

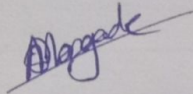
Arts, Science and Commerce College, Indapur, Dist. Pune
TEACHING AND EVALUATION PLAN

Name of the teacher: Mengade N.S.	Year: 2022-23	Semester: V
Subject: Pest management	Paper: II	Class: T Y B Sc

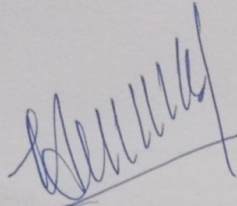
Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remark
1	Nov 2022	3 & 4	9	8	1.Pest: Definition, Types of pests, Types of damages caused by the pest. 2 . Pest management using Regulatory control: Quarantine, Eradication, Control districts, "Crop-free" periods.	8	1.Pest: Definition, Types of pests, Types of damages caused by the pest. 2 . Pest management using Regulatory control: Quarantine, Eradication, Control districts, "Crop-free" periods.	Nil	---
2	Dec 2022	1 & 2	12	8	3. Pest management using Cultural control: Sanitation, Tillage, Crop rotation, Cropping systems. 4. Pest management using Biological control: Ecological considerations, Biological control of insects, Biological control of plant disease.Biological control of weeds.	10	3. Pest management using Cultural control: Sanitation, Tillage, Crop rotation, Cropping systems. 4. Pest management using Biological control: Ecological considerations, Biological control of insects, Biological control of plant disease.Biological control of weeds.	Nil	---

3	Dec 2022	3 & 4	11	7	<p>5. Biotechnology approaches in pest management: Introduction, Recent advance in use of fungi and viruses, Methodology in Biotechnology, Somaclonal variability, Concept of Genetic engineering and Transgenic plants.</p> <p>6. Integrated pest management (IPM): Principles and its components, Advantages and disadvantages.</p>	8	<p>5. Biotechnology approaches in pest management: Introduction, Recent advance in use of fungi and viruses, Methodology in Biotechnology, Somaclonal variability, Concept of Genetic engineering and Transgenic plants.</p> <p>6. Integrated pest management (IPM): Principles and its components, Advantages and disadvantages.</p>	1	Extra lecture was conducted
4	January 2022	1 & 2	11	8	<p>Biological control - Predators, Parasitoids, Entomopathogens, Weed killers and their mass production.</p> <p>7. Insecticides: Classification of insecticides based on mode of entry. Action and chemical nature, Insecticides formulations and their uses, Safe handling of insecticides.</p>	8	<p>Biological control - Predators, Parasitoids, Entomopathogens, Weed killers and their mass production.</p> <p>7. Insecticides: Classification of insecticides based on mode of entry. Action and chemical nature, Insecticides formulations and their uses, Safe handling of insecticides.</p>	Nil	--
5	January 2022	3 & 4	12	8	<p>8. Insecticide residue: Methods of residue detection – Organochlorine, Organophosphates, Synthetic Pyrethroids, Systemic, Problems in fruits, vegetables, medicinal plants Maximum permissible residue limits (MRLs).</p>	8	<p>8. Insecticide residue: Methods of residue detection – Organochlorine, Organophosphates, Synthetic Pyrethroids, Systemic, Problems in fruits, vegetables, medicinal plants Maximum permissible residue limits (MRLs).</p>	1	Extra lecture was conducted on sunday

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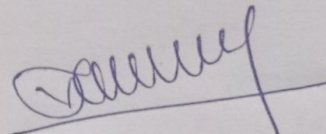


Signature Of Teacher



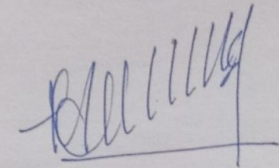
Signature Of Head Of Department

Dr. J. P. Sarwade
Head
Department of Zoology,
Arts, Science & Commerce College,
Indapur, Dist. Pune - 413106



Signature Of Faculty Incharge

Incharge
Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune



Signature of Principal

ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

Name of the teacher: Prof. Satav D.S.

Year: 2022-23

Semester: V

Subject: Histology

Paper: II

Class: T Y B Sc

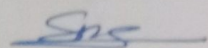
Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remark
1	Nov 2021	3 & 4	9	8	1. Introduction: Definition and Scope of Histology. 2. Definitions and Review of Types of Tissues: Epithelial tissue, Connective tissue, Nervous tissue, Muscular tissue. 3. Histological study of following mammalian organs: Skin (V. S.), Tooth (V. S.)	8	1. Introduction: Definition and Scope of Histology. 2. Definitions and Review of Types of Tissues: Epithelial tissue, Connective tissue, Nervous tissue, Muscular tissue. 3. Histological study of following mammalian organs: Skin (V. S.), Tooth (V. S.)	Nil	---
2	Dec 2022	1 & 2	12	8	Tongue (C. S.) with reference to mucosa papillae and taste buds. 4. Histological study of Alimentary canal and Liver: Oesophagus (T. S.), Stomach (T. S.), Duodenum (T. S.), Rectum (T. S.), Liver (C. S.).	10	Tongue (C. S.) with reference to mucosa papillae and taste buds. 4. Histological study of Alimentary canal and Liver: Oesophagus (T. S.), Stomach (T. S.), Duodenum (T. S.), Rectum (T. S.), Liver (C. S.).	1	Extra lecture was conducted

3	Dec 2022	3 & 4	11	7	5. Histological study of Respiratory organs: Trachea (T. S.), Lung (C. S.). 6. Histological study of Excretory organs: Kidney (L. S.), Juxtaglomerular complex.	8	5. Histological study of Respiratory organs: Trachea (T. S.), Lung (C. S.). 6. Histological study of Excretory organs: Kidney (L. S.), Juxtaglomerular complex.	Nil	---
4	January 2022	1 & 2	11	8	7. Histological study of Reproductive organs: Testis (T. S.) with reference to Seminiferous Tubules and Cells of Leydig, Ovary (C. S.)	8	7. Histological study of Reproductive organs: Testis (T. S.) with reference to Seminiferous Tubules and Cells of Leydig, Ovary (C. S.)	Nil	---
5	January 2022	3 & 4	12	8	8. Histology of Endocrine glands: Pituitary gland, Thyroid gland, Adrenal gland, Pancreas (C. S.) including both exocrine and endocrine components.	8	8. Histology of Endocrine glands: Pituitary gland, Thyroid gland, Adrenal gland, Pancreas (C. S.) including both exocrine and endocrine components.	1	Extra lecture conducted

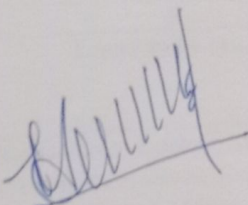
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Signature Of Teacher



Signature Of Head Of Department

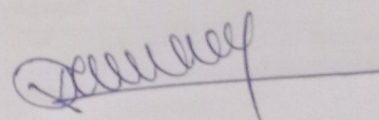
Dr. J. P. Sarwade

M.Sc., Ph.D., FZSI

Head

Department of Zoology,

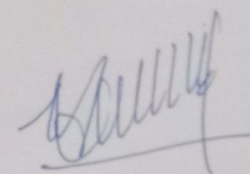
Arts, Science & Commerce College,
Indapur, Dist. Pune - 413106



Signature Of Faculty Incharge

Science Faculty

Arts, Science & Commerce
College, Indapur, Dist. Pune



Signature of Principal

PRINCIPAL

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Name of the teacher: Prof. Mengade N.S.

