

“Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Autonomous)

Department of Zoology

Syllabus Completion Report 2022-2023

1. **Dr. G. K. Sontakke**
2. **Dr. T. C. Gaupale**
3. **Miss. N. A. Patel**
4. **Dr. T. C. Patil**
5. **Dr. S. S. Desai**
6. **Miss. Y. S. Pujari**
7. **Miss. P.S. Shetfalkar**
8. **Miss. V. K. Patil**
9. **Mr. N. F. Shaikh**



G. K. Sontakke

Dr. G. K. Sontakke

HEAD

**DEPARTMENT OF ZOOLOGY
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)**


Shri Swami Vivekanand Shikshan Sanstha
VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)
DEPARTMENT OF ZOOLOGY
Academic year: 2022-2023

SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Dr. G. K. Sontakke

Class	Subject	Total Units	Completed Units	Remaining Units
B. Sc. III Sem V	Applied zoology	4	Introduction to Host-parasite Relationship: Host, Definitive host, Intermediate host, Parasitism, Types of Parasites, Symbiosis, Commensalism, Reservoir, Zoonosis, Types of parasites Epidemiology of Diseases Transmission, Prevention and control of diseases: Tuberculosis, Typhoid, Dengue & swine flue Parasitic Protozoa: Life history and pathogenicity of Entamoeba histolytica, Plasmodium vivax, Trichomonas Insects of Economic Importance Biology, Control and damage caused by Helicoverpa armigera, Pyrilla perpusilla and Papilio demoleus, Callosobruchus chinensis, Sitophilus oryzae and Tribolium castaneum, milibug, aphids and white fly	NIL


Dr. G. K. Sontakke


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Academic year: 2022-2023

SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Dr. T.C. Gaupale

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Sem V	Applied Zoology	3	Fish Technology: Fish farming construction & Maintenance. Induced breeding and transportation of fish seed. Animal feed preparation: Cattle feed, rat feed, fish feed, poultry feed Animal and Crop waste Management Poultry waste management, Sugarcane and wheat waste management.	NIL
B.Sc. II Sem III	Mammalian Physiology and biochemistry	2	Endocrine Glands: Structure and function of Hypothalamus, Pituitary, Thyroid, Pancreas, Adrenal gland Enzymes: Introduction, Mechanism of action, Factors affecting enzyme activity, Inhibition and Regulation of enzyme action	NIL


Dr. T.C. Gaupale


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SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Ms. N. A. Patel

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Sem V	Animal Biotechnology	1	Cloning vectors: Plasmids, Cosmids, Phagemids, Lambda , Bacteriophage, , BAC, MAC and Expression vectors (Characteristics) Restriction enzymes: Nomenclature, detailed study of Type II. Transformation techniques: Calcium chloride method and Electroporation. Construction of genomic and c DNA libraries and screening by colony and plaque hybridization Southern, Northern and Western blotting; DNA sequencing: Sanger method, Polymerase Chain Reaction, DNA finger printing	NIL
B.Sc. I Sem I	Animal Diversity	1	Reptiles: General features and Classification up to orders; Venomous and non-venomous snakes, Types of venoms. Aves: General features and Classification up to orders; Flight adaptations in birds	NIL


Ms. N. A. Patel


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Academic year: 2022-2023

SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Dr. T. C. Patil

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Sem V	Animal Biotechnology	1	Culture Techniques and Applications: Animal cell culture: Cell culture techniques and types. Requirements . Types of media Sterilization technique. Stem cell culture. Application Molecular diagnosis of genetic diseases (Cystic fibrosis, Sickle cell anemia) Recombinant DNA in medicines: Recombinant insulin and human growth hormone, Gene therapy Microtechnique, Application of biotechnology in animal husbandry, medicine and agriculture	NIL
B.Sc. II Sem III	Mammalian Physiology and biochemistry	2	Respiration: Pulmonary ventilation, Respiratory volumes and capacities, Transport of oxygen and Carbon dioxide in blood, Haldane effect, Bohr's effect, Chloride shift. Excretion: Structure of nephron, Glomerular capsule, Mechanism of Urine formation, Counter-current Mechanism. Cardiovascular system: Composition of blood, Origin and conduction of the cardiac impulse, cardiac cycle.	NIL


