ACADEMIC CALENDAR

DEPARTMENT OF ZOOLOGY

June 2024- January2025

NEP + CBCS Syllabus Distribution

1st, 3rd and 5th Semester

Semester	(Hons/General)	Syllabus		No. of Lecture (Hours)		Distribution
		Module/ Unit	Topic			
SEM-I (NEP)	HONOURS	Non-Chordates I Paper Code: ZOODSC101T (DS-1)		45		
		Unit 1	General introduction to Protista and Metazoa	8	Nandini Pal	Sepetember'24-November'24
		Unit 2	Porifera	4	Nirmal Das	November'24-1st week of January'25
		Unit 3	Cnidaria	4	Nirmal Das	September'24-November'24
		Unit 4	Ctenophora	2		November'24-November'24
		Unit 5	Platyhelminthes	2		September'24-November'24
		Unit 6	Nemathelminthes	3		November'24-1st week to January'25
		Unit 7	Introduction to Coelomates	2	Dr. Manika Biswas	November'24-1st week to January'25
		Unit 8	Annelida	3		November'24-1st week to January'25
		Unit 9	Arthropoda	8		November'24-1st week to January'25
		Unit 10	Onychophora	2		November'24-1st week to January'25
		Unit 11	Mollusca	7	Biswas	November'24-1st week to January'25
		Non-Chordates I Lab Paper Code: ZOODSC101P	Animal Diversity Lab	30		September'24-1st week of January'25

		SEC PAPER	**FISHERY**	**30**	Lipan Paul	**September 24 to 1st week of January 25**
	GENERAL	**ANIMAL DIVERSITY PAPER CODE: ZOOCOR101T/ ZOOMIN101T**		**45**		
SEM-I (NEP)		**Unit-1**	**Kingdom Protista** General characters and classification of Subkingdom Protozoa up to Phylum (Levine et al., 1980)	**3**	Lipan Paul	**September'24-September'24**
		Unit-2	**Phylum Porifera** General character and classification up to classes; Canal System in Sycon	**3**	Lipan Paul	**September'24-November'24**
		Unit-3	**Phylum Cnidaria** General characters and classification up to classes	**3**	Lipan Paul	**November'24 1st week of January'25**
		Unit-4	**Phylum Platyhelminthes** General characters and classification up to classes; Life history of Taenia solium	**3**	Lipan Paul	**November'24-1st week of January'25**
		Unit-5	**Phylum Nematoda** General characters and classification up to classes; Life history of Ascaris lumbricoides	**3**		**September'24-September'24**
		Unit-6	**Phylum Annelida** General characters and classification up to classes	**3**		**September'24-September'24**
		Unit 7	**Phylum Arthropoda** General characters and classification up to classes Metamorphosis in Insects	**5**		**November'24-1st week of January'25**

		Unit-8	**Phylum Mollusca** General characters and classification up to classes; Respiration in Pila	**3**	Rupa Mukherjee	**November'24-1st week of January'25**
		Unit-9	**Phylum Echinodermata** General characters and classification up to classes; Water-vascular system in Asterias	**4**	Rupa Mukherjee	**November'24-1st week of January'25(1st Week)**
		Unit-10	**Protochordates** General features	**2**	Rupa Mukherjee	**September'24-September'24**
		Unit-11	**Agnatha** General features and classification up to classes (Young, 1981)	**2**	Rupa Mukherjee	**September'24-November'24**
		Unit-12	**Pisces** General features and Classification up to Subclasses (Romer, 1959); Osmoregulation in Fishes	**3**	Rupa Mukherjee	**November'24**
		Unit-13	**Amphibia** General features and Classification up to living orders (Duellman & Trueb, 1986); Metamorphosis in Toad	**3**	Rupa Mukherjee	**September'24-November'24**
		Unit-14	**Reptiles** General features and Classification up to living Subclass (Young, 1981); Poisonous and non- poisonous snakes	**4**	Rupa Mukherjee	**November'24-1st week of January'25**
		Unit-15	**Aves** General features and Classification up to orders (Young, 1981); Flight adaptations in birds	**3**	Nandini Pal	**September'24-November'24**
		Unit-16	**Mammals** Classification up to Subclasses (Young, 1981)	**3**	Nandini Pal	**November'24**
		ANIMAL DIVERSITY PAPER CODE: ZOOCOR101P /ZOOMIN101P		**30**	Nandini Pal Rupa Mukherjee Dr. Paromita Bhattacharjee	**September'24-1st week of January'25**
SEM-III (NEP)	**HONOURS**	**CHORDATES PAPER CODE: DS-3**		**45**		
		Unit 1	**Introduction to Chordates** General characteristics and outline classification of Phylum Chordata	**2**	Nandini Pal	**November"24-December"24**
		Unit 2	**Protochordata** General characteristics and classification of sub-phylum Urochordata and Cephalochordata up to Classes. Metamorphosis in Ascidia Chordate Features and Feeding in Branchiostoma	**4**	Nandini Pal	**November"24-December"24**
		Unit 3	**Origin of Chordata** Dipleurula concept and the Echinoderm theory of origin of chordates Advanced features of vertebrates over Protochordata	**4**	Nandini Pal	**December"24-January"25**
		Unit 4	**Agnatha** General characteristics and	**2**	Nandini Pal	**November"24**

