

DEPARTMENT OF ZOOLOGY ACADEMIC PLAN 2021-2022

ODD SEMESTER

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Name	Sem/ paper	14/06/2021- 19/06/2021	21/06/2021- 26/06/2021	28/06/2021- 3/7/2021	5/7/2021-10/7/2021	12/7/2021- 17/07/2021	19/07/2021- 24/07/2021	26/07/2021- 31/07/2021-	2/8/2021-7/8/2021	9/8/2021- 14/08/2021	16/08/2021- 21/08/2021	23/08/2021- 28/08/2021	30/08/2021 4/9/2021	6/9/2021-12/9/2021	13/09/2021- 18/09/2021	20/09/2021- 26/09/2021
<i>Dr. Vikrant Deshmukh</i>	Sem III Pract.	Common														
	Sem V Theory.	An Introduction to Marine Ecology Pelagic & Benthic Communities	Physical & chemical oceanography-Dissolved gases O ₂ & CO ₂	Estuaries & wet lands types of Estuaries	Light & Temperature as a Physical parameters	Types of Beaches, Intertidal Communities	Physical Factors: Salinity & Pressure	Mangroves Ecosystem "World Mangrove Day Celebration".	Heavy metal Pollution Lead Copper	Marine ecosystem: Eutrophication	Marine Ecosystem: Coral Reef/bays /salt marshes	Nutrients: Nitrogen, Phosphorous & Silicate	class test	Anthropogenic activities Reclamation/Destruction : oil, sewage & radiation.	Revision: Marine ecosystem	Revision: Physical & Chmmeical Oceanography
	Sem V Pract.	Rapid field test for sulfate and nitrate content as well as base deficiency of soil	Determination of carbonates in soil by rapid titration	Analysis of community by ecological indices: Using transect method	Assessment 1	Analysis of community by ecological indices: Using quadrat method	Study of interaction between organisms	Study of fauna of different zoogeographic regions : Palaearctic and Nearctic	Assessment 2	Study of fauna of different geographic regions: Neotropical and Ethiopian	Identification of permanent slides/ specimens of Plasmodium, Ascaris, Wuchereria	Temporary preparation of head and mouth parts of mosquito	Assessment 3	Rapid field test for sulfate and nitrate content as well as base deficiency of soil.	Determination of carbonates in soil by rapid titration	Analysis of community by working out ecological indices: Using transect metho
	Sem V AC Pract.	1. Identification of planktons/ mounting of planktons	2. Identification with adaptations of intertidal communities Muddy shore	Identification with adaptations of intertidal communities rocky shore	Identification with adaptations of intertidal communities sandy shore	continuous evaluation	3. Identification of sea weeds	4. Identification of any two or three flora and fauna of Mangroves	5. Identification of corals.	continuous evaluation	6. Qualitative test for heavy metals – Pb, Hg, Zn	7. Estimation of PO ₄ -Phosphorous	Estimation of Silicates	Estimation of Nitrate-nitrites .	8. Excursion / field visit	continuous evaluation
<i>Dr. Amol Patwardhan</i>	Sem III Theory	Retrogressive metamorphosis	Swim Bladder in fish	Parental care in fish	Parental care in amphibians	Parental care in Amphibians	Neoteny in amphibians	Adaptive radiation in Reptiles	Adaptive radiation in Reptiles	Migration birds	Migration birds	Egg laying mammals	Pouched mammals	Aquatic mammals	Aquatic mammals	Revision:
	Sem V Theory.	structure of hens egg, basic structure of immune system, Habitat selection	cleavages in chick embryo, types of immunity, Home range and territoriality	Formation of primitive streak, Lines of defences, Aggression	Regression of primitive streak and its homology, Phagocytosis and inflammatory response, Food selection	Formation of mesoderm, Acquire immunity - characteristics, Disjersal in animal kingdom	24 hrs chick embryo, Immunoglobulin supregene family, Herding in mammals, schooling in fish	Digestive system of chick embryo, Antigen processing, Organisation in primates	Nervous system in chick embryo, Immunological synapse, Activation by APC, Organisation in insects	Nervous system in chick embryo, Mechanism of humoral response, Oriental region	Extraembryonic circulation in chick embryo, Cytotoxic immune response, australian region	Intraembryonic circulation, Antibodies structure and classes, african region	Formation of heart in chick embryo, Antigens - haptens and epitopes, Antarctic region	Revision of chick embryology, Antigenic determinants, Neotropical region	Revision of chick embryology and immunology, Nearctic region	Revision of chick embryology and immunology, Palaearctic region
	Sem V SEC	Discussion on Animal Type Earthworm: Classification and Morphological Characteristics	Discussion on Animal Type Earthworm: To Dissect and Study of Digestive System of Earthworm	Discussion on Animal Type Earthworm: To Dissect and Study of Nervous System of Earthworm	Discussion on Animal Type Earthworm: To Dissect and Study of Reproductive System of Earthworm	Mountings of Earthworm– a. Setae, b. Spermatheca, c. Nerve Ring, d. Septal Nephridium	Continuous Assessment - Test 1	Identification of Chick Embryos: 16 Hours, 24 Hours, 36 Hours, 48 Hours, 72 Hours etc	Mounting of Chick Embryo	Continuous Assessment - Test 2	Study of Placenta and its Types along with its Examples	Study of Types of Dentition and Formula Derivation	Identification of Hair of Different Mammals	Revision and Doubt Solving Session	Continuous Assessment - Test 3.	Journal Submission
<i>Ms. Shreyya Patil</i>	Sem I Theory	Symmetry, Coelom,	Metamerism, Cephalization	Protista - GC	Protista - Classification	Porifera - GC	Porifera classification	Coelenterata - GC	Mid sem / Revision	continuous evaluation	Platyhelminthes - GC	Platyhelminthes - classification	Aschelminthes - GC	Estimation of Nitrate-nitrites .	Annelida - GC	Annelida Classification
	Sem III Theory.	Protozoa - skeleton, Internal Fertilization	Protozoa Asexual Reproduction, External Fertilization	Formation of primitive streak, Lines of defences, Aggression	Canal system in sponges, Parthenogenesis 2	Spicules in sponges, types of eggs	Reproduction in sponges, Concept of Cleavage	Revision/ Mid Sem etc	Polymorphism in Coelenterata, Types of cleavage	Coral reef, Morula, blastula, Gastrula	Parasitic adaptations in helminths, Types of Blastula	Crustacean Larvae, Morphogenetic movements - invertebrate	Mollusca- foot and shell, Morphogenetic Movements - Fish, Frog and Reptile	Water Vascular System in Echinodermata,	Reproduction in Nereis, Earthworm and Leech	Revision
	Sem V Theory.	Composition of Blood, Blood Volume, Types of Energy sources	RBC characteristics, formation, anaemia, Wood as energy Source	WBC - characteristics, types, formation - Granulocytes, Solar energy	WBC - Agranulocytes formation, Leukemia, Wind Energy	Platelets - characteristics, formation, Role in coagulation, Thrombosis, Tidal energy	Revision/ Mid Sem etc	Haemoglobin - structure and function, Anaemia, thermal power	Haemoglobin - Synthesis and degradation, Nuclear Power	Blood Group systems, Blood transfusion, Fossil fuels	Blood coagulation - factors and process, disorders, Biofuel	ESR, Bleeding and clotting time, anticoagulants, geo-thermal energy	degradation of RBC, WBC, Platelets; Spleen, Lymph and Serum, hydrel energy	Impact of technology on energy utilization, Energy conservation and utilisation for sustainable development.	Role of environmental organization - Govt and NGOs	Revision
	Sem V Pract.	Colorometric estimation of total plasma proteins by Folins method	Estimation of blood glucose by O-toluidine method.	Estimation of serum/plasma total cholesterol by FeCl ₃ method.	Estimation of serum/plasma total triglycerides by Phosphovanillin method.	Enumeration of erythrocyte-total count.	Enumeration of leucocytes –total and differential count.	Estimation of haemoglobin by Sahlis acid haematin method.	Study of Lymphoid organs: Lymph node, Thymus and Spleen.	Study of Leukemic cells for permanent slide.	Observation of bone marrow cells.	Latex agglutination test (any available/ Rheumatoid Arthritis)	Determination of blood group and Rh factor-RA test serum	Preparation of blood report.		
