

“Dissemination of Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)
Department of Zoology
Academic year: 2024-25

Syllabus Completion Report (Term I)

1. Dr. G. K. Sontakke
2. Dr. T. C. Gaupale
3. Dr. S. S. Desai
4. Mr. G. H. Fadake
5. Ms. N. A. Patel
6. Dr. T. C. Patil
7. Ms. P. S. Shetfalkar
8. Ms. N. A. Jadhav
9. Ms. P. R. Gaikwad



Dr. G. K. Sontakke
HEAD

DEPARTMENT OF ZOOLOGY
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

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Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department of Zoology

Academic year: 2024-25

Syllabus Completion Report

Name of the Teacher: Dr. G. K. Sontakke

Term: I

Class: B.Sc. III

Name of the Paper: Molecular Biology and Biotechniques ((DSE-1008E1)

Month	Module unit	Sub unit	Remaining Units
June- 2024	UNIT-I	1. Concept of gene 2. DNA replication in prokaryotes and eukaryotes: Semi-conservative type	Nil
July- 2024	UNIT-I	3. DNA damage and repair mechanism	Nil
August- 2024	UNIT-I	4. Transcription in prokaryotes and eukaryotes - Initiation, Elongation and Termination	Nil
September- 2024	UNIT-I	5. RNA splicing 6. Genetic code and its properties	Nil
October- 2024	UNIT-I	7. Translation in prokaryotes and eukaryotes - Initiation, Elongation and Termination	Nil

Class: B.Sc. I (PR)

Practical: ZOOLOGY LAB(1): 2DSC03ZOO19 (Practical I)

Month	Practical	Remaining Practical
July- 2024	1. Study of the following specimens with respect to classification and morphological peculiarities: Phylum Porifera to Echinodermata 3. Study of the following permanent slides: a. T.S. or L.S. of Sycon b. T.S. of male and female Ascaris lumbricoides 4. Mounting of mouth part in cockroach/honey bee/ any insect	Nil
August- 2024	5. Temporary preparation of spicules and sponging fibres. 6. Study of life history stages of Taenia solium 7. Study of life cycle of Ascaris lumbricoides 8. Preparation of Paramecium culture 9. Temporary preparation of pedicellaria	Nil
September 2024	1. Study of Microscope: Simple and Compound 2. Temporary preparation of mitotic cell from onion roots 3. Temporary preparation of nucleus from W.B.Cs. 4. Extraction of DNA from given sample	Nil
October-2024	5. Stained squash preparation of salivary gland chromosomes 6. Study of Cell organelles (any three) by using microphotographs 7. Stained preparation of mitochondria from oral mucosa/ onion peels 8. Effect of tonicity of solutions on plasma membrane of RBCs	Nil

	9. Field Visit-Museum, National Park, Sea shore	
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Class: B.Sc. II (PR)

PRACTICAL III- Based on Paper Vand VI (DSC03ZOO39)

Month	Practical	Remaining Practical
July- 2024	1. To prepare hemin crystals from a given blood sample/own blood 2. To detect ABO blood groups in human blood. 3. To determine the bleeding time of own blood 4. To determine the clotting time of own blood. 5. To determine Erythrocyte Sedimentary Rate (E.S.R) 6. To Estimate of Hb by Sahli's haemometer	Nil
August- 2024	7. To Count the total RBCs of own blood 8. To Count the total WBCs of own blood 9. To study Differential WBCs of own blood 10. To Measure human blood pressure 11. To Interpret the ECG. 12. Measurement of lung capacity	Nil
September 2024	13. Study of dialyzer unit 14. Study of permanent slides of duodenum, liver, pancreas, salivary gland 15. Study of permanent slides of spinal cord, lung, kidney, blood vessels (artery& vein) 16. Study of fossil evidences from plaster cast models and pictures 17. Study of homology and analogy from suitable specimens/ pictures 18. Study of Phylogeny of human evolution	Nil
October- 2024	19. Study of Phylogeny of horse 20. Study of Darwin's finches with diagrams/ cut-outs of beaks of different species 21. Study of adaptive radiation in marsupial 22. Study of fossil animals- Peripatus, Dipnoi fish, Archaeopteryx 23. Selection of fruit fly in relation to diet 24. Example based on Hardy-Weinberg law	Nil

Class: B.Sc. II (VSC) (PR) ZOOLOGY LAB (3) Practical: VSC03ZOO39 (Practical II)

Month	Practical	Remaining Practical
June 2024	1.Types of silk moths classification and description 2. Life cycle of silk Worm Bombyx mori (L)	Nil
July- 2024	3. Life cycle of Vanya / Non-Mulberry Silkworm 4. Difference between male and female silk moths of Bombyx mori 5. Sex separation in larva, pupa and adult of silkworm 6. General anatomy of silkworm (Photographs/Images/dissections) 7. Identification of egg, larva, pupa and moths of different non-mulberry silk moths (Photographs/Images).	Nil
August- 2024	8. Dissection and display (Photographs/Images/ dissections): a. Digestive system of larva. b. Silk glands. c. Reproductive system of male and female moths. d. Mounting of larval mouth parts and spiracle.	Nil


	e. Nervous system of silkworm larva. 9. Silkworm rearing techniques and its maintenance 10. Mulberry cultivation and its maintenance	
September 2024	11. Identification of different Mulberry Varieties / Species 12. Calculation of shell ratio and denier scale by using the formula 13. Identification of major Mulberry pests and diseases	Nil
October- 2024	14. Identification of major silkworm pests & diseases and their disposal 15. Study of sericulture equipment.	Nil