			classification of cyclostomes up to order			
		Unit 5	**Pisces** General characteristics and classification of Chondrichthyes and Osteichthyes up to Subclasses Accessory respiratory organ, Advanced features of vertebrates over Protochordata,migration and parental care in fishes Swim bladder in fishes. Classification up to Sub-Classes	**5**		**November"24-December'24**
		Unit 6	**Amphibia** General characteristics and classification up to living Orders Metamorphosis with parental care	**4**		**November"24-December"24**
		Unit 7	**Reptilia** General characteristics and classification up to living Orders Poison apparatus and Biting mechanism in Snake	**4**	Nirmal Das	**November"24-December"24**
		Unit 8	**Aves** General characteristics and classification up to Sub-Classes, Exoskeleton and migration in Birds, Principles and aerodynamics of flight	**8**	Nirmal Das	**November"24-December"24**
		Unit 9	**Mammals** General characters and classification up to living orders, Phylogenetic significance of Prototheria Exoskeleton derivatives of mammals Adaptive radiation in mammals with reference to locomotory appendages Echolocation in Microchiropteransand Cetaceans	**8**	Nirmal Das	**December"24-January"25-**
		Unit 10	**Zoogeography** Zoogeographical realms, Plate tectonic and Continental drift theory, Distribution of birds and mammals in different realms	**4**		**January'25(1st week)**
		CHORDATES LAB PAPER CODE: ZOOACOR05P		**30**	Nirmal Das	**Acc. To Revised Syllabus 90% completed by 1st week of January, 2025**

SEM-III (NEP)	**GENERAL**	**INSECT VECTOR AND DISEASES PAPER CODE: ZOOCOR303T/ ZOOMIN303T**		**45**		
		Unit-1	**Introduction to Insect**s General Features of Insects, Morphological features, Head – Eyes, Types of antennae Mouth parts with respect to feeding habit	**6**	Lipan Paul	**October'24-1st Week of January, 2025**
		Unit-2	**Concept of Vectors** Brief introduction to Vectors (mechanical and biological), Reservoirs, Host-vector relationship, Adaptations as vectors, Host specificity	**6**	Lipan Paul	**October'24-1st Week of January, 2025**
		Unit-3	**Insects as Vectors** Detailed features of insect orders as vectors – Diptera, Siphonoptera, Siphunculata, Hemiptera	**8**	Lipan Paul	**October'24-1st Week of January, 2025**
		Unit-4	**Dipteran as Disease Vector** Study of important Dipteran vectors – Mosquitoes, Sand fly, Houseflies vectors Study of mosquito-borne diseases – Malaria, Dengue, Chikungunya, Viral encephalitis, Filariasis Control of mosquitoes	**14**	Nandini Pal	**October'24-1st Week of January, 2025**
		Unit-5	**Siphonaptera as Disease Vectors** Fleas as important insect vectors; Host-specificity, Study of Flea-borne diseases – Plague, Typhus fever; Control of fleas	**6**	Nandini Pal	**October'24-1st Week of January, 2025**
		Unit-6	**Siphunculata as Disease Vectors** Human louse (Head, Body and Pubic louse) as important insect vectors; Control of human louse	**4**	Nandini Pal	**October'24-1st Week of January, 2025**
		Unit-7	**Hempitera as Disease Vectors** Bugs as insect vectors; Blood-sucking bugs; Chagas disease, Bed bugs as mechanical vectors, Control and prevention measures	**6**	Nandini Pal	**October'24-1st Week of January, 2025**
		INSECT VECTORE AND DISEASES PAPER CODE: ZOOGCOR03P		**60**	Dr.Paromia Bhattacharjee and Lipan Paul	**Acc. To Revised Syllabus 90% completed by end of December, 2024**

