

“Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe


Shri Swami Vivekanand Shikshan Sanstha's

**Vivekanand College, Kolhapur (Empowered Autonomous)**  
**Department of Zoology**

## **Annual Teaching Plan 2023-2024**

- 1) Dr. G. K. Sontakke
- 2) Dr. T. C. Gaupale
- 3) Ms. N. A. Patel
- 4) Dr. T.C. Patil
- 5) Dr. S. S. Desai
- 6) Ms. P. S. Shetfalkar
- 7) Ms. N.A. Jadhav
- 8) Ms. A. P. Sutar
- 9) Ms. P. R. Gaikwad
- 10) Ms. K. K. Lokhande



  
**Dr. G. K. Sontakke**  
**HEAD**  
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**VIVEKANAND COLLEGE, KOLHAPUR**  
**(EMPOWERED AUTONOMOUS)**



Shri Swami Vivekanand Shikshan Sanstha's  
**Vivekanand College, Kolhapur (Empowered Autonomous)**  
**Department of Zoology**  
 Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester: I**


**Subject: Open Elective I (Public health and hygiene)**

**Name of the teacher: Dr. G. K. Sontakke**

**Course: B. Sc. I**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	2	6	UNIT- I	<b>Maintenance of personal hygiene:</b> Introduction to public health and hygiene- Role of health education in environment improvement and prevention of diseases. Personal hygiene
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
8	4	12	UNIT- I	<b>Nutrient deficiency diseases:</b> Classification of food into micro and macro nutrients. Balanced diet, Malnutrition anomalies
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
8	4	12	UNIT- II	<b>Communicable and contagious diseases:</b> Infectious agents responsible for diseases in humans. Communicable viral diseases, bacterial diseases
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
8	4	12	UNIT- II	<b>Non-communicable diseases and cure:</b> Osteoporosis, osteoarthritis and rheumatoid arthritis-cause, symptom, precautions.
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT- II	Diabetes- types and their effect on human health. Gastrointestinal disorders, Obesity, Mental illness

  
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**Department of Zoology**  
 Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester: V**


**Subject: Molecular biology and Biotechniques**

**Name of the teacher: Dr. G. K. Sontakke**

**Course: B. Sc. III**

Month: July			Module unit	Sub unit planned
Lectures	Practical	Total		
2	2	4	Unit I	Introduction to Molecular Biology: Concept of gene, DNA replication in prokaryotes and eukaryotes-semiconservative type, DNA damage and repair mechanism
Month: August			Module unit	Sub unit planned
Lectures	Practical	Total		
8	4	12	Unit I	Transcription in prokaryotes and eukaryotes - Initiation, Elongation and Termination, RNA splicing. Genetic code and its properties Translation in prokaryotes and eukaryotes - Initiation, Elongation and Termination
Month: September			Module unit	Sub unit planned
Lectures	Practical	Total		
8	4	12	Unit II	Concept of cloning and Cloning vectors: Characteristics & types (Plasmid, Cosmid, Phagemid, Lambda, Bacteriophage, Artificial chromosome), Screening techniques: Replica plating & blue white screening
Month: October			Module unit	Sub unit planned
Lectures	Practical	Total		
8	4	12	Unit II	Restriction enzymes: Nomenclature, detailed study of Type II. Southern, Northern and Western blotting, Polymerase chain reaction, DNA finger printing
Month: November			Module unit	Sub unit planned
Lectures	Practical	Total		
4	2	6	Unit II	Method of DNA sequencing: Sanger's method Genomic and c-DNA library

  
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DEPARTMENT OF ZOOLOGY  
Academic year: 2023-24

Annual teaching plan (Practical)

Teacher Name: -Dr. G. K. Sontakke

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F25	Public health and hygiene & Haematology Diversity in Living Organism & Structural Organization in Animals
B. Sc. II	Practical I	S12	Mammalian Physiology and Biochemistry
B. Sc. III	Practical III	T3	Aquatic biology