Dr. T. C. Patil


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SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Dr. S. S. Desai

Class	Subject	Total Units	Completed Units	Remaining Units
B. Sc. III Sem V	Animal Biotechnology	1	Concept & Scope of Biotechnology, DNA: Structure & its types, Structure of RNA and its types. DNA replication- semi-conservative mode of replication. Transcription: In Prokaryotes & Eukaryotes. Translation: In Prokaryotes & Eukaryotes	NIL
B. Sc. I Sem I	Animal Diversity	1	Class: Pisces: General features and classification up to order. Difference between cartilaginous and bony fishes. Mechanism and Importance of osmoregulation in fishes. Class-Amphibia: General features and classification up to order. Parental care in Amphibia	NIL

Dr. S. S. Desai

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SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Ms. Y. S. Pujari

Class	Subject	Total Units	Completed Units	Remaining Units
B. Sc. III Sem V	Applied Zoology	3	Insects of medical importance Dairy technology Poultry Farming	NIL
B. Sc. II Sem III	Mammalian Physiology and biochemistry	2	Nerve & Muscle Introduction, Structure of Neuron Resting membrane potential, Origin of action potential & its propagation in non-myelinated nerve fiber, Ultra- Structure of skeletal muscle, Molecular & Chemical basis of muscle contraction Protein Metabolism: structure of amino acids, types of proteins, transamination, Deamination and urea cycle	NIL

Ms. Y. S. Pujari

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SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Ms. P. S. Shetfalkar

Class	Subject	Total Units	Completed Units	Remaining Units
B. Sc. I Sem I	Animal Diversity	2	Importance of Animal Taxonomy. Kingdom Protista- General characters and classification up to classes; locomotion in Protozoa Phylum Porifera- General characters and classification up to classes; Canal System in Sycon. Phylum Cnidaria- General characters and classification up to classes; Polymorphism in obelia. Phylum- Mollusca- General characters and classification up to classes; Economic Importance of mollusca. Phylum- Echinodermata- General characters and classification up to classes; Water Vascular system in Asteroidea; pedicellaria Echinodermata	NIL


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SYLLABUS COMPLETION REPORT (Term I)

Teacher Name: Ms. V. K. Patil

Class	Subject	Total Units	Completed Units	Remaining Units
B. Sc. I Sem I	Animal Diversity	2	Phylum Platyhelminthes : General characters and classification up to classes, Morphology of <i>Taenia solium</i> and its parasitic adaptations, Preventive measures and control measures Phylum Nemathelminthes: General characters and classification up to classes, Life history of <i>Ascaris lumbricoides</i> and its parasitic adaptations, Preventive measures and control measures Phylum Annelida: General characters and classification up to classes, Metamerism in Annelida Phylum Arthropoda: General characters and classification up to classes, Social behaviour in honey bee	NIL


Ms. V. K. Patil



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Academic year: 2022-2023

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Teacher Name: Mr. N. F. Shaikh

Class	Subject	Total Units	Completed Units	Remaining Units
B. Sc. I Sem I	Animal Diversity	2	Phylogenetic tree in Chordata Protochordates: General features and Phylogeny of Protochordata Agnatha: General features of Agnatha and classification of cyclostomes up to classes, Peculiar characteristics of Petromyzon and myxine Mammals: Classification up to orders; dentition in mammals-rabbit, rat, human, dog, sheep	NIL


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SYLLABUS COMPLETION REPORT (Term II)

Teacher Name: Dr. G. K. Sontakke

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Sem VI	Ecology & Aquatic Biology	1	Freshwater Biology: Lakes: Origin and classification, Lake as an Ecosystem, Lake morphometry, Physico-chemical Characteristics. Management of Aquatic Resources: Causes of pollution: Agricultural, Industrial, Sewage, Thermal and Oil spills, Eutrophication, Management and conservation (legislations), Sewage treatment, Water quality assessment- BOD and COD.	Nil



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DEPARTMENT OF ZOOLOGY
Academic year: 2022-23