Class: B.Sc. III (PR)

PRACTICAL-VIII - Based on Paper No XV & XVI

Month	Practical	Remaining Practical
June - 2024	1. Study of pond ecosystem on field .	Nil
July- 2024	2. Collection, preservation and identification of zooplanktons. 3. Study of aquatic insects- Photographs/specimens (Any four)	Nil
August- 2024	4. Oxygen consumption by any aquatic animal 5. Determine the amount of turbidity/transparency	Nil
September- 2024	6. Estimation of dissolved oxygen 7. Estimation of free carbon dioxide	Nil
October- 2024	8. Determination alkalinity of given water sample	Nil


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Vivekanand College, Kolhapur (An Empowered Autonomous Institute)
Department of Zoology
Academic year: 2024-2025

Syllabus Completion Report

Name of the Teacher: Dr. T.C. Gaupale

Term: I

Class: B.Sc. II (Theory)

Name of the Paper: Animal Physiology (DSC03ZOO31) Paper V

Month	Module unit	Subunit Completed	Remaining Units
July -2024	UNIT- II	Cardiovascular system Composition of blood, Structure of Heart, Origin and conduction of heartbeat,	Nil
August-2024	UNIT- II	Cardiac cycle, ECG Nerve Structure of a neuron,	Nil
September - 2024	UNIT- II	Neurotransmitter, Synapse-Electrical and chemical synapse, Origin of action potential and its propagation in nerve fibres	Nil
October 2024	UNIT- II	Muscle Types of muscle, Ultra-structure of skeletal muscle, Mechanism of muscle contraction	Nil

Class: B. Sc. III (Theory)

Name of the Paper: Paper- XII, Developmental Biology II (DSE -1008E3)

Month	Module unit	Subunit Completed	Remaining Units
July -2024	UNIT-I	1. An introduction and scope and importance of developmental biology. 2. Overview of male & female reproductive system in mammal.	Nil
August- 2024	UNIT-I	3. Gametogenesis: Spermatogenesis and oogenesis w.r.t. mammals 4. Structure of mature egg and sperm in amphibia and human.	Nil
September -2024	UNIT-I	5. Fertilization: Types - External (amphibians), internal (mammals) and process of fertilization 6. Block to polyspermy- Slow & fast block to polyspermy	Nil
October 2024	UNIT- I	7. Types of egg on the basis of distribution & amount of yolk. 8. Cleavage: Definition, types, planes & patterns and significance.	Nil

Class: B.Sc. I (PR)**Practical: DSC- PR-I : 2DSC03ZOO19: DSC ZOOLOGY LAB-1**

Month	Practical Completed	Remaining Practical
July -2024	1. Study of the following specimens with respect to classification and morphological peculiarities Amoeba, Paramecium, Sycon, Euplectella, Obelia, Physalia, Taenia solium, Male and female Ascaris lumbricoides, Aphrodite, Hirudinaria, Limulus, Periplaneta, Pila, Octopus, Star fish, Antedon 2. Study of the following permanent slides: a. T.S. or L.S. of Sycon b. T.S. of male and female Ascaris lumbricoides	Nil
August-2024	3. Study of mouth part in cockroach/honey bee/ any insect 4. Temporary preparation of spicules and sponging fibres. 5. Study of life history stages of Taenia solium 6. Study of life cycle of Ascaris lumbricoides 7. Preparation of Paramecium culture 8. Temporary preparation of pedicellaria 9. Temporary preparation of tube feet CELL BIOLOGY LAB (At least 7 experiments) 9. Study of Microscope: Simple and Compound	Nil
September -2024	10. Temporary preparation of mitotic cell from onion roots 11. Temporary preparation of nucleus from W.B.Cs. 12. Extraction of DNA from given sample 13. Stained squash preparation of salivary gland chromosomes	Nil
October 2024	14. Study of Cell organelles (any three) by using microphotographs 15. Stained preparation of mitochondria from oral mucosa/ onion peels 16. Effect of tonicity of solutions on plasma membrane of RBCs 18. Field visit-Museum, National park, Sea shore	Nil

Class: B.Sc. II (PR)**PRACTICAL-III (Major)****Practicals based on Animal Physiology (DSC03ZOO31) and Evolution (DSC03ZOO32)**

Month	Practical Completed	Remaining Practical
July -2024	1. To prepare hemin crystals from a given blood sample/own blood 2. To detect ABO blood groups in human blood. 3. To determine the bleeding time of own blood 4. To determine the clotting time of own blood. 5. To determine Erythrocyte Sedimentary Rate (E.S.R) 6. To Estimate of Hb by Sahli's haemometer 7. To Count the total RBCs of own blood	Nil
August-2024	8. To Count the total WBCs of own blood 9. To study Differential WBCs of own blood 10. To Measure human blood pressure 11. To Interpret the ECG. 12. Measurement of lung capacity	Nil
September -2024	13. Study of dialyzer unit 14. Study of permanent slides of duodenum, liver, pancreas, salivary gland 15. Study of permanent slides of spinal cord, lung, kidney, blood vessels (artery& vein) 16. Study of fossil evidences from plaster cast models and pictures	Nil