<i>Dr. Shanti Upadhye</i>	Sem I Theory	Introduction: concept and definitions in Biotechnology,	History, achievements and milestones in Biotechnology	Branches of Biotechnology- Red, Green	Branches of Biotechnology- Blue, white	Fundamentals of laboratory techniques in biotechnology	Design, Principle, Working and Applications. Incubator, BOD Incubator,	Design, Principle, Working and Application Colony Counter, Magnetic Stirrer	Design, Principle, Working and Application Rotary Shaker and Laminar Air Flow.	Aseptic techniques – Sterilization and Disinfection.	Design, Principle, Working and Application Autoclave and Hot air Oven	Chromatography: Paper, Adsorption and TLC	Electrophoresis – Agarose and PAGE	Revision.		
	Sem III Theory	Introduction to the cell, lifecycle, types	Cell cycle and its significance	Cell cycle checkpoints	Study of nucleus	Study of chromosomes - defn, types, structure	Giant Chromosomes	Replication, Expt, terminology, types	Theta model of replication	Enzymes of Replication.	Mitosis. Role of microtubules	Meiosis I	Meiosis II	Cell poisons	Revision.	
	Sem V Theory	The nature & properties of the genetic material: Griffith Avery et al Hershey-Chase experiments. Singer & Conrad experiment on Tobacco mosaic virus	Genetic Code 8 properties, universal decode chart e	Wobble hypothesis concept, rules, significance	Transcription: initiation, elongation and termination of mRNA in eukaryotes, RNA polymerase of eukaryotes, Difference in transcription in prokaryotes and eukaryotes	Translation: Translation in eukaryotes- initiation of protein synthesis, chain elongation and chain termination	Gene regulation as exemplified by Lac Operon,	Trp Operon	Internal 1	Recombinant and SOS repair	Recombinant and SOS repair	Gene mutations- terminologies, types, agents	Physical agents	Internal 2	Chemical Agents.	Revision.

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<i>Dr. Shanti Upadhye</i>	Sem V Pract.	Introduction-basics, GLP	Extraction and estimation of RNA by Orcinol method	Extraction and estimation of DNA by Diphenylamine method	Use of autoclave for sterilization of equipment's for tissue culture	Media preparation and sterilization	Sterilization methods-continued	Assessment 1	To prepare cells for culture from mammalian kidney, spleen or chick embryo using trypsin	Animal tissue culture - Cont'd	Virtual Labs	Assessment 2)	Problems in Molecular Biology,	recombinant DNA technology	Journal checking	Assessment 3
	Sem V SEC	Introduction to molecular techniques	General approach, significance	Genomic DNA extraction from E.coli	Genomic DNA extraction from E.coli	Amrita Virtual Labs	Assessment 1	PCR	Types and applications	Separation of Proteins by PAGE	Home assignment/ submission	Western blot set up for the separated proteins	Assessment 3	Journal checking		
<i>Ms. Chetana Kanekar</i>	Sem III Theory	Methods of sex determination: Chromosomal- XX, XO, XX-XY and ZZ-ZW.	Genic Balance Theory of Sex determination in Drosophila, Environmental sexe	Lyon's Hypothesis of X chromosome inactivation.	X Linked inheritance	Y linked and Z linked with suitable examples	Sex limited and Sex influenced Genes	Multiple Alleles-Concept, definition, characters and symbolism,	Multiple alleles-Coat colour in rabbit	Eye colour and Vestigial wing alleles in Drosophila	ABO blood group system and Rh factor in human.	Quantitative or Polygenic Inheritance-Concept and definition skin color	Eye colour and Height in HumanEye colour and Height in HumanMilk gene in Cow, Meat gene in	Concept of linkage and crossing ove	Complete and incomplete linkage crossing over	Three point cross
	Sem I Theory	Gene and gene concepts, definition of gene and gene expressions	Recapitulation of Mendelian Genetics:Mendel's Laws of inheritance of characters i and II law	Law of independent assortment	X Linked inheritance	Co- dominance	Epistasis Definition Recessive epistasis	Dominant and Dominant and	Double recessive	Lethal genes Dominant lethal genes	Recessive lethal genes	Conditional and gametic lethal genes	Cytoplasmic inheritance- kappa particles in paramoecium	Cytoplasmic inheritance- Shell coiling in Snail	Application of Genetics	Revision
	Sem I and Sem III Pract	Schedule to be attached separately														
	Sem V DSC Theory	Animal Type- Earthworm Pheretima posthuma Subunits: Systematic position and morphology	Digestive system	Circulatory system- first thirteen segments	Circulatory system- after thirteen segments	Circulatory system- after thirteen segments	Excretory System- types of Nephridia	Septal Nephridia structure Septal Nephridia structure	Reproductive system	Fertilization and cocoon formation in Earthworm	Central Nervous system	sensory receptors in earthworm	Economic Importance of Earthworm	Economic Importance of Earthworm	Revision	Revision
	Sem. V Pract	Introduction-basics, GLP	Extraction and estimation of RNA by Orcinol method	Extraction and estimation of DNA by Diphenylamine method	Use of autoclave for sterilization of equipment's for tissue culture	Media preparation and sterilization	Sterilization methods-continued	Assessment 1	To prepare cells for culture from mammalian kidney, spleen or chick embryo using trypsin	Animal tissue culture - Cont'd	Amrita Virtual Labs	Assessment 2	Problems in Molecular Biology,	Problems in recombinant DNA technology	Journal checking	Assessment 3
	Sem. V DSE II TheoryI	Basic insect body plan - terminologies	Head - Head sclerites, sutures	Different type of Mouth parts in insects	Different type of Mouth parts in insects	Different type of Mouth parts in insects	Different types of Antennae	Thorax sclerites	Mounting of spiracles	Wing modifications in different insects	Basic structure of leg	Different types of leg modification in insects	Abdomen morpholog	Appendages on abdomen	Male and female genitalia	Revisio