Practical syllabus completion report

Teacher Name: -Dr. G. K. Sontakke

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	F13, F14	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	S13	Physiology and Biochemistry	Complete
B. Sc. III	Practical III	B1	Aquatic biology	Complete



Name and Signature of Teacher



Name and Signature of HOD

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SYLLABUS COMPLETION REPORT (Term II)

Teacher Name: Dr. T. C. Gaupale

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Sem VI	Immunology	1	Overview of the Immune System: Introduction to basic concepts in immunology, components of immune system, principles of innate and adaptive immune system. Cells and Organs of the Immune System: Haematopoiesis, Cells of immune system and organs (primary and secondary lymphoid organs) of the immune system. Antigens: Basic properties of antigens, B and T cell epitopes, haptens and adjuvants	Nil
B.Sc. II Sem IV	Cell Biology, Genetics, Evolution and Ethology	1	Structure of Biomolecules - DNA, RNA and its types Ultra-structure of cell organelle Structure of prokaryotic and eukaryotic cell, Ultra structure and function of – Plasma membrane, Nucleus, Mitochondria, Golgi apparatus, Endoplasmic reticulum, Ribosome, lysosomes Introduction to cell cycle and cell division Mendelian Genetics and its Extension Terminology in genetics, Principles of inheritance, Chromosomal theory of inheritance, Incomplete dominance and codominance, Multiple alleles with respect to ABO	Nil


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DEPARTMENT OF ZOOLOGY
Academic year: 2022-23

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Teacher Name: - Dr. T.C. Gaupale

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	F11, F12, F9	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	S11, S12	Physiology and Biochemistry	Complete
B. Sc. III	Practical II	B1	Applied Zoology	Complete


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Academic year: 2022-2023

SYLLABUS COMPLETION REPORT (Term II)

Teacher Name: Ms. N. A. Patel

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Sem VI	Immunology	2	Antibodies Structure, classes and function of antibodies, hybridoma technology, monoclonal antibodies, Hybridoma technology, antigen antibody interactions as tools for research and diagnosis, ELISA & its types. Working of the immune system Structure and functions of MHC, exogenous and endogenous pathways of antigen presentation and processing, basic properties and functions of cytokines, Complement system Components and pathways.	Nil
B.Sc. I Sem II	Comparative Anatomy and Developmental Biology of Vertebrates	2	Early Embryonic Development Gametogenesis: Spermatogenesis and oogenesis w.r.t. mammals, vitellogenesis in birds; Fertilization: external (amphibians), internal (mammals), blocks to polyspermy; Early development of frog and humans (structure of mature egg and its membranes, patterns of cleavage, fate map, up to formation of gastrula); types of morphogenetic movements; Fate of germ layers; Neurulation in frog embryo. Chick embryology Development of chick embryo up to 72 hours	Nil


Ms. Najnin A. Patel


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Academic year: 2022-23

Practical syllabus completion report

Teacher Name: - Ms. N. A. Patel

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	F7	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	S13	Physiology and Biochemistry	Complete
B. Sc. III	Practical I	B1	Animal Biotechnology	Complete


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Teacher Name: Dr. T. C. Patil

Class	Subject	Total units	Completed Units	Remaining Units
B.Sc. III Sem VI	Immunology	2	Immune system in health and disease Gell and Coombs' classification and brief description of various types of hypersensitivities, Introduction to concepts of autoimmunity and immunodeficiency and Autoimmune disorders Vaccines: General introduction to vaccines, types of vaccines, production of vaccines	Nil
B.Sc. II Sem IV	Cell Biology, Genetics Evolution and Ethology	2	History of Life: Major events in history of life, Geological time scale. Introduction to Evolutionary Theories Lamarckism, Darwinism, Neo-Darwinism Evolutionary Change: Organic variations, Isolating mechanisms, Natural selection (Example: Industrial melanism); Types of natural selection (Directional, Stabilizing, Disruptive), Artificial Selection Biological Species concept, Extinction Ethology- Animal Behavior types of mimicry	NIL


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Academic year: 2022-23

Practical syllabus completion report

Teacher Name: - Dr. T. C. Patil

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. II	Practical II	S13	Physiology and Biochemistry	Complete
B. Sc. III	Practical IV	B1	Immunology	Complete