Year: 2022-23

Semester: V

Subject: Biological chemistry

Paper: III

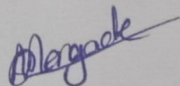
Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1 Sr. No.	2 Month	3 Week	4 No. of working days	5 No. of periods available	6 Topics to be taught	7 No. of periods engaged	8 Topics taught	9 Deviation in periods	10 Remarks
1	Nov 2022	3 & 4	9	8	1. Introduction of Biochemistry: Importance of Biochemistry in Life Sciences. 2. p H and Buffers: Concept of pH, Concept of pH scale, biological significance of p H , Concept of acid and base, Ionization of acids and bases. Derivation of Henderson-Hassel Balch equation & its applications. Buffer - Definition, Concept, Functions, Types of buffer and Buffering Capacity.	8	1. Introduction of Biochemistry: Importance of Biochemistry in Life Sciences. 2. p H and Buffers: Concept of pH, Concept of pH scale, biological significance of p H , Concept of acid and base, Ionization of acids and bases. Derivation of Henderson-Hassel Balch equation & its	Nil	---

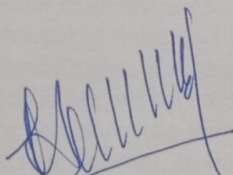
							applications. Buffer - Definition, Concept, Functions, Types of buffer and Buffering Capacity.		
2	Dec 2022	1 & 2	12	8	3. Carbohydrates: Definition, Classification & Biological importance of Carbohydrate, Isomerism in carbohydrates - Structural and Stereoisomerism, Significance of Gluconeogenesis, Glycogenolysis and Glycogenesis, Clinical Significance - Hypoglycemia and Hyperglycemia. 4. Amino acids and Proteins: General Structure of amino acids and Peptide bond, Essential and non-essential amino acids.	10	3. Carbohydrates: Definition, Classification & Biological importance of Carbohydrate, Isomerism in carbohydrates - Structural and Stereoisomerism, Significance of Gluconeogenesis, Glycogenolysis and Glycogenesis, Clinical Significance - Hypoglycemia and Hyperglycemia. 4. Amino acids and Proteins: General Structure of amino acids and Peptide bond, Essential and non-essential amino acids.	Nil	---
3	Dec 2022	3 & 4	11	7	Types of proteins, protein structures (primary, secondary, tertiary and quaternary structures with suitable example), Forces responsible for their stability, Biological importance of proteins – Biocatalysts, Carrier proteins Contractile proteins, Hormonal role of proteins. 5. Enzymes: Nomenclature, Types and properties of enzymes.	8	Types of proteins, protein structures (primary, secondary, tertiary and quaternary structures with suitable example), Forces responsible for their stability, Biological importance of proteins – Biocatalysts, Carrier proteins Contractile proteins, Hormonal role of proteins. 5. Enzymes: Nomenclature, Types and properties of enzymes.	1	Extra lecture was conducted
4	January 2022	1 & 2	11	8	Regulatory and non-regulatory enzymes, Enzyme inhibition, Factors influencing enzyme activity (pH, temperature, substrate concentration, Introduction of isoenzymes and cofactor, Clinical significance of enzymes - PKU and AKU.	8	Regulatory and non-regulatory enzymes, Enzyme inhibition, Factors influencing enzyme activity (pH, temperature, substrate concentration, Introduction of isoenzymes and cofactor, Clinical significance of enzymes - PKU and	Nil	---

							AKU.		
5	January 2022	3 & 4	12	8	6. Lipids: Introduction, Fatty acids - Types and nomenclature (saturated and unsaturated), Clinical significance (obesity, atherosclerosis, myocardial infarction), Biological importance of lipids.	8	6. Lipids: Introduction, Fatty acids - Types and nomenclature (saturated and unsaturated), Clinical significance (obesity, atherosclerosis, myocardial infarction), Biological importance of lipids.	Nil	

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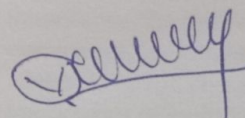
Signature Of Head Of Department

Dr. J. P. Sarwade

M.Sc., Ph.D., FZSI

Head

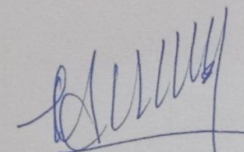
Department of Zoology,
Arts, Science & Commerce College,
Indapur, Dist. Pune - 413106



Signature Of Faculty Incharge

Incharge

Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune



Signature of Principal

PRINCIPAL

ARTS, SCIENCE AND
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Name of the teacher: Prof. Dr Salunkhe R.V.

Year: 2022-23

Semester: V

Subject: Genetics

Paper: IV

Class: T Y B Sc

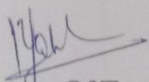
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1 Sr. No.	2 Month	3 Week	4 No. of working days	5 No. of periods available	6 Topics to be taught	7 No. of periods engaged	8 Topics taught	9 Deviation in periods	10 Remarks
1	Nov 2022	3 & 4	9	8	1.Introduction to genetics: Classical and Modern concept of Gene, Cistron, Muton, Recon, Mendel's laws of Inheritance. 2 Exceptions to Mendelian Inheritance: 2.1 Incomplete dominance, Co-dominance, Multiple alleles: Concept, characteristics and importance of multiple. alleles, ABO & Rh - blood group system and its medico legal importance. Lethal alleles.	8	1.Introduction to genetics: Classical and Modern concept of Gene, Cistron, Muton, Recon, Mendel's laws of Inheritance. 2 Exceptions to Mendelian Inheritance: 2.1 Incomplete dominance, Co-dominance, Multiple alleles: Concept, characteristics and importance of multiple. alleles, ABO & Rh - blood group system and its medico legal importance. Lethal alleles.	Nil	---
2	Dec 2022	1 & 2	12	8	3. Gene Mutation: Definition, Types of mutations: spontaneous, induced, somatic, gametic, forward, reverse. Types of point mutation - deletion, insertion, substitution, transversion, transition, Mutagenic agents a) UV radiation and ionising radiation. b) Base analogs, alkylating and intercalating agents.	10	3. Gene Mutation: Definition, Types of mutations: spontaneous, induced, somatic, gametic, forward, reverse. Types of point mutation - deletion, insertion, substitution, transversion, transition, Mutagenic agents a) UV radiation and ionising radiation. b) Base analogs, alkylating and intercalating agents.	1	Extra lecture was conducted