SEM-V (CBCS)	**HONOURS**	**MOLECULAR BIOLOGY PAPER CODE: ZOOACOR11T**		**60**		
		Unit 1	**Nucleic Acids** Salient features of DNA and RNA Watson and Crick Model of DNA	**2**	Dr. Paromita Bhattacharjee	**September"24-September"24**
		Unit 2	**DNA Replication** Mechanism of DNA Replication in Prokaryotes, Semi-conservative, bidirectional and discontinuous Replication, RNA priming, Replication of telomeres	**6**	Dr. Paromita Bhattacharjee	**September"24-October"24**
		Unit 3	**Transcription** Mechanism of Transcription in prokaryotes and eukaryotes, Transcription factors, Difference between prokaryotic and eukaryotic transcription.	**8**	Dr. Paromita Bhattacharjee	**September"24-November"24**
		Unit 4	**Translation** Mechanism of protein synthesis in prokaryotes, Ribosome structure and assembly in prokaryotes, fidelity of protein synthesis, aminoacyl tRNA synthetases and charging of tRNA; Proteins involved in initiation, elongation and termination of polypeptide chain; Genetic code, Degeneracy of the genetic code and Wobble Hypothesis; Inhibitors of protein synthesis; Difference between prokaryotic and eukaryotic translation	**14**	Dr. Paromita Bhattacharjee	**September"24-November"24**
		Unit 5	**Post Transcriptional Modifications and Processing of Eukaryotic RNA** Capping and Poly A tail formation in mRNA; Split genes: concept of introns and exons, splicing mechanism, alternative splicing, exon shufling, and RNA editing, Processing of tRNA	**10**	Dr. Paromita Bhattacharjee	**September"24-November"24**
		Unit 6	**Gene Regulation** Regulation of Transcription in prokaryotes: lac operon and trp operon; Regulation of Transcription in eukaryotes	**5**	Dr. Paromita Bhattacharjee	**Septembar'24-Octobar'24**
		Unit 7	**DNA Repair Mechanisms** Types of DNA repair mechanisms, RecBCD model in prokaryotes, nucleotide and base excision repair, SOS repair	**9**	Dr. Paromita Bhattacharjee	**September"24-November"24**
		Unit 8	**Molecular Lab Techniques** PCR, Western and Southern blot, Northern Blot,Sanger DNA sequencing, cDNA technology	**5**	Dr. Paromita Bhattacharjee	**November"24-September'24**
		MOLECULAR BIOLOGY LAB PAPER CODE: ZOOACOR11P		**60**	Dr. Paromita Bhattacharjee	**Acc. To Revised Syllabus 90% completed by end of December, 2024**

		GENETICS PAPER CODE: ZOOACOR12T		**60**		
		Unit 1	**Mendelian Genetics and its Extension** Background of Mendel's experiments Principles of Mendelian inheritance, Incomplete dominance and co-dominance, Epistasis, Multiple alleles, Lethal alleles, Pleiotropy, Sex-linked, sex- influenced and sex-limited inheritance, Polygenic Inheritance	**12**		**September"24-October"24**
		Unit 3	**Mutations** 1.Types of gene mutations (Classification), Types of chromosomal aberrations (Classification with one suitable example of each), Chromosomal aberrations, gene mutations and human diseases (Down's, Klienfelter's, Turner's, Cri du Chat, Sickle cell, Haemophilia, Thallassimia, Albinism only genetical aspects here, details of physiological consequences not required), Sex chromosomes and sex-linked inheritance Non-disjunction and variation in chromosome number; Molecular basis of mutations in relation to UV light and chemical mutagen	**12**	Nirmal Das	**"Sepetember 2024 – January, 2025**
		Unit 4	**Sex Determination** Mechanisms of sex determination in Drosophila with reference to alternative splicing Sex determination in mammals; Dosage compensation in Drosophila & Human	**12**		**October"24**
		Unit 5	**Extra-chromosomal Inheritance** Criteria for extra chromosomal inheritance, Antibiotic resistance in Chlamyadomonas, Kappa particle in Paramoecium Shell spiralling in snail	**8**		**September"24-October"24**
		Unit 6	**Recombination in Bacteria and Viruses** Conjugation, Transformation, Transduction, Complementation test in Bacteriophage	**8**		**October"24-November"24**
		Unit 7	**Transposable Genetic Elements** Transposons in bacteria, Ac-Ds elements in maize and P elements in Drosophila, LINE, SINE, Alu elements in humans	**8**		**September"24-November"24**
		GENETICS LAB PAPER CODE: ZOOACOR12P		**60**		**Acc. To Revised Syllabus 90% completed by end of December, 2024**