	17. Study of homology and analogy from suitable specimens/ pictures 18. Study of Phylogeny of human evolution	
October 2024	19. Study of Phylogeny of horse 20. Study of Darwin's finches with diagrams/ cut-outs of beaks of different species 21. Study of adaptive radiation in marsupial 22. Study of fossil animals- <i>Peripatus</i> , <i>Dipnoi</i> fish, <i>Archaeopteryx</i> 23. Selection of fruit fly in relation to diet 24. Example based on Hardy-Weinberg law 25. Submission of project report / posters	Nil

Class: B.Sc. III (PR)

PRACTICAL-VI (BASED ON PAPER NO XI AND XII)

Month	Practical Completed	Remaining Practical
July -2024	1. Study of developmental stages of frog (permanent slides/microphotographs) a. Cleavage b. Blastulation c. Gastrulation d. Neurulation	Nil
August-2024	2. Stages of metamorphosis in frog (permanent slides /microphotographs/specimen) a. External gill stage b. Internal gill stage c. Forelimb stage d. Hind limb stage e. Tail bud stage f. Juvenile stage 3. Study of chick embryo (permanent slides /microphotographs) a. Whole mount of chick embryo – 18, 24, 33, 48 and 72 hours. b. T.S. of chick embryo – 18, 24, 33, 48 and 72 hours.	Nil
September - 2024	4. Preparation of whole mount chick embryo	Nil
October 2024	Reversion for Stages of metamorphosis in frog (permanent slides /microphotographs/specimen) a. External gill stage b. Internal gill stage c. Forelimb stage d. Hind limb stage e. Tail bud stage f. Juvenile stage 3. Study of chick embryo (permanent slides /microphotographs) a. Whole mount of chick embryo – 18, 24, 33, 48 and 72 hours. b. T.S. of chick embryo – 18, 24, 33, 48 and 72 hours.	Nil


Dr, T.C Gaupale


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Syllabus Completion Report

Name of the Teacher: Dr. S. S. Desai

Term: I

Class: B.Sc. II (Theory)

Name of the Paper: Paper V, Animal Physiology (DSC03ZOO31)

Month	Module unit	Sub unit	Remark
June 2024	UNIT-I	Digestion Brief account of the alimentary canal and digestive glands, Physiology of digestion	NIL
July 2024	UNIT-I	Absorption of carbohydrates, proteins, and lipids in alimentary canal Respiration. Brief account of the respiratory system,	NIL
August 2024	UNIT-I	Pulmonary ventilation, Respiratory volumes and capacities, Transport of oxygen and carbon dioxide in the blood, Haldane effect, Bohr's effect, Chloride shift	NIL
September 2024	UNIT- I	Excretion Brief account of the excretory system, Ultrastructure of the nephron,	NIL
October 2024	UNIT- I	Mechanism of Urine formation, Counter-current Mechanism	NIL

Class: B. Sc. III (Theory)

Name of the Paper: Paper- XI, Developmental Biology-II (DSE -1008E4)

Month	Module unit	Sub unit	Remark
June 2024	UNIT-I	Gene activation, specification (autonomous, conditional, syncytial), determination, competence, differentiation	NIL
July 2024	UNIT-I	Dedifferentiation, re-differentiation, trans-differentiation, commitment, Morphogens-Concept & properties of morphogen	NIL
August 2024	UNIT-I	Regeneration (w.r.t. Lizard), senescence, ageing and concept of apoptosis. Intercellular communication – Autocrine, paracrine, juxtracrine. Applications of developmental biology in medicine and research.	NIL
September 2024	UNIT- II	Medical implication in developmental biology – Genetic disorder in human development , Development of neural tube and brain up to 72 hours of incubation	NIL
October 2024	UNIT- II	Development of gut, blood and heart up to 72 hours of incubation	NIL

PRACTICALS COMPLETION REPORT

Class	Practical No.	Batch	Practical Based on paper	Remaining Practicals
B. Sc. I	Practical: Zoology Lab (1): DSC03ZOO19	B2	Animal Diversity I Cell Biology	NIL
B. Sc. II	Practical: VSC03ZOO39	Z2	Sericulture	NIL
B. Sc. III	Practical-V	TA1	Molecular Biology & Biotechniques and Animal Biotechnology	NIL



Dr. S. S. Desai



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Academic year: 2024-2025

SYLLABUS COMPLETION REPORT

Name of the Teacher: Mr. Ganesh H. Fadake

Term: I

Class: B.Sc. I (Theory)

Name of the Paper: Paper II, Cell Biology (2DSC03ZOO12)

Month	Module unit	Completed Units	Remaining Units
July- 2024	UNIT-I	Introduction-Cell as basic unit of life, Importance of Cell Biology,	NIL
August- 2024	UNIT-I	Structure and function of Prokaryotic (E. coli) and Eukaryotic cell (Animal Cell)	NIL
September- 2024	UNIT- I	Plasma Membrane: Structure, chemical composition and functions of plasma membrane, Fluid mosaic model.	NIL
October- 2024	UNIT- I	Ultrastructure and Functions: Mitochondria, Endoplasmic Reticulum, Golgi apparatus, Ribosomes.	NIL

Class: B.Sc. II (Theory)

Name of the Paper: Paper-VI, Biostatistics (MIN03ZOO31)