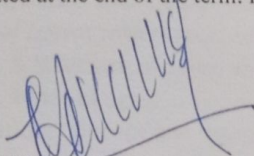
3	Dec 2022	3 & 4	11	7	4. Sex-determination :Introduction, Types of sex determination: -XX-XY, ZZ-ZW, XX-XO and Parthenogenesis, Hypodiploidy. Gynandromorphism. 5. Population Genetics: Basic Concepts in population genetics: Mendelian population, gene pool, gene / allele, Frequency, chance mating (Panmictic mating).	8	4. Sex-determination :Introduction, Types of sex determination: -XX-XY, ZZ-ZW, XX-XO and Parthenogenesis, Hypodiploidy. Gynandromorphism. 5. Population Genetics: Basic Concepts in population genetics: Mendelian population, gene pool, gene / allele, Frequency, chance mating (Panmictic mating).	Nil	---
4	January 2022	1 & 2	11	8	Hardy Weinberg law and its equilibrium. 6. Human Population Genetics: Karyotype. Genetic disorders, Structural & numerical alterations of chromosomes (chromosomal aneuploidy - Down, Patau, Edward, Turner and Klinefelter syndromes).	8	Hardy Weinberg law and its equilibrium. 6. Human Population Genetics: Karyotype. Genetic disorders, Structural & numerical alterations of chromosomes (chromosomal aneuploidy - Down, Patau, Edward, Turner and Klinefelter syndromes).	1	Extra lecture was conducted
5	January 2022	3 & 4	12	8	7. Sex linked inheritance in human: Colour – blindness, Haemophilia, Hypertrichosis. 8. Application of genetics: Genetic counselling, Diagnostics & breeding technology.	8	7. Sex linked inheritance in human: Colour – blindness, Haemophilia, Hypertrichosis. 8. Application of genetics: Genetic counselling, Diagnostics & breeding technology.	Nil	---

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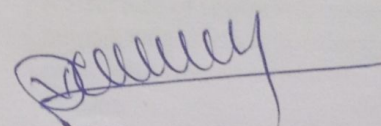
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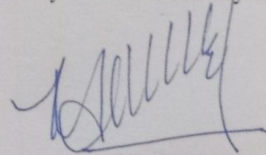

Signature Of Teacher


Signature Of Head Of Department

Dr. J. P. Sarwade
M.Sc., Ph.D., FZSI
Head
Department of Zoology,
Arts, Science & Commerce College,
Indapur, Dist. Pune - 413106


Signature Of Faculty Incharge

Incharge
Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune


Signature of Principal

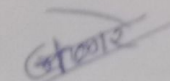
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Name of the teacher: Prof. Ghogare M.A.	Year: 2022-23	Semester: V
Subject: Developmental Biology	Paper: V	Class: T Y B Sc

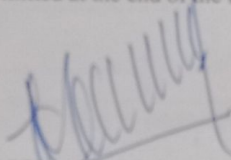
Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
1	Nov 2022	3 & 4	9	8	1. Fundamentals of Developmental Biology: Definition and scope, Concepts in Developmental Biology: Growth, Differentiation, Dedifferentiation, Cell determination, Cell communication, Morphogenesis, Induction and Regeneration. 2. Theories of Developmental Biology: Preformation, Pangenesis. Epigenesis. Axial gradient, Germplasm	8	1. Fundamentals of Developmental Biology: Definition and scope, Concepts in Developmental Biology: Growth, Differentiation, Dedifferentiation, Cell determination, Cell communication, Morphogenesis, Induction and Regeneration. 2. Theories of Developmental Biology: Preformation, Pangenesis. Epigenesis. Axial gradient, Germplasm	Nil	
2	Dec 2022	1 & 2	12	8	3. Gametogenesis: Spermatogenesis & Structure of sperm with respect to human, Oogenesis & Structure of ovum with respect to human, Types of eggs. 4. Fertilization: Concept and types, Chemotaxis, Sperm penetration: Acrosome	10	3. Gametogenesis: Spermatogenesis & Structure of sperm with respect to human, Oogenesis & Structure of ovum with respect to human, Types of eggs. 4. Fertilization: Concept and types,	1	

					reaction, Capacitation & Decapacitation.		Chemotaxis, Sperm penetration: Acrosome reaction, Capacitation & Decapacitation.		
3	Dec 2022	3 & 4	11	7	Activation of ovum: Fertilization cone, Prevention of polyspermy: Fast block & Slow block, Significance of fertilization. 5. Cleavage and Blastula: Planes and symmetry of cleavage, Types of cleavage, Significance of cleavage, Definition and types of Blastula.	8	Activation of ovum: Fertilization cone, Prevention of polyspermy: Fast block & Slow block, Significance of fertilization. 5. Cleavage and Blastula: Planes and symmetry of cleavage, Types of cleavage, Significance of cleavage, Definition and types of Blastula.	Nil	
4	January 2022	1 & 2	11	8	6. Gastrulation: Definition and Concept, Basic cell movements in gastrulation: Epiboly, Emboly, Convergence, Invagination, Ingression & Involution with reference to frog, Concept of Organizer : Primary, Secondary and Tertiary. 7. Chick Embryology: Structure of Hen's egg.	8	6. Gastrulation: Definition and Concept, Basic cell movements in gastrulation: Epiboly, Emboly, Convergence, Invagination, Ingression & Involution with reference to frog, Concept of Organizer : Primary, Secondary and Tertiary. 7. Chick Embryology: Structure of Hen's egg.	1	
5	January 2022	3 & 4	12	8	6. Gastrulation: Definition and Concept, Basic cell movements in gastrulation: Epiboly, Emboly, Convergence, Invagination, Ingression & Involution with reference to frog, Concept of Organizer : Primary, Secondary and Tertiary. 7. Chick Embryology: Structure of Hen's egg.	8	6. Gastrulation: Definition and Concept, Basic cell movements in gastrulation: Epiboly, Emboly, Convergence, Invagination, Ingression & Involution with reference to frog, Concept of Organizer : Primary, Secondary and Tertiary. 7. Chick Embryology: Structure of Hen's egg.	Nil	---

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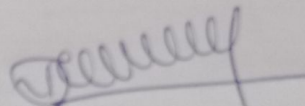
Signature Of Teacher



Signature Of Head Of Department

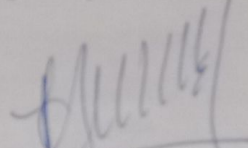
Dr. J. P. S.

Head
Department of Zone
Arts, Science & Commerce
Indapur, Dist. Pune - 413106



Signature Of Faculty Incharge

Incharge
Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune



Signature Of Principal

ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR - 413106 DIST-PUNE

Name of the teacher: Pro Dr Salunkhe R.V.	Year: 2022-23	Semester: V
Subject: Parasitology	Paper : VI	Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
1	Nov 2022	3 & 4	9	8	1. Introduction, Scope and Branches of Parasitology: Definition: host, parasite, vector, commensalisms, mutualism and parasitism, Branches of parasitology. 2. Types of Parasites and Hosts: Ectoparasites, Endoparasites and its subtypes, Types of hosts - Intermediate, definitive, paratenic and reservoir	8	1. Introduction, Scope and Branches of Parasitology: Definition: host, parasite, vector, commensalisms, mutualism and parasitism, Branches of parasitology. 2. Types of Parasites and Hosts: Ectoparasites, Endoparasites and its subtypes, Types of hosts - Intermediate, definitive, paratenic and reservoir	Nil	---
2	Dec2022	1 & 2	12	8	3. Host - Parasite relationship: Host specificity, Types of host specificity: structural specificity, physiological specificity and ecological specificity. 3.3 Effects of parasite on host. 4. Study of Parasitic Protists: Entamoeba histolytica - Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.	10	3. Host - Parasite relationship: Host specificity, Types of host specificity: structural specificity, physiological specificity and ecological specificity. 3.3 Effects of parasite on host. 4. Study of Parasitic Protists: Entamoeba histolytica - Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.	1	Extra Lecture was conducted
3	Dec 2022	3 & 4	11	7	Plasmodium vivax - Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment. lumbricoides - Study of Morphology, Life	8	Plasmodium vivax - Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment. lumbricoides - Study	Nil	---

					Cycle, 5. Study of Parasitic worms: Ascaris Prevalence. Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.		of Morphology, Life Cycle, 5. Study of Parasitic worms: Ascaris Prevalence. Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.		
4	January 2022	1 & 2	11	8	Taenia solium (Tapeworm) - Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.	8	Taenia solium (Tapeworm) - Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.	Nil	---
5	January 2022	3 & 4	12	8	6 Study of Parasitic Arthropoda: Morphology, pathogenicity and control measures of -Soft tick, Head louse, Rat flea, Bed bug.	8	6 Study of Parasitic Arthropoda: Morphology, pathogenicity and control measures of -Soft tick, Head louse, Rat flea, Bed bug.	Nil	---

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Signature of Principal

Dr. J. P. Sarwade
M.Sc., Ph.D., FZSI
Head
Department of Zoology,
Arts, Science & Commerce College,
Indapur, Dist. Pune - 413106

Incharge
Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune

PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

Name of the teacher: prof. Satav D.S.