		Animal Behaviour and Chronobiology PAPER CODE: ZOOADSEO1T		**60**		
		Unit 1	**Introduction to animal behavior**	**12**		**September"24**
		Unit 2	**Behaviours of Individuals**	**4**	Dr. Manika Biswas	**September"24- October"24**
		Unit 3	**Social and Sexual Behaviour**	**12**	Dr. Manika Biswas	**October"24-November"24**
		Unit 4	**Introduction to Chronobiology** -	**16**		**September'24- October'24**
		Unit 5	**Biological Rhythm**	**16**		**October'24- November'24**

		Animal Behaviour and Chronobiology LAB PAPER CODE ZOOADSE01P		**60**		**Acc. To Revised Syllabus 90% completed by 1st Week of January'25**
		ENDOCRINOLOGY PAPER CODE: ZOOADSE03T		**60**		
		Unit 1	**Introduction to Endocrinology** General idea of Endocrine systems, Classification, Characteristic and Transport of Hormones Neurosecretions and Neurohormones	**12**		**September'24-november'24**
		Unit 2	**Epiphysis, Hypothalamo-hypophysial Axis** Structure of pineal gland, Secretions and their functions in biological rhythms and reproduction; Structure and functions of hypothalamus and Hypothalamic nuclei, Regulation of neuroendocrine glands, Feedback mechanisms; Structure of pituitary gland, Hormones and their functions, Hypothalamo-hypophysial portal system, Disorders of pituitary gland.	**18**	Dr. Manika Biswas and Nandini Pal	**September'24-November'24**
		Unit 3	**Peripheral Endocrine Glands** Structure, Hormones, Functions and Regulation of Thyroid gland, Parathyroid, Adrenal, Pancreas, Ovary and Testis; Hormones in homeostasis,Disorders of endocrine glands	**16**	Nandini Pal	**September'24- 1st Week of december'24**
		Unit 4	**Regulation of Hormone Action** Mechanism of action of steroidal, non-steroidal hormones with receptors Bioassays of hormones using ELISA and RIA; Estrous cycle in rat and menstrual cycle in human Multifaceted role of Vasopressin & Oxytocin; Hormonal regulation of parturition	**14**		**September'24-1st Week of December'24**
		ENDOCRINOLOGY LAB PAPER CODE: ZOOADSE03P		**60**		**Acc. To Revised Syllabus 90% completed by 1st week of January '25**

SEM-V (CBCS)	**GENERAL**	**APPLIED ZOOLOGY PAPER CODE: ZOOGDSE01T**		**60**		
		Unit-1	**Introduction to Host-parasite Relationship** Host, Definitive host, Intermediate host, Parasitism, Symbiosis, Commensalism, Reservoir, Zoonosis	**2**		**September 24**
		Unit-2	**Epidemiology of Diseases** Transmission, Prevention and control of diseases: Tuberculosis, Typhoid	**4**		**September"24-October"24**
		Unit-3	**Rickettsia and Spirochetes** Brief account of Rickettsia prowazekii, Borrelia recurrentis and Treponema pallidum	**6**	Nandini Pal	**September"24-October"24**
		Unit-4	**Parasitic Protozoa** Life history and pathogenicity of Entamoeba histolytica, Plasmodium vivax and Trypanosoma gambiense	**8**	Nandini Pal	**September"24-November" 24**
		Unit-5	**Parasitic Helminthes** Life history and pathogenicity of Ancylostoma duodenale and Wuchereria bancrofti	**4**	Nandini Pal	**September'24-October'24**
		Unit-6	**Insects of Economic Importance** Biology, Control and damage caused by Helicoverpa armigera, Pyrilla perpusilla and Papilio demoleus, Callosobruchus chinensis, Sitophilus oryzae and Tribolium castaneum	**12**	Nandini Pal	**November'24**
		Unit-7	**Insects of Medical Importance** Medical importance and control of Pediculus humanus corporis, Anopheles, Culex, Aedes, Xenopsylla cheopis	**8**	Nandini Pal	**October'24-November'24**
		Unit-8	**Animal Husbandry** Preservation of semen and artificial insemination in cattle	**6**	Dr. Paromita Bhattacharjee	**September"24-October"24**
		Unit-9	**Poultry Farming** Principles of poultry breeding, Management of breeding stock and broilers, Processing and preservation of eggs Unit	**6**	Dr. Paromita Bhattacharjee	**October'24-November'24**
		Unit-10	**Fish Technology** Genetic improvements in aquaculture industry; Induced breeding and transportation of fish seed	**4**	Dr. Paromita Bhattacharjee	**October'24-November'24**
		APPLIED ZOOLOGY LAB PAPER CODE: ZOOGDSE01P		**60**	Nandini Pal Lipan Paul	**Acc. To Revised Syllabus 90% completed by end of December,2024**