

K.T. S. P. Mandal's
Sahebraoji Buttepatil Mahavidyalaya, Rajgurunagar.
Department of Zoology
Teaching Plan
A.Y.-2022-2023 (Semester I)

S. Y. B. Sc.

Course Title: Animal Diversity - IV

Course Code: ZO – 231

Month	Title	Teacher Name
Aug	1. Introduction to Phylum Chordata – 1.1 Origin & Ancestry of Chordates. 1.2 Comparative account of fundamental characters of Chordates with Non Chordates. 1.3 Salient features of Phylum Chordata. 1.4 Classification of Phylum Chordata upto classes – Pisces, Amphibia, Reptilia, Aves, Mammalia. 2. Introduction to Group – Protochordata, Salient features of Protochordata, Salient features of subphylum with two example each - Names only. Hemichordata – Balanoglossus and Rhabdopleura, Urochordata - Herdmania and, Salpa, Cephalochordata – Branchiostoma (Amphioxus) and Asymmetron.	DRB
Sept	3. Introduction to subphylum – Vertebrata 3.1 Salient features of Vertebrata. 3.2 Introduction and General characters of sections with two examples - Names only. Agnatha – Petromyzon, Myxine, Gnathostomata – Frog, Labeo. 4. Introduction to Class – Pisces, Salient features of Class – Pisces. 4.2 Introduction and Salient features of sections with two examples - Names only. Class – Chondrichthyes – Scoliodon and Chimaera & Osteichthyes – Labeo and Catla 4.3 Types of Scales in Fishes. 4.4 Types of Fins in Fishes.	DRB
Oct	5. Introduction to Class – Amphibia 5.1 Salient features of Class – Amphibia. 5.2 Introduction to order – Apoda – Ichthyophis, Urodela – Salamandra (Salamander) & Anura - Rana, Parental care in Amphibia.	DRB
Oct & Nov	6. Study of Scoliodon 6.1 - Systematic position, Geographical distribution, Habit, Habitat 6.2 - External characters 6.3 - Digestive System, Food and feeding mechanism. 6.4 - Respiratory System – Structure of Holobranch only. 6.5 - External & Internal Structure of heart, Working of heart. 6.6 - Nervous System – Brain only. 6.7 - Male urinogenital system & Female reproductive System. 6.8 - Yolk sac placenta.	DRB

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Course Title - Applied Zoology I
Course Code - ZO-232

Semester- I

Month	Title	Teacher Name
Aug	<p>1) Sericulture:</p> <p>1.1 An introduction to Sericulture, Study of different types of silk moths, their distribution, Taxonomic position and varieties of silk produced in India : Mulberry, Tassar, Eri and Muga silk moths.</p> <p>1.2 External Morphology and life cycle of Bombyxmori.</p> <p>1.3 Cultivation of mulberry :</p> <p>a) Varieties for cultivation,</p> <p>b) Rain fed and irrigated mulberry cultivation- Fertilizer schedule, Pruning methods and leaf yield.</p> <p>1.4 Harvesting of mulberry : a) Leaf plucking, b) Branch cutting, c) Whole shoot cutting.</p>	DRB
Sept	<p>1.5 Silk worm rearing :</p> <p>a) Varieties for rearing, b) Rearing house, c) Rearing techniques, d) Important diseases and pests.</p> <p>1.6 Preparation of cocoons for marketing.</p> <p>1.7 Post harvest processing of cocoons :</p> <p>a) Stiffling, sorting, storage, deflossing and riddling,</p> <p>b) Cocoon cooking, reeling equipment and rereeling, washing & polishing.</p> <p>1.8 Biotechnological and biomedical applications of silk.</p>	DRB
Oct	<p>2) Agricultural Pests and their control:</p> <p>2.1 An introduction to Agricultural Pests, types of pests (agricultural, life cycle, nature of damage and control measures).</p> <p>a) Jowar stem borer, b) Red cotton bug, c) Brinjal fruit borer, d) Mango stem borer, e) Blister beetle, f) Rice weevil, store grain, veterinary).</p> <p>Major insect pests of agricultural importance (Marks of identification,</p>	DRB
Nov	<p>g) Pulse beetle, h) Tick.</p> <p>2.3 Non insect pests: Rats, Crabs, Snails, and Squirrels</p> <p>2.4 Pest control practices in brief: Cultural control, Physical control, Mechanical control, Chemical control, Biological control, Pheromonal control, Autocidal control and Concept of IPM in brief.</p> <p>2.5 Plant protection appliances: Shoulder type Rotary duster, Knapsack sprayer, Cynogas Pump.</p>	DRB

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Teaching Plan
A.Y.-2022-2023 (Semester I)