Year: 2022-23

Semester: V

Subject: Aquarium Management

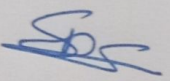
Paper: -

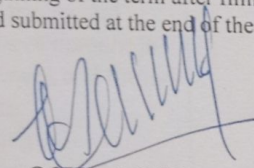
Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
1	Nov 2022	3 & 4	9	8	1. Introduction to Aquarium Fish Keeping: The potential scope of Aquarium Fish Industry as a Cottage Industry, Exotic and Endemic species of Aquarium Fishes. Nutritional value of fish. 2. Biology of Aquarium Fishes: Common characters and sexual dimorphism of Aquarium fishes - Guppy, Molly, Sword tail, Gold fish,	8	1. Introduction to Aquarium Fish Keeping: The potential scope of Aquarium Fish Industry as a Cottage Industry, Exotic and Endemic species of Aquarium Fishes. Nutritional value of fish. 2. Biology of Aquarium Fishes: Common characters and sexual dimorphism of Aquarium fishes - Guppy, Molly, Sword tail, Gold fish,	Nil	---
2	Dec 2022	1 & 2	12	8	Angel fish, Blue morph, Anemone fish, Butterfly fish and Fighter fish. 3. Food and feeding of Aquarium Fishes: Use of live fish feed organisms, Preparation and composition of formulated fish feeds, Overview on types of fish food	10	Angel fish, Blue morph, Anemone fish, Butterfly fish and Fighter fish. 3. Food and feeding of Aquarium Fishes: Use of live fish feed organisms, Preparation and composition of formulated fish feeds, Overview on types of fish food	Nil	---
3	Dec 2022	3 & 4	11	7	4. Fish Transportation: Live fish transport: a) Fish handling. b) Fish packing. c) Fish forwarding techniques. Causes of mortality in transport. 5. Maintenance of Aquarium: General Aquarium Maintenance - budget for setting up an Aquarium. Fish Farm as a	8	4. Fish Transportation: Live fish transport: a) Fish handling. b) Fish packing. c) Fish forwarding techniques. Causes of mortality in transport. 5. Maintenance of Aquarium: General Aquarium Maintenance - budget for setting up an Aquarium. Fish Farm as a Cottage	1	Extra lecture was conducted

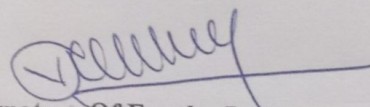
					Cottage Industry, Rules & regulations of fish rearing, Common diseases of Aquarium fish.		Industry, Rules & regulations of fish rearing, Common diseases of Aquarium fish.		
4	January 2022	1 & 2	11	8	Physico-chemical parameters of water for fish culture: Acidity, Alkalinity, Calcium, Nitrate, Ammonia, Total hardness. 7. Fish preservation: Fish preservation and processing. Fish preservation techniques.	8	Physico-chemical parameters of water for fish culture: Acidity, Alkalinity, Calcium, Nitrate, Ammonia, Total hardness. 7. Fish preservation: Fish preservation and processing. Fish preservation techniques.	Nil	---
5	January 2022	3 & 4	12	8	8. Fish breeding: Types of fish breeding - a) Natural fish breeding. b) Induced fish breeding.	8	8. Fish breeding: Types of fish breeding - a) Natural fish breeding. b) Induced fish breeding.	Nil	---

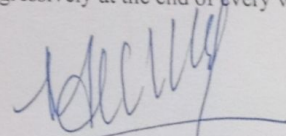
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Signature Of Teacher


Signature Of Head Of Department

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Arts, Science & Commerce
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PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

Name of the teacher: Prof Ghogare M.A..	Year: 2022-23	Semester: V
Subject: Poultry Management	Paper:-	Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
1	Nov 2022	3 & 4	9	8	1. Introduction to Poultry Farming: Definition of Poultry, Importance of Poultry Farming and Poultry Development in India, Present and future prospects. 2 Breeding Management: Male and female reproductive system of chicken, Breeds and strains of broilers and layers of chicken, General aspects of breeding for better egg production and body weight gain, Selection and culling, Artificial insemination	8	1. Introduction to Poultry Farming: Definition of Poultry, Importance of Poultry Farming and Poultry Development in India, Present and future prospects. 2 Breeding Management: Male and female reproductive system of chicken, Breeds and strains of broilers and layers of chicken, General aspects of breeding for better egg production and body weight gain, Selection and culling, Artificial insemination	Nil	---

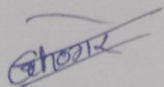
2	Dec 2022	1 & 2	12	8	3 Housing Management: Establishment of poultry farm, Housing and equipment, Incubation and hatching of eggs, Broiler and layer management, Lighting schedule for poultry, Transport strategy of Poultry birds.	10	3 Housing Management: Establishment of poultry farm, Housing and equipment, Incubation and hatching of eggs, Broiler and layer management, Lighting schedule for poultry, Transport strategy of Poultry birds.	Nil	---
3	Dec 2022	3 & 4	11	7	4 Feeding Management: Digestive system and Digestion Mechanism of chicken, Feed ingredients, Feed processing, Formulation of feed viz., Starter, Grower, Layer, Finisher and Breeder ration, Feed conversion ratio (FCR), Nutritional deficiency conditions.	8	4 Feeding Management: Digestive system and Digestion Mechanism of chicken, Feed ingredients, Feed processing, Formulation of feed viz., Starter, Grower, Layer, Finisher and Breeder ration, Feed conversion ratio (FCR), Nutritional deficiency conditions.	Nil	---
4	January 2022	1 & 2	11	8	5 Health Management: Vaccination schedule for poultry birds, Common poultry diseases, i. e. Ranikhet, Marek, Chicken pox, Gumboro, Infectious bronchitis and Chronic Respiratory Disease (CRD), Control of internal and external parasites.	8	5 Health Management: Vaccination schedule for poultry birds, Common poultry diseases, i. e. Ranikhet, Marek, Chicken pox, Gumboro, Infectious bronchitis and Chronic Respiratory Disease (CRD), Control of internal and external parasites.	1	Extra lecture was conducted