  
Name and Signature of Teacher

  
Name and Signature of HOD  
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**Annual teaching plan**

**Term I**

**Semester: I**

**Name of the teacher: Dr. T. C. Gaupale**

**Subject: Animal Diversity I**

**Course: B. Sc. I**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT- II	Phylum Nematelminthes- General characters and classification up to classes; Life history of <i>Ascaris lumbricoides</i> and its parasitic adaptations
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- II	Phylum Annelida- General characters and classification up to classes; Metamerism in Annelida
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- II	Phylum Arthropoda- General characters and classification up to classes; Metamorphosis in insects
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- II	Phylum Mollusca- General characters and classification up to classes, Sense organ in mollusca
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT- II	Phylum Echinodermata- General characters and classification up to classes; Water-vascular system in star fish

  
**Dr. T. C. Gaupale**

  
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**Annual teaching plan**

**Term I**

**Semester:** III

**Subject:** Mammalian Physiology and Biochemistry

**Name of the teacher:** Dr. T. C. Gaupale

**Course:** B. Sc. II

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT-III	Endocrine Glands : Structure and function of Hypothalamus
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT-III	Endocrine Glands : Structure and function of Pituitary, Thyroid, pancreas
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT-III	Endocrine Glands : Structure and function of, Adrenal gland, Structure of Carbohydrate
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT-III	Glycolysis, Krebs cycle, Pentose phosphate pathway
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT-III	Electron transport chain

  
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**Annual teaching plan**

**Term I**

**Semester: V**


**Name of the teacher: Dr. T. C. Gaupale**

**Subject: Animal Biotechnology**

**Course: B. Sc. III**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit I	Genetically Modified Organisms: Cloning techniques- Nuclear transplantation
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Production of transgenic animals- Transformation techniques (Calcium chloride method, DNA microinjection, Retroviral and Electroporation method)
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Knockout mice- Production & applications. Applications of transgenic Animals
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Production of transgenic plants: Agrobacterium mediated transformation.
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit IV	Applications of transgenic plants: Insect and herbicide resistant plants.

  
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Academic year: 2023-24

Annual teaching plan (Practical)

Teacher Name: -Dr. T. C. Gaupale

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F22	Animal Diversity & Cell biology Animal Diversity II & Genetics
B. Sc. II	Practical II	S13	Cell biology, Genetics, Evolution and Ethology
B. Sc. III	Practical II	T2	Developmental biology I & II

Name and Signature of Teacher



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**Annual teaching plan**

**Term I**

**Semester: I**

**Name of the teacher: Ms. N. A. Patel**

**Subject: Cell biology**

**Course: B. Sc. I**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT- II	<b>Structure of Nucleic acid:</b> DNA, RNA and its types
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- II	<b>Chromosome:</b> Morphology, types of chromosome, Giant chromosome-polytene chromosome & lampbrush chromosome
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- II	<b>Cell cycle and division:</b> Overview of cell cycle, Phases and significance of mitosis and meiosis
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- II	<b>Cytoskeleton:</b> Structure and organization of microtubules, microfilaments
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT- II	Intermediate filaments



**Ms. N. A. Patel**



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**Annual teaching plan**

**Term I**

**Semester: I**


**Subject: Open Elective II (Haematology)**

**Name of the teacher: Dr. Tejashri C. Patil**

**Course: B. Sc. I**

Month: July			Module unit	Sub unit planned
Lectures	Practical	Total		
4	2	6	UNIT- I	Introduction to haematology and haemopoiesis Composition and function of blood
Month: August			Module unit	Sub unit planned
Lectures	Practical	Total		
8	4	12	UNIT- I	Blood cells, morphology, production, functions and fate), Haemoglobin
Month: September			Module unit	Sub unit planned
Lectures	Practical	Total		
8	4	12	UNIT- II	Blood collection, Anticoagulants used in Haematology, Normal values in Haematology, blood storage and transport, Blood pressure
Month: October			Module unit	Sub unit planned
Lectures	Practical	Total		
8	4	12	UNIT- II	Anaemia, Deficiency Anemia, Megaloblastic Anemia, Hemolytic Anemia, Aplastic Anaemias
Month: November			Module unit	Sub unit planned
Lectures	Practical	Total		
4	2	6	UNIT- II	Leukemia: Basic Concepts of Leukemia , Classification, Acute Leukaemias, Chronic Leukaemias

