

Lesson Plan (January 2026- May 2026)

Name of Assistant Professor- Sahil Dhiman

B.Sc. 2nd Year

Semester 4th

Subject- Zoology

Paper: Biomolecules and Mammalian Physiology

FEBRUARY	<p>NUTRITIONAL COMPONENTS : Carbohydrates, fats, lipids, Vitamins and Minerals: Types of nutrition and feeding; Digestion of lipids, proteins, carbohydrates & nucleic acids; Symbiotic digestion; Lactose intolerance; Physio-chemical mechanism of absorption of nutrients and assimilation; Control of secretion of digestive juices.</p> <p>MUSCLE: Types of muscles; Ultrastructure of skeletal muscle; Neuromuscular junction; Bio-chemical and physical events during muscle contraction; Single muscle twitch; Tetanus; Muscle fatigue; Muscle tone; Oxygen debt; Cori's cycle; Single unit smooth muscles; their physical and functional properties.</p>
MARCH	<p>RESPIRATION: Exchange of respiratory gases; Transport of gases; Lung air volumes; Oxygen dissociation curve of haemoglobin; Bohr's effect; Hamburger's phenomenon (Chloride shift); Control/regulation of respiration; (peripheral reflexes Chemical control and Higher Center) Myoglobin.</p> <p>EXCRETION: Patterns of excretory products viz. Amonotelic, ureotelic and uricotelic; Ornithine cycle (Kreb's - Henseleit cycle for urea formation in liver; Urine formation; Composition of urine; Counter-current mechanism of urine formation; Osmoregulation; Micturition.</p>
APRIL	<p>NEURAL INTEGRATION: Nature, origin and propagation of nerve impulse alongwith medullated & non-medullated nerve fibre; Conduction of nerve impulse across synapse; Synaptic delay; Synaptic fatigue; Neurotransmitters.</p> <p>ENDOCRINOLOGY: Structure, chemical nature and mechanism of steroid and peptide hormone action; Physiology of -Hypothalamus, Pituitary, Thyroid, Parathyroid, Adrenal, Pancreas and Gonads; Hormonal disorders.</p>
MAY	<p>REPRODUCTION: Spermatogenesis; Capacitation of spermatozoa; Oogenesis; Ovulation; Formation of corpus luteum; Ostrous Anoestrous cycle; Menstrual cycle in human; Fertilization; Implantation and Gestation; Parturition.</p>



Lesson Plan (January 2026- May 2026)

Name of Assistant Professor- Sahil Dhiman

B.Sc. 3rd Year

Semester 6th

Subject- Zoology

Paper: Developmental Biology and Evolution

February	Historical perspectives, aims and scope of developmental biology. Human fertilization-Generalized structure of mamalian ovum & sperm, spermatogenesis
March	Oogenesis, fertilization, parthenogenesis, different types of eggs and patterns of cleavage. Blastulation of Frog and Chick- Process of blastulation and fate-map construction in frog and chick.
April	Gastrulation in Frog and Chick- Gastrulation in frog and chick upto the formation of three germinal layers. Elementary knowledge of primary organizers and extra embryonic membrans.
May	Placenta: types; structure and function of placenta in humans Concepts of competence, determination and differentiation. Concept of regeneration



Lesson Plan (January 2026- May 2026)

