia: General features and outline Classification upto Subclasses (Young, 1981). Adaptive radiation in primates depends upon food. Echo location in Bat	8	Dr. Payel Bhattacharjee

Internal

Paper	Syllabus(Unit Wise)	Assign Teacher	Contact Number & Mail id	Marks Weightage
ZOOL2011: CHORDATES		Eureka Mondal	8250656417, 9476440223 mondal.eureka87@gmail.com	5
		Palash Kanti Manna	9732381772, 9382113782 palasmanna84@gmail.com	5
	Total			10

Paper Code and Subject	Unit	Topics (Credits:3)	Total No. Lectures (15)	Assign Teacher
DSC-2021 CHORDATE [Practical]	1	Spot Identification: Either from Museum specimen or from photograph Group I: <i>Torpedo, Labeo, Parexocoetus, Tylototriton, Branchiostoma, Petromyzon, Sphyrna, Pristis, Duttaphrynus, Polypedates</i>	1	Piyali Pakhira
		Spot Identification: Either from Museum specimen or from photograph Group II: <i>Lissemys, Chamaeleo, Draco, Daboia, Lycodon, Ptyas, Naja, Passer, Psittacula, Alcedo, Pteropus, Funambulus, Suncus</i>	1	Piyali Pakhira
	2.	Temporary staining and mounting of cycloid and ctenoid scales.	2	Piyali Pakhira
	3.	Fish market survey to study different fish species and preparation of a survey report.	2	Piyali Pakhira

Internal

Paper	Syllabus(Unit Wise)	Marks Weightage	AssignTeacher	ContactNumber &Mail-id
DSC-2011 CHORDATE [Practical]	Spot identification (6 from Item)	2	Piyali Pakhira	8250576414, 7718534071 tukupakhira@gmail.com
	Staining and mounting (1 from item 2)	1		
	Laboratory Note Book-	1		
	Survey Report	1		
	Total	5		