5	January 2022	3 & 4	12	8	6 Poultry Products: Preservation and storage of eggs, Grading of eggs and AGMARK standard of egg, Egg powder. 6.4 Slaughtering and processing of chicken, Poultry By Products – Feathers and Poultry Manure.	8	6 Poultry Products: Preservation and storage of eggs, Grading of eggs and AGMARK standard of egg, Egg powder. 6.4 Slaughtering and processing of chicken, Poultry By Products – Feathers and Poultry Manure.	1	Extra lecture was conducted
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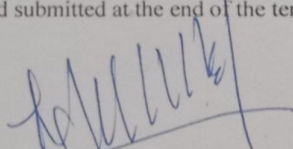
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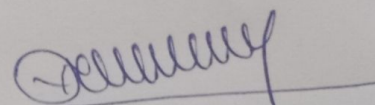


Signature Of Teacher



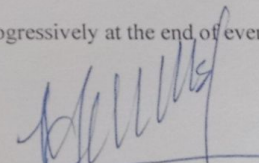
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Signature Of Faculty Incharge

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College, Indapur, Dist. Pune



Signature of Principal

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Arts, Science and Commerce College, Indapur, Dist. Pune
TEACHING AND EVALUATION PLAN

Name of the teacher: Prof. Jamdade S.P.	Year: 2022-23	Semester: VI
Subject: ZO 361 - Medical & Forensic Zoology	Paper: I	Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1 Sr. No.	2 Month	3 Week	4 No. of working days	5 No. of periods available	6 Topics to be taught	7 No. of periods engaged	8 Topics taught	9 Deviation in periods	10 Remarks
1	July 2023	3 & 4	9	8	1. Introduction to medical zoology and its importance 2. Medico-legal Autopsy: Death and its Causes- External examination of deceased body – Internal Examination - Determination of time since death and cause of death, Injuries – Classification - Medico-legal aspects of injuries, Post-mortem changes - collection of post-mortem samples and Preservation.	8	1. Introduction to medical zoology and its importance 2. Medico-legal Autopsy: Death and its Causes- External examination of deceased body – Internal Examination - Determination of time since death and cause of death, Injuries – Classification - Medico-legal aspects of injuries, Post-mortem changes - collection of post-mortem samples and Preservation.	Nil	---
2	Aug 2023	1 & 2	12	8	3. Urine Analysis: Physical characteristics, abnormal constituents, renal failure, renal calculi, dialysis. 4. Non infectious Diseases: Causes, Types, Symptoms, Complications, Diagnosis and Prevention of	10	3. Urine Analysis: Physical characteristics, abnormal constituents, renal failure, renal calculi, dialysis. 4. Non infectious Diseases: Causes, Types, Symptoms, Complications, Diagnosis and Prevention of Diabetes (Type I and II), Hypertension,	1	Extra lecture was conducted

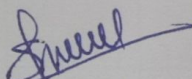
					Diabetes (Type I and II), Hypertension, Hypotension, Obesity, Atherosclerosis, Myocardial Infraction.		Hypotension, Obesity, Atherosclerosis, Myocardial Infraction.		
3	Sept2023	3 & 4	11	7	5. Infectious Diseases: Causes, Types, Symptoms, Complications, Diagnosis and Prevention of Tuberculosis and Hepatitis. 6. Introduction to Forensic Zoology: Definition, Scope and Application of Forensic Zoology, Forensic Laboratories in India, Basic Principles of Forensic Science with Examples	8	5. Infectious Diseases: Causes, Types, Symptoms, Complications, Diagnosis and Prevention of Tuberculosis and Hepatitis. 6. Introduction to Forensic Zoology: Definition, Scope and Application of Forensic Zoology, Forensic Laboratories in India, Basic Principles of Forensic Science with Examples	Nil	---
4	Sept 2023	1 & 2	11	8	7. Forensic Medicine: Introduction to Forensic Medicine: Definitions of Forensic Medicine, Medical Jurisprudence, Medical evidence documentations. 8. Forensic Analysis: Examination of Biological Materials: Examination of Hair, Fibres, Diatoms, plants materials, human tissues, Examination of Body Fluid: Blood, Semen and Saliva, Forensic Importance of Insects: Insects of forensic importance - indicators of time of death stages of insect development & comparative decomposition of human body - colonization - Evidence collection of insects – Territorial & Aquatic Insects.	8	7. Forensic Medicine: Introduction to Forensic Medicine: Definitions of Forensic Medicine, Medical Jurisprudence, Medical evidence documentations. 8. Forensic Analysis: Examination of Biological Materials: Examination of Hair, Fibres, Diatoms, plants materials, human tissues, Examination of Body Fluid: Blood, Semen and Saliva, Forensic Importance of Insects: Insects of forensic importance - indicators of time of death stages of insect development & comparative decomposition of human body - colonization - Evidence collection of insects – Territorial & Aquatic Insects.	Nil	---

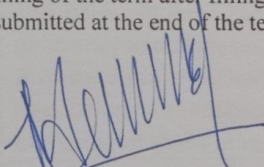
5	Oct2023	3 & 4	12	8	8.4 DNA Fingerprint Technique and Examination of Biological Traces: Liquid blood, blood stains, & swabs, semen, Seminal stains, tissues, Bones, Hairs, Teeth, Saliva, Skeletal remains, Toxicological Investigations: Poisons – Definition, Forms of Poison – Physical, Chemical & Mechanical state. Introduction with examples of – Neurotoxic Poisons – Cerebral & Spinal, Cardiovascular Poisons, Asphyxiants, Miscellaneous poisons – Pesticides, Pharmaceutical drugs, Petroleum poisons, Food poisons, Radioactive poisons.	8	8.4 DNA Fingerprint Technique and Examination of Biological Traces: Liquid blood, blood stains, & swabs, semen, Seminal stains, tissues, Bones, Hairs, Teeth, Saliva, Skeletal remains, Toxicological Investigations: Poisons – Definition, Forms of Poison – Physical, Chemical & Mechanical state. Introduction with examples of – Neurotoxic Poisons – Cerebral & Spinal, Cardiovascular Poisons, Asphyxiants, Miscellaneous poisons – Pesticides, Pharmaceutical drugs, Petroleum poisons, Food poisons, Radioactive poisons.	Nil	---
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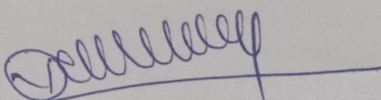
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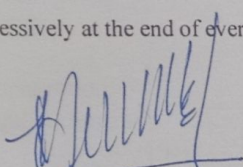

Signature Of Teacher


Signature Of Head Of Department

Dr. J. P. Sarwade
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Signature Of Faculty Incharge

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Science Faculty
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College, Indapur, Dist. Pune


Signature of Principal

PRINCIPAL
ARTS, SCIENCE AND
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INDAPUR-413106 DIST-PUNE

Name of the teacher: Prof Bandpatte a.