Month	Module unit	Completed Units	Remaining Units
July - 2024	UNIT- I	Introduction to Biostatistics Biostatistics	NIL
August - 2024	UNIT- I	Definition, Classification of Data, Types and methods of data collection procedure	NIL
September- 2024	UNIT- I	Different types of scales- nominal, ordinal, ratio and interval, Scope & Importance	NIL
October- 2024	UNIT- I	Frequency distribution Principles of frequency distribution,	NIL

Class: B. Sc. III (Theory)

Name of the Paper: Paper- X, Molecular biology and biotechniques (DSE -1008E1)

Month	Module unit	Completed Units	Remaining Units
June- 2024	UNIT-II	Concept of cloning and cloning vectors: Characteristics & types (plasmid, cosmid, phagemid, lambda, bacteriophage, artificial chromosome)	NIL
July- 2024	UNIT-II	Screening techniques: Replica plating & blue white screening	NIL
August- 2024	UNIT-II	Restriction enzymes: Nomenclature, detailed study of Type II endonucleases, Southern, northern and western blotting	NIL
September- 2024	UNIT- II	Polymerase chain reaction, DNA finger printing	NIL

October-2024	UNIT- I	Method of DNA sequencing: Sanger's method Genomic and c-DNA library	NIL
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Class: B.Sc. I (PR)

Practical: ZOOLOGY LAB (1): 2DSC03ZOO19 (Practical I)

Month	Completed Units	Remaining Units
July- 2024	1. Study of the specimens with respect to classification and morphological peculiarities: Phylum Porifera to Phylum Echinodermata 2. Study of the following permanent slides: a. T.S. or L.S. of Sycon b. T.S. of male and female Ascaris lumbricoides 3. Mounting of mouth part in cockroach/honey bee/ any insect 4. Mounting of sponging fibres and spicules	NIL
August-2024	5. Study of life history stages of Taenia solium 6. Study of life cycle of Ascaris lumbricoides 7. Preparation of <i>Paramoecium</i> culture 8. Temporary preparation of pedicellaria	NIL
September-2024	9. Study of compound Microscope: Simple and Compound 10. Temporary preparation of mitotic cells from onion roots 11. Extraction of DNA from given sample 12. Stained squash preparation of salivary gland chromosomes	NIL
October-2024	13. Study of Cell organelles (any three) by using microphotographs 14. Stained preparation of mitochondria from oral mucosa/ onion peels 15. Effect of tonicity of solutions on plasma membrane of RBCs	NIL

Class: B.Sc. II (PR)

Name of the Paper: Paper-VI, Biostatistics (MIN03ZOO31)

Month	Module unit	Completed Units	Remaining Units
June- 2024	UNIT-I	Introduction to Biostatistics Biostatistics	NIL
July- 2024	UNIT-I	Definition, Classification of Data, Types and methods of data collection procedure	NIL
August- 2024	UNIT-I	Different types of scales- nominal, ordinal, ratio and interval, Scope & Importance	NIL
September-2024	UNIT- I	Frequency distribution Principles of frequency distribution,	NIL
October-2024	UNIT- I	Graphical presentation of data (Line diagram, Bar diagram; Pie chart, Histogram- equal and unequal classes, Polygon and frequency curve, Ogive curve)	NIL

Class: B.Sc. III (PR)

PRACTICAL-VII - Based on Paper No XIII & XIV

Month	Completed Units	Remaining Units
June - 2024	1. Calculate the mean using given data (Any two examples) 2. Calculate the median using the given data (Any two examples) 3. Calculate the mode using the given data (Any two examples)	NIL

	4. Calculate the standard deviation using the given data. 5. Draw a line/ Bar diagram using the given data.	
July- 2024	6. Draw a Histogram by using given data (equal unequal distribution) 7. Draw a Polygon using given data. 8. Draw frequency curve/ Ogive curve using given data 9. Drawing graphs and tables on a computer using given data.	NIL
August- 2024	10. Examples based on regression (Any two examples) 11. Examples based on correlation (Any two examples) 12. To study the locomotory behaviour in - a) Earthworm b) Garden snail 13. To study chemical communication in ant 14. To study simple reflex behaviour in Cockroach	NIL
September- 2024	15. To study the reaction of terrestrial woodlice to light and humidity 16. To study the aggression and courtship behaviour in crickets 17. To study the chemoreception in the adult fly 18. To study the courtship behaviour in fruit fly	NIL
October- 2024	1. Calculate the mean using given data (Any two examples) 2. Calculate the median using the given data (Any two examples) 3. Calculate the mode using the given data (Any two examples) 4. Calculate the standard deviation using the given data. 5. Draw a line/ Bar diagram using the given data.	NIL

Gadale.
Mr. Ganesh H. Fadake

Puta.
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Department of Zoology

Academic year: 2024-2025

Syllabus Completion Report

Name of the Teacher: Ms. N. A. Patel

Term: I

Class: B.Sc. I (Theory)

Name of the Paper: Paper II, Cell Biology (2DSC03ZOO12)

Month	Module unit	Sub unit	Remark
July- 2024	UNIT-II	Giant chromosome- Polytene chromosome, Lampbrush chromosome	NIL
August- 2024	UNIT-II	Overview of cell cycle, Phases and significance of mitosis and meiosis	NIL
September- 2024	UNIT- II	Structure and organization of microtubules, microfilaments	NIL
October- 2024	UNIT- II	Structure and organization of intermediate filaments	NIL

Class: B.Sc. II (Theory)

Name of the Paper: Paper-VI, Ethology (MIN03ZOO32)

