

Name of Assistant Professor-Ms. Kirti  
Class- B.Sc. Life Science -1st Semester  
Subject- SEC-Techniques in Bird Watching  
Session-2025-26

### AUGUST

- 1st Week- Introduction to Bird watching , Characteristics of birds with flight adaptations
- 2nd Week- Important Field signs of Bird watching
- 3rd Week- Zoological names of important birds and their field characteristics
- 4th Week- Field characteristics features of Important Birds, Class test
- 5th Week- Sexual Dimorphism in Birds

### SEPTEMBER

- 1st Week- Important Indian bird areas
- 2nd Week- Important bird areas of Haryana, Class test
- 3rd Week- Resident and Migratory birds
- 4th Week- Birds as Bioindicators
- 5th Week- Birds in food chain

### OCTOBER

- 1st Week- Birds in agriculture
- 2nd Week- Bird migration
- ~~3rd~~ 1st Week- Class test
- ~~3rd~~ 2nd Week- Diwali Holidays
- 5th Week- Assignments

### NOVEMBER

- 1st Week- Revision
- 2nd Week- Revision
- 3rd Week-Revision
- 4th Week- Revision
- 5th Week- Revision

*Kirti*

*Ms. Kirti*  
*01/08/2025*  
*Principal*

Name of Assistant Professor-Ms. Kirti  
Class- B.Sc. Life Science 5th Semester  
Subject- Zoology Major  
Session-2025-26

### AUGUST

- 1st Week- Ecology-Introduction and Basic concept
- 2nd Week- Ecosystem
- 3rd Week- Ecosystem
- 4th Week- Environment-Abiotic factors, Class test
- 5th Week- Environment-Abiotic factors and Biotic factors

### SEPTEMBER

- 1st Week- Biomes- Major Ecosystems of World
- 2nd Week- Biomes- Major Ecosystems of World, Class test
- 3rd Week- Biosphere
- 4th Week- Biogeochemical Cycles
- 5th Week- Community Ecology

### OCTOBER

- 1st Week- Community Ecology, Assignment
- 2nd Week- Population growth and regulation
- ~~4th~~ 3rd Week- Interspecific Interactions, Class test
- ~~3rd~~ 2nd Week- Diwali Holidays
- 5th Week- Biodiversity- Basic concept and conservation

### NOVEMBER

- 1st Week- Climate change
- 2nd Week- Climate change
- 3rd Week- Natural resources and their conservation
- 4th Week- Environmental pollution
- 5th Week- Environmental pollution

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**Name of Extension Lecturer: Dr. Sanjay Singh**

Class: B.Sc. Life Sciences – Second Year

Subject: MDC Zoology

Paper code- B23-ZOO-303

**AUGUST 2025**

**Week 1** – Human Skeleton: Introduction & Axial Skeleton (Skull, Vertebral column, Ribs, Sternum)

**Week 2** – Appendicular skeleton (Pectoral girdle, Pelvic girdle, Limb bones, Comparison with axial)

**Week 3** – Joints (Types, Synovial movement), Cartilage (structure & functions), Ligaments (role), Bone/joint disorders

**Week 4** – Muscles (types), Neuromuscular junction, Sliding filament theory, Motor units, Muscle fatigue

**SEPTEMBER 2025**

**Week 1** – Blood groups: ABO system (antigens, antibodies, inheritance, practical importance)

**Week 2** – Rh system (genetics, detection, Rh incompatibility, clinical importance)

**Week 3** – Blood transfusion (principles, compatibility, dangers, safe methods, role of blood banks)

**Week 4** – Cell as unit of life (introduction, prokaryotic vs eukaryotic, cell organelles: nucleus, mitochondria, ER, Golgi, lysosomes, ribosome, centriole)

**OCTOBER 2025**

**Week 1** – Human chromosomes: number, karyotype, chromatin types, chromosome banding, abnormalities

**Week 2** – Chromosome structure: centromere, telomere, histones, chromosome duplication, cytogenetics

**Week 3** – Sex determination: definition, XX-XY system, other systems (XO, ZW, / After Deepawali Holidays), haplodiploidy), role of hormones, disorders (Turner, Klinefelter)

