LESSON PLAN (January 2025-May 2025)

Name of Assistant Professor: Naveen Kumar Saxena

B.Sc. 1st Year Semester 2nd

Subject: Zoology

Paper :- Animal Diversity of Chordata

Week 1 16.01.2025-18.01.2025.	Unit I **Chordates**: Salient features of chordates; Principles of classification;
Week 2 20.01.2025-25.01.2025	Chordates: Principles of classification;
Week 3 27.01.2025-31.01.2025	**Protochordates**: **Urochordata**: Systematic position, distribution, ecology, morphology and affinities
Week 4 03.02.2025-08.02.2025	Morphology and affinities from invertebrates to vertebrates
Week 5 10.02.2025-15.02.2025	Unit II General characters and classification up to classes with examples emphasizing their
Week 5 17.02.2025-22.02.2025	biodiversity, Types of Scales & Fins in fishes
Week 7 24.02.2025-28.02.2025	Type study of **Labeo rohita** :- systematic position, general character, Alimentary. canal
Week 8 03.03.2025-08.03.2025	Type study of **Labeo rohita :-** Respiration, circulation, Locomotion,
Week 9 10.03.2025-15.03.2025	Type study of **Labeo rohita** :- Reproduction

Week 10 17.03.2025-22.03.2025. Unit- III **Amphibia**: General characters and Classification upto class level;
Week 11 24.03.2025-29.03.2025 Type study of Frog :- systematic position, general character, Alimentary Canal
Week 12 31.03.2025-05.04.2025 Respiratory system of Frog
Week 13 07.04.2025-12.04.2025 Circulatory system of Frog, Arterial system,
Week 14 14.04.2025-19.04.2025 Venous system and Blood of Frog
Week 15 21.04.2025-26.04.2025 Excretory system and reproductive system of Frog.
Week 16 28.04.2025-03.05.2025 Parental Care and Neoteny in Amphibia **Reptilia**: General characters and Classification upto classes,
Week 17 05.05.2025-10.05.2025. Unit- IV **Aves**: General characters and Classifications upto classes. Flight/Aerial adaptation in birds, Archaeopteryx as missing link
Week 12 05.05.2025-14.05.2025 **Mammals**: General characters and classification up to classes;

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LESSON PLAN (January 2025-May 2025)

Name of Assistant Professor: Naveen Kumar Saxena

B.Sc. 2nd Year Semester 4th

Subject: Zoology

V.O.C :- Paper :- Vermicomposting

Week 1 27.01.2025-31.01.2025.	UNIT – I Vermiculture: Introduction, definition, history,
Week 2 03.02.2025-08.02.2025	General characters of Annelida
Week 3 10.02.2025-15.02.2025	Systematic position of earthworm, habits and habitat of earthworm,
Week 4 17.02.2025-22.02.2025	Diversity of earthworms, collection of earthworms, preservation of Earthworms
Week 5 24.02.2025-28.02.2025.	UNIT – II Vermitechnology: Role of earthworm in maintance of soil structure and their role as recycling,
Week 6 03.03.2025-08.03.2025	Reduce, reuse, restore (4r's), choosing right species of earthworm
Week 7 10.03.2025-15.03.2025.	UNIT- III Earthworm biology and rearing: Key to identify the species of earthworm,
Week 8 17.03.2025-22.03.2025	Life cycle of Eisenia fetida, Lampitomauritii and their role on Ecology
Week 9 24.03.2025-29.03.2025	An eco-friendly approach to sustainable agriculture

Week 10 31.03.2025-05.04.2025. UNIT- IV Vermicomposting (methods and products): Preparation of vermibed, small scale carthworm farming for home garden
Week 11 07.04.2025-12.04.2025 Vermicomposting (methods and products): Preparation of vermibed, small scale carthworm farming for home garden
Week 12 14.04.2025-19.04.2025 Large scale commercial composting,
Week 13 21 04.2025-26 04:2025 Properties of vermicompost and vermiwash,
Week 14 28.04.2025-03.05.2025 Application on crop plants economic development and self-employment.
Week 15 05.05.2025-10.05.2025. UNIT TEST

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LESSON PLAN (January 2025– May 2025)

