"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 2021-2022

- 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. K. L. Kamble
- 8. Miss. P.S. Shetfalkar
- 9. Miss. V. K. Patil

ESTD JUNE 1964 1964

Dr. G. K. Sontakke

HEAD

DEPARTMENT OF ZOOLOGY

VIVEKANAND COLLEGE, KOLHAPUR

(AUTONOMOUS)

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. G. K. Sontakke

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester V	Applied Zoology		Unit 1: Introduction to Host-parasite Relationship Host, Definitive host, Intermediate host, Parasitism, Types of Parasites, Symbiosis, Commensalism, Reservoir, Zoonosis, Types of parasites Unit 2: Epidemiology of Diseases Transmission, Prevention and control of diseases: Tuberculosis, Typhoid, Dengue & swine flue Unit 3: Parasitic Protozoa Life history and pathogenicity of Entamoeba histolytica, Plasmodium vivax, Trichomonas Unit 4: 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

Dr. G. K. Sontakke Head, Department of Zoology Vivekanand College, Kolhapur (Autonomous)

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. T. C. Gaupale

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester V	Applied Zoology	3	Unit 8: Fish Technology Fish farming construction & Maintenance. Induced breeding and transportation of fish seed Unit 9: Animal feed preparation Cattle feed, rat feed, fish feed, poultry feed Unit 10: Animal and Crop waste Management Poultry waste management, Sugarcane and wheat waste management	NIL
B.Sc. II Semester: III	Physiology and Biochemistry	2	UNIT- III Endocrine Glands Structure and function of Hypothalamus, Pituitary, Thyroid, Pancreas, Adrenal gland UNIT- IV Enzymes Introduction, Mechanism of action, Factors affecting enzyme activity, Inhibition and Regulation of enzyme action	NIL

Dr. T. C. Gaupale

Dr. G. K. Sontakke

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Ms. N. A. Patel

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester V	Animal Biotechnology	1	Unit 2: Molecular Techniques in Gene manipulation Cloning Vectors, Restriction enzymes, Transformation techniques, Construction of genomic DNA & cDNA library Southern, Northern, Western bloting PCR DNA fingerprinting.	NIL
B.Sc. I Semester: I	Animal diversity	1	UNIT IV Class-Reptiles General features and classification up to order classification up to order in class reptiles Venomous and non-venomous snake and types of venom Class Aves General features and classification up to order Flight Adaptation Class Mammals	NIL

Ms. N. A. Patel

Dr. G. K. Sontakke

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. T. C. Patil

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester V	Animal Biotechnology		Unit 4: Culture Techniques and Applications Animal cell culture:1. Cell culture techniques and types 2. Requirments 3. Types of media 4. Sterilization technique 5. Stem cell culture 6. 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 Semester: III	Physiology and Biochemistry	2	UNIT- II 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. F. C. Patil

Dr. G. K. Sontakke Head, Department of Zoology Vivekanand College, Kolhapur (Autonomous)

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. S. S. Desai

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester V	Animal Biotechnology	1	Unit I Concept and scope of biotechnology DNA structure, DNA replication, Transcription and Translation	NIL
B.Sc. I Semester: I	Animal Diversity		Unit III Phylogenetic tree in Chordate Protochordata Agnatha: General feature of Agnatha and classification of cyclostomes up to classes Peculiar characteristic of Petromyzon and myxin Class: Pisces General features and classification up to order Difference between cartilaginous and bony fishes,Importance of osmoregulation in fishes Class-Amphibia General features and classification up to order,Parental care in Amphibia	NIL

Dr. S. S. Desai

Dr. G. K. Sontakke

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Ms. Y. S. Pujari

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester V	Animal Biotechnology	1	Unit III Genetically modified organism Production of cloned & transgenic animals Application of transgenic animals Production of transgenic plants Application of transgenic plants	NIL
B.Sc. II Semester: III	Physiology and Biochemistry	2	Unit I Nerve & Muscle Structure of Neuron Resting membrane potential Origin of action potential & its propogation in non-myleinated nerve fiber Ultra-Structure of skeletal muscle Molecular & Chemical basis of muscle contraction	NIL
			Unit III Carbohydrate metabolism Glycolysis, Kreb cycle, Pentose phosphate pathway, Gluconeogenesis, Glycogen metabolism	NIL

Style

Ms. Y. S. Pujari

Dr. G. K. Sontakke

SYLLABUS COMPLETION REPORT DEPARTENT OF ZOOLOGY 2021-2022

Teacher Name: Ms. Kamble K. L.