Month	Module unit	Sub unit	Remark
July - 2024	UNIT- I	Innate behaviour Communication: Introduction, chemical, visual, audio, olfactory, electric,	NIL
August - 2024	UNIT- I	touch; Species specificity of songs; Communication in bees and ants	NIL
September- 2024	UNIT- I	Ecological Aspects of Behaviour: Introduction, habitat selection, food selection	NIL
October- 2024	UNIT- I	Optimal forage theory, anti-predation defenses, aggression, homing, territoriality	NIL

Class: B. Sc. III (Theory)

Name of the Paper: Paper- X, Animal Biotechnology (DSE -1008E2)

Month	Module unit	Sub unit	Remark
June- 2024	UNIT-I	Cloning techniques- Nuclear transplantation	NIL
July- 2024	UNIT-I	Production of transgenic animals- Transformation techniques- calcium chloride method, DNA microinjection	NIL
August- 2024	UNIT-I	Production of transgenic animals- Transformation techniques - retroviral and electroporation method	NIL

September-2024	UNIT- I	Knockout mice- Production & applications Applications of transgenic animals	NIL
October-2024	UNIT- I	Production of transgenic plants: Agrobacterium mediated transformation.	NIL

PRACTICALS COMPLETION REPORT

Class	Practical No.	Batch	Practical Based on paper	Remaining Practicals
B. Sc. I	Practical: Zoology Lab (1): 2DSC03ZOO19	B4	Animal Diversity I & Cell Biology	NIL
B. Sc. III	Practical: Practical-VII	TB4	Immunology I & II	NIL


Ms. N. A. Patel


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Department of Zoology
Academic year: 2024-25

Syllabus Completion Report

Name of the Teacher: Dr. Tejashri C. Patil

Term: I

Class: B.Sc. II

Name of the Paper: Evolution ((DSC03ZOO32)

Month	Module unit	Sub unit	Remaining Units
July- 2024	UNIT-II	Evidences of Evolution: Fossils, Types of fossils, Process of fossilization	NIL
August- 2024	UNIT-II	dating of fossils, comparative anatomy, vestigial Structures	NIL
September- 2024	UNIT-II	Species concept: Biological species concept (Advantages and limitations); Isolating mechanisms, Modes of speciation (Allopatric, Sympatric, Peripatric and Parapatric)	NIL
October- 2024	UNIT-II	Extinction: Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution	NIL

Class: B.Sc. III

Name of the Paper: Animal Biotechnology DSE -1008E2

Month	Module unit	Sub unit	Remaining Units
June- 2024	UNIT-II	1. Animal cell culture: a. Cell culture techniques-Mechanical and chemical disaggregation and types of cell culture (primary, secondary and cell line)	NIL
July- 2024	UNIT-II	a. Requirements of animal cell culture-Laboratory design, equipment's used- (CO ₂ , incubator, phase contrast and fluorescence microscope, laminar Air flow) b. Types of media-Natural and artificial media (serum containing, serum free, chemically defined and protein free)	NIL
August- 2024	UNIT-II	c. Sterilization technique- Physical and chemical methods d. Applications of animal cell culture	NIL
September- 2024	UNIT-II	2. Stem cell types 3. Gene therapy- Types and applications	NIL
October- 2024	UNIT-II	4. Recombinant DNA in medicines: Production of recombinant insulin and human growth hormone 5. Application of biotechnology in animal husbandry, medicine and agriculture	NIL

Class: B.Sc. I Batch B3 Practical: Based on: Animal Diversity I Zoology and Cell Biology

Month	Practical	Remaining Units
July- 2024	1. Study of the following specimens with respect to classification and morphological peculiarities: Phylum Porifera to Echinodermata 3. Study of the following permanent slides: a. T.S. or L.S. of Sycon b. T.S. of male and female Ascaris lumbricoides 4. Mounting of mouth part in cockroach/honey bee/ any insect	NIL
August- 2024	5. Temporary preparation of spicules and sponging fibres. 6. Study of life history stages of Taenia solium 7. Study of life cycle of Ascaris lumbricoides 8. Preparation of Paramecium culture 9. Temporary preparation of pedicellaria	NIL
September 2024	1. Study of Microscope: Simple and Compound 2. Temporary preparation of mitotic cell from onion roots 3. Temporary preparation of nucleus from W.B.Cs. 4. Extraction of DNA from given sample	NIL
October-2024	5. Stained squash preparation of salivary gland chromosomes 6. Study of Cell organelles (any three) by using microphotographs 7. Stained preparation of mitochondria from oral mucosa/ onion peels 8. Effect of tonicity of solutions on plasma membrane of RBCs 9. Field Visit-Museum, National Park, Sea shore	NIL

Class: B.Sc. II Batch Z1 Practical: Based on: Animal Physiology (DSC03ZOO31) and Evolution (DSC03ZOO32)