  
**Dr. Tejashri C. Patil**

  
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**Annual teaching plan**

**Term I**

**Semester:** III

**Subject:** Mammalian Physiology and Biochemistry

**Name of the teacher:** Dr. Tejashri C. Patil

**Course:** B. Sc. II

Month: July			Module unit	Sub unit planned
Lectures	Practical	Total		
2	2	4	UNIT-II	Pulmonary Ventilation, Respiratory volumes and capacities
Month: August			Module unit	Sub unit planned
Lectures	Practical	Total		
4	4	8	UNIT-II	Transport of oxygen and carbon dioxide in blood, Haldane effect, Bohr's effect, Chloride Shift
Month: September			Module unit	Sub unit planned
Lectures	Practical	Total		
4	4	8	UNIT-II	Structure of nephron, Glomerular capsule, mechanism of urine formation
Month: October			Module unit	Sub unit planned
Lectures	Practical	Total		
4	4	8	UNIT-II	counter-current mechanism, composition of blood, cardiac cycle
Month: November			Module unit	Sub unit planned
Lectures	Practical	Total		
2	2	4	UNIT-II	Origin and Conduction of the cardiac impulse



**Dr. Tejashri C. Patil**



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**Annual teaching plan**

**Term I**

**Semester: V**

**Name of the teacher: Dr. Tejashri C. Patil**

**Subject: Animal Biotechnology**

**Course: B. Sc. III**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit IV	Animal cell culture, Cell Culture techniques
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit IV	Animal cell culture types, Requirements, types of culture media
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit IV	Sterilization techniques, stem cell culture- types and methods of stem cell culture
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit IV	Application of stem cell culture, Recombinant DNA technology, Microtechnique,
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit IV	Application of Biotechnology in animal husbandry, Medicine and Agriculture



**Dr. Tejashri C. Patil**



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DEPARTMENT OF ZOOLOGY  
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Annual teaching plan (Practical)

Teacher Name: -Dr. T. C. Patil

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F20	Public health ad hygiene & Haematology Diversity in Living Organism & Structural Organization in Animals
B. Sc. II	Practical II	S9	Cell biology, Genetics, Evolution and Ethology
B. Sc. III	Practical IV	T4	Immunology

  
Name and Signature of Teacher

  
Name and Signature of HOD

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**Annual teaching plan**

**Term I**

**Semester: I**

**Subject: Cell biology**

**Name of the teacher: Dr. Sneha S. Desai**

**Course: B. Sc. I**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT- I	<b>Introduction-</b> Cell as basic unit of life, Importance of Cell Biology
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- I	Structure and function of Prokaryotic (E. coli) and Eukaryotic cell (Animal Cell)
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		Practical
4	4	8	UNIT- I	<b>Plasma Membrane:</b> Structure, chemical composition and functions of plasma membrane, Fluid mosaic model.
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	UNIT- I	<b>Ultrastructure and Functions:</b> Mitochondria, Endoplasmic Reticulum, Golgi apparatus, Ribosomes. Structure and function of Nucleus
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	UNIT- I	Chromatin: Euchromatin and Heterochromatin



**Dr. Sneha S. Desai**



**Dr. G. K. Sontakke**

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**Annual teaching plan**

**Term I**

**Semester: V**


**Name of the teacher: Dr. Sneha S. Desai**

**Subject: Developmental biology-II**

**Course: B. Sc. III**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit I	Fundamental processes in development (brief idea)- Gene activation, specification (Autonomous, Conditional, Syncytial)
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Determination, competence, differentiation (Concept of dedifferentiation, re-differentiation, trans-differentiation), commitment Morphogens- Concept & properties of morphogen
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Regeneration (w.r.t. Lizard), senescence, ageing and concept of apoptosis
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Intercellular communication – Autocrine, Paracrine, Juxtacrine Applications of developmental biology in Medicine and research
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit I	Medical implication in developmental biology – Genetic disorder in human development