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc.I Semester I	Animal diversity	1	Unit II Phylum Arthropoda General characters and classification up to classes; Social behavior in honey bee 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, Pedicillaria in Echinodermata	NIL
B.Sc. II Semester III	Physiology and Biochemistry	2	Unit I Digestion Physiology of digestion in the alimentary canal; Absorption of carbohydrates, proteins, lipids Unit II Excretion Structure of nephron, Mechanism of Urine formation, Counter-current Mechanism	NIL
B. Sc. III Sem V	Applied Zoology	1	Unit IV 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

Name and Signature of Teacher

(Ms. Kranti L. Karoble)

Name and Signature of HOD

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Ms. Pallavi S. Shetfalkar

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester V	Animal Biotechnology	1	Unit 4: Culture Techniques and Applications Animal cell culture: Cell culture techniques and types Sterilization technique Application Molecular diagnosis of genetic diseases (Cystic fibrosis, Sickle cell anemia)	NIL
B.Sc. I Semester: I	Animal Diversity	1	UNIT I: 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	NIL

Ms. Pallavi S. Shetfalkar

Dr. G. K. Sontakke Head, Department of Zoology Vivekanand College, Kolhapur (Autonomous)

SYLLABUS COMPLETION REPORT - DEPARTENT OF ZOOLOGY 2021-2022

Teacher Name: V.K. Patil

Class	Subject	Total Units	Completed Units	Remaining
B.Sc. I Semester: I	Animal diversity	2	Unit I Phylum Platyhelminthes General characters and classification up to classes Morphology of Taenia solium and its parasitic adaptation Preventive measures and control measures Phylum-Nemathelminthes General characters and classification up to classes Life history of Ascaris lumbricoides and its parasitic adaption Preventive measures and control Unit II Phylum-Annelida General characters and classification up to classes	NIL
B.Sc. II Semester:III	Physiology and Biochemistry	1	Metamerism in Annelida Unit IV Mechanism of enzyme action Michaelis and Menten equation	NIL

Name and Signature of Teacher (Miss. V. K. Patil)

Name and Signature of HOD

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VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. G. K. Sontakke

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester VI	Ecology & Aquatic Biology		UNIT 4: Freshwater Biology Lakes: Origin and classification, Lake as an Ecosystem, Lake morphometry, Physico-chemical Characteristics: Light, Temperature, Thermal stratification, Dissolved Solids, Carbonate, Bicarbonates, Phosphates and Nitrates, Turbidity; dissolved gases (Oxygen, Carbon dioxide). Nutrient Cycles in Lakes- Nitrogen, Sulphur and Phosphorous. UNIT 5: Streams and their conservation Different stages of stream development, Physico-chemical environment, Adaptation of hill- stream fishes and Conservation of streams UNIT 6: 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

Dr. G. K. Sontakke

Dr. G. K. Sontakke

Academic year: 2021-22

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	B4,B7, B9	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	B1,BB	Physiology and Biochemistry	Complete
B. Sc. III	Practical III	B1	Aquatic biology	Complete

Name and Signature of Teacher

Name and Signature of HOD

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. T. C. Gaupale

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester VI	Immunology	2	Unit 1: Overview of the Immune System Introduction to basic concepts in immunology, components of immune system, principles of innate and adaptive immune system Unit 2: Cells and Organs of the Immune System Hematopoiesis, Cells of immune system and organs (primary and secondary lymphoid organs) of the immune system	NIL
B.Sc. I Semester: II	Developmental Biology Of Vertebrates	1	Unit I 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	NIL

Dr. T. C. Gaupale

Dr. G. K. Sontakke

Academic year: 2021-22

Practical syllabus completion report

Teacher Name: - Dr. T.C. Gaupale

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	B1, B2	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	B2, B3, B4,BM	Physiology and Biochemistry	Complete
B. Sc. III	Practical II	B1	Applied Zoology	Complete

Name and Signature of Teacher

Name and Signature of HOD

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Ms. N. A. Patel

Class	Subject	Total	Completed Units	Remaining
		Units		Units
B.Sc. III Semester VI	Immunology	2	UNIT-IV Antibodies — structure, class & function of antibodies Hybridoma technology-monoclonal & polyclonal antibody ELISA & its types Unit V 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	Comparative	1	UNIT-III	
Semester:	Anatomy &		Early Embryonic Development	
Π	Developmental Biology of Vertebrates		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.	NIL

Ms. N. A. Patel

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Dr. G. K. Sontakke Head, Department of Zoology

Vivekanand College, Kolhapur (Autonomous)