**Week 4** – Scope of sex determination: animals & plants, environmental role, sex ratio, modern advances, applications in medicine & genetics

**NOVEMBER 2025**

**Week 1** – Respiration in humans: anatomy (nose, pharynx, larynx, trachea, lungs, alveoli)

**Week 2** – Physiology of respiration: inspiration, expiration, lung volumes, nervous regulation, disorders

**Week 3** – Gas exchange: mechanism, factors affecting diffusion, oxygen & CO<sub>2</sub> transport in blood

**Week 4** – Dental formula: human teeth count, types of teeth, tooth development, milk vs permanent teeth, dental disorders

**Evolution Unit**

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Name of Extension Lecturer-Dr.Sanjay Singh  
Class-BCOM/BBA -1st Semester  
Subject- VAC- Environmental studies  
Code- B23-VAC-201  
Session-2025-26

### AUGUST

- 1st Week- Multidisciplinary nature of environmental studies; Scope and importance; Concept of sustainability and sustainable development.  
2nd Week- Definition, structure and function of ecosystem; Energy flow in an ecosystem; food chains, food webs, Major ecosystems types  
3rd Week- Natural resources: Renewable and Non- renewable Resources. Land resources: Land degradation and soil erosion.  
4th Week- Forest resources: Importance of forests, deforestation: causes and impacts on the environment. Water resources, Class test  
5th Week- Energy resources, Biodiversity and Conservation, Endangered species

### SEPTEMBER

- 1st Week- Threats to biodiversity, Conservation of biodiversity  
2nd Week- Ecosystem and biodiversity services , Class test  
3rd Week- Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution.  
4th Week- Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture.  
5th Week- Environmental Policies & Practices

### OCTOBER

- 1st Week- Human population growth: Impacts on environment, human health and welfare.  
2nd Week- Resettlement and rehabilitation of project affected person.  
3rd Week- Disaster management, Class test  
4th Week- Diwali Holidays  
5th Week- Environmental ethics, Assignments

### NOVEMBER

- 1st Week- Revision  
2nd Week- Revision  
3rd Week-Revision  
4th Week- Revision  
5th Week- Revision

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**Name of Assistant Professor-Ms. Kirti**  
**Class- B.Sc. Life Science -1st Semester**  
**Subject- VAC- Environmental studies**  
**Code- B23-VAC-201**  
**Session-2025-26**

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*01/08/2025*  
*Principal*

**Name of Extension Lecturer: Dr. Sanjay Singh**

**Class: B.Sc. Life Sciences – Second Year**

**Subject: Cell Biology and Animal Genetics**

**Paper code- B23-ZOO-301**

**Lesson Plan (1st August – 30th November 2025)**

**AUGUST 2025**

**Week 1 – General Structure of Animal Cell**  
Plasma Membrane: Fluid Mosaic Model, Various Modes of Transport Across the Membrane, Mechanism of Active and Passive Transport, Endocytosis and Exocytosis

**Week 2 – Endoplasmic Reticulum (ER)**  
Types and Functions of ER

**Week 3 – Golgi Complex**  
Structure, Associated Enzymes, and Role of Golgi Complex in Animal Cells

**Week 4 – Ribosomes**  
Types, Biogenesis, and Role in Protein Synthesis

**SEPTEMBER 2025**

**Week 1 – Lysosomes**  
Structure, Enzymes, and Their Role; Polymorphism

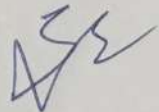
**Week 2 – Mitochondria**  
Structure, Mitochondria as Semiautonomous Body, Biogenesis, Functions of Mitochondria

**Week 3 – Cilia and Flagella**  
Structure and Functions

**Week 4 – Ultrastructure and Functions of Nucleus**  
Nuclear Membrane, Nuclear Lamina, Nucleolus, Fine Structure of Chromosomes, Nucleosome Concept and Role of Histones, Euchromatin and Heterochromatin

