

# YOGODA SATSANGA PALPARA MAHAVIDYALAYA

## DEPARTMENT OF ZOOLOGY

<b>TEACHING PLAN*YEAR : 2022-2023 *HONOURS</b>					
<b>Semester</b>	<b>Paper</b>	<b>Unit/Module</b>	<b>Teacher</b>	<b>No of Lectur e</b>	<b>To be completed by</b>
Semester-I	CC-1T Non-chordates I	Unit-2: Protista & Metazoa	Mr. Ayan Kumar Bhunia	09	1st & 2 <sup>nd</sup> Month
		Unit-6: Plathelminthis		06	3 <sup>rd</sup> Month
		Unit-7: Nematoda		04	4 <sup>th</sup> Month
		Unit-1: Basics of Animal Classification	Mr. Supravat Maiti	03	1 <sup>st</sup> Month
		Unit-3: Porifera	Miss. Puja Panda	08	1 <sup>st</sup> Month
		Unit-4: Cnidaria		08	3 <sup>rd</sup> Month
	Unit-5: Ctenophora	06		4 <sup>th</sup> Month	
	CC-1P Non-chordates I (Lab)	1.Study of whole mount of protozoa	Mr. Ayan Kumar Bhunia	06	1 <sup>st</sup> Month
		2.Identification of Museums specimen		06	2 <sup>nd</sup> Month
		3.Staining/mounting of any protozoa from gut of cockroach		03	3 <sup>rd</sup> Month
CC-2T Ecology	Unit-1: Introduction to Ecology	Mr.Supravat Maiti	06	1 <sup>st</sup> Month	
	Unit-3: Community Unit-4: Ecosystem		16 14	2 <sup>nd</sup> & 3 <sup>rd</sup> month 4 <sup>th</sup> Month	
	Unit-2: Population Unit-5: Applied Ecology	Miss. Puja Panda	10 10	1st & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month	
	CC-2P Ecology (Lab)		4.Determination of turbidity, PH,Dissolved oxygen,	09	1 <sup>st</sup> to 3 <sup>rd</sup> month
		Mr. Ayan Kumar Bhunia			

		1.Study of life tables & Survivorship curves 2.Determination of population density 3.Study of an aquatic ecosystem	Mr.Supravat Maiti	03 08 10	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 4 <sup>th</sup> Month
		5.Report on visit to National park	Miss.Puja Panda	06	1 <sup>st</sup> & 2 <sup>nd</sup> Month
Semester-II	CC-3T Non- Chordates-II	Unit-1: Introduction about Evolution of coelom & metamerism	Mr. Ayan Kumar Bhunia	04	1 <sup>st</sup> Month
		Unit-2: Annelida		06	2 <sup>nd</sup> Month
		Unit-7 : Hemichordata		06	3 <sup>rd</sup> Month
		Unit-3: Arthropoda Unit-4: Onychophora	Mr. Supravat Maiti	08 10	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
	Unit-5: Mollusca Unit-6: Echinodermata	Miss. Puja Panda	10 12	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month	
	CC-3P Non Chordates-II (Lab)	1.Study of Museums Specimens	Mr. Ayan Kumar Bhunia	06	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		4.Mount of mouth parts & Digestive system & Nervous system of Periplaneta		09	2 <sup>nd</sup> & 3 <sup>rd</sup> Month
		5.Project Report on any larval forms of Non- chordates		03	4 <sup>th</sup> Month
		2.Study of Digestive system, Nephridia of earthworm	Mr. Supravat Maiti	12	1 <sup>st</sup> to 3 <sup>rd</sup> Month
		3.T.S through pharynx, gizzard, Intestine of earthworm	Miss. Puja Panda	12	3 <sup>rd</sup> & 4 <sup>th</sup> Month
CC-4T Cell Biology	Unit-2: Plasma Membrane	Mr. Ayan Kumar Bhunia	06	1 <sup>st</sup> Month	
	Unit-3: Cytoplasmic organelles- I		08	2 <sup>nd</sup> & 3 <sup>rd</sup> Month	
	Unit-4: Cytoplasmic organelles- II		12	1 <sup>st</sup> to 4 <sup>th</sup> Month	