Name of Assistant Professor- Sahil Dhiman

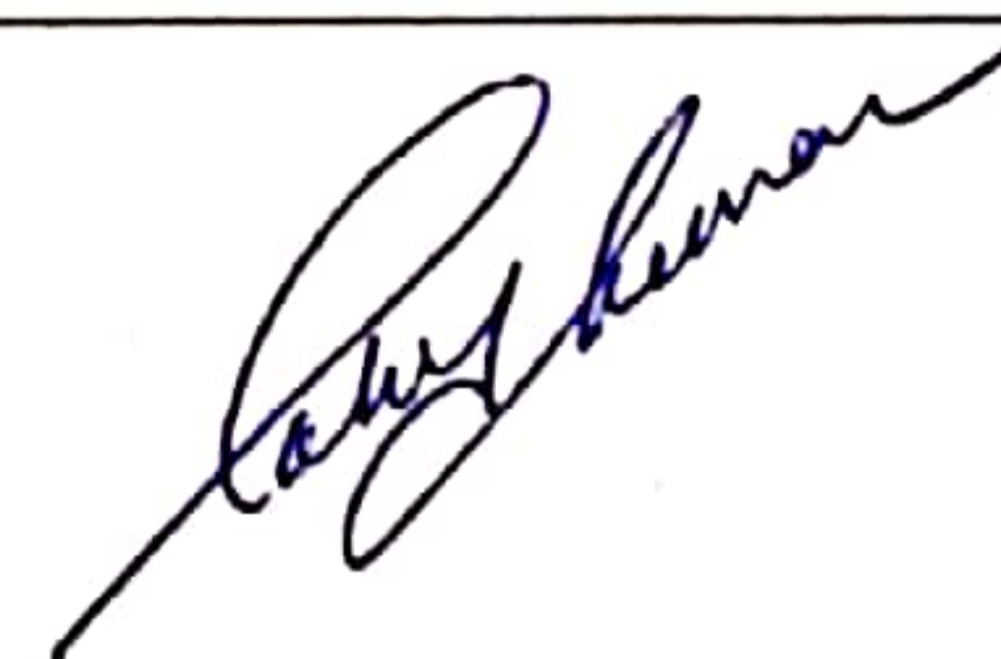
B.Sc. 2nd Year

Semester 4th

Subject- Zoology

Paper: VOC- Vermicomposting

February	Vermiculture: Introduction, definition, history, general characters of Annelida, systematic position of earthworm, habits and habitat of earthworm, diversity of earthworms, collection of earthworms, preservation of earthworms.
March	Vermitechnology: Role of earthworm in maintenance of soil structure and their role as recycling, reduce, reuse, restore (4r's), choosing right species of earthworm. Earthworm biology and rearing: Key to identify the species of earthworm, life cycle of Eisenia fetida, Lampitoma mauritii and their role on ecology, an eco-friendly approach to sustainable agriculture.
April	Vermicomposting (methods and products): Preparation of vermibed, small scale earthworm farming for home garden, large scale commercial composting
May	properties of vermicompost and vermiwash, application on crop plants economic development and self-employment.



Lesson Plan (January 2026- May 2026)

Name of Assistant Professor- Sahil Dhiman

B.Sc. 2nd Year

Semester 4th

Subject- Zoology

Paper: VAC- Indian Biodiversity

February	An overview of Indian Biodiversity; Faunal and Floral Indian biodiversity, Definition and concept of Biodiversity; Important Biodiversity area of India, Biodiversity: levels, values and threats and conservation
March	Popular Biosphere Reserves and their biodiversity, Popular Tourist spots of Rich Biodiversity, In-situ and Ex-situ conservation of biodiversity
April	Protected Areas and their roles in biodiversity conservation, Important National Park and Wildlife sanctuaries, IUCN categories, Threatened categories
May	Terrestrial Biodiversity, Aquatic and Coastal biodiversity, Biodiversity hotspots, their characteristic flora and fauna, Biodiversity resources of north-east India.



Extension lecturer Virender Kumar

Subject| Zoology| B.Sc.2nd year 4th semester Biomolecules and mammalian physiology
course code| B23-Zoo-401.

Course credit 4

Biomolecules. Unit 1| Date| 04-02-2026

Introduction , classification structure and general properties of protein.

18-02-2026| Classification and function of carbohydrate| 25-02-2026. Structure of
monosaccharide oligosaccharide.

11-03-2026 polysaccharide structure and function.