**OCTOBER 2025**

**Week 1 – Introduction to Mendel's Laws of Inheritance**  
Linkage and Recombination: Cell Cycle, Crossing-Over and Chiasma Formation, Gene Mapping





**Week 2** – Sex Determination and Its Mechanism  
Male and Female Heterozygous Systems, Genetic Balance System, Role of Y-Chromosome, Male Haploidy, Cytoplasmic and Environmental Factors, Role of Hormones in Sex Determination

**Week 3** – Sex-Linked Inheritance  
Haemophilia and Colour Blindness in Humans, Eye Colour in Drosophila, Non-Disjunction of Sex Chromosomes in Drosophila, Sex-Linked and Sex-Influenced Inheritance

After Deewali  
Holidays

**Week 4** – Extra Chromosomal and Cytoplasmic Inheritance  
Kappa Particles in Paramecium, Shell Coiling in Snails, Milk Factor in Mice

## NOVEMBER 2025

**Week 1** – Multiple Allelism  
Eye Colour in Drosophila, A, B, O Blood Group in Humans

**Week 2** – Human Genetics  
Human Karyotype, Chromosomal Abnormalities Involving Autosomes and Sex Chromosomes, Monozygotic and Dizygotic Twins

**Week 3** – Inborn Errors of Metabolism  
Alcaptonuria, Phenylketonuria, Albinism, Sickle-Cell Anaemia

**Week 4** – Applied Genetics  
Genetic Counseling, Prenatal Diagnosis, DNA Fingerprinting, Transgenic Animals

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**Name of Extension Lecturer: Dr. Sanjay Singh**

Class: B.Sc. Life Sciences – Second Year

Subject: SEC

Paper Name- Microtomy

Paper code- B23-SEC-321

**AUGUST 2025**

**Week 1** – Microtomy: Introduction and Definition  
History and Applications in Biological Sciences

**Week 2** – Types of Microtomes  
Rotary Microtome, Sledge Microtome, and Cryomicrotome

**Week 3** – Collection and Transportation of Specimens  
Basic Concepts of Fixation, Various Types of Fixatives Used in Microtomy

**Week 4** – Process of Fixation and Embedding  
Block Formation and the Embedding Process

**SEPTEMBER 2025**

**Week 1** – Section Cutting: Paraffin Section Cutting  
Stretching, Spreading the Sections and Attachment to Glass Slides

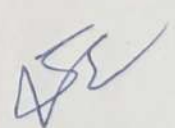
**Week 2** – Staining: Principle and Procedure  
Preparation of Stains and Solvents

**Week 3** – General Staining Procedures for Paraffin-Embedded Tissue  
Nuclear Stains and Cytoplasmic Stains

**Week 4** – Haematoxylin and Eosin Staining  
Mercury Bromophenol Blue Staining, Toulidine Blue

**OCTOBER 2025**

**Week 1** – Commonly Used Mountants in Microtomy  
Role and Types of Mountants in Histological Preparation





**Week 2** – Advanced Section Cutting Techniques  
Microtome Blade Maintenance, Precision and Quality Control

**Week 3** – Histochemical Staining Techniques  
Enzyme Histochemistry, Special Stains for Specific Tissue Types / After Deewali Holidays.

**Week 4** – Troubleshooting in Microtomy  
Common Issues in Section Cutting, Staining Problems, and Solutions

## NOVEMBER 2025

**Week 1** – Applications of Microtomy in Research  
Use of Microtomy in Histopathology, Immunohistochemistry, and Research

**Week 2** – Microscopy in Microtomy  
Brightfield, Phase Contrast, and Electron Microscopy in Histological Examination

**Week 3** – Modern Trends in Microtomy  
Cryosectioning, Automated Microtomes, Advances in Tissue Preservation

**Week 4** – Review and Practical Applications  
Review of Microtomy Techniques, Practical Tips for Successful Histology

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01/08/2025