K.T.S.P. Mandal's
Hutatma Rajguru Mahavidyalaya
Department of Zoology.

Syllabus completion Report (A.Y.2021 – 2022)

F. Y. B. Sc. Zoology
Course Title: Animal Diversity –I
Course Code: ZO – 111

Sr.No	Month	Topics	Teacher
1	Sept & Oct	**Principles of Classification:** Taxonomy & Systematics 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 1.2 Systematics: definition introduction 1.3 Linnaean system of classification (Six level classification: Phylum, class, order, family, genus, species) 1.4 Concept of Species: Biological & Evolutionary 1.5 Introduction to Binomial Nomenclature. 1.6 Introduction to Five kingdom system	DNB Nov → 05 online oct → 05 online
2	Oct	**General Features of kingdom Animalia:** 2.1 General characters of Kingdom Animalia, Grades of organization 2.2 Symmetry.	DNB 03 online
3	Nov	**Kingdom Protista (Phylum: Protozoa)** 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 :Entamoebahistolytica, Arcella), Class Mastigophora (e.g: Euglena viridis, Trypanosomagambiense), Class Ciliata (e.gParamoeciumcaudatum, Opalinaranarum), Class Sporozoa (e.gPlasmodium vivax, Toxoplasmagondii) 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) 3.6. Economic importance of Protozoa (three harmful and one useful protozoan) 3.6.1-Harmful Protozoa: Plasmodium vivax (malaria parasite), Entamoeba histolytica (Amoebic dysentery), Trypanosomagambiense (Gambian sleeping sickness). 3.6.2- Useful Protozoa: Trichonympha	DNB 04 offline
4	Dec	**Origin of Metazoa :** 4.1 Introduction Origin and importance of Metazoa	DNB 04 offline

5	Dec	**Phylum :Porifera** 5.1. Introduction to Phylum Porifera 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)) 5.3 Canal system in sponges: Ascon, Leucon and Rhagon type. 5.4 Skeleton in sponges: Spicules, its types: Microscleres&Megascleres, Monoaxon – monactinal, diactinal, Amphidiscs, Triaxon, Polyaxon, Spongin fibres. 5.5 Regeneration in sponges. 5.6 Economic importance of Phylum Porifera.	DNB 10 offline
6	Jan	**Phylum: Cnidaria** 6.1 Introduction to Phylum Cnidaria 6.2 Salient features of Phylum Cnidaria 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 Scyphozoae.g: Aurelia (Jelly fish), Leucernaria (trumpet shaped Jellyfish) Class Anthozoa: e.g; Metridium (Common sea anemone0 6.4 Polymorphism in Hydrozoa: Polyps & Medusa (polyp types: gastrozooids, dactylozooids, gonozooids) and functions 6.5 Economic importance of Cnidarians with reference to Corals and Coral reefs.	DNB 08 online
7	Feb	**Phylum :Platyhelminthes** 7.1 Introduction to Phylum Platyhelminthes 7.2 Salient features of Phylum Platyhelminthes 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, schistosomahaematobium) Class Cestoda: (Taeniasolium (pork tape worm),Echinococcusgranulosus (dog tapeworm) 7.4 Parasitic adaptations in Platyhelminthes: structural and physiological. 7.5 Economic importance of Platyhelminthes	DNB 02 offline

As per above mention theory syllabus of Semester I completed successfully.

For completion of syllabus total 46 lectures are conducted.

Prof. D. N. Birhade

online → 23
offline → 23
46

Syllabus completion Report (A.Y.2021 – 2022)

S.Y. B. Sc. (Zoology)
Course Title: Animal Diversity - III
Course Code: ZO – 231

Sr.No	Month	Topics	Teacher
1	oct	**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.	DNB 04 04 online
2	Nov	**2. Introduction to Group – Protochordata.** 2.1 Salient features of Protochordata. 2.2 Salient features of subphylumswith two example each - Names only. Hemichordata – *Balanoglossus* and *Rhabdopleura*, Urochordata - *Herdmania* and *Salpa*, Cephalochordata –*Branchiostoma* (Amphioxus) and *Asymmetron*.	DNB 08 online to 8
3	Nov	**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*	DNB 04 offline 12
4	Dec	**4. Introduction to Class – Pisces** 4.1 Salient features of Class – Pisces. 4.2 Introductaionand 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.	DNB 07 offline

T. Y. B. Sc. (Zoology)

Course Title: Genetics
Course code: ZO 354

Sr.No	Month	Topics	Teacher
1	Oct	**1. Introduction to genetics:** 1.1 Classical and Modern concept of Gene, Cistron, Muton, Recon. 1.2 Mendel's laws of Inheritance.	DNB 03 online
2	Oct & Nov	**2 Exceptions to Mendelian Inheritance:** 2.1 Incomplete dominance. 2.2 Co-dominance. 2.3 Multiple alleles: Concept, characteristics and importance of multiple. alleles, ABO & Rh - blood group system and its medico legal importance. 2.4 Lethal alleles.	DNB 04 online +02 offline 06
3	Nov	**3. Gene Mutation:** 3.1 Definition. 3.2 Types of mutations: spontaneous, induced, somatic, gametic, forward, reverse. Types of point mutation - deletion, insertion, substitution, transversion, transition. 3.3 Mutagenic agents a) UV radiation and ionising radiation. b) Base analogs, alkylating and intercalating agents.	DNB 04 offline
4	Dec	**4. Sex-determination:** 4.1 Introduction. 4.2 Types of sex determination: -XX-XY, ZZ-ZW, XX-XO and Parthenogenesis, Hypodiploidy. 4.3 Gynandromorphism.	DNB 07 offline
5	Dec	**5. Population Genetics:** 5.1 Basic Concepts in population genetics: Mendelian population, gene pool, gene / allele, Frequency, chance mating (Panmictic mating). 5.2 Hardy Weinberg law and its equilibrium.	DNB 07 offline 14
6	Jan	6.1 Karyotype. 6.2 Genetic disorders, Structural & numerical alterations of chromosomes (chromosomal aneuploidy - Down, Patau, Edward, Turner and Klinefelter syndromes).	DNB 3 offline

7	Jan	**7. Sex linked inheritance in human:** 7.1 Colour – blindness. 7.2 Haemophilia. 7.3 Hypertrichosis.	DNB 02 offline
8	Feb	**8. Application of genetics:** 8.1 Genetic counselling. 8.2 Diagnostics & breeding technology.	DNB 4 offline

As per above mention theory syllabus of Semester I completed successfully.

For completion of syllabus total 35 lectures are conducted.

offline → 29
online → 07
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Prof. D. N. Birhade