18-03-2026 general structure properties of lipids. 25-03-2026| Classification and function of
lipids.

01-04-2026 Nomenclature and classification

06-04-2026 Mechanism of enzyme action

13-04-2026| Enzyme kinetics and factors affecting enzyme activity

20-04-2026 Transport through biomembranes active and passive transport.

27-04-2026 osmotic pressure| Hydrogen ion concentration buffers

02-05-2026 Mammalian physiology| Circulation| Origin , conduction and regulation of heart
beat| Cardiac cycle

09-05-2026| Electrocardiogram cardiac output.

16-05-2026| Composition and function of blood and lymph mechanism of coagulation of
blood

23-05-2026 coagulation factors and anticoagulant| Haemopoiesis.

V. Kumar

- Fish Farming voc lesson plan
- Course code. B23-VOC-318
- Class. B.sc.3rd year6thsemester.
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- Date. Unit. Topic name
- 03-02-2026-04-02-2026.Unit. 1. General introduction-Definition of fish, fisheries, aquaculture and pisciculture. Significance of fish farming. Production.
- 09-02-2026-10-02-2026-Utilization and demand of fish in India.. General description of capture. and culture Fisheries.
- 16-02-2026-17-02-2026.Unit -2 Culture fisheries and it's types. Criteria for the selection of fish species for farming. Important culturable Fishes in India.
- 23-02-2026-24-02-2026-identification of commercially important fish species. Basics of induced breeding in fishes.09-03-2026-10-03-2026-Unit 3. Pond fish culture:Types, design and construction of fish farming ponds.Maintenance of fish culture ponds. Ecology of Fish pond ecosystem.16-03-2026-17-03-2026
- ...Unit 3rd. -Water quality(physico-chemical and Biological)and soil quality.Weeds of fish farming ponds and their control.
- 24-03-2026 Unit 4. Nutrition of cultured fishes:Natural, supplementary and artificial feed,Nutrient composition and ommon dietary ingredients30-03-2026.-31-03-2026
- Unit 4. By products of fish farming industry
- 05-04-2026-06-04-2026.Methods of Fish harvesting and marketing.12-04-2026-13-04-2026

Common fish diseases and their control.

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Chandra

- Virender Kumar Extension lecturer
- Course name| Techniques in Bird Watching
- Course code B23-Sec-220
- Unit1 Date 20.02. 2026 21.02.2026 introduction to Bird Watching characteristics of birds with flight adaptations
- 27.02.2026to28.02.2026 important field signs of Bird Watching. Unit 2 .Zoological name of important birds.
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- 05.03.2026 to 06 .03.2026| Field characters of important birds. Sexual dimorphism in birds. Unit 3|Important Bird areas of Haryana.
- 12.03.2026.to 13.03.2026 Resident and Migratory birds.important Indian Bird areas.
- 19.03.2026to20.032026| Birds as bio indicators Birds in food chain and Agriculture| Bird Migration

Virender Kumar

- Fish Farming voc lesson plan
- Course code. B23-VOC-318
- Class. B.sc.3rd year6thsemester.
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- Date. Unit. Topic name
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- 09-02-2026-10-02-2026-Utilization and demand of fish in India.. General description of capture. and culture Fisheries.
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- ...Unit 3rd. -Water quality(physico-chemical and Biological)and soil quality.Weeds of fish farming ponds and their control.
- 24-03-2026 Unit 4. Nutrition of cultured fishes:Natural, supplementary and artificial feed,Nutrient composition and ommon dietary ingredients30-03-2026.-31-03-2026
- Unit 4. By products of fish farming industry
- 05-04-2026-06-04-2026.Methods of Fish harvesting and marketing.12-04-2026-1304-2026|

Common fish diseases and their control.