Academic year: 2021-22

Practical syllabus completion report

Teacher Name: - Ms. N. A. Patel

Class	Practical No.	Batch	Practical based on paper	Complete/
B. Sc. I	Practical I	B3, B5, B8	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	B1,BB	Physiology and Biochemistry	Complete
B. Sc. III	Practical I	В1	Animal Biotechnology	Complete

Name and Signature of Teacher

Name and Signature of HOD

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. T. C. Patil

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester VI	Immunology	2	Unit 6: 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 Unit 7: Vaccines General introduction to vaccines, types of vaccines, production of vaccines	NIL
B.Sc. II Semester: IV	Cell Biology, Genetics and Evolution	1	UNIT-III 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	NIL

Dr. T. C. Patil

Dr. G. K. Sontakke Head, Department of Zoology

Vivekanand College, Kolhapur (Autonomous)

Academic year: 2021-22

Practical syllabus completion report

Teacher Name: - Dr. T. C. Patil

Class	Practical No.	Batch	Practical based on paper	Complete/
				Incomplete
B. Sc. I	Practical I	В6	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I & II	B1,BB,B3, B4	Physiology and Biochemistry	Complete
B. Sc. III	Practical IV	B1	Immunology	Complete

Name and Signature of Teacher

Name and Signature of HOD

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Dr. S. S. Desai

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. II Semester IV	Cell biology, Genetics and Evolution	1	Unit I Mendelian Genetics and its Extension Terminology in genetics, Principles of inheritance, Chromosomal theory of	NIL
			inheritance, Incomplete dominance and codominance, Multiple alleles with respect to ABO	

Dr. S. S. Desai

Dr. G. K. Sontakke

Academic year: 2021-22

Practical syllabus completion report

Teacher Name: - Dr. S. S. Desai

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	B8, B9	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	B2,BM	Physiology and Biochemistry	Complete
B. Sc. III	Practical I	B2	Animal Biotechnology	Complete

Name and Signature of Teacher

Name and Signature of HOD

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

SYLLABUS COMPLETION REPORT

Teacher Name: Ms. Y. S. Pujari

Class	Subject	Total Units	Completed Units	Remaining Units
B.Sc. III Semester VI	Ecology & Aquatic Biology Section I	. 1	Unit 2: 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. II Semester: IV	Cell Biology, Genetics and Evolution		UNIT-IV Direct Evidences of Evolution Types of fossils, Process of fossilization, Dating of fossils Species Concept Species Concept 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	NIL

Ms. Y. S. Pujari

Dr. G. K. Sontakke Head, Department of Zoology Vivekanand College, Kolhapur (Autonomous)

Academic year: 2021-22

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	В6	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical II	B2,BM,B3,B4	Physiology and Biochemistry	Complete
B. Sc. III	Practical III	B2	Aquatic biology	Complete

Name and Signature of Teacher

Name and Signature of HOD

Department of Zoology

Vivekanand College, Kolhapur (Autonomous)

Academic year: 2021-22

Practical syllabus completion report

Teacher Name: - Ms. K. L. Kamble

Class	Practical No.	Batch	Practical based on paper	Complete/ Incomplete
B. Sc. I	Practical I	B4,B7, B1,B2	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical II	B3,B4	Physiology and Biochemistry	Complete
B. Sc. III	Practical II	B2	Applied Zoology	Complete

Name and Signature of Teacher

Name and Signature of HOD

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS) DEPARTENT OF ZOOLOGY

Academic year: 2021-2022

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	2	Unit II Sense Organs Types of receptors Unit II Late Embryonic Development Implantation of embryo in humans, Formation of human placenta and functions, other types of placenta in mammals.	NIL

Ms. Pallavi S. Shetfalkar

Dr. G. K. Sontakke Head, Department of Zoology Vivekanand College, Kolhapur (Autonomous)

Academic year: 2021-22

Practical syllabus completion report

Teacher Name: - Ms. P. S. Shetfalkar

Class	Practical	Batch	Practical based on paper	Complete/
	No.			Incomplete
B. Sc. I	Practical I	B3, B5	Animal Diversity (Section I) Comparative Anatomy and Developmental biology of Vertebrates (Section II)	Complete
B. Sc. II	Practical I	B2,BM	Physiology and Biochemistry	Complete

Name and Signature of Teacher

Name and Signature of HOD

Academic year: 2021-22

Practical syllabus completion report

Teacher Name: - Ms. V. K. Patil

Class	Practical	Batch	Practical based on paper	Complete/
	No.			Incomplete
B. Sc. II	Practical II	B1,BB	Physiology and Biochemistry	Complete
B. Sc. III	Practical IV	B2	Immunology	Complete

Name and Signature of Teacher

VHahil.

Name and Signature of HOD