		Unit-1: Overview of Cell Unit-5: Cytoskeleton Unit-8: Cell Signaling	Mr. Supravat Maiti	08 08 08	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month 4 <sup>th</sup> Month
		Unit-6: Nucleus Unit-7: Cell Division	Miss. Puja Panda	08 08	1 <sup>st</sup> Month 2 <sup>nd</sup> Month
	CC-4P Cell Biology (Lab)	1.Preparation of temporary stained squash of onion root tip 2.Study of various stages of meiosis 3.Preparation of permanent slide	Mr. Ayan Kumar Bhunia	06  06	1 <sup>st</sup> & 2 <sup>nd</sup> Month  3 <sup>rd</sup> & 4 <sup>th</sup> Month
		4.Preparation of permanent slide to demonstrate		Mr. Supravat Maiti	15
Semester-III	CC-5T Chordates	Unit-2: Protochordata Unit-4: Agnatha Unit-6: Amphibia Unit-8: Aves	Mr. Ayan Kumar Bhunia	04 04 06 07	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month 4 <sup>th</sup> month
		Unit-3: Origin of chordate Unit-9: Mammals Unit-10: Zoogeography	Mr. Supravat Maiti	03 03 05	1 <sup>st</sup> Month 1 <sup>st</sup> Month 4 <sup>th</sup> Month
		Unit-1: Introduction to Chordates Unit-5: Pisces Unit-7: Reptilia	Miss. Puja Panda	05  06 06	1 <sup>st</sup> & 2 <sup>nd</sup> Month  3 <sup>rd</sup> Month 4 <sup>th</sup> Month
	CC-5P Chordates (Lab)	Identification of museums specimens- 1.Protochordata 2. Agnatha 4. Amphibian 7.Pecten from Fowl head	Mr. Ayan Kumar Bhunia	03  03 03	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> month 4 <sup>th</sup> month
		Identification of museums specimens-		Mr. Supravat	

		6. Mammalian 8. Dissection of Tilapia	Maiti	06 10	2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Identification of museums specimens- 5. Reptilia	Miss. Puja Panda	06	1 <sup>st</sup> Month
	CC-6T Animal Physiology	Unit-5: Reproductive System Unit-6: Endocrine System	Mr. Ayan Kumar Bhunja	12 16	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-1: Tissues Unit-2: Bone & Cartilage	Mr. Supravat Maiti	08 12	1 <sup>st</sup> Month 2 <sup>nd</sup> & 3 <sup>rd</sup> Month
		Unit-3: Nervous System Unit-4: Muscular System	Miss. Puja Panda	08 07	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
	CC-6P Animal Physiology (Lab)	4. Study of permanent slides	Mr. Ayan Kumar Bhunja	09	2 <sup>nd</sup> & 3 <sup>rd</sup> Month
		3. Preparation of temporary mounts 5. Microtomy: Preparation of permanents slide	Mr. Supravat Maiti	15 09	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		1. Recording of simple muscle twitch with electrical stimulation 2. Demonstration of the unconditioned reflex action	Miss. Puja Panda	06 06	1 <sup>st</sup> Month 2 <sup>nd</sup> Month
	CC-7T Biochemistry	Unit-3: Proteins Unit-4: Nucleic Acids	Mr. Ayan Kumar Bhunja	11 10	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month
		Unit-1: Carbohydrates Unit-2: Lipids	Mr. Supravat Maiti	12 09	2 <sup>nd</sup> & 3 <sup>rd</sup> Month 4 <sup>th</sup> Month
		Unit-5: Enzymes Unit-6: Oxidative Phosphorylation	Miss. Puja Panda	06 08	1 <sup>st</sup> Month 2 <sup>nd</sup> & 3 <sup>rd</sup> Month
	CC-7P Biochemistry	2. Paper chromatography of amino acids	Mr. Ayan Kumar	06	1 <sup>st</sup> Month