Name of Assistant Professor: Naveen Kumar Saxena

B. Com.: B.A. 1st Year Semester :-2nd

Subject: Zoology

MDC : Paper (Basics of Zoology – II) Animal Diversity of Chordata

Week 1 16.01.2025-18.01.2025 Unit 1 Basics of Chordates: Define and Salient features of chordates. Difference between non chordates and chordates. Characters of Protochordates.
Week 2 20.01.2025-25.01.2025 Basics of Chordates: Define and Salient features of chordates. Difference Between non chordates and chordates. Characters of Protochordates.
Week 3 27.01.2025-31.01.2025 Unit II Pisces (Fishes): Characteristic features of freshwater and marine fishes, Edible fishes of India, Composite fish Culture.
Week 4 03.02.2025-08.02.2025 Class Amphibia: Features of amphibians, Parental care in amphibians,
Week 5 10.02.2025-15.02.2025 Role of amphibians in ecosystem, Identification of turtles and tortoise, Frog and Toad
Week 6 17.02.2025-22.02.2025 Unit III Class Reptilia: Features of Reptiles, Common reptiles of India,
Week 7 24.02.2025-28.02.2025 Identification of Poisonous and non poisonous snakes,
Week 8 03.03.2025-08.03.2025 Difference between crocodile and Gharial.

Week 9 10.03.2025-15.03.2025 Unit IV Class Aves: Characteristic features of birds,
Week 10 17.03.2025-22.03.2025 Common birds of India, Flight adaptations in birds
Week 11 24.03.2025-29.03.2025 Commercial uses of birds,
Week 12 31.03.2025-05.04.2025 Role of birds in agriculture.
Week 13 07.04.2025-12.04.2025 Class Mammals: General character and economic importance of mammals.
Week 14 14.04.2025-19.04.2025 Class Mammals: General characters and economic importance of mammals.
Week 15 21.04.2025-26.04.2025 Class Mammals: Economic importance of mammals
Week 16 28.04.2025-03.05.2025 Unit Test
Week 17 05.05.2025-10.05.2025 Mid Term Exam

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extension lecturer - Virendrakumar (Zoology)

Zoology. Semester. 4
Lesson plan
Course code. B23-Zoo-401.
Name of course. Biomolecules and Mammalian physiology

Unit . Topics. 15-01-2025 -22-01-25.unit 1. Introduction, classification, structure, function and general properties of proteins , carbohhdrates, and lipids. 24-01-25-31-01-25. Nomenclature, classification and mechanisms of enzyme action; enzyme kinetics,factors affecting enzyme activity,inhibition of enzyme.

01-02-25. -07-02-25. Transpirt through biomembranes(Active -passive transport) .osmotic pressure.. hydrogen ion concentration and buffers.

Unit II 08-02-25-15 -01 25. Nutritional components: carbohydrates,fats lipids. Vitamins minerals. Types of nutrition&feeding. Digestion of lipids. Proteinscarbohydrates&nucleic acids; symbiotic digestion . lactose intolerance.

18-02-25-25-02-25. physico-chemical mechanism of absorption of nutritients & assimilation;control of secretion of digestive juices. Muscles-Types of muscles ultrastructure of skeletal muscle,neuromuscular junction.

26-02-25 -06-03-25. Biochemical and physical eventsduring muscle contraction,single muscle twitch,tetanus, muscle fatigue, muscle tone,oxygen debt,cori'cycle.single unit smooth muscles,their physical and functional properties.

09-03-25-15-03-25. circulation:origin, conduction

- **And regulation of heart beat;cardiac cycle, electrocardiogram,cardiac output,fluid pressure and flow pressure in closed and open circulatory system. Composition and functions of blood&lymph.**
- **18-03-25-24-03-25. Mechanism of coagulation**
- **Of blood,coagulation factors,anticoagulants haemopoiesis.**
- **28-03-25-03-04-25. Respiration : Exchange of respiratory gases,transport ofgases lung, Air volume**

Oxygen dissociation curve of haemoglobin, Bohr. Effect, Hamburger phenomenon control /regulation of respiration peripheral reflexes, chemical control and higher centres.myoglobin.

06-04-25-13-04-25. Excretion. Pattern of excretory products viz. Ammonotelic, ureotelic. Uricotelic,ornithin cycle for urea formation in liver. Urine firmation.