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SYLLABUS COMPLETION REPORT (Term II)

Teacher Name: Dr. S. S. Desai

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Sem VI	Ecology & Aquatic Biology	1	Aquatic Biomes Brief introduction of the aquatic biomes: Freshwater ecosystem (wetlands, streams and rivers), estuaries, intertidal zones, oceanic pelagic zone, marine benthic zone and coral reefs.	Nil
B.Sc. I Sem II	Comparative Anatomy and Developmental Biology of Vertebrates	1	Integumentary System Derivatives of integument w.r.t. glands and digital tips Skeletal System Appendicular Skeletons Digestive System Brief account of alimentary canal and digestive glands Respiratory System Brief account of Gills, lungs, air sacs and swim bladder	Nil



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DEPARTMENT OF ZOOLOGY
Academic year: 2022-23

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Teacher Name: - Dr. S. S. Desai

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	F7	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical II	S11, S12	Cell Biology, Genetics, Evolution and ethology	Complete
B. Sc. III	Practical I	B2	Animal Biotechnology	Complete


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SYLLABUS COMPLETION REPORT (Term II)

Teacher Name: Ms. Y. S. Pujari

Class	Subject	Total units	Completed Units	Remaining Units
B.Sc. III Sem VI	Ecology & Aquatic Biology	1	Introduction and scope of Ecology, Structure, function, types & components of ecosystem, energy flow and cycling of minerals food chain, food web & Ecological pyramids, Introduction to biomes and their types	Nil
B.Sc. II Sem IV	Cell Biology, Genetics, Evolution and Ethology	1	Direct Evidences of Evolution : Types of fossils, Process of fossilization, Dating of fossils Species Concept, Biological species concept (Advantages and limitations); Modes of speciation (Allopatric, Sympatric, Peripatric and Parapatric)	Extinction : Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution

yspujari

Ms. Y. S. Pujari

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Academic year: 2022-23

Practical syllabus completion report

Teacher Name: - Ms. Y. S. Pujari

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	F9	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical II	S11, S12	Physiology and Biochemistry	Complete
B. Sc. III	Practical III	B2	Aquatic biology	Complete

Y. S. Pujari

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Academic year: 2022-2023

SYLLABUS COMPLETION REPORT

Teacher Name: Ms. Pallavi S. Shetfalkar

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. I Semester II	Comparative Anatomy & Developmental Biology of Vertebrates	1	Unit III Late Embryonic Development Implantation of embryo in humans, Formation of human placenta and functions, other types of placenta in mammals.	NIL
B.Sc. III Semester VI	Ecology and Aquatic Biology	2	Section I Unit III Marine Biology Salinity and Density of sea water, Continental shelf, Adaptation of deep sea organism, coral reef, Sea Weeds. Section II Unit V Different stages of stream development, Physico-Chemical Environment, Adaptation of hill stream fishes and conservation of stream	NIL


Ms. Pallavi S. Shetfalkar


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Academic year: 2022-23

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Teacher Name: - Ms. P. S. Shetfalkar

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	F11, F12, F13, F14	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical II	S11, S12	Cell Biology, Genetics, Evolution and ethology	Complete


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Teacher Name: Mr. Nasir F. Shaikh

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. I Sem. II	Comparative Anatomy & Developmental Biology of Vertebrates	1	Unit II Circulatory System Evolution of heart and aortic arches Urinogenital System Succession of Kidney, Evolution of urinogenital ducts Nervous System Comparative account of brain Sense Organ	NIL
B.Sc. II Sem IV	Cell Biology, Genetics, Evolution and Ethology	1	Unit II Linkage, Crossing Over Types of linkage, and mechanism of crossing over, cytological evidence of crossing over, Significance of crossing over Mutations Chromosomal Mutation, Deletion, Duplication, Inversion, Translocation, Aneuploidy, Polyploidy, Gene Mutation, Induced versus Spontaneous mutation, Frameshift mutation, Point Mutation	NIL



Mr. Nasir F. Shaikh



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Teacher Name: - Mr. N. F. Shaikh

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
C. Sc. I	Practical I	F10, F8	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	S8, S9, S11, S12	Physiology and Biochemistry	Complete


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