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 2 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 PERNEP,2020witheffectfrom2023-2024

Semester - II

Major (4 Year & 3 Year)

Department Specific Course

OBJECTIVESOFTHESTUDY

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.

COURSEOUTCOMES:

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 Pieces 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 (45)	Assigned Teachers
ZOOL2011: CHORDATES	1	Origin of Chordata: Dipleura concept and the Echinoderm theory of Chordata	2	Palas Kanti Manna
	2	Introduction to Chordates: General characteristics and outline classification of Phylum Chordata Upto living Subclasses Advanced features of Vertebrates over Protochordata Retrogressive Metamorphosis in *Ascidia,* Feeding Mechanism In *Branchiostoma*	2+2+1+1=6	Palas Kanti Manna
	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	Piyali Pakhira
	5	Amphibia: General characteristics and classification upto living Sub-classes Metamorphosis and Parental care in Amphibia	2+2=4	Dr Payel Bhattachrjee
	6	Reptilia: General characteristics and classification upto living Sub-classes General features of poisonousand non-poisonous snakes Poison Apparatus and Biting Mechanism in Snakes	2+2+2=6	Dr Payel Bhattachrjee
	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. Eureka Mondal
	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. Eureka Mondal
	9	Zoogeographical Realms: Distribution of Birds and Mammals different realms	2+2=4	Palas Kanti Manna

Internal

Paper	Syllabus (Unit Wise)	Assigned Teacher	✆ & ✉
ZOOL2011: CHORDATES	Origin of Chordata Introduction to Chordates Zoogeographical Realms	Palas Kanti Manna	9732381772, 9382113782 palasmanna84@gmail.com
	Agnatha Aves: Mammalia:	Dr. Eureka Mondal	8250656417, 9476440223 mondal.eureka87@gmail.com/ eurekaugb@gmail.com/
	Amphibia: Reptilia:	Dr Payel Bhattachrjee	9477159440/9051141362/payel.iicb@gmail.com/ drpayelb.rmz@gmail.com
	Pieces:	Piyali Pakhira	8250576414, 7718534071 tukupakhira@gmail.com
	Total internal marks 5		

Paper Code and Subject	Unit	Topics (Credits:3)	Total No. Lectures (15)	Assign Teacher
DSC-2011 CHORDATE [Practical]	1	a) Spot Identification of Protochordate: *Balanoglossus, Branchiostoma*	1	Piyali Pakhira
		b) Spot Identification of Agnatha: *Petromyzon*, Hagfish	1	Piyali Pakhira
		c) Spot Identification ofFish: *Scoliodon, Sphyrna, Pristis, Torpedo, Labeo, Catla, Cirrhinus, Anabas, Ctenopharyngodon, Heteropneustes, Clarias, Exocetus, Echenis*	3	Piyali Pakhira
		d) Spot Identification of Amphibia*:* *Necturus, Bufo, Hyla, Axolotollarva, Tylototriton.*	1	Piyali Pakhira
		e) Spot Identification of Reptilia: *Chelone, Varanus, Mabuya, Draco, Vipera, Naja, Hydrophis.*	2	Piyali Pakhira
		f) Spot Identification of Mammalia: Bat, *Funumbulus*	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	Dr. Payel Bhattacharjee

Internal

Paper	Syllabus (Unit Wise)	Assign Teacher	✆ & ✉
DSC-2011 CHORDATE [Practical]	Spot identification (6 from Item)	Piyali Pakhira/	8250576414,7718534071 tukupakhira@gmail.com 9477159440/9051141362/payel.iicb@gmail.com/ drpayelb.rmz@gmail.com
	Staining and mounting (1 from item 2)		
	Laboratory Note Book-		
	Power point presentation--	Dr. Payel Bhattacharjee	
	Total marks 5		

SkillEnhancementCourse

Objectives of theCourse

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.