  
**Dr. Sneha S. Desai**

  
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DEPARTMENT OF ZOOLOGY  
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Annual teaching plan (Practical)

Teacher Name: - Dr. S. S. Desai

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F17	Animal Diversity & Cell biology Animal Diversity II & Genetics
B. Sc. II	Practical I	S9	Mammalian Physiology and Biochemistry
B. Sc. III	Practical I	T1	Molecular biology & Biotechniques & Animal Biotechnology

  
Name and Signature of Teacher

  
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**Annual teaching plan**

**Term I**


**Semester: I**


**Subject: Animal Diversity I**

**Name of the teacher: Miss Pallavi Sanjay Shetfalkar**

**Course: B. Sc. I**

Month: July			Module unit	Sub unit planned
Lectures	Practical	Total		
2	2	4	UNIT- I	Importance and scope in animal diversity <b>Kingdom Protista-</b> General characters and classification up to classes; locomotion in Protozoa
Month: August			Module unit	Sub unit planned
Lectures	Practical	Total		
4	4	8	UNIT- I	<b>Phylum Porifera-</b> General characters and classification up to classes; Canal System in Sycon
Month: September			Module unit	Sub unit planned
Lectures	Practical	Total		
4	4	8	UNIT- I	<b>Phylum Cnidaria-</b> General characters and classification up to classes; Polymorphism in obelia
Month: October			Module unit	Sub unit planned
Lectures	Practical	Total		
4	4	8	UNIT- II	<b>Phylum Platyhelminthes:</b> General characters and classification up to classes;
Month: November			Module unit	Sub unit planned
Lectures	Practical	Total		
2	2	4	UNIT- II	Life history of <i>Taenia solium</i> and its parasitic adaptations

  
 Miss Pallavi Sanjay Shetfalkar

  
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**Term I**

**Semester:** V


**Subject:** Developmental biology II

**Name of the teacher:** Miss Pallavi Sanjay Shetfalkar

**Course:** B. Sc. III

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	-	2	Unit I	Chick Embryology Structure of sperm Structure of egg and vitellogenesis Fertilization and cleavage
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	-	4	Unit I	Blastula and its fate map Process of gastrulation, Organizer (Development of eye)
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	-	4	Unit I	Organogenesis: Development of neural tube and brain up to 72 hours of incubation, Development of gut up to 72 hours of incubation
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	-	4	Unit I	Development of blood and heart up to 72 hours of incubation
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	-	2	Unit IV	Foetal membranes and significance

  
 Miss Pallavi Sanjay Shetfalkar

  
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VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)  
DEPARTMENT OF ZOOLOGY  
Academic year: 2023-24

Annual teaching plan (Practical)

Teacher Name: - Ms. P. S. Shetfalkar

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F15	Animal Diversity & Cell biology Animal Diversity II & Genetics
B. Sc. II	Practical I	S12	Mammalian Physiology and Biochemistry

  
Name and Signature of Teacher

  
Name and Signature of HOD

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**Vivekanand College, Kolhapur (Empowered Autonomous)**  
 Department of Zoology  
 Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester:** V