	(Lab)	3.Quantitative estimation of Lowry Methods	Bhunia	06	4 <sup>th</sup> Month
		1.Qualitative test of carbohydrate protein & lipids	Mr. Supravat Maiti	10	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		4. Protein separation by SDS-PAGE		10	2 <sup>nd</sup> & 3 <sup>rd</sup> Month
	5. Enzymatic activity of Trypsin & Lipase	Miss. Puja Panda	09	2 <sup>nd</sup> Month	
	6. To perform Acid & Alkaline phosphatase assay from serum/tissue		09	3 <sup>rd</sup> & 4 <sup>th</sup> Month	
	SEC-1T Apiculture	Unit-1: Biology of Bees Unit-2: Rearing of Bees Unit-3: Disease & Enemies Unit-4: Bee Economy Unit-5: Entrepreneurship in Apiculture	Miss. Puja Panda	04	1st Month
				04	2 <sup>nd</sup> Month
				03	3 <sup>rd</sup> Month
				03	4 <sup>th</sup> Month
				02	3 <sup>rd</sup> & 4 <sup>th</sup> Month
GE-3T Aquatic Biology	Unit-3: Marine Biology Unit-4: Management of Resources	Mr. Ayan Kumar Bhunia	08	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
			10	3 <sup>rd</sup> & 4 <sup>th</sup> Month	
GE-3P Aquatic Biology (Lab)	Unit-1: Aquatic Biomes Unit-2: Freshwater Biology	Mr. Supravat Maiti	10	1 <sup>st</sup> Month	
			09	2 <sup>nd</sup> Month	
GE-3P Aquatic Biology (Lab)	3. Determine the amount of Turbidity, Dissolved Oxygen, Free carbon dioxide 4. Instruments used in Limnology	Mr. Ayan Kumar Bhunia	15	1 <sup>st</sup> to 3 <sup>rd</sup> Month	
			06	3 <sup>rd</sup> & 4 <sup>th</sup> Month	
GE-3P Aquatic Biology (Lab)	1. Determine the area of a lake 2. Identify the macrophytes, phytoplanktons, zooplanktons	Mr. Supravat Marti	03	1 <sup>st</sup> Month	
			06	2 <sup>nd</sup> Month	

Semester-IV	CC-8T Comparative Anatomy of Vertebrates	Unit-1: Integumentary System	Mr. Ayan Kumar Bhunia	06	1 <sup>st</sup> Month
		Unit-5: Circulatory System		07	2 <sup>nd</sup> Month
		Unit-2: Skeletal System	Mr.	08	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		Unit-4: Respiratory System	Supravat	08	2 <sup>nd</sup> & 3 <sup>rd</sup> Month
		Unit-8: Sense Organs	Maiti	08	3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-3: Digestive System	Miss. Puja	08	1 <sup>st</sup> Month
	Unit-6: Urinogenital System	Panda	08	2 <sup>nd</sup> Month	
	Unit-7: Nervous System		08	3 <sup>rd</sup> Month	
	CC-8P Comparative Anatomy of Vertebrates (Lab)	1.Study of placoid, cycloid, ctenoid scales	Mr. Ayan Kumar Bhunia	03	1st Month
		2.Study of disarticulated skeleton of Toad, Pigeon, Guinea pig		12	2 <sup>nd</sup> & 3 <sup>rd</sup> Month
		3.Demonstration of Carapace Plastron of turtle		06	3 <sup>rd</sup> & 4 <sup>th</sup> Month
		4.Identification of mammalian skulls		03	4 <sup>th</sup> Month
5. Dissection of Tilapia		Mr. Supravat Marti	09	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
CC-9T Animal Physiology	Unit-3: Physiology of circulation	Mr.Ayan Kumar Bhunia	10	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
	Unit-4: Physiology of heart		12	3 <sup>rd</sup> & 4 <sup>th</sup> Month	
	Unit-2: Physiology of respiration	Mr. Supravat Maiti	08	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
	Unit-1: Physiology of digestion	Miss.Puja Panda	10	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
	Unit-5: Thermoregulation & Osmoregulation		04	3 <sup>rd</sup> Month	
Unit-6: Renal physiology		08	4 <sup>th</sup> Month		