Year: 2022-23

Semester: VI

Subject: ZO 362 - Animal Physiology

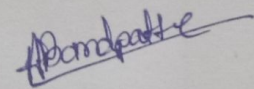
Paper: II

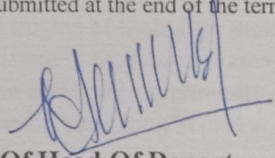
Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1 Sr. No.	2 Month	3 Week	4 No. of working days	5 No. of periods available	6 Topics to be taught	7 No. of periods engaged	8 Topics taught	9 Deviation in periods	10 Remarks
1	July 2023	3 & 4	9	8	1. Nutrition and digestion: Nutritional requirement & balanced diet, Digestion and absorption of carbohydrates, proteins and lipids, Vitamins - outline of fat soluble and water-soluble vitamins; Sources, deficiency and diseases. 2. Respiration: Mechanism of respiration: Regulation of ventilation in lungs, exchange of gases at respiratory surface	8	1. Nutrition and digestion: Nutritional requirement & balanced diet, Digestion and absorption of carbohydrates, proteins and lipids, Vitamins - outline of fat soluble and water-soluble vitamins; Sources, deficiency and diseases. 2. Respiration: Mechanism of respiration: Regulation of ventilation in lungs, exchange of gases at respiratory surface	Nil	---
2	Aug2023	1 & 2	12	8	Respiratory pigments in animals: Haemoglobin, Hemocyanin, Hemerythrin, Chlorocruorin, Transport of gases : O ₂ and CO ₂ transport. 3. Circulation: Blood: Definition and its constituents, functions of blood, Heart: Structure of human heart, Pace maker, Cardiac Cycle, Origin and conduction of heart beat.	10	Respiratory pigments in animals: Haemoglobin, Hemocyanin, Hemerythrin, Chlorocruorin, Transport of gases : O ₂ and CO ₂ transport. 3. Circulation: Blood: Definition and its constituents, functions of blood, Heart: Structure of human heart, Pace maker, Cardiac Cycle, Origin and conduction of heart beat.	Nil	---

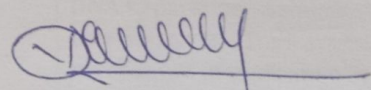
3	Sept2023	3 & 4	11	7	4. Excretion: Structure of Uriniferous tubule, Mechanism of urine formation, Normal and abnormal constituents of urine, Elementary idea of dialysis. 5. Muscles: Structure of smooth, skeletal and cardiac muscles.	8	4. Excretion: Structure of Uriniferous tubule, Mechanism of urine formation, Normal and abnormal constituents of urine, Elementary idea of dialysis. 5. Muscles: Structure of smooth, skeletal and cardiac muscles.	1	Extra lecture was conducted
4	Sept 2023	1 & 2	11	8	Mechanism of muscle contraction by Sliding filament theory. 6. Reproduction and Endocrine Glands: Physiology of male reproduction, hormonal control of spermatogenesis.	8	Mechanism of muscle contraction by Sliding filament theory. 6. Reproduction and Endocrine Glands: Physiology of male reproduction, hormonal control of spermatogenesis.	Nil	---
5	Oct2023	3 & 4	12	8	Physiology of female reproduction, hormonal control of menstrual cycle, Structure and functions of pituitary, thyroid, parathyroid, pancreas and adrenal glands.	8	Physiology of female reproduction, hormonal control of menstrual cycle, Structure and functions of pituitary, thyroid, parathyroid, pancreas and adrenal glands.	Nil	---

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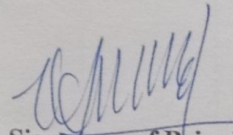

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INDAPUR-413106 DIST-PUNE

Name of the teacher: Prof Dr Sarwade J.P

Year: 2022-23

Semester: VI

Subject: Molecular Biology

Paper: III

Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1	2	3	4	5	6	7	8	9	10
Sr. No.	Month	Week	No. of working days	No. of periods available	Topics to be taught	No. of periods engaged	Topics taught	Deviation in periods	Remarks
1	July 2023	3 & 4	9	8	1. Nucleic Acids and Chromatin: Structure of RNA & DNA, Types of RNA, DNA as genetic material - evidences (Griffith's, Avery et al., Hershey and Chase experiment), RNA as genetic material - TMV 4, Structure of Chromatin, packaging of DNA, Heterochromatin, Euchromatin.	8	1. Nucleic Acids and Chromatin: Structure of RNA & DNA, Types of RNA, DNA as genetic material - evidences (Griffith's, Avery et al., Hershey and Chase experiment), RNA as genetic material - TMV 4, Structure of Chromatin, packaging of DNA, Heterochromatin, Euchromatin.	Nil	---
2	Aug2023	1 & 2	12	8	2. Central Dogma of Molecular Biology: DNA Replication - Semiconservative (Messelson and Stahl experiment), Basic mechanism of replication in prokaryotes and eukaryotes	10	2. Central Dogma of Molecular Biology: DNA Replication - Semiconservative (Messelson and Stahl experiment), Basic mechanism of replication in prokaryotes and eukaryotes	Nil	---
3	Sept2023	3 & 4	11	7	Transcription - Basic mechanism of transcription in prokaryotes and eukaryotes, RNA polymerase enzyme in prokaryotes. RNA modifications and processing (splicing - mRNA, modifications at 3' and 5' end).	8	Transcription - Basic mechanism of transcription in prokaryotes and eukaryotes, RNA polymerase enzyme in prokaryotes. RNA modifications and processing (splicing - mRNA, modifications at 3' and 5' end).	Nil	---

4	Sept 2023	1 & 2	11	8	Translation - Genetic code, properties of genetic code, Basic mechanism of Translation in E. coli and eukaryotic cells. 3. Lac operon: 4. DNA repair mechanism: Photo repair, dark repair, base excision repair.	8	Translation - Genetic code, properties of genetic code, Basic mechanism of Translation in E. coli and eukaryotic cells. 3. Lac operon: 4. DNA repair mechanism: Photo repair, dark repair, base excision repair.	1	Extra lecture was conducted
5	Oct 2023	3 & 4	12	8	5. Recombinant DNA Technology: Introduction, restriction enzymes, cloning vector, PCR (polymerase chain reaction), DNA finger printing.	8	5. Recombinant DNA Technology: Introduction, restriction enzymes, cloning vector, PCR (polymerase chain reaction), DNA finger printing.	1	Extra lecture was conducted

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PRINCIPAL
ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

of the teacher: Prof Dr. Salunkhe R.V.

Year: 2022-23

Subject: Entomology

Paper: IV

Class: T Y B Sc

Semester: VI

Part I : Teaching Plan					Part II : Evaluation of Plan				
2 Month	3 Week	4 No. of working days	5 No. of periods available	6 Topics to be taught	7 No. of periods engaged	8 Topics taught	9 Deviation in periods	10 Remarks	
July 2023	3 & 4	9	8	1. Fundamentals of Entomology: Definition and scope of Entomology, General Classification of Insects,General Characters of Insects. 2. Insect Morphology: Insect Integument and its derivatives, Insect Head, Head Orientations, Head articulations, Insect antennae and Mouth parts.	8	1. Fundamentals of Entomology: Definition and scope of Entomology, General Classification of Insects,General Characters of Insects. 2. Insect Morphology: Insect Integument and its derivatives, Insect Head, Head Orientations, Head articulations, Insect antennae and Mouth parts.			
Aug2023	1& 2	12	8	2.3 Insect Thorax, Insect Wing and modifications, Insect Leg and Modifications – a) Cursorial – Cockroach, b) Fossorial – Mole cricket, c) Saltorial – Grasshopper, d) Raptorial – Praying mantis, e) Pollen basket – Honey bee, Insect Abdomen, Genital and Pre – genital appendages of Grasshopper 3. Insect Anatomy (Grasshopper): Digestive System, Circulatory	10	2.3 Insect Thorax, Insect Wing and modifications, Insect Leg and Modifications – a) Cursorial – Cockroach, b) Fossorial – Mole cricket, c) Saltorial – Grasshopper, d) Raptorial – Praying mantis, e) Pollen basket – Honey bee, Insect Abdomen, Genital and Pre – genital appendages of Grasshopper 3. Insect Anatomy (Grasshopper): Digestive System, Circulatory System	Nil	---	