	Sem. V DSE II Practical	Study of insect head sclerites	Study of insect mouth parts	Study of insect thoracic sclerites Study insect wing venati	1st assessment	Study of basic insect leg	Study of insect genitalia	Mounting of spiracles	2nd assessmen	Estimation of uric acid from cockroach excreta and Estimation of Chitin	Protein estimation from insect leg/thoracic muscles	tudy of different types of insect larvae	Study of different types of insect pupae	On field identification of insects	3rd assessment	Journal correction
<i>Ms. Madhuri Padaya</i>	Sem I Theory	Biological micro- and macro- molecules and significance of carbon.	Monomeric constituents, polymers	Amino acids: Types based on carboxylic, amino and aromatic group.	Commercially important amino acids	Peptide bond	Structure of proteins: Primary, secondary, tertiary, and quaternary structure	Structure of proteins: Primary, secondary, tertiary, and quaternary structure	Biological role of proteins	Nomenclature, classification of carbohydrates, Glycosidic bond	Nomenclature, classification of carbohydrates, Glycosidic bond.	Types of carbohydrates with commercial importance: Monosaccharide	Polysaccharides: Starch, glycogen, cellulose, chitin, heparin	Biological role of carbohydrates	carbohydrates of industrial significance	Revision
	Sem I Pract	Separate file attached														
	Sem. III Theory	Basic study of cell biology using microscope -	historical perspective Different stains and staining techniques	Structure and functions of a. Plasma membrane	Structure and functions of b. Endoplasmic reticulum	Structure and functions of c. Ribosomes	Structure and functions of d. Golgi complex	Structure and functions of e. Mitochondria	Structure and functions of f. Lysosomes	disorders of plasma membrane	disorders of ER	disorders of ribosomes	disorders of golgi	disorders of mitochondria	disorders of lysosome	Revision
	Sem V Theory	Scope of epidemiology: Perspective of epidemiology, descriptive and analytical epidemiology, epidemiological triad; stages of diseases; screening for diseases.	.Epidemiology of communicable diseases: definition of common terms	Dynamics of diseases transmission: Reservoir, route of transmission, incubation period.	Eradicated diseases: Small pox, polio	plague, cholera.	Prevention and control of Communicable Diseases: Notification, Isolation, Quarantine, Disinfection, Concurrent, Terminal, Precurrent , Prophylactic	methods of disinfection: natural, physical and chemical. Immunization: general measures, health education in India.	Diseases of Viral Origin :Rabies, Dengue,	Dengue, Swine flue	Diseases of bacterial origin :TB,National TB control programme	Leprosy, Leptospirosis.	Diseases of Protozoan origin : Malaria, National Malaria Control Programme.	Diseases of Protozoan origin : Malaria, National Malaria Control Programme.	Diseases of Helminthes origin : Ascariasis, Dracunculosis, Filariasis	Diseases of Helminthes origin : Ascariasis, Dracunculosis, Filariasi
Sem. V AC Pract	1. Identification of planktons/ mounting of planktons.	2. Identification with adaptations of intertidal communities Muddy shore	Identification with adaptations of intertidal communities rocky shore	Identification with adaptations of intertidal communities sandy shor	continuous evaluation	3. Identification of sea weeds	4. Identification of any two or three flora and fauna of Mangroves	5. Identification of corals.	continuous evaluation	6. Qualitative test for heavy metals – Pb, Hg, Zn.	7. Estimation of PO4-Phopshorous	Estimation of Silicates	Estimation of Nitrate-nitrites	8. Excursion / field visit	continuous evaluation	

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<i>Ms. Sadaf Zakariya</i>	Sem I Theory	Introduction to Ecology	Ecology branches	concept of Ecosystem	concept of Ecosystem cont'd	Ecosystem services	Energy flow in ecosystem	Food chain and types	Food chain types, food web	Carbon cycle	Nitrogen cycle	Oxygen cycle	Phosphorus cycle	Animal interactions	Animal interactions cont'd	Revision
	Sem I Pract	Separate file attached														
	Sem. III Theory	Introduction , basic requirements of Animal farming	Integrated farming	Integrated farming cont'd	Vermiculture intro , set up	Vermiculture methods and applications	Poultry farming	Poultry farming cont'd	Goat farming	Sheep farming	cattle farming	Buffalo farming	Dairy design & management	milk composition & preservation	milk products	Revision
	Sem III Pract	Separate file attached														
	Sem. V Theory	Introduction to r DNA technology	Restriction enzymes	Cloning vectors intro, working	pBR322, pUC series, bacteriophage λ	M13, cosmids	Gene libraries – DNA labelling, probe production	cDNA technique; linker, homopolymer	Insertion of recombinant molecule into host cell (cloning strategy): Cloning in bacterial cell	cloning in animal cell (interferon gene insertion)	DNA finger printing and its applications– PCR	Southern Blotting, RFLP	Commercial applications of biotechnology: Examples – golden rice, Nif gene	hepatitis surface antigen, Bt toxin	BioPol, Recombinant vaccines	Revision
	Sem V Pract	Rapid field test for sulfate and nitrate content as well as base deficiency of soil	Determination of carbonates in soil by rapid titration	Analysis of community by working out ecological indices: Using transect method	Assessment 1	Analysis of community by working out ecological indices: Using quadrat method	Study of interaction between organisms	Study of fauna of different zoogeographic regions : Palaearctic and Nearctic	Assessment 2	Study of fauna of different geographic regions: Neotropical and Ethiopian	Identification of permanent slides/ specimens of Plasmodium, Ascaris, Wuchereria	Temporary preparation of head and mouth parts of mosquito	Assessment 3			