Prerna

LESSON PLAN (January 2026-May 2026)

Name of Assistant Professor: Naveen Kumar Saxena

B.Sc. 1st Year

Semester 2nd

Subject: Zoology

Paper :- Animal Diversity of Chordata

Week 1	Unit I Chordates: Salient features of chordates; Principles of classification;
Week 2	Chordates: Principles of classification;
Week 3	<u>Protochordates:</u> Urochordata: Systematic position, distribution, ecology, morphology and affinities
Week 4	Morphology and affinities from invertebrates to vertebrates
Week 5	Unit II General characters and classification up to classes with examples emphasizing their biodiversity,
Week 5.	Holiday Vacation from
Week 6	Types of Scales & Fins in fishes
Week 7	Type study of <u>Labeo rohita</u> :- systematic position, general character, Alimentary. canal
Week 8	Type study of <u>Labeo rohita</u> :- Respiration, circulation, Locomotion,
Week 9	Type study of <u>Labeo rohita</u> :- Reproduction

Week 10	Unit- III Amphibia: General characters and Classification upto class level;
Week 11	Type study of Frog :- systematic position, general character, Alimentary Canal
Week 12	Respiratory system of Frog
Week 13	Circulatory system of Frog, Arterial system,
Week 14	Venous system and Blood of Frog
Week 15	Excretory system and reproductive system of Frog.
Week 16	Parental Care and Neoteny in Amphibia Reptilia: General characters and Classification upto classes,
Week 17	Unit- IV Aves: General characters and Classifications upto classes. Flight/Aerial adaptation in birds, Archaeopteryx as missing link
Week 18	Mammals: General characters and classification up to classes;

N Kumar
25/02/26.

LESSON PLAN (January 2026 - May 2026)

Name of Assistant Professor: Naveen Kumar Saxena

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

Subject: Zoology

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

Week 1	Unit 1 Basics of Chordates: Define and Salient features of chordates. Difference between non chordates and chordates. Characters of <u>Protochordates</u> .
Week 2	Basics of Chordates: Define and Salient features of chordates. Difference Between non chordates and chordates. Characters of <u>Protochordates</u> .
Week 3	Unit II Pisces (Fishes): Characteristic features of freshwater and marine fishes, Edible fishes of India, Composite fish Culture.
Week 4	Class Amphibia: Features of amphibians, Parental care in amphibians,
Week 5,6	Role of amphibians in ecosystem, Identification of turtles and tortoise, Frog and Toad
Week 6	Unit III Class Reptilia: Features of Reptiles, Common reptiles of India,
Week 7	Identification of Poisonous and non poisonous snakes,
Week 8	Difference between crocodile and Gharial.

Week 9	Unit IV Class Aves: Characteristic features of birds,
Week 10	Common birds of India, Flight adaptations in birds
Week 11	Commercial uses of birds,
Week 12	Role of birds in agriculture.
Week 13	Class Mammals: General character and economic importance of mammals.
Week 14	Class Mammals: General characters and economic importance of mammals.
Week 15	Class Mammals: Economic importance of mammals
Week 16	Unit Test
Week 17	Mid Term Exam

Nakumar
25/02/26.

LESSON PLAN (January 2026– May 2026)

Name of Assistant Professor: Naveen Kumar Saxena

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

Subject: Zoology

Paper : SEC (Skill Enhancement Course)

Week 1	Unit 1 Introduction to Bird watching.
Week 1,2	Characteristics of Birds with flight adaptations.
Week 3	Important field signs of bird watching. Unit Test
Week 4	Unit II Zoological Names of Important birds.
Week 5	Field characters of important birds.
Week 6	Sexual dimorphism in birds

	Unit Test
Week 7.	Unit III Important Indian Bird areas
Week 8	Important Bird areas of Haryana
Week 9	Resident & Migratory Birds Unit Test
Week 10	Unit 4 Birds as bio-indicators
Week 11	Birds in food chain and Agriculture
Week 12	Bird Migration
Week 13	

Assignments & Test

Week 14

Unit Test

Naunyar
25/02/26.