	CC-9P Animal Physiology (Lab)	1.Determination of ABO blood group	Mr.Ayan Kumar Bhunia	03	1 <sup>st</sup> Month
		2.Enumeration of RBC & WBC using haemocytometer		06	2 <sup>nd</sup> & 3 <sup>rd</sup> Month
		3.Estimation of haemoglobin using haemoglobinometer		06	3 <sup>rd</sup> & 4 <sup>th</sup> Month
		4. Preparation of haemin & haemochromogen crystals	Miss.Puja Panda	06	1 <sup>st</sup> Month
		5. Recording of blood pressure		06	2 <sup>nd</sup> Month
	CC-10T Immunology	Unit-1: Overview of Immune System	Mr.Ayan Kumar Bhunia	08	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		Unit-2: Innate & Adaptive immunity		09	2 <sup>nd</sup> Month
		Unit-3: Antigen		08	3 <sup>rd</sup> Month
		Unit-4: Immunoglobulin		10	4 <sup>th</sup> Month
		Unit-5: Major Histocompatibility Complex	Mr. Supravat Maiti	12	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		Unit-6: Cytokines		10	3 <sup>rd</sup> Month
		Unit-7: Complement System		08	3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-8: Hypersensitivity		07	4 <sup>th</sup> Month
		Unit-9: Immunology of diseases	Miss.Puja Panda	05	1 <sup>st</sup> Month
		Unit-10: Vaccines		06	2 <sup>nd</sup> Month
CC-10P Immunology (Lab)	3.Preparation of stained blood film	Mr.Ayan Kumar Bhunia	06	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
	4. ABO blood group determination		03	3 <sup>rd</sup> Month	
	5.Demonstration of ELISA	Mr. Supravat Maiti	09	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
	1.Demonstration of lymphoid organs	Miss.Puja Panda	06	3 <sup>rd</sup> Month	
	2. Histological study through slides		06	3 <sup>rd</sup> Month	
	SEC-2T Sericulture	Unit-1: Introduction to Sericulture	Miss.Puja Panda	06	1 <sup>st</sup> Month
Unit-2: Biology of Silkworm		05		2 <sup>nd</sup> Month	
Unit-3: Rearing of Silkworm		06		4 <sup>th</sup> Month	
Unit-4: Pests & Diseases		04		4 <sup>th</sup> Month	
Unit-5: Entrepreneurship in		02		4 <sup>th</sup> Month	

		Sericulture			
	GE-4T Environment & public Health	Unit-1: Introduction to Environment	Mr.Ayan kumar	12	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		Unit-2: Climate Change	Bhunia	15	3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-3: pollution	Mr.	10	1 <sup>st</sup> Month
		Unit-4: Waste Management Technologies Unit-5: Diseases	Supravat Maiti	12 12	2 <sup>nd</sup> Month 3 <sup>rd</sup> Month
	GE-4P Environment & Public Health (Lab)	1.To determine PH, Cl,SO4, NO3,in soil & water	Mr.Ayan kumar Bhunia	12	1 <sup>st</sup> to 4 <sup>th</sup> Month
Semester-V	CC-11T Molecular Biology	Unit-1: Nucleic Acids	Mr.ayan	10	1 <sup>st</sup> Month
		Unit-4: Translation Unit-8: Molecular Techniques	Kumar Bhunia	10 08	2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-2: DNA Replication Unit-3: Transcription Unit-5: Post transcriptional Modification Unit-6: Gene Regulation Unit-7: DNA Repair Mechanism	Mr. Supravat Maiti	10 07 07 10 10	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month 4 <sup>th</sup> Month 5 <sup>th</sup> Month
	CC-11P Molecular Biology (Lab)	1.Demonstration of polytene & lampbrush chromosome	Mr.Ayan Kumar Bhunia	06	1 <sup>st</sup> Month
		2.Isolation & quantification of Genomic DNA	Mr. Supravat	09	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		3.Agarose gel electrophoresis for DNA	Maiti	12	2 <sup>nd</sup> & 3 <sup>rd</sup> Month
	CC-12T Genetics	Unit-1: Mendelian Genetics Unit-2: Linkage, Crossing Over, Chromosomal Mapping Unit-3: Mutation	Mr.Ayan Kumar Bhunia	10 12 13	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month
		Unit-7: Transposable Genetic Elements	Mr. Supravat Maiti	12	1 <sup>st</sup> & 2 <sup>nd</sup> Month