Paper Code and Subject	Unit	TOPICS (Credits :3)	TOTAL NO. LECTURES (30)	Assign Teacher
ZOOL2051: SERICULTURE	1	History Of Sericulture; the systematic position of silk moths; different species of silk moths, their description	5	Dr. Eureka Mondal
	2	Biology of Mulberry Plants: Description Mulberry. Salient Features of family Moraceae; Phyto-geography and systematic of the genus *Morus*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	Piyali Pakhira
	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	Dr. Eureka Mondal
	4	Silkworm Morphology: of the egg, larva, pupa, adult of *Bombyx mori*. Silkworm Anatomy Bombyx mori: Digestive System: Larva, Circulatory system: Larva, pupa, adult, Nervous System: Larva, adult, Silk Gland: Larva, Reproductive System: Adult.	5	Dr. Eureka Mondal
	5	Silkworm Diseases of *Bombyx mori*: Protozoan disease, Bacterial Disease, Fungal disease, Viral Disease, Sotto Silkworm Pests of *Bombyx mori*: Uzifly, Ants, Dermestid Beetles.	5	Palas Kanti Manna
	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	Palas Kanti Manna
	7	Harvesting of cocoon: Sex determination of cocoon, harvesting of cocoon.	3	Piyali Pakhira
	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	Palas Kanti Manna
	9	Entrepreneurship Sericulture: Sericulture Source Of Employment and livelihood; the role of CSB in supporting and guiding entrepreneurship	4	Piyali Pakhira

Internal

Paper	Syllabus (Unit Wise)	Assigned Teacher	✆ & ✉
ZOOL2051: CHORDATES	5,6,8	Palas Kanti Manna	9732381772, 9382113782 palasmanna84@gmail.com
	1,3,4	Dr. Eureka Mondal	8250656417, 9476440223 mondal.eureka87@gmail.com/ eurekaugb@gmail.com/
	2,7,9	Piyali Pakhira	8250576414, 7718534071 tukupakhira@gmail.com
	Total internal marks 10		


Minor

OBJECTIVES OF THE STUDY:

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COURSE OUTCOMES:

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Paper Code and Subject	Unit	TOPICS (Credits:3)	TOTAL NO. LECTURES (45)	Asign Teacher
ZOOL2021: CHORDATES	1	Origin of Chordata: Dipleura concept and the Echinoderm theory of Chordata	2	Palas Kanti Manna
	2	Introduction to Chordates: General characteristics and outline classification of Phylum Chordata Upto living Subclasses Advanced features of Vertebrates over Protochordata	2	Palas Kanti Manna
	3	Agnatha:General characteristics and classification of Cyclostomes upto Classes (Young, 1981).	1	Dr. Eureka Mondal
	4	Pieces:General features and outline Classification upto Subclasses (Romer, 1959). Accessory respiratory organs in fishes. Osmoregulation in fishes.	8	Piyali Pakhira
	5	Amphibia: General features and outline Classification up to living orders (Duellman Trueb, 1986). Metamorphosis and Parental care in Amphibia.	8	Dr Payel Bhattachrjee
	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 Bhattachrjee
	7	Aves: General features and outline Classification up to orders (Young, 1981). Migration in birds.	8	Dr. Eureka Mondal
	8	Mammalia:General features and outline Classification upto Subclasses (Young, 1981). Adaptive radiation in primates depends upon food. Echo location in Bat	8	Dr. Eureka Mondal

Internal

Paper	Syllabus (Unit Wise)	Assigned Teacher	✆ & ✉
ZOOL2021: CHORDATES	Origin of Chordata Introduction to Chordates	Palas Kanti Manna	9732381772, 9382113782 palasmanna84@gmail.com
	Agnatha Aves: Mammalia:	Dr. Eureka Mondal	8250656417, 9476440223 mondal.eureka87@gmail.com/ eurekaugb@gmail.com/
	Amphibia: Reptilia:	Dr Payel Bhattachrjee	9477159440/9051141362/payel.iicb@gmail.com/ drpayelb.rmz@gmail.com
	Pieces:	Piyali Pakhira	8250576414, 7718534071 tukupakhira@gmail.com
	Total internal marks 5		

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: *Torpedo, Labeo, Parexocoetus, Tylototriton Branchiostoma, Petromyzon, Sphyrna, Pristis, Duttaphrynus, Polypedates*	1	Piyali Pakhira
		Spot Identification: Either from Museum specimen or from photograph Group II: *Lissemys, Chamaeleo, Draco, Daboia, Lycodon, Ptyas,,Naja, Passer, Psittacula, Alcedo,Pteropus, Funambulus, Suncus*	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)	Assign Teacher	✆ & ✉
DSC-2021 CHORDATE [Practical]	Spot identification (6 from Item) Staining and mounting (1 from item 2) Laboratory Note Book Survey Report Total marks 5	Piyali Pakhira	8250576414,7718534071 tukupakhira@gmail.com