- **16-04-25-22-04-25. Composition of urine counter current mechanismof urine formation osmoregulation. Micturition.**
- **Neural integration. Nature,origin and propagation of nerve impulse alongwith medullated and non-medullated nerve fibre.**
- **25-04-25-30-04-25. Conduction of nerve impulse across synapse,synaptic delay synaptic fatigue neurotransmitter. Chemical integration of endocrinology**

- 03 -05-25-9-05-25 . structure, chemical nature and mechanism of peptide and steroid hormone action;physiology of hypothalamus,pituitary,thyroid,parathyroid, adrenal ,pancreas ,and gonads. Hormonal disorders
- 12-05-25-16-05-25. Reproductive system of male and female mammal.

Zoology lesson plan. B.sc.3rd year 6th semester even semester. Paper I. Aquaculture and pest management I&PaperII. Aquaculture and pest management II.Section. I Aquaculture-I

20.01.25.-25.01.25. introduction to world fisheries. Production,utilization, and demand.

27.01.25. -01.02.25. Fresh water fishes of india. River system,reservoir,pond,tankfisheries, captive andculture fisheries,cold water fisheries.

3. 03.02.25-08.02.25. Fishing gears and crafts. Fin fishes,crustaceans, molluscs andtheirCulture.

Section B. pest management. 1. Sugarcane leaf hopper. Pyrilla perpusilla.

2. Sugarcane whitefly. (Aleurolobus barodensis).

3. Sugarcane top borer (Scirpophaga nivella).

4.Sugarcane root borer. (Emmalicera depresella).

5. Gurdaspur borer. (Bissetia steniellus).wit h their systematic position,habits and nature of damage caused. Life cycle and control of pyrillaperpusilla only.

4.10.02.25-16-02-25. Cotton. a. pink boll worm (pectinophora gossypiella.).b.Red cotton bug. Dysdercus cingulatus.).

c.Cotton grey weevil. Myllocerus undecimpustulatus.).

d. cotton jassid. Amrasca devastans.). With their systematic position,habits andnature of damage caused. Life cycle and control of pectinophora gossypiella.).

7.18.02.25Wheat stem borer (ses

amia inferens). With its systematic position, habits ,andnature of damage caused. Life cycle and control.

819.02.25-25.02.25..paddy. a. Gundhi bug . (leptocorisa acuta.).

b. Rice grasshopper. (Hieroglyphus banian.).

c.Rice stem borer (Scirophagaincertulus.).

d.RiceHispa.(Diceladispa armigera.) . With their systematic position,habits and nature ofdamage caused. Life cycle and control of leptocorisa acuta.).

9.a. vegetables. a. Raphidopalpa faevicolis.(The red pumpkin beetle.).

b. Dacus cucurbitae.The pumpkin fruitfly.

c.Tetranycvus telarius. The vegetable mite.

d. Epilachna viginioctopunctata.). Their systematic position. Habits andnature of damage caused. Life cycle and control of. Aulocophora faveocolis.).

paper II. Section. A. Aquaculture -II.

1. 26.02.25-2.03 .25.
2. Seed production. Natural seed resources. Its assessment, collection,hatchery production.
3. Nutrition . Sources of food(Natural,Artificial). And feed composition. (calorie and chemical ingredients).
4. Field culture. Ponds-running water, recycled water,cage culture,poly culture.
5. Culture technology. Biotechnology,gene manipulation and cryopreservation of gametes.

Section B . Pest management II .

1. 5.03.25-11.03.25. Stored grains. A. pulse beetle (callosobruchus maculatus.).
2. Rice weevil. Sitophilus oryzae.).
3. Wheat weevil. Trogoderma granarium. 4. Rust red flour beetle. Tribolium castaneum.). 5. Lesser grain borer (Rhizopertha dominica.

6. Grain &flour moth. Sitotroga cerealella.). Their systematic position,habits and nature of damage caused. Life cycle and control of Trogoderma granarium.
7. 13.03.25.-18.03.25. Insect control. Biological control,its history,requirement and precaution and feasibility of biological agents for control.
8. 21.03.25 -26.03.25 Chemical control. History, categories of pesticides. Important pesticidesfrom category to pests against which they can be used. Insect repellents and attractants.
9. 28.03.25-02.04.25.
   Integrated pest management.
10. 04.04.25-10.04.25. Important bird and rodent pests of agriculture and their management.