**Subject:** Developmental Biology-I

**Name of the teacher:** Miss. Namrata Ajit Jadhav

**Course:** B. Sc. III

Month: July			Module unit	Sub unit planned
Lectures	Practical	Total		
2	-	2	Unit I	An introduction and scope and importance of developmental biology
Month: August			Module unit	Sub unit planned
Lectures	Practical	Total		
4	-	4	Unit I	Overview of male & female reproductive system in mammal, Gametogenesis: Spermatogenesis and oogenesis w.r.t. mammals
Month: September			Module unit	Sub unit planned
Lectures	Practical	Total		
4	-	4	Unit I	Structure of mature egg and sperm in amphibian and human, Fertilization: Types - external (amphibians), internal (mammals) and process of fertilization
Month: October			Module unit	Sub unit planned
Lectures	Practical	Total		
4	-	4	Unit I	Block to polyspermy- Slow & fast block to polyspermy, Types of egg on the basis of distribution & amount of yolk.
Month: November			Module unit	Sub unit planned
Lectures	Practical	Total		
2	-	2	Unit I	Cleavage: Definition, types, planes & patterns and significance

*Ajith*

Miss. Namrata Ajit Jadhav

*Gita*

Dr. G. K. Sontakke

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**DEPARTMENT OF ZOOLOGY**  
Academic year: 2023-24

**Annual teaching plan (Practical)**

**Teacher Name:** - Ms. N. A. Jadhav

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F14	Public health ad hygiene & Haematology Diversity in Living Organism & Structural Organization in Animals
B. Sc. II	Practical I	S13	Mammalian Physiology and Biochemistry

  
Name and Signature of Teacher

  
Name and Signature of HOD

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 Department of Zoology  
 Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester: III**

**Subject: Mammalian Physiology and biochemistry**

**Teacher Name: -Miss. Akshata P. Sutar**

**Course title: B.Sc. II**

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit I	Nerve and Muscle : Structure of a neuron, resting membrane potential
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Origin of action potential and its propagation, in myelinated and non-myelinated nerve fibers, Neurotransmitter
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Synapse-Electrical and chemical synapse, Ultra-structure of skeletal muscle, Molecular and chemical basis of muscle contraction
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Brief account of alimentary canal and digestive glands, Physiology of digestion in the alimentary canal
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit I	Absorption of carbohydrates, Proteins, Lipids



Miss. Akshata P. Sutar



Dr. G. K. Sontakke

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**DEPARTMENT OF ZOOLOGY**  
Academic year: 2023-24

Annual teaching plan (Practical)

Teacher Name: - Ms. A. P. Sutar

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F18	Animal Diversity & Cell biology Animal Diversity II & Genetics
B. Sc. II	Practical II	S12 & S10	Cell biology, Genetics, Evolution and Ethology



Name and Signature of Teacher



Name and Signature of HOD

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Department of Zoology  
Academic year: 2023-2024

**Annual teaching plan**

**Term I**

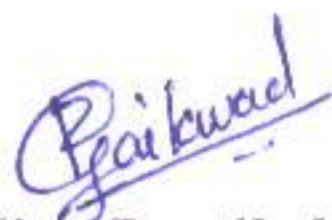
**Semester:** III


**Subject:** Mammalian Physiology and biochemistry

**Teacher Name:** -Miss. Pratiksha R. Gaikwad

**Course title:** B.Sc. II

<b>Month: July</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit IV	Lipid Metabolism -Structure of lipids, Types of lipids
<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit IV	Biosynthesis and $\beta$ oxidation of palmitic acid Protein metabolism -Structure of amino acids, Types of proteins
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit IV	Transamination, Deamination and Urea Cycle
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit IV	Enzymes -Introduction, Mechanism of action , Factors affecting enzyme activity
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit IV	Inhibition and Regulation of enzyme action

  
Miss. Pratiksha R. Gaikwad

  
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 Department of Zoology  
 Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester: V**