				System			
Sept2023	3 & 4	11	7	Nervous System, Respiratory System, Reproductive System. 4. Insect Ecology: Definition of Insect Ecology, Abiotic Factors (Photoperiod, Temperature and Humidity) and Biotic Factors (Food, Foraging and Nesting), Mimicry in insects with suitable examples.	8	Nervous System, Respiratory System, Reproductive System. 4. Insect Ecology: Definition of Insect Ecology, Abiotic Factors (Photoperiod, Temperature and Humidity) and Biotic Factors (Food, Foraging and Nesting), Mimicry in insects with suitable examples.	Nil
Sept 2023	1 &2	11	8	5. Insect Metamorphosis: Definition, Types and examples of Metamorphosis. 6. Insects as social groups: Definition & significance of Eusociality, Intraspecific and Interspecific relationships among insects.	8	5. Insect Metamorphosis: Definition, Types and examples of Metamorphosis. 6. Insects as social groups: Definition & significance of Eusociality, Intraspecific and Interspecific relationships among insects.	Nil
Oct2023	3 & 4	12	8	Social organization in Wasps and Termites. 7. Economic Importance of Insects: Insects in Research, Insects in Medicines and Cosmetics, Insects as Vectors, Insects as food.	8	Social organization in Wasps and Termites. 7. Economic Importance of Insects: Insects in Research, Insects in Medicines and Cosmetics, Insects as Vectors, Insects as food.	Nil

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INDAPUR-413106 DIST-PUNE

Name of the teacher: Prof Dr. Salunkhe R.V.

Year: 2022-23

Semester: VI

Subject: ZO 365 - Techniques in Biology

Paper: V

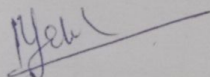
Class: T Y B Sc

Part I : Teaching Plan						Part II : Evaluation of Plan			
1 Sr. No.	2 Month	3 Week	4 No. of working days	5 No. of periods available	6 Topics to be taught	7 No. of periods engaged	8 Topics taught	9 Deviation in periods	10 Remarks
1	July 2023	3 & 4	9	8	1. Microscopy: Definitions - Resolving Power, Limit of Resolution and Magnification, Numerical Aperture. Basic principle of microscopes - Light, Fluorescence, Phase Contrast, Stereo Microscope, SEM and TEM. 2. Microtomy: Tissue fixation and Processing, Methods of tissue fixation: Chemical fixation and physical fixation, Procurement of tissue and importance of fixation of tissues, Dehydration, clearing, impregnation, embedding and block making.	8	1. Microscopy: Definitions - Resolving Power, Limit of Resolution and Magnification, Numerical Aperture. Basic principle of microscopes - Light, Fluorescence, Phase Contrast, Stereo Microscope, SEM and TEM. 2. Microtomy: Tissue fixation and Processing, Methods of tissue fixation: Chemical fixation and physical fixation, Procurement of tissue and importance of fixation of tissues, Dehydration, clearing, impregnation, embedding and block making.	Nil	---
2	Aug 2023	1 & 2	12	8	Types of microtomes, Section cutting: steps and precautions, common faults in section cutting, reasons & remedies, Mounting and spreading of ribbons, General procedure for staining of sections, Demonstration of Nucleic acid (Feulgen Reaction).	10	Types of microtomes, Section cutting: steps and precautions, common faults in section cutting, reasons & remedies, Mounting and spreading of ribbons, General procedure for staining of sections, Demonstration of Nucleic acid (Feulgen Reaction). 3. Haematological Techniques: Total count of RBCs, WBCs and Differential count of WBCs	1	Extra lecture was conducted

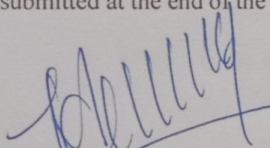
					3. Haematological Techniques: Total count of RBCs, WBCs and Differential count of WBCs and their significance, Bleeding time, clotting time and their significanc		and their significance, Bleeding time, clotting time and their significanc		
3	Sept2023	3 & 4	11	7	4. Immunological Techniques: Antigen-Antibody Interactions – Immunodiffusion, Principle & Working of ELISA, Raising Monoclonal Antibodies, Application of Immunological techniques in disease diagnosis. 5. Types of PCR & DNA Barcoding :	8	4. Immunological Techniques: Antigen- Antibody Interactions – Immunodiffusion, Principle & Working of ELISA, Raising Monoclonal Antibodies, Application of Immunological techniques in disease diagnosis. 5. Types of PCR & DNA Barcoding :	Nil	---
4	Sept 2023	1 & 2	11	8	6. Methods in Biodiversity: Introduction to sampling and sample size, Biodiversity Indices - Species richness, Simpson Diversity Index, Shannon Diversity Index, Measuring Biodiversity- Quadrat sampling, Transect sampling, Insect survey - Active (sweep netting, aquatic nets) and Passive methodology (Pit fall traps, Light traps).	8	6. Methods in Biodiversity: Introduction to sampling and sample size, Biodiversity Indices - Species richness, Simpson Diversity Index, Shannon Diversity Index, Measuring Biodiversity- Quadrat sampling, Transect sampling, Insect survey - Active (sweep netting, aquatic nets) and Passive methodology (Pit fall traps, Light traps).	Nil	---
5	Oct2023	3 & 4	12	8	7. Instruments in Field Biology: Binoculars, GPS, Basic digital camera techniques: Camera lens - prime and kit lens, Aperture mode, Shutter mode, Megapixels, Telephoto lens, macro lens, Adapters for camera and microscopes, Mobile's camera. 8. Laboratory techniques:	8	7. Instruments in Field Biology: Binoculars, GPS, Basic digital camera techniques: Camera lens - prime and kit lens, Aperture mode, Shutter mode, Megapixels, Telephoto lens, macro lens, Adapters for camera and microscopes, Mobile's camera. 8. Laboratory techniques: Microphotographic techniques - CCD and CMOS camera, digital camera, Software for image analysis - Image J	Nil	---

					Microphotographic techniques - CCD and CMOS camera, digital camera, Software for image analysis - Image J and GIMP.		and GIMP.		
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2. One copy of the plan should be submitted at the beginning of the term after filling up columns 1 to 6.
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Signature Of Teacher



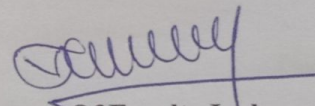
Signature Of Head Of Department

Dr. J. P. Sarwade

M.Sc., Ph.D., FZSI

Head

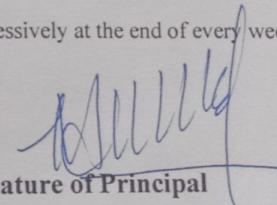
Department of Zoology,
Arts, Science & Commerce College,
Indapur, Dist. Pune - 413106



Signature Of Faculty Incharge

Incharge

Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune



Signature of Principal

PRINCIPAL

ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

Name of the teacher: Prof. Mengade N.S.