<i>Ms. Rosfni Yadav</i>	Sem. III Theory Course - III Module - 3 Aquaculture and	Introduction to Aquaculture	Detailed Discussion on Aquaculture Practices in India	ypes of Aquaculture: Freshwater Aquaculture, Composite Fish Culture	Types of Aquaculture: Sewage Fed-Fish Culture, Integrated Fish Farming	Detailed Discussion on Basic Knowledge of Crafts and Gears	Types of Crafts and Gears along with their Examples	Types of Fisheries: Freshwater Fisheries: Major Riverine Carps and Brackish Water Fisherie	Types of Fisheries: Marine Water Fisheries: Coastal, Offshore and Deep-Sea Fisheries	Detailed Discussion on Important Capture Fisheries of India	Introduction to Fin Fisheries and Study of Fin Fish: Oil Sardine and Mackerel	Study of Fin Fish: Bombay Duck, Shark and Pomfret	Study of Crustacean Fisheries: Crabs, Lobsters and Prawns	Study of Molluscan Fisheries: Mussels, Clams, Edible Oysters and Pearl Oysters	Detailed Discussion on Process of Pearl Formation	Revision and Doubt Solving Session
	Sem. V Theory DSE - I Module- 3 Non Conventi	Introduction to Non Conventional Fishing Methods	Types of Non Conventional Fishing Methods: Electrofishing, Light Fishing, Blast Fishing	Types of Non Conventional Fishing Methods: Sport Fisheries, Bottom Trawling etc	Detailed Discussion on Introduction, Background, Scope of Blast Fishing	Detailed Discussion on Methods and Effects of Blast Fishing	Detailed Discussion on Introduction, Background, Scope, of Light Fishing	Detailed Discussion on Methods and Effects of Light Fishing	Detailed Discussion on Introduction, Background, Scope, of Electro Fishing	Detailed Discussion on Methods and Effects of Electrofishing Fishing	Detailed Discussion on Introduction, Background, Scope of Bottom Trawling	Detailed Discussion on Methods, Effects and Impacts of Bottom Trawling	Introduction to Sport Fisheries and Recreational Fishing	Detailed Discussion on Introduction, Background, Scope of Sport Fishing	Detailed Discussion on Methods, Effects and Impacts of Sport Fishing	Revision and Doubt Solving Session
	Sem. V Theory DSE-II Module - 3 Insect Anatomy	Introduction to Insect Anatomy	Detailed Discussion on Various Anatomical Parts of an Insect's Body	Introduction to Integument System of an Insect	Study of Integumentary Derivatives of an Insect along with its Functions	Introduction to Digestive System of an Insect	Study of Digestive Organs of an Insect along with its Functions	Introduction to Excretory System of an Insect	Study of Excretory Organs of an Insect along with its Functions	Introduction to Nervous System of an Insect	Study of Nerves, Different Parts of Insect's Brain along with its Functions	Introduction to Circulatory System of an Insect	Study of Circulatory and Specialised Respiratory Organs of an Insect along with its Functions	Introduction to Reproductive System of an Insect	Study of Reproductive Organs of an Insect along with its Function	Revision and Doubt Solving Session
	Sem. V Pract DSC - I	Discussion on Animal Type Earthworm: Classification and Morphological Characteristics	Discussion on Animal Type Earthworm: To Dissect and Study of Digestive System of Earthworm	Discussion on Animal Type Earthworm: To Dissect and Study of Nervous System of Earthworm	Discussion on Animal Type Earthworm: To Dissect and Study of Reproductive System of Earthworm	Mountings of Earthworm– a. Setae, b. Spermatheca, c. Nerve Ring, d. Septal Nephridium	Continuous Assessment - Test 1	Identification of Chick Embryos: 16 Hours, 24 Hours, 36 Hours, 48 Hours, 72 Hours etc	Mounting of Chick Embryo	Continuous Assessment - Test 2	Study of Placenta and Its Types along with its Examples	Study of Types of Dentition and Formula Derivation	Identification of Hair of Different Mammals	Revision and Doubt Solving Session	Continuous Assessment - Test 3	Journal Submission
<i>Ms. Meghna Verma</i>	Sem. III Theory	Paper III Economic Entomology Introduction to the chapter and outcome	Introduction to insects	Honey bee, social life of honey bee	Honey bee mouth parts, communication, life history	Economic importance of honey bee and Apiculture	Silkworm introduction and life history	Economic importance of silkworm and Sericulture	Study of harmful insects- Aphids	Aphid- Method of insect contro	Rice weevil	Rice weevil- Method of insect control	Locust	Locust- Method of control	Termite and method of control	Common insect control method
	Sem. V theory	Paper 1 Mammalian anatomy Introduction to the chapter and outcome	The structure of integuments and its derivative , functions	Epidermal derivative, epidermal glands and scales, digitalcornification, hair	Digestive system introduction and function of digestive system	embryonic digestive tube and its evolution primary division of tube, accessory organ,	modification of elementary canal, digestive Glands,	Mammalian dentition	Introduction and function of respiratory system	Respiratory passage attract, respiratory organ	Introduction and function of circulatory system, parts of circulatory system	Erotic aches, Venus portal and lymphatic system in mammal	Introduction and function of nervous system	Evolution of cerebral hemisphere and cerebellum in mammals	Introduction and function of urinogenital system	parts of urinogenital system
	Sem. V Practical Paper 2	Colorometric estimation of total plasma proteins by Folins method	Estimation of blood glucose by O-toluidine method.	Estimation of serum/plasma total cholesterol by FeCl3 method.	Estimation of serum/plasma total triglycerides by Phosphovanillin method.	Enumeration of erythrocyte-total count.	Enumeration of leucocytes –total and differential count.	Estimation of haemoglobin by Sahlis acid haematin method.	Study of Lymphoid organs: Lymph node, Thymus and Spleen.	Study of Leukemic cells for permanent slide.	Observation of bone marrow cells.	Latex agglutination test (any available/ Rheumatoid Arthritis)	Determination of blood group and Rh factor-RA test serum	Preparation of blood report.		