Month	Practical	Remaining Units
July- 2024	1. To prepare hemin crystals from a given blood sample/own blood 2. To detect ABO blood groups in human blood. 3. To determine the bleeding time of own blood 4. To determine the clotting time of own blood. 5. To determine Erythrocyte Sedimentary Rate (E.S.R) 6. To Estimate of Hb by Sahli's haemometer	NIL
August- 2024	7. To Count the total RBCs of own blood 8. To Count the total WBCs of own blood 9. To study Differential WBCs of own blood 10. To Measure human blood pressure 11. To Interpret the ECG. 12. Measurement of lung capacity	NIL
September 2024	13. Study of dialyzer unit 14. Study of permanent slides of duodenum, liver, pancreas, salivary gland 15. Study of permanent slides of spinal cord, lung, kidney, blood vessels (artery& vein) 16. Study of fossil evidences from plaster cast models and pictures 17. Study of homology and analogy from suitable specimens/ pictures 18. Study of Phylogeny of human evolution	NIL
October- 2024	19. Study of Phylogeny of horse 20. Study of Darwin's finches with diagrams/ cut-outs of beaks of different species 21. Study of adaptive radiation in marsupial 22. Study of fossil animals- Peripatus, Dipnoi fish, Archaeopteryx	NIL

	23. Selection of fruit fly in relation to diet 24. Example based on Hardy-Weinberg law	
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Class: B.Sc. III Batch TA Practical: Based on: Practical-VII (On Paper No XIII And XIV)

Month	Practical	Remaining Units
June- 2024	1. Demonstration of primary lymphoid organs- bone marrow & thymus	NIL
July- 2024	2. Demonstration of secondary lymphoid organs- lymph node, spleen, mucosal associated lymphoid tissue (MALT), tonsils, gut associated lymphoid tissue (GALT)	NIL
August- 2024	3. Histological study of spleen, thymus and lymph nodes 4. Preparation of stained blood film to study various types white blood cells.	NIL
September- 2024	5. Enumeration of total WBC count from a given blood sample. 6. Antigen antibody reaction by double immuno-diffusion method.	NIL
October 2024	7. Antigen-Antibody reactions – Agglutination (Blood group test).	NIL


Dr. Tejashri C. Patil


Dr. G. K. Sontakke
HEAD
DEPARTMENT OF ZOOLOGY
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(EMPOWERED AUTONOMOUS)

"Dissemination of Education for Knowledge, Science and Culture"

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department of Zoology

Academic year: 2024-2025

Syllabus Completion Report

Name of the Teacher: Ms. P. S. Shetfalkar

Term: I

Class: B.Sc. II (Theory)

Name of the Paper: Paper-VI, Ethology (MIN03ZOO32)

Month	Module unit	Subunit Completed	Remaining Units
July - 2024	UNIT- II	Social Behaviour: Introduction, aggression, aggregations- schooling in fishes,	Nil
August - 2024	UNIT- II	flocking in birds; herding in mammals, group selection, kin selection,	Nil
September- 2024	UNIT- II	Social organization in insects and primates Reproductive Behaviour: Introduction, mating systems, courtship, sexual selection	Nil
October- 2024	UNIT- II	Biological rhythms: Introduction, Circadian and Circa-annual rhythms, Orientations and navigation, Migration of fishes and birds	Nil

Class: B. Sc. III (Theory)

Name of the Paper: Paper- XII, Developmental Biology II (DSE -1008E4)

Month	Module unit	Subunit Completed	Remaining Units
June- 2024	UNIT-II	Chick Embryology Structure of sperm, Structure of egg and vitellogenesis	Nil
July- 2024	UNIT-II	Fertilization and cleavage. Blastula and its fate map	Nil
August- 2024	UNIT-II	Process of gastrulation. Organizer (Development of eye)	Nil
September- 2024	UNIT- II	Organogenesis a. Development of neural tube and brain up to 72 hours of incubation b. Development of gut up to 72 hours of incubation	Nil
October- 2024	UNIT- II	c. Development of blood and heart up to 72 hours of incubation Foetal membranes and significance	Nil

Class: B.Sc. I (PR)

Practical: ZOOLOGY LAB (1): 2DSC03ZOO19 (Practical I)

Month	Practical Completed	Remaining Practical
July- 2024	1. Study of the specimens with respect to classification and morphological peculiarities: Phylum Porifera to Phylum Echinodermata	Nil

	2. Study of the following permanent slides: a. T.S. or L.S. of Sycon b. T.S. of male and female <i>Ascaris lumbricoides</i> 3. Mounting of mouth part in cockroach/honey bee/ any insect 4. Mounting of sponging fibres and spicules	
August-2024	5. Study of life history stages of <i>Taenia solium</i> 6. Study of life cycle of <i>Ascaris lumbricoides</i> 7. Preparation of <i>Paramoecium</i> culture 8. Temporary preparation of pedicellaria	Nil
September-2024	9. Study of compound Microscope : Simple and Compound 10. Temporary preparation of mitotic cells from onion roots 11. Extraction of DNA from given sample 12. Stained squash preparation of salivary gland chromosomes	Nil
October-2024	13. Study of Cell organelles (any three) by using microphotographs 14. Stained preparation of mitochondria from oral mucosa/ onion peels 15. Effect of tonicity of solutions on plasma membrane of RBCs	Nil

Class: B.Sc. II (PR)

PRACTICAL-III (MINOR) - Based on Paper No V & VI


Month	Practical Completed	Remaining Practicals
July- 2024	1. Calculate the mean using given data (Any two examples) 2. Calculate the median using the given data (Any two examples) 3. Calculate the mode using the given data (Any two examples) 4. Calculate the standard deviation using the given data. 5. Draw a line/ Bar diagram using the given data.	Nil
August-2024	6. Draw a Histogram by using given data (equal unequal distribution) 7. Draw a Polygon using given data. 8. Draw frequency curve/ Ogive curve using given data. 9. Drawing graphs and tables on a computer using given data. 10. Examples based on regression (Any two examples)	Nil
September-2024	11. Examples based on correlation (Any two examples) 12. To study the locomotory behaviour in - a) Earthworm b) Garden snail 13. To study chemical communication in ant 14. To study simple reflex behaviour in Cockroach 15. To study the reaction of terrestrial woodlice to light and humidity	Nil
October-2024	16. To study the aggression and courtship behaviour in crickets 17. To study the chemoreception in the adult fly 18. To study the courtship behaviour in fruit fly	Nil