Year: 2022-23

Semester: VI

Subject: ZO 366 - Evolutionary Biology

Paper: VI

Class: T Y B Sc

Part I : Teaching Plan

Part II : Evaluation of Plan

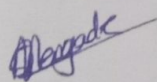
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1	July 2023	3 & 4	9	8	1. Introduction: Concept of Evolution, Origin of life, Origin of eukaryotic cell (Origin of mitochondria, plastids & symbionts).	8	1. Introduction: Concept of Evolution, Origin of life, Origin of eukaryotic cell (Origin of mitochondria, plastids & symbionts).	Nil	---
2	Aug 2023	1 & 2	12	8	2. Evidences of Evolution: Analogy and Homology, Embryological Evidences of Evolution, Evolutionary & Paleontological. Evidences	10	2. Evidences of Evolution: Analogy and Homology, Embryological Evidences of Evolution, Evolutionary & Paleontological. Evidences	Nil	---

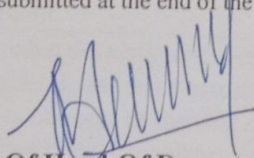
					3. Historical Review of Evolutionary Concept: Theories of Evolution, Lamarckism, Darwinism and Neo Darwinism.		3. Historical Review of Evolutionary Concept: Theories of Evolution, Lamarckism, Darwinism and Neo Darwinism.		
					Mutation Theory, Modern Synthetic theory. 4. Sources of Variations: Variation and Mutations 5. Isolation 6. Speciation: Types of speciation (Allopatric & Sympatric), Mechanism of speciation, Patterns of speciation.		Mutation Theory, Modern Synthetic theory. 4. Sources of Variations: Variation and Mutations 5. Isolation 6. Speciation: Types of speciation (Allopatric & Sympatric), Mechanism of speciation, Patterns of speciation.		
3	Sept2023	3 & 4	11	7		8		Nil	---
					Factors influencing speciation. 7 Population Genetics: Hardy-Weinberg Law & Genetic Drift, Types of Natural Selection.		Factors influencing speciation. 7 Population Genetics: Hardy-Weinberg Law & Genetic Drift, Types of Natural Selection.		Extra lecture was conducted
4	Sept 2023	1 & 2	11	8		8		1	
					8 Origin of Man: Evolution of Man (Evolution of anthropoids including man) - Kenyapithecus to Homo sapiens. 9 Zoogeographical Realms With reference to fauna 10 Extinctions: Extinction - An Overview.		8 Origin of Man: Evolution of Man (Evolution of anthropoids including man) - Kenyapithecus to Homo sapiens. 9 Zoogeographical Realms With reference to fauna 10 Extinctions: Extinction - An Overview.		Extra lecture was conducted
5	Oct2023	3 & 4	12	8		8		1	

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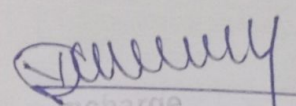

Signature Of Head Of Department

Dr. J. P. Sarwade

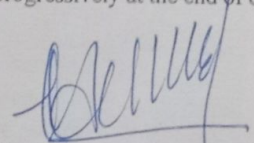
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Head

Department of Zoology,
Arts, Science & Commerce College,
Indapur, Dist. Pune - 413106


Signature Of Faculty Incharge

Science Faculty
Arts, Science & Commerce
College, Indapur, Dist. Pune


Signature of Principal
PRINCIPAL

ARTS, SCIENCE AND
COMMERCE COLLEGE
INDAPUR-413106 DIST-PUNE

Name of the teacher: Prof. Mengade N.S.

Year: 2022-23

Semester: VI

Subject: Environmental impact assessment

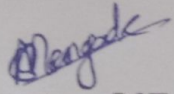
Paper: -

Class: T Y B Sc

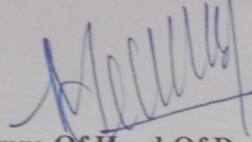
Part I : Teaching Plan						Part II : Evaluation of Plan			
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1	July 2023	3 & 4	9	8	Environment: Definition, Divisions, Importance. 2. Pollution: Definition and types, Impact on wildlife, natural resources, development.	8	Environment: Definition, Divisions, Importance. 2. Pollution: Definition and types, Impact on wildlife, natural resources, development.	Nil	---
2	Aug 2023	1 & 2	12	8	3. Sustainable development: Definition and need, Exploitation of natural resources, Concept of carrying capacity, Three pillars of Sustainability, UN 17 Sustainable Development Goals (SDGs). 4. Overview of Environmental Protection	10	3. Sustainable development: Definition and need, Exploitation of natural resources, Concept of carrying capacity, Three pillars of Sustainability, UN 17 Sustainable Development Goals (SDGs). 4. Overview of Environmental Protection	Nil	---

					acts: The Air (Prevention and Control of Pollution) Act 1981. The Water (Prevention and Control of Pollution) Act 1974.		acts: The Air (Prevention and Control of Pollution) Act 1981. The Water (Prevention and Control of Pollution) Act 1974.		
					The Environment Protection Act 1986, The National Green Tribunal Act 2010, Biological Diversity Act 2002. 5. Environmental Impact Assessment (EIA): Definition, need and importance of EIA, EIA notification 2006 - key elements, History and Evolution of EIA, Categories of Industries / establishments requiring EIA, Types of EIA - strategic EIA, regional EIA, sectoral EIA, project level EIA and life cycle assessment, Rapid and comprehensive EIA.		The Environment Protection Act 1986, The National Green Tribunal Act 2010, Biological Diversity Act 2002. 5. Environmental Impact Assessment (EIA): Definition, need and importance of EIA, EIA notification 2006 - key elements, History and Evolution of EIA, Categories of Industries / establishments requiring EIA, Types of EIA - strategic EIA, regional EIA, sectoral EIA, project level EIA and life cycle assessment, Rapid and comprehensive EIA.		
3	Aug2023	3 & 4	11	7		8		Nil	---
					6. EIA Process: Screening, Scoping and consideration of alternatives, Baseline data collection, Impact analysis, Mitigation, Reporting, Public hearing, Review of EIA, Decision-making, monitoring clearance conditions. 7. Stakeholders in EIA process: Project proponent, Environmental consultant. CPCB / MPCB, Public, EIA agency (IAA).		6. EIA Process: Screening, Scoping and consideration of alternatives, Baseline data collection, Impact analysis, Mitigation, Reporting, Public hearing, Review of EIA, Decision-making, monitoring clearance conditions. 7. Stakeholders in EIA process: Project proponent, Environmental consultant. CPCB / MPCB, Public, EIA agency (IAA).		
4	Sept2023	1 & 2	11	8		8		Nil	---
					8. Overview of Scheme for Accreditation of EIA Consultant Organizations (NABET / QCI): Eligibility and benefits, EIA coordinator (EC), Functional area experts (FAEs), Functional area associate (FAA) and team members: Role, educational qualification, experience and functions.		8. Overview of Scheme for Accreditation of EIA Consultant Organizations (NABET / QCI): Eligibility and benefits, EIA coordinator (EC), Functional area experts (FAEs), Functional area associate (FAA) and team members: Role, educational qualification, experience and functions.		
5	Oct2023	3 & 4	12	8		8		Nil	---

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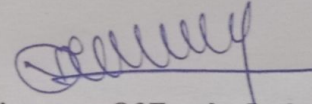


Signature Of Teacher



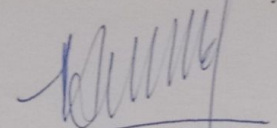
Signature Of Head Of Department

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