**Subject: Developmental biology-I**

**Teacher Name: -Miss. Pratiksha R. Gaikwad**

**Course title: B.Sc. III**

Month: July			Module unit	Sub unit planned
Lectures	Practical	Total		
2	-	2	Unit II	Early Embryonic Development in Mammals -II Morulation and blastulation
Month: August			Module unit	Sub unit planned
Lectures	Practical	Total		
4	-	4	Unit II	Gastrulation: Definition, fate maps, significance of gastrulation. Morphogenetic cell movements - Epiboly and Emboly (types of embolic movements).
Month: September			Module unit	Sub unit planned
Lectures	Practical	Total		
4	-	4	Unit II	Fate of germ layers, Neural tube formation, Implantation of embryo in human, Extra embryonic membrane
Month: October			Module unit	Sub unit planned
Lectures	Practical	Total		
4	-	4	Unit II	Placentation in mammals : definition, types and significance, classification on the basis of morphology and functions of placenta
Month: November			Module unit	Sub unit planned
Lectures	Practical	Total		
2	-	2	Unit II	Classification of placenta on the basis of histology

*Pratiksha R. Gaikwad*

Miss. Pratiksha R. Gaikwad

*G. K. Sontakke*

Dr. G. K. Sontakke

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DEPARTMENT OF ZOOLOGY  
Academic year: 2023-24**

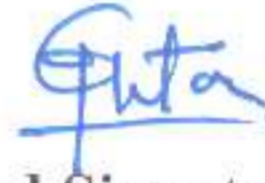
**Annual teaching plan (Practical)**

**Teacher Name:** - Ms. P. R. Gaikwad

<b>Class</b>	<b>Practical No.</b>	<b>Batch</b>	<b>Practical based on paper</b>
B. Sc. I	Practical I & II	F21	Animal Diversity & Cell biology Animal Diversity II & Genetics
B. Sc. II	Practical I	S10 & S14	Mammalian Physiology and Biochemistry



**Name and Signature of Teacher**



**Name and Signature of HOD**

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**Department of Zoology**  
Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester: V**

**Subject: Molecular Biology And Biotechniques**

**Teacher Name: -Miss. Ketki K. Lokhande**

**Course title: B.Sc. III**

<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	-	4	Unit II	Concept of cloning and cloning vectors: Characteristics and types (plasmid, cosmid, phagemid, lambda, bacteriophage, artificial chromosome)
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	-	4	Unit II	DNA finger printing
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	-	4	Unit II	Restriction enzymes: Nomenclature
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	-	2	Unit II	Detailed study of Type II endonucleases



Miss. Ketki K. Lokhande



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**Department of Zoology**  
Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester:** III

**Subject:** Mammalian Physiology and biochemistry

**Teacher Name:** -Miss. Ketki K. Lokhande

**Course title:** B.Sc. II

<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Brief account of alimentary canal and digestive glands, Physiology of digestion in the alimentary canal
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit I	Absorption of carbohydrates, Proteins, Lipids
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit IV	Structure of lipids, Types of lipids, Biosynthesis and beta oxidation of palmitic acid
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit IV	Structure of amino acids, Types of proteins, Transamination, Deamination and Urea cycle



Miss. Ketki K. Lokhande



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**Department of Zoology**  
Academic year: 2023-2024

**Annual teaching plan**

**Term I**

**Semester: I**

**Subject: Cell biology**

**Teacher Name: -Miss. Ketki K. Lokhande**

**Course title: B.Sc. I**

<b>Month: August</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit II	Cell cycle and division: Overview of cell cycle, Phases and significance of mitosis
<b>Month: September</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit II	Phases and significance of meiosis
<b>Month: October</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
4	4	8	Unit II	Cytoskeleton: Structure and organization of microtubules
<b>Month: November</b>			<b>Module unit</b>	<b>Sub unit planned</b>
Lectures	Practical	Total		
2	2	4	Unit II	Microfilaments and intermediate filaments



Miss. Ketki K. Lokhande



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DEPARTMENT OF ZOOLOGY  
Academic year: 2023-24

Annual teaching plan (Practical)

Teacher Name: - Ms. K. K. Lokhande

Class	Practical No.	Batch	Practical based on paper
B. Sc. I	Practical I & II	F16, F19 & F24	Animal Diversity & Cell biology Animal Diversity II & Genetics
B. Sc. II	Practical II	S12 & S14	Cell biology, Genetics, Evolution and Ethology

  
Name and Signature of Teacher

  
Name and Signature of HOD

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