Class: B.Sc. III (PR)

PRACTICAL-VIII - Based on Paper No XV & XVI

Month	Practical Completed	Remaining Practicals
June - 2024	1. Study of pond ecosystem on field .	Nil
July- 2024	2. Collection, preservation and identification of zooplanktons. 3. Study of aquatic insects- Photographs/specimens (Any four)	Nil

August-2024	4. Oxygen consumption by any aquatic animal 5. Determine the amount of turbidity/transparency	Nil
September-2024	6. Estimation of dissolved oxygen 7. Estimation of free carbon dioxide	Nil
October-2024	8. Determination alkalinity of given water sample	Nil


Ms. P. S. Shetfalkar


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Department of Zoology

Academic year: 2024-2025

Syllabus Completion Report

Name of the Teacher: Miss. Namrata Ajit Jadhav

Term: I- Theory

Class: B.Sc. I Sem.-I

Name of the Paper: Paper-I, Animal Diversity-I, (2DSC03ZOO11)

Month	Module Unit	Sub-Unit	Remaining Units
July- 2024	UNIT-II	Phylum Platyhelminthes: General characters and classification up to classes, Life history of <i>Taenia solium</i> and its parasitic adaptations	NIL
August- 2024	UNIT-II	Phylum Nematelminthes- General characters and classification up to classes; Life history of <i>Ascaris lumbricoides</i> and its parasitic adaptations Phylum Annelida- General characters and classification up to classes; Metamerism in Annelida	NIL
September- 2024	UNIT- II	Phylum Arthropoda- General characters and classification up to classes; Metamorphosis in insects Phylum Mollusca- General characters and classification up to classes, Sense organ in Mollusca	NIL
October- 2024	UNIT- II	Phylum Echinodermata- General characters and classification up to classes, Water-vascular system in star fish	NIL

Class: B.Sc. II Sem.- III (Major)

Name of the Paper: Paper-VI, Evolution (DSC03ZOO32)

Month	Module Unit	Sub-Unit	Remaining Units
July- 2024	UNIT-I	Origin of Life and evidences of evolution: Life's beginnings: Chemogeny, RNA World, Biogeny, the origin of photosynthesis, Evolution of eukaryotes, Geological time Scale	NIL
August- 2024	UNIT-I	Introduction to evolutionary theories Lamarckism, Weismann's theory of germplasm, Darwinism, Mutation theory	NIL
September- 2024	UNIT- I	Neo-Darwinism, Processes of Evolutionary Change: Natural selection (Example: Industrial melanism); Types of natural selection (Directional, Stabilizing, Disruptive)	NIL

October-2024	UNIT- I	Artificial selection, Adaptive radiation- Darwin's finches	NIL
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Class: B.Sc. I Sem.- (PR) (Batch- B6)

Practical: ZOOLOGY LAB (1): DSC03ZOO19 (Practical I),

Practicals based on Animal diversity I (DSC03ZOO11) and Cell biology (DSC03ZOO12)

Month	Practical	Remaining Units
July- 2024	1. Study of the specimens with respect to classification and morphological peculiarities: Kingdom- Protista to Phylum- Echinodermata 2. Study of the following permanent slides: a. T.S. or L.S. of <i>Sycon</i> b. T.S. of male and female <i>Ascaris lumbricoides</i> 3. Mounting of mouth part in cockroach/honey bee/ any insect 4. Mounting of sponging fibres and spicules	NIL
August-2024	5. Study of life history stages of <i>Taenia solium</i> 6. Study of life cycle of <i>Ascaris lumbricoides</i> 7. Preparation of <i>Paramoecium</i> culture 8. Temporary preparation of pedicellaria	NIL
September-2024	9. Study of compound Microscope : Simple and Compound 10. Temporary preparation of mitotic cells from onion roots 11. Extraction of DNA from given sample 12. Stained squash preparation of salivary gland chromosomes	NIL
October-2024	13. Study of Cell organelles (any three) by using microphotographs 14. Stained preparation of mitochondria from oral mucosa/ onion peels 15. Effect of tonicity of solutions on plasma membrane of RBCs	NIL

Class: B.Sc. II Sem.- III (PR) (Minor, Batch- ZM3)

Paper- V & VI ZOOLOGY LAB (3): MIN03ZOO39 (Practical III)

Practicals based on Biostatistics (MIN03ZOO31) and Ethology (MIN03ZOO32)

Month	Practical	Remaining Units
July- 2024	1. Calculate the mean using given data (Any two examples) 2. Calculate the median using the given data (Any two examples) 3. Calculate the mode using the given data (Any two examples) 4. Calculate the standard deviation using the given data. 5. Draw a line/ Bar diagram using the given data.	NIL
August-2024	6. Draw a Histogram by using given data (equal unequal distribution) 7. Draw a Polygon using given data. 8. Draw frequency curve/ Ogive curve using given data.	NIL