	Sem. V AC Theory	DSE II Insect Classification Introduction to the chapter and outcome	Introduction to insect	Classification of insect	Metamorphosis in insect	two orders of ametabolous insect	three orders of a ametabolous insect	four orders of ametabolous insect	four orders of hemimetabolous insect	four orders of hemimetabolous insect	five orders of hemimetabolous insect	four orders of hemimetabolous	four orders of holometabolous insect	five orders of holometabolous insect	Revision	

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<i>Ms. Meghna</i>	Sem. V AC Practical	Study of insect head sclerites	Study of insect mouth parts	Study of insect thoracic sclerites Study insect wing venatio	1st assessment	Study of basic insect leg	Study of insect genitalia	Mounting of spiracles	2nd assessment	Estimation of uric acid from cockroach excreta and Estimation of Chitin	Protein estimation from insect leg/thoracic muscles	Study of different types of insect larvae	Study of different types of insect pupae	On field identification of insects	3rd assessment	Journal correction

DEPARTMENT OF ZOOLOGY ACADEMIC PLAN 2021-2022

EVEN SEMESTER

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Name	Sem/ paper	15/11/2021-20/11/2021	22/11/2021-26/11/2021	28/11/2021-04/12/2021	06/12/2021-11/12/2021	13/12/2021-18/12/2021	20/12/2021-24/12/2021	03/01/2022-08/01/2022-	10/01/2022-15/01/2022	17/01/2022-22/01/2022	24/01/2022-29/01/2022	31/01/2022-05/02/2022	07/02/2022-12/02/2022	14/02/2022-19/02/2022	21/02/2022-26/02/2022	28/02/2022-05/03/2022
<i>Dr. Viterant Deshmukh</i>	Sem IV Pract.	Common														
	Sem VI Theory.	Introduction to Mammalian Endocrinology & Histology	Hormones: Properties and functions of hormones, Concept of positive and negative feedback mechanism of hormone action	Histological structure of mammalian organs: Skin	Histology structure and hormones of endocrine glands- Pituitary	Histological structure of tooth & Tongue	Histology and hormones of endocrine glands- adrenal	Histological structure of artery and Vein	Histology and hormones of endocrine glands- thyroid	Histological structure of Intestine and stomach	Histology and hormones of endocrine glands- pancreas	Histological structure of kidney & Liver, Testis & Kidney	Hormonal Disorder: Gigantism, Dwarfism Acromegaly , Cretinism	Hormonal Disorder: Myxedema Grave's Disease & Cushing's Disease.	Discussion & Class test	Revision
	Sem VI Pract.	Turbidity , Conductivity	Total acidity , Total alkalinity	COD	Assessment 1.	From the given data, make frequency distribution table, frequency polygon/histogram	From the given data, derive mean and standard deviation, plot bar diagram/pie diagram.	Assessment 2	Application of Z- test	Application of t- test	Assessment 3	Application of chi-square test of significance a. To test goodness of fit of observed and expected proportions b. To test association between two events	Use of spreadsheet program in biostatistics			
	Sem VI AC Pract.	1. 1. Identification of parasitic infections in fishes Fungal - Dermatormycosis; Bacterial – Fin/Tail rot & Dropsy; Protozoan – Costiasis & White Spot; Worm – Leech; Crustacean – Argulosis	2. Microbial studies: Identification of Bacilli, cocci, vibrio bacteria by using gram staining technique	3. Microbial studies: Organoleptic tests for fish	4. Estimation of lipid from fish by Folch's method.	5. Comparative Estimation of proteins from dry and fresh fish by Lowry's method.	6. Preparation of formulated feed for fish & prawn	7. Fish dressing, Prawn peeling	8. Preparation of surimi, fish protein concentrate / fish soup powder.	9. Preparations of fish burger, fish fingers, fish/prawn pickle	10. Preparation of Isinglass	11. Identification of packaging materials: Polyolefin, Wax duplex carton, Master carton, Simple cans, and coated cans cans.	12. Project (Individual activity) and assignments (group activity).	12. Project (Individual activity) and assignments (group activity).	12. Project (Individual activity) and assignments (group activity).	12. Project (Individual activity) and assignments (group activity).
<i>Dr. Amol Patwardhan</i>	Sem IV Theory	Ecosystem - definition and introduction. Zoo keeping - introduction	Components of the ecosystem. Zoo - definition, etymology, history.	Artificial ecosystem. comparison between natural and artificial. Different types of zoos	Polar biome. Basic requirements of an animal to be kept in a zoo.	Desert biome and grassland biome. Basic requirements of an animal to be kept in a zoo.	Forest biome. Basic requirements of an animal to be kept in a zoo.	Marine ecosystem. Zonation. Staff requirements of the zoo.	Estuarine ecosystem. Objectives of the zoo.	Freshwater ecosystem. Abnormal behaviour of zoo animals.	Soil - an abiotic factor. Basic design and requirements of the zoo.	Light - an abiotic factor. Enclosure designs.	Temperature - abiotic factor. Types of wildlife crimes.	Precipitation - abiotic factor. Methods of poaching.	Altitude- abiotic factor. Methods of smuggling	Revision.
	Sem VI Theory.	Intro to Entrepreneurial zoology - definition and concept. Intro to computers.	Business and startup. Introduction to basic hardware.	Types of entrepreneurship. Introduction to basic hardware	Characteristics of an entrepreneur. Operating system.	Ecotourism - principles. Programming language and Internet.	Ecotourism- benefits and disadvantages. Softwares. system and application	Wildlife photography. Bioinformatics.	Wildlife photography - advantages and disadvantages. Bioinformatics.	Environmental journalism. Bioinformatics.	Environmental journalism - advantages and disadvantages. Bioinformatics.	Zoo - tourism. Bioinformatics.	Animal behaviourist. Bioinformatics.	Environmental NGO. Merits and demerits of social networking.	Environmental NGO. Revision.	
	Sem. V I AC Practical DSE II	Introduction to entrepreneurial zoology	Study of computer hardware.	Study of business model	Continuous test.	Study of patents - Indian IPR	Environmental law	Introduction to MS Office	Continuous test	Preparation of Phylogenetic tree	Study of biological databases.	Study of extinct animals	Revision	Revision	Revision	Journal submission
<i>Ms. Shreya Patil</i>	Sem. II Theory	Evolution and abiogenesis	Redi's and Louis Pasteur's Experiment	Early Earth Atmosphere and Oparin Haldane theory	Miller Urey Experiment and Primitive genetic molecules	Homology and Analogy	Fossils and connecting Links	Vestigial organs	Mid sem/ Revision	Biodiversity - levels and applications	Biodiversity threats	IUCN Biodiversity hotspots and IUCN red data list	WEstern Ghats	Eastern Himalaya	Indo-Burma and andaman	Biodiversity conservation strategies
