

LESSON PLAN

CLASS - B.Sc. IInd year (4th sem)

SEMESTER - IV (Theory)

Name of Assistant / Associate - Dr. Seema

Subject / Paper - Zoology - (P-4.1 & 4.2)

Unit	Month	Subject Matter / Syllabus
1	Jan. 2024	<p style="text-align: center;">Paper - I - $\begin{cases} \text{Sec A} \\ \text{Sec B} \end{cases}$</p> <p>→ Origin and Evolutionary tree of Amphibians → Type Study of <u>Frog</u> includes its various systems. (Sec A) → Parental Care in Amphibian with its general characters. <u>Reptilia</u> :- Type study of <u>Lizard</u>, Reptilia in General with different system of House Lizard.</p>
2	Feb 2024	<p><u>Aves</u> :- Type study of Pigeon, its characters, classification and examples, Aves in General and different system of (Sec B) - Pigeon. <u>Mammalia</u> :- Its general characters, classification, Origin and evolution. Type study of House-hat with their different systems</p>
3	March 2024	<p style="text-align: center;">Paper - 2 - $\begin{cases} \text{Sec A} \\ \text{Sec B} \end{cases}$</p> <p>- <u>Circulation</u> :- Origin and Conduction of Heart Beat. Regulation of Heart beat, Cardiac cycle, ECG, B.P, Blood, Lymph, Anti-coagulants etc. (Sec A) - <u>Respiration</u> :- Need of Resp, Types of Resp, Mech. of exchange of gases, Haldane Effect <u>Excretion</u> :- Need of Excretion, Type of Excretion & its Excretory products, str. of Nephron, Uricithine cycle etc.</p>
4	April 2024.	<p><u>Neural Integration</u> :- Neuron, its str., Type of Nerve Fibres, Mech. of Conduction of Nerve impulse, impulse through synapse, (Sec B) :- <u>Endocrinology</u> :- Hormones - Discovery, Nomenclature & chemical nature, Properties. Ano. of Hormones with their properties, origin & effect. <u>Reproduction</u> :- spermatogenesis, oogenesis, Menstrual cycle, changes occur during spermatogenesis & oogenesis fertilization, Amphibiation, Lactation, str. of sperm, egg, etc.</p>

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LESSON PLAN

CLASS - B.Sc. IInd Year

SEMESTER - IV (Practical)

Name of Assistant / Associate - Dr. Seema

Subject / Paper Zoology - (Practical)

Unit	Month	Subject Matter / Syllabus
1	Jan. 2024	Classification upto order, Habit, Habitat, external characters & economic importance of following animals:- → <u>Amphibia</u> :- Specimens of - <u>Pleurodeles</u> , <u>Amphiuma</u> , <u>Salamandra</u> , <u>Apoelotal larva</u> , <u>Alytes</u> etc. → <u>Reptilia</u> :- <u>Hemidactylus</u> , <u>Calotes</u> , <u>D. Draco</u> , <u>Varanus</u> , <u>Ahlynasoma</u> , <u>Viper</u> , <u>Graviellus</u> , <u>Chelone</u> etc.
2	Feb. 2024	→ <u>AVES</u> :- Specimens of - <u>Casarius</u> , <u>Ascan</u> , <u>Anas</u> , <u>Mitvus</u> , <u>Pavo</u> , <u>Eudynamis</u> , <u>Tyto</u> & <u>Alcedo</u> , <u>Halcyon</u> . → <u>Mammalia</u> :- <u>Ornithorhynchus</u> , <u>Echidna</u> , <u>Didelphis</u> , <u>Marsopus</u> , <u>Loris</u> , <u>Mystrax</u> etc. <u>Study of Rana, Gallus & rat.</u>
3	March 2024	→ Preparation of model with different system:- <u>Hemidactylus</u> :- Digestive, Arterial, Venous and Urinogenital system. <u>Rat</u> :- Digestive, arterial, Venous and Urinogenital System.
4	April 2024	→ Study & collection of <u>Quill</u> , <u>Gonion</u> with their types. → Estimation of abnormal constituents of Urine → Use of <u>Respirometer</u> . → <u>Haematein</u> crystal preparation → <u>Hb.</u> estimation.

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LESSON PLAN

CLASS - B.Sc-I

SEMESTER - II (Theory)
Paper (P-2-2)

Name of Assigant / Associate - Dr. Seema

Subject / Paper Zoology (B2-2)

Unit	Month	Subject Matter / Syllabus
1	January 2024	<p><u>Elements of Heredity and Variations</u> :- Evidences about diff. theories, Different laws of Mendel with their own problems</p> <p><u>Varieties of Gene Interactions</u> :- 21 included. Epistasis, Complementary, Supplementary, Inhibitory, Polymeric & suppressor genes.</p> <p>↓</p> <p><u>Linkage & Recombination</u> :- Subsequent, Polygenic & oligogenic inheritance, Theories of linkage, T.H. Morgan explanation on linkage. Crossing over & recombination.</p>
2	Feb. 2024	<p><u>Sex-determination System</u> :- Homogametic & Heterogametic system with types</p> <p style="margin-left: 20px;"> $\begin{matrix} XX-XY \text{ method} \\ XX-XO \\ XX-XX \\ XX-XX \end{matrix}$ </p> <p>→ Genetic balance mechanism</p> <p><u>Sex-linked & Sex-influenced Inheritance</u> :- Eye colour, Ornithina, Haemophilia. X-linked & Y-linked disease</p> <p><u>Evidences in favour of cytoplasmic inheritance</u></p> <p><u>Extra chromosomal & Cytoplasmic Inheritance</u> :- Shell coiling & <u>litter</u></p>
3	March 2024	<p><u>Multiple Allelism</u> :- Multiple alleles in eye colour of <u>Ornithina</u> & in blood gp, Pseudoallelism, RH blood gp, Incompatibility</p> <p><u>Human Genetics</u> :- Human Karyotype, chromosomal Banding Techniques, application of Karyotyping.</p> <p><u>Inborn Errors of Metabolism in man</u> :- Metabolism of Phenylalanine, Alkaptonuria, Albinism etc</p>
4	April 2024	<p><u>Genetic Material</u> :- DNA as a genetic material & its Evidences, Exp. related to it, T.M.V., etc of DNA, Types of DNA & its Functions. Type of RNA. Transcription.</p> <p><u>Mutation - I</u> :- } Replication, Translation</p> <p><u>Mutation - II</u> :- } Gene mutation (Somatic & Genetic) & Chromosomal aberration.</p> <p><u>Applied Genetics</u> :- Eugenics or Restrictive method, & Genetic Counselling (Pre & Post-natal) DNA fingerprinting.</p>

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