	9. Drawing graphs and tables on a computer using given data. 10. Examples based on regression (Any two examples)	
September-2024	11. Examples based on correlation (Any two examples) 12. To study the locomotory behaviour in - a) Earthworm b) Garden snail 13. To study chemical communication in ant 14. To study simple reflex behaviour in Cockroach 15. To study the reaction of terrestrial woodlice to light and humidity	NIL
October-2024	16. To study the aggression and courtship behaviour in crickets 17. To study the chemoreception in the adult fly 18. To study the courtship behaviour in fruit fly	NIL

Class: B.Sc. III, (Batch- TB2), PRACTICAL-VI (BASED ON PAPER NO XI AND XII)

Month	Practical	Remaining Units
July- 2024	3. Study of chick embryo (permanent slides /microphotographs) a. Whole mount of chick embryo – 18, 24, 33, 48 and 72 hours. b. T.S. of chick embryo – 18, 24, 33, 48 and 72 hours	NIL
August-2024	4. Preparation of whole mount chick embryo	NIL
September-2024	5. Study of histological structures of placenta (permanent slide or microphotographs) a. Epitheliochorial b. Endotheliochorial c. Hemochorial d. Syndesmochorial e. Hemoendothelial	NIL
October-2024	6. Examination of gametes- Frog or rat sperm & ovum (permanent slides/microphotographs)	NIL

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Miss. Namrata Ajit Jadhav

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Department of Zoology

Academic year: 2024-2025

Syllabus Completion Report

Name of the Teacher: Ms. Pratiksha R. Gaikwad

Term: I

Class: B.Sc. I (Theory)

Name of the Paper: Paper II, Cell Biology (2DSC03ZOO12)

Month	Module unit	Sub unit	Remaining Units
July- 2024	UNIT-II	Structure of Nucleic acid: DNA	NIL
August- 2024	UNIT-II	RNA and its types	NIL
September-2024	UNIT- II	Chromosome: Morphology	NIL
October- 2024	UNIT- II	types of chromosomes	NIL

Class: B. Sc. III (Theory)

Name of the Paper: Paper- XI, Developmental Biology-I (DSE -1008E3)

Month	Module unit	Sub unit	Remaining Units
June- 2024	UNIT-II	Gastrulation - Definition, fate maps, significance of gastrulation.	NIL
July- 2024	UNIT-II	Placentation in mammals - Definition, types and significance,	NIL
August- 2024	UNIT-II	classification on the basis of morphology	NIL
September-2024	UNIT-II	classification on the basis of histology, functions of placenta	NIL
October- 2024	UNIT-II	Extraembryonic membranes	NIL

Class: B.Sc. I (PR) (Batch: B9)

Practical: ZOOLOGY LAB (I): 2DSC03ZOO19 (Practical I)

Practicals based on Animal diversity I (DSC03ZOO11) and Cell biology (DSC03ZOO12)

Month	Practical	Remaining Practicals
July- 2024	1. Study of the specimens with respect to classification and morphological peculiarities: Phylum Porifera to Phylum Echinodermata 2. Study of the following permanent slides: a. T.S. or L.S. of <i>Sycon</i> b. T.S. of male and female <i>Ascaris lumbricoides</i> 3. Mounting of mouth part in cockroach/honey bee/ any insect	NIL

	4. Mounting of sponging fibres and spicules	
August- 2024	5. Study of life history stages of <i>Taenia solium</i> 6. Study of life cycle of <i>Ascaris lumbricoides</i> 7. Preparation of <i>Paramoecium</i> culture 8. Temporary preparation of pedicellaria	NIL
September-2024	9. Study of compound Microscope: Simple and Compound 10. Temporary preparation of mitotic cells from onion roots 11. Extraction of DNA from given sample 12. Stained squash preparation of salivary gland chromosomes	NIL
October- 2024	13. Study of Cell organelles (any 3) by using microphotographs 14. Stained preparation of mitochondria from oral mucosa/ onion peels 15. Effect of tonicity of solutions on plasma membrane of RBCs	NIL

Class: B.Sc. II (Minor Batch: ZM5)

Practical: ZOOLOGY LAB (3): MIN03ZOO39 (Practical III)

Practicals based on Biostatistics (MIN03ZOO31) and Ethology (MIN03ZOO32)

Month	Practical	Remaining Practicals
July- 2024	1. Calculate the mean using given data (Any two examples) 2. Calculate the median using the given data (Any two ex.) 3. Calculate the mode using the given data (Any two examples) 4. Calculate the standard deviation using the given data. 5. Draw a line/ Bar diagram using the given data.	NIL
August- 2024	6. Draw a Histogram by using given data (equal unequal distribution) 7. Draw a Polygon using given data. 8. Draw frequency curve/ Ogive curve using given data 9. Drawing graphs and tables on a computer using given data. 10. Examples based on regression (Any two examples)	NIL
September-2024	11. Examples based on correlation (Any two examples) 12. To study the locomotory behaviour in - a) Earthworm b) Garden snail 13. To study chemical communication in ant 14. To study simple reflex behaviour in Cockroach 15. To study the reaction of terrestrial woodlice to light and humidity	NIL
October- 2024	16. To study the aggression and courtship behaviour in crickets 17. To study the chemoreception in the adult fly 18. To study the courtship behaviour in fruit fly	NIL

P. R. Gaikwad

Ms. P. R. Gaikwad

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