	Sem. IV Theory	Homeostasis concept, types of control mechanism, Chromosome structure	Feedback Systems, types of chromosomes	Endothermic ectothermic, homeotherms, heterotherms, poikilotherms, Normal human karyotype	Adaptations in aquatic invertebrates for keeping warm, Process of karyotyping	Adaptations in aquatic vertebrates for keeping warm, Chromosome Banding techniques	Adaptations in terrestrial invertebrates and vertebrates for keeping warm, Chromosome numbering scheme	Adaptations in terrestrial invertebrates and vertebrates for keeping cool, Non-disjunction	Extremophiles, TRisomy of Autosomes	Mid Sem / Revision,	Osmoregulation concepts, Trisomy / Monosomy of sex chromosomes,	Adaptations in freshwater invertebrates for osmoregulation, types of chr. mutation	Adaptations in freshwater vertebrates for osmoregulation, types of point mutation	Adaptations in marine invertebrates for osmoregulation, human genome project	Adaptations in marine vertebrates for osmoregulation,	Disorders related to Homeostasis

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Ms. Shreya Patil</i>	Sem. VI Theory	Evolution and population genetics concepts, Air pollution cause	Sources, significance and types of variation, Effects of Air pollution	Natural Selection - types, significance, GHG, Global Climate change	Reproductive barriers Air pollution - management	Types and mechanism of speciation, Water pollution - causes and effects	Isolating mechanisms, Water pollution - management	Mid sem / Revision	Gene pool, Gene flow, Migration, allelic frequency, Soil Pollution - effects and management	Gene pool, Gene flow, Migration, allelic frequency, Soil Pollution - effects and management	How to calculate allelic frequency, Types of Solid Wastes	Hardy Weinberg Equilibrium Law, Solid waste management – 3Rs, Real life example	Micro, Macro and Mega Evolution, EIA study	Role of Govt organizations and NGOs in pollution control		
	Sem. VI Practical	Determination of LC50 for a suitable pollutant on Daphnia,	Effect of salt of a heavy metal on the heart beat of Daphnia.	Effect of CCl4 on the level of enzyme activity in liver or serum acid phosphatase	Effect of CCl4 on the level of enzyme activity in liver or serum alkaline phosphatase	Effect of CCl4 on the level of enzyme activity in liver or serum aspartate amino transferase	Effect of CCl4 on the level of enzyme activity in liver or serum alanine	Types of Variations	Sympatric and Allopatric Speciation	Isolating Mechanisms	Detection of Metal poisoning by Spot method	Visit to various databases and making of report				
<i>Dr. Shanti Upadhye</i>	Sem II Theory	Introduction to applied biotechnology- concept, application	Transgenic Technology - Methods Microinjection	Embryonic Stem cells Virus mediated transfer	Medical Biotechnology- Gene therapy: Ex vivo and In vitro approach.	Gene therapy for SCID (severe combined immune deficiency)	Gene therapy for Cystic fibrosis	Mid Sem	Environmental biotechnology	Bioremediation: Concepts and applications	Phytoremediation: Concepts and applications	Food Biotechnology - Applications of biotechnology in the bread industry	Applications of biotechnology in the cheese industry	Enzyme technology – concept of enzyme immobilization,	Applications in meat tenderization, fermentation	Revision
	Sem IV Theory	Introduction to tissue, properties of normal and abnormal tissue	Comparison between normal cell and cancerous cell	General discussion on 4 Types of tissue: Epithelial, Connective, Nervous and Muscular	Epithelial –A. Simple- Squamous, Columnar, Ciliated,	Glandular, Endothelial [T.S of artery and T.S. of vein]	B. Stratified [Study of skin] * Internal 1	Connective tissue- Areolar, Adipose,	Blood, Bone [T.S of Bone],	Cartilage [T.S of Cartilage] *Internal 2	Nervous - Myelinated,	Non myelinated, Glial cells	Muscular – Striated,	Non striated, Smooth/ Cardiac *Internal 3	Disorders related to Tissue	Revision
	Sem VI Theory	Introduction- Terminologies Chemical nature of enzyme, Prosthetic grps	Enzyme Nomenclature Concept of Activation energy Enzyme specificity, Models of EA	Mechanism of Enzyme action Enzyme kinetics - MM equation	LWB plot, significance of Vmax and Km Factors effecting enzyme activity	Factors effecting enzyme activity - Cont'd *Internal 1	Enzyme inhibition Enzyme Regulation Isoenzymes	Introduction- Terminologies Classes of chemical messengers	Nt- classes and examples MOA of a Nt Neurosecretion	X and Y organs in crustaceans Pheromones *Internal 2	Introduction- Basic Histology of ovary and testes- revision	Regulation of male reproductive cycle Regulation of female reproductive cycle Types of female cycles- Menstrual cycle *Internal 2	Estrous cycle- stages, examples. Endocrine regulation of pregnancy, Parturition and lactation	IVF- indications and steps. Regulation of Circulation- types of circulatory systems	Types of Hearts - Neurogenic and myogenic Pacemaker ECG Chemical and nervous regulation of the Heart	Revision and Internal 3
	Sem VI Pract.	Blood pressure monitoring- Sphygmomanometer	ECG- normal curve, disorder	Effect of pH on acid phosphatase	Continuous assessment 1	Effect of substrate on acid phosphatase	Effect of enzyme on acid phosphatase	Effect of inhibitor on acid phosphatase	Amrita Virtual Labs	Continuous assessment 2	Study of Vaginal smears	Mounting of neurosecretory cells from cockroach	Study of LDH isoenzymes by agarose electrophoresis	Continuous assessment 3	Journal Submission	
<i>Ms. Chetana Kanekar</i>	Sem II Theory	Hemichordates	Phylum Chordata- characteristics	Protochordates- Urochordata	Protochordates- Cephalochordata	Agnatha and Gnathostomata	Class- Cyclostomata	Pisces and its classes	Salient features of Tetrapoda- Class Amphibia	Orders of Amphibia	Class Reptilia and its classification	Subclass of Class Reptilia	Salient features of orders	Salient features of suborders and examples	Revision	Revision
	Sem II Pract	Schedule hed separately														
	Sem IV Pract	Schedule to be attached separately														
	Sem VI DSC Theory	habit & habitat, distribution, external characters morphology	skin, exoskeleton	endoskeleton- Axial and appendicular skeleton	Digestive system alimentary canal and digestive gland	respiratory system	blood vascular system-External and internal structure of heart	Arterial system	venous system	nervous system- central nervous system	cranial nerves	receptor organs- Neuromast organs, Ampullae of lorenzeni, Olfactory organs	Eye, internal ear	Male and female urinogenital system	copulation, fertilization and development, economic and ecological importance	Revision
	Sem. VI Pract	Discussion on Animal Type Shark: Classification and Morphological Characteristics	Discussion on Animal Type Shark: To Dissect and Study Digestive System of Scoliodon	Discussion on Animal Type Shark: To Dissect and Study Circulatory System of Scoliodon	Discussion on Animal Type Shark: To Dissect and Study Cranial Nerves of Scoliodon	Discussion on Animal Type Shark: To Dissect and Study Urinogenital System of Scoliodon	Mountings of Scoliodon – a. Scroll Valve, b. Nerve Fibers, c. Muscle Fibers, d. Cartilage	Continuous Assessment - Test 1	Study of Histological Structure of: a. Stomach, b. Intestine, c. Liver, d. Kidney, e. Testes, f. Ovary	Study of Histological Structure of: g. Pituitary Gland, h. Adrenal Gland, i. Thyroid Gland, j. Pancreas	Continuous Assessment - Test 2	Introduction and Discussion on Study of Clinical Conditions Associated with Endocrine Glands and Glands Malfunction with the help of photographs	Study of Clinical Conditions Associated with Endocrine Glands: a. Gigantism, b. Acromegaly, c. Dwarfism	Study of Clinical Conditions Associated with Endocrine Glands: d. Cretinism, e. Myxedema, f. Grave's Disease, g. Cushing's Disease	Continuous Assessment - Test 3	Journal Submission