		Unit-4: Sex Determination Unit-5: Extra-chromosomal Inheritance Unit-6: Recombination in Bacteria & Viruses	Miss. Puja Panda	04 04 06	2 <sup>nd</sup> Month 2 <sup>nd</sup> Month 4 <sup>th</sup> Month
	CC-12P Genetics (Lab)	2.Linkage maps Based on conjugation 3.Identification of chromosomal aberration 4.Pedigree analysis of some human inherited traits	Mr. Supravat maiti	12 12 09	1 <sup>st</sup> & 2 <sup>nd</sup> Month 2 <sup>nd</sup> & 3 <sup>rd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		1.Chi-square analyses	Miss. Puja Panda	06	1 <sup>st</sup> & 2 <sup>nd</sup> Month
	DSE-1T Fish & Fisheries	Unit-1: Fish Introduction & Classification Unit-2: Morphology & physiology Unit-3: Fisheries Unit-4: Aquaculture Unit-5: Fish in research	Miss. Puja Panda	03 04 12 11 10	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month 4 <sup>th</sup> Month 5 <sup>th</sup> Month
	DSE-1P Fish & Fisheries (Lab)	1.Morphometric & meristic characters of fishes 2.Study of museum fishes 3.Study of different types of scales 4.Study of craft & gears used in Fisheries 5.Water quality criteria for Aquaculture 6.Study of air breathing organs 7.Project Report on visit to any fish farm	Miss. Puja Panda	06 06 03 06 03 06 03	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month 4 <sup>th</sup> Month 5 <sup>th</sup> Month 2 <sup>nd</sup> & 3 <sup>rd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> month
	DSE-2T Animal Biotechnology	Unit-1: Introduction of Animal Biotechnology Unit-2: Molecular Techniques In Gene manipulation	Mr. Ayan Kumar Bhunia	15 15	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-3: Genetically Modified Organisms Unit-4: Culture Techniques & Application	Mr. Supravat maiti	15 15	2 <sup>nd</sup> Month 4 <sup>th</sup> Month

	DSE-2P Animal Biotechnology (Lab)	7. Project report on animal cell culture	Mr. Ayan Kumar Bhunia	06	4 <sup>th</sup> Month
		1. Genomic DNA isolation from E.coli 2. Plasmid DNA isolation from E.coli 3. Restriction digestion of plasmid DNA 4. Construction of circular & linear restriction map 5. Calculation of transformation efficiency 6. To study different techniques	Mr. Supravat Maiti	03	1 <sup>st</sup> month
				03	2 <sup>nd</sup> Month
				03	3 <sup>rd</sup> Month
				06	4 <sup>th</sup> Month
				03	5 <sup>th</sup> Month
				10	3 <sup>rd</sup> & 4 <sup>th</sup> Month
Semester-VI	CC-13T Developmental Biology	Unit-2: Early Embryonic Development	Mr. Ayan Kumar Bhunia	14	1 <sup>st</sup> & 2 <sup>nd</sup> Month
		Unit-3: Late Embryonic Development		14	3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-1: Introduction of Development Biology	Mr. Supravat Maiti	15	1 <sup>st</sup> & 2 <sup>nd</sup> Month
	Unit-4: Post Embryonic Development	13		2 <sup>nd</sup> & 3 <sup>rd</sup> Month	
	Unit-5: Implication of Development Biology	12		3 <sup>rd</sup> & 4 <sup>th</sup> Month	
	CC-13P Developmental Biology (Lab)	1. Study of whole mounts of developmental stages of chick	Mr. Ayan Kumar Bhunia	06	1 <sup>st</sup> Month
		4. Project report on Drosophila culture		06	2 <sup>nd</sup> Month
		2. Study of developmental stages & life cycle of Drosophila	Mr. Supravat Maiti	09	1 <sup>st</sup> Month
	3. Study of Different section of placenta	06		2 <sup>nd</sup> month	
	CC-14T Evolutionary Biology	Unit-1: Life's Beginnings	Mr. Ayan Kumar Bhunia	07	1 <sup>st</sup> Month
Unit-2: Historical review of Evolutionary concepts		07		2 <sup>nd</sup> Month	
Unit-3: Geological time scale		10		3 <sup>rd</sup> Month	
Unit-5: Population genetics		Mr. Supravat Maiti	10	1 <sup>st</sup> & 2 <sup>nd</sup> Month	
Unit-7: Extinction	07		2 <sup>nd</sup> & 3 <sup>rd</sup> Month		
Unit-8: Origin & Evolution of Man	07		3 <sup>rd</sup> & 4 <sup>th</sup> Month		