F. Y. B. Sc.
Course Code: ZO-111
Animal Diversity I

Month	Title	Teacher Name
Aug	<p>Principles of Classification: Taxonomy & Systematics</p> <p>1.1 Taxonomy: Basic terminology and Introduction Alpha, Beta and Gamma levels of taxonomy, Micro-taxonomy Macro taxonomy: Phenetics (numerical taxonomy, Cladistics (Phylogenetic systematics), Evolutionary taxonomy (evolutionary systematics) Classical taxonomy and experimental or neo taxonomy (biochemical taxonomy and Cytotaxonomy) Significance of Taxonomy Systematics: definition introduction Linnaean system of classification (Six level classification: Phylum, class, order, family, genus, species) Concept of Species: Biological & Evolutionary, Introduction to Binomial Nomenclature. Introduction to Five kingdom system.</p>	DRB
Aug & Sept	<p>General Features of kingdom Animalia</p> <p>2.1 General characters of Kingdom Animalia, Grades of organization 2.2 Symmetry.</p> <p>Kingdom Protista (Phylum: Protozoa)</p> <p>3.1 Introduction to Phylum Protozoa 3.2 Salient features of Phylum Protozoa 3.3 Classification of Phylum Protozoa up to classes with two examples of each class (names only). Class Rhizopoda (e.g :Entamoeba histolytica, Arcella), Class Mastigophora (e.g: Euglena viridis, Trypanosoma gambiense), Class Ciliata (e.g Paramoecium caudatum, Opalina ranarum), Class Sporozoa (e.g Plasmodium vivax, Toxoplasma gondii) 3.4 Locomotion in Protozoa: Amoeboid, Ciliary and Flagellar with suitable examples 3.5 Type Study: Paramecium caudatum: Classification, Habit and Habitat, External morphology, Feeding and digestion, Excretion, Reproduction (binary fission and conjugation)</p>	DRB

	<p>3.6. Economic importance of Protozoa (three harmful and one useful protozoan) 3.6.1-Harmful Protozoa: Plasmodium vivax (malarial parasite), Entamoeba histolytica (Amoebic dysentery), Trypanosoma gambiense (Gambian sleeping sickness).</p> <p>3.6.2- Useful Protozoa: Trichonympha</p>	
Sept & Oct	<p>Origin of Metazoa</p> <p>4.1 Introduction Origin and importance of Metazoa</p> <p>5. Phylum Porifera</p> <p>5.1. Introduction to Phylum Porifera</p> <p>5.2 Classification of Phylum Porifera up to classes with two examples of each class (names only, no description of specimens). Class Calcarea (e.g.: Leucosolenia, Sycon (Scypha) Class Hexactinellida (e.g: Euplectella (venus flower basket), Hyalonema (glass sponge)) Class Demospongiae (e.g: Chalina (Mermaid's gloves, Spongilla (fresh water sponge)</p> <p>5.3 Canal system in sponges: Ascon, Leucon and Rhagon type.</p> <p>5.4 Skeleton in sponges: Spicules, its types: Microscleres & Megascleres, Monoaxon – monactinal, diactinal, Amphidiscs, Triaxon, Polyaxon, Spongin fibres.</p> <p>5.5 Regeneration in sponges.</p> <p>5.6 Economic importance of Phylum Porifera.</p>	DRB
Oct & Nov	<p>Phylum: Cnidaria</p> <p>6.1 Introduction to Phylum Cnidaria</p> <p>6.2 Salient features of Phylum Cnidaria</p> <p>6.3 Classification of Phylum Cnidaria up to class level with given examples each class (names of examples only) Class Hydrozoa e.g.: Hydra, Physalia (Portuguese man of war) Class Scyphozoa e.g: Aurelia (Jelly fish), Leucernaria (trumpet shaped Jellyfish) Class Anthozoa: e.g; Metridium (Common sea anemone)</p> <p>6.4 Polymorphism in Hydrozoa: Polyps & Medusa (polyp types: gastrozooids, dactylozooids, gonozooids) and functions</p> <p>6.5 Economic importance of Cnidarians with reference to Corals and Coral reefs.</p>	DRB
Nov	<p>Phylum Platyhelminthes</p> <p>7.1 Introduction to Phylum Platyhelminthes</p> <p>7.2 Salient features of Phylum Platyhelminthes</p> <p>7.3 Classification of Phylum Platyhelminthes up to classes with two examples each class (names of examples only). Class: Turbellaria (e.g: Dugesia, Bipallium) Class: Trematoda (e.g: Fasciola hepatica, Schistosoma haematobium) Class Cestoda: (Taenia solium (pork tape worm), Echinococcus granulosus (dog tapeworm)</p> <p>7.4 Parasitic adaptations in Platyhelminthes: structural and physiological.</p> <p>7.5 Economic importance of Platyhelminthes</p>	DRB

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Course Title: Animal Ecology
 Course Code: ZO -112
 Semester I

Month	Title	Teacher Name
Aug	Introduction to Ecology 1.1 Concepts of Ecology, Environment, Population, Community, Ecosystem, Biosphere, Autecology and synecology.	DRB
Aug & Sept	Ecosystem 2.1 Types of ecosystems: Aquatic (Freshwater, estuarine, Marine and terrestrial (Forest, Grassland and Desert) 2.2 Structure and Composition of Ecosystem (Abiotic components and biotic components. 2.3 Food chain: Detritus and grazing food chains, Food web, Energy flow through the ecosystem, Ecological pyramids: Number, Biomass, and Energy. 2.4 concept of Eutrophication in lakes and rivers.	DRB
Sept & Oct	Population 3.1 Characteristic of population: Density, Natality, Mortality, Fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion. 3.2 Exponential and logistic growth, 3.3 Population regulation – density-dependent and independent factors. Population interactions, Gause's Principle with laboratory and field interactions, 3.4 Quadrant, line and belt transect methods.	DRB
Oct	Community 4.1 Community characteristics: species richness, dominance, diversity, abundance, vertical stratification, Eco tone and edge effect; Ecological succession with one example.	DRB
Nov	Animal interactions 5.1 Introduction to Animal interactions 5.2 Types of Animal interactions with at least to suitable examples of each 5.2.1- Competition: Interspecific and intraspecific 5.2.2- Beneficial Associations: Commensalism (remora fish on shark, Cattle egrets on livestock), Mutualism (Termite and Trichonympha, bees and flowers, cleaning symbiosis in fish by prawns. 5.3 Antagonistic associations: Parasitism (Ascaris and man, lice and humans), Prey predation (Lion and deer).	DRB

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