	Sem. VI DSE II Theory	Mechanism of spoilage :Introduction	Hyperaemia, Rigor mortis,	Autolysis, Rancidity	Brief methods for evaluating freshness & quality of fish:Introduction	Organoleptic method	Microbial method and Chemical method	Preservation techniques Short duration	Preservation techniques Longer duratio	Preservation techniques Longer duratio	Various packaging materials used in freezing & canning industry	Polyolefin	Wax duplex carton,	master carton,	canning	Revision
Sem. VI DSE II Practical	Blood pressure monitoring- Sphygmomanometer	ECG- normal curve, disorders	Effect of pH on acid phosphatase	Continuous assessment 1	Effect of substrate on acid phosphatase	Effect of enzyme on acid phosphatase	Effect of inhibitor on acid phosphatase	Amrita Virtual Labs	Continuous assessment 2	Study of Vaginal smears	Mounting of neurosecretory cells from cockroach	Study of LDH isoenzymes by agarose electrophoresis Continuous assessment 3	Continuous assessment 3	Journal Submission		

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Ms. Madhuri Padaya</i>	Sem II Theory	Fatty acids: Structure, types and properties	Mono , di and tri glyceride	Phospholipids and sphingolipids	Sterols and waxes	Biological role of lipids, commercially important lipids	Origin, Chemical structure of nitrogenous bases, pentoses	Nucleosides and nucleotides	Polynucleotides: 3' 5' phosphodiester linkage	Watson - Crick Model of DNA	Watson - Crick Model of DNA	Types of RNA: mRNA, tRNA and rRNA	Types of RNA: mRNA, tRNA and rRNA	Cloverleaf model of t - RNA	Differences between DNA and RNA	Revision
	Sem II Pract	Separate file attached														
	Sem. IV Theory	Introduction, dietary recommendations to a normal adult, infant, pregnant woman and aged.	Malnutrition disorders	Significance of breast feeding.	Importance of fibers in food. 5.	Constipation, piles,.	anorexia, starvation, acidity	flatulence, ulcers, urticaria	Fasting and its significance.	Defects of modern food habits mention food additives, BMI and its significance.	Different feeding habits vegetarians, non vegetarians and vegans	diabetes type I and I	insulinoma, hyperinsulinism	Alcoholic beverages, physiological effects of alcohol, treatment,	Smoking: rights of non smokers, composition and effects of tobacco smoke, the smoking habits (active and passive smoking), legislation	Substance abuse: Narcotics and psychotropic drugs affecting social fabric of India e.g. opium, brown sugar, Heroin.
	Sem VI Theory	Wild life protection and laws: Need for wild life conservation	causes of extinction of species,	wild life protection act 1972, trade/commerce in wild animals, animal articles and trophies, hunting of wild animals, penalties, CITES	wild life protection act 1972, trade/commerce in wild animals, animal articles and trophies, hunting of wild animals, penalties, CITES	Environmental Protection act, the environmental protection act 1986	Environmental Protection act, the environmental protection act 1986	Case studies of India- implementation by companies and government, defaulters, chipko movement, Narmada river	SEZ	CRZ	Studying the term commerce, commercial importance of Invertebrates	Importance of Vertebrates and the contribution of zoology subject towards economic development of the nation	Intellectual property rights and its importance in commerce	Patenting in India and Indian Patents Act in brief	Patenting biological organisms in India.	Revision
	Sem. VI SEC	Setting up of aquarium: types of aquarium	Setting up of aquarium: types of aquarium	Setting up of aquarium: types of aquarium	Setting up of aquarium	Setting up of aquarium	Setting up of aquarium	Setting up of aquarium: trouble shooting	Setting up of aquarium: trouble shooting	Setting up of aquarium: trouble shooting	group activity and maintaining log	group activity and maintaining log	group activity and maintaining log	submitting report and presentation	submitting report and presentation	submitting report and presentation
Sem. VI AC Pract	1. 1. Identification of parasitic infections in fishes - Fungal - Dermatomycosis; Bacterial – Fin/Tail rot & Dropsy; Protozoan – Costiasis & White Spot; Worm – Leech; Crustacean – Argulosi	2. Microbial studies: Identification of Bacilli, cocci, vibrio bacteria by using gram staining technique	3. Microbial studies: Organoleptic tests for fish	4. Estimation of lipid from fish by Folch's method.	5. Comparative Estimation of proteins from dry and fresh fish by Lowry's method.	6. Preparation of formulated feed for fish & prawn.	7. Fish dressing, Prawn peeling	8. Preparation of surimi, fish protein concentrate / fish soup powder.	9. Preparations of fish burger, fish fingers, fish/prawn pickle	10. Preparation of Isinglass	11. Identification of packaging materials: Polyolefin, Wax duplex carton, Master carton, Simple cans, and coated cans cans	12. Project (Individual activity) and assignments (group activity).	12. Project (Individual activity) and assignments (group activity).	12. Project (Individual activity) and assignments (group activity).	12. Project (Individual activity) and assignments (group activity).	
<i>Ms. Sadaf Zakariya</i>	Sem II Theory	Class Aves - Intro & general features	Aves Classification - Overview, Subclass 1	Aves Classification - Subclass 2 to 4	Orders of subclass 4	Orders of subclass 4	Adaptations in Aves	Adaptations in Aves	Class Mammalia - Intro & general features	Mammalia infraclasses, Mammalia superorders	Mammalia orders	Mammalia orders	Mammalia adaptations			
	Sem II Pract	Separate file attached														
	Sem. IV Theory	Animal communication - Introduction and components	Chemical signals	Light signals	Sound signals	Mimicry, deception and honesty	Imprinting and its types	Displacement behaviour	Ritualization of Displacement activities	Instinct , its significance	Decision making	Decision making	Altruism			
	Sem IV Pract	Separate file attached														
	Sem. VI Theory	Definition & Scope of Toxicology	Scope of Toxicology	Naturally occurring Toxins	Microbial and plant toxins	Animal toxins	Sources of toxic compounds	Sources of toxic compounds	Dose response relationships, curves	LC50 and LD50, Acute and chronic toxicity	Margin of safety and therapeutic index	Threshold dose, NOEL	MDL, LDL			
Sem VI Pract	Turbidity , Conductivity	Total acidity , Total alkalinity	COD	Assessment 1.	From the given data, make frequency distribution table, frequency polygon/histogram	From the given data, derive mean and standard deviation, plot bar diagram/pie diagram.	Assessment 2	Application of Z- test	Application of t- test	Assessment 3	Application of chi-square test of significance a. To test goodness of fit of observed and expected proportions b. To test association between two events	Use of spreadsheet program in biostatistics.				

Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Ms. Rosfmi Yadav	Sem. IV Theory Course III - Module 1 Introduction to Parasitology and Study of Protozoa	Introduction to Parasitology and Parasitism	Detailed Discussion on Study of Protozoan Parasites	Types of Parasites: Ectoparasite, Endoparasite, Monogenic, Digenetic, Temporary, Permanent Parasites	Types of Parasites: Extracellular, Intracellular, Facultative and Accidental Parasites	Types of Host: Definitive, Intermediate, Paratenic and Reservoir Host	Host- Parasite Relationship: Effects on Parasites and Effects on Host's	Study of Protozoan Parasite: Entamoeba histolytica - Morphology, Mode of Infection, Life-cycle	Study of Protozoan Parasite: Entamoeba histolytica - Pathogenicity, Treatment, Control measures and Economics involved	Study of Protozoan Parasite: Plasmodium vivax - Morphology, Mode of Infection, Life-cycle	Study of Protozoan Parasite: Plasmodium vivax - Pathogenicity, Treatment, Control measures and Economics involved	Study of Protozoan Parasite: Leishmania donovani - Morphology, Mode of Infection, Life-cycle	Study of Protozoan Parasite: Leishmania donovani - Pathogenicity, Treatment, Control measures and Economics involved	Study of Protozoan Parasite: Giardia lamblia - Morphology, Mode of Infection, Life-cycle	Study of Protozoan Parasite: Giardia lamblia - Pathogenicity, Treatment, Control measures and Economics involved	Revision and Doubt Solving Session	
	Sem. VI Theory DSE I - Module 3 Fish By-products and Value-added products	introduction to Fish By-products and Fish Value-added products	Detailed Discussion on Proximate Composition of Fish Meat and Products	Major and Minor Components in Fish Meat and Products	Brief Discussion on Fish By-products	Types and Examples of Fish By-products : Fish Protein Concentrate, Fish Maws/ Isinglass	Types and Examples of Fish By-products : Chitosan, Fish Gelatine, Fish Silage etc.	uses and Methodology to Prepare Fish By-products.	Brief Discussion on Fish Value-added products	Types and Examples of Fish Value-added products : Prawn Pickle, Fish Pickle, Shellfish Pickle, Prawn Chutney.	Types and Examples of Fish Value-added products : Fish Wafers, Fish Soup Powder, Fish Steaks etc.	Uses and Methodology to Prepare Fish Value-added Products.	Surimi and Imitation Products	Introduction to Fish Skin Grafting	Types of Fish Skin Grafts and Examples of Fish Skin Grafts	Advantages and Applications of Fish Skin Grafts	
	Sem. VI Theory SEC Module 1 Fundamentals of Aquarium Setup	Discussion on Fundamentals of Aquarium Setup	Introduction to Basic Requirements to Setup an Aquarium, Methods and Protocols to Setup an Aquarium.	Troubleshooting and Managing the Problems arising during an Aquarium Setup	Management and Maintenance of Water Quality	Testing and Treating the Water Quality of an Aquarium	Selection of Aquatic Animal	Methods to Provide Enrichment to the Aquarium while Setting up an Aquarium	Aquatic Animal Handling	Aquatic Animal Transport	Aquatic Animal Health	Aquatic Animal Quarantine	Fish Nutrition	Revision and Doubt Solving Session			
	Sem. VI Pract DSC - I	Discussion on Animal Type Shark: Classification and Morphological Characteristics	Discussion on Animal Type Shark: To Dissect and Study Digestive System of Scoliodon	Discussion on Animal Type Shark: To Dissect and Study Circulatory System of Scoliodon	Discussion on Animal Type Shark: To Dissect and Study Cranial Nerves of Scoliodon	Discussion on Animal Type Shark: To Dissect and Study Urinogenital System of Scoliodon	Mountings of Scoliodon – a. Scroll Valve, b. Nerve Fibers, c. Muscle Fibers, d. Cartilage	Continuous Assessment - Test 1	Study of Histological Structure of: a. Stomach, b. Intestine, c. Liver, d. Kidney, e. Testes, f. Ovary	Study of Histological Structure of: g. Pituitary Gland, h. Adrenal Gland, i. Thyroid Gland, j. Pancreas	Continuous Assessment - Test 2	Introduction and Discussion on Study of Clinical Conditions Associated with Endocrine Glands and Glands Malfunction with the help of photographs	Study of Clinical Conditions Associated with Endocrine Glands: a. Gigantism, b. Acromegaly, c. Dwarfism	Study of Clinical Conditions Associated with Endocrine Glands: d. Cretinism, e. Myxedema, f. Grave's Disease, g. Cushing's Disease	Continuous Assessment - Test 3	Journal Submission	
Ms. Meghna Verma	Sem. iv Theory	study of helminth and arthropod parasite	Morphology and introduction to parasitology	Taenia Solium morphology	Taenia solium Life cycle and pathogenecity	Mode of infection, treatment, prophylaxis	Ancylostoma: Introduction and morphology	Life cycle and mode of infection	prophylaxis, pathogenicity and treatment	W. bancrofti introduction, morphology	Life cycle and pathogenecity	Mode of infection, prophylaxis and treatment	Ascaris: Introduction and morphology, Mode of infection pathogenic city and treatment	Bed bug Mode of infection pathogenic city and treatment	Head louse morphology ,life-cycle, treatment and mode of infection	Tick and mite Mode of infection pathogenic city and treatment	
	Sem. VI theory	disease in fish Introduction and outcome	Bacterial diseases in fish	Bacterial diseases in fis	Bacterial diseases in fis	Fungal diseases in fish	Fungal diseases in fish	protozoan diseases in fish	crustacean diseases in fish	crustacean diseases in fish	helminth diseases in fish	environmental diseases in fish	viral diseases in fish	physiological diseases in fish	physiological diseases in fish		
	Sem. VI DSC II Practical	Determination of LC50 for a suitable pollutant on Daphnia,	Effect of salt of a heavy metal on the heart beat of Daphnia.	Effect of CCl4 on the level of enzyme activity in liver or serum acid phosphatase	Effect of CCl4 on the level of enzyme activity in liver or serum alkaline phosphatase	Effect of CCl4 on the level of enzyme activity in liver or serum aspartate amino transferase.	Effect of CCl4 on the level of enzyme activity in liver or serum alanine	Types of Variations	Sympatric and Allopatric Speciation	Isolating Mechanisms	Detection of Metal poisoning by Spot method	Visit to various databases and making of report					
	Sem. V AC Practical	Introduction to entrepreneurial zoology	Study of computer hardware	Study of business model	Continuous test.	Study of patents - Indian IPR	Environmental law	Introduction to MS Office	Continuous test	Preparation of Phylogenetic tree	Study of biological databases.	Study of extinct animals	Revision	Revision	Revision	Journal submission	