		Unit-4: Sources of variation Unit-6: Species concept Unit-9: Phylogenetic trees	Miss. Puja Panda	07 07 07	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month
	CC14P Evolutionary Biology (Lab)	1.Study of fossils from models/ pictures	Mr. Ayan Kumar Bhunias	06	3 <sup>rd</sup> Month
		3.Study & verification of Hardy – Weinberg laws 4. Graphical representation & interpretation of data of height/ weight	Mr. Supravat Maiti	20 15	1 <sup>st</sup> & 2 <sup>nd</sup> month 3 <sup>rd</sup> month
		2. Study of homology & analogy from suitable specimens	Miss. Puja Panda	10	1 <sup>st</sup> & 2 <sup>nd</sup> Month
	DSE-3T Endocrinology	Unit-2: Epiphysis, Hypothalamo – hypophysial Axis Unit-3: Peripheral Endocrine Glands	Mr. Ayan Kumar Bhunias	12 15	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-1: Introduction to Endocrinology Unit-4: Regulation of Hormone Action	Mr. Supravat Maiti	15 15	1 <sup>st</sup> to 3 <sup>rd</sup> Month 4 <sup>th</sup> Month
		2. Study of permanent slides of all endocrine glands 3. Microtomy & Slide preparation Of any endocrine glands	Mr. Ayan Kumar Bhunias	09 14	1 <sup>st</sup> & 2 <sup>nd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
	DSE-3P Endocrinology (Lab)	1.Dissect & display of Endocrine glands in laboratory bred rat 4.Estimation of plasma level of any hormone using ELISA 5. Designing of primer of any hormone	Mr. Supravat Maiti	10 15 10	1 <sup>st</sup> & 2 <sup>nd</sup> Month 2 <sup>nd</sup> & 3 <sup>rd</sup> Month 3 <sup>rd</sup> & 4 <sup>th</sup> Month
		Unit-1: Introduction to Wild life Unit-2: Evaluation & management of Wildlife	Mr. Ayan Kumar Bhunias	10 15	2 <sup>nd</sup> & 3 <sup>rd</sup> Month 4 <sup>th</sup> Month
		Unit-3: Management of habitats Unit-4: Population estimation Unit-5: Aims & objectives of	Mr. Supravat Maiti Miss. Puja	12 12 13	1 <sup>st</sup> & 2 <sup>nd</sup> Month 2 <sup>nd</sup> & 3 <sup>rd</sup> Month 1 <sup>st</sup> Month

		wildlife conservation Unit-6: Management planning of wildlife in protected areas Unit-7: Man & Wildlife Unit-8: Protected areas	Panda	10 12 15	2 <sup>nd</sup> Month 3 <sup>rd</sup> Month 4 <sup>th</sup> Month
	DSE-4P Wild Life Conservation & Management (Lab)	1. Identification of flora, mammalian fauna, avian fauna, herpeto-fauna 2. Demonstration of basic equipment needed in wildlife studies use 3. Familiarization & study of animal evidences in the field	Mr. Supravat Maiti	12 13 15	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month
4. Demonstration of different field techniques for flora & fauna 5. Different types of method for wild life study 6. Trail/ transect monitoring for abundance & diversity estimation of mammals & bird (direct & indirect evidences)		Miss. Puja Panda		10 14 12	1 <sup>st</sup> Month 2 <sup>nd</sup> Month 3 <sup>rd</sup> Month