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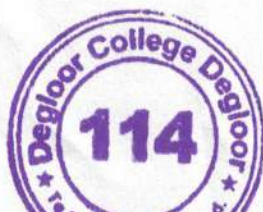
DEGLOOR COLLEGE, DEGLOOR

Annual Teaching Plan

Department :- Zoology		Class :- B.Sc. First year		
Name of Teacher : Mr. Paikrao S.M.		Year :-2023-24		
Subject :- Zoology		Semester:- I		
Paper Name & No : - Paper –I Biodiversity of Invertebrates				
Chapt er No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction of Non-chordates. 2. Protozoa: General characters and classification up to class level with suitable examples; Locomotry Organelles and locomotion's in Protozoa. Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of Plasmodium vivax.	16	15-Jul	01-Aug
II	3.Porifera:-General characters and classification up to class level with suitable examples; Canal System in Sycon; Economic importance of Porifera..1.Coelenterata: General characters and classification up to class level with suitable example; Polymorphism in Hydrozoa. 2.Platyhelminthes:General characters and classification up to class level with suitable	16	01-Aug	17- Aug
II I	3.Nemathelminthes: General characters and classification up to class level with suitable example; Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of Ascaris lumbricoides. 2.Arthropoda: General characters and classification up to class level with suitable examples; Metamorphosis in Insects. Cockroach-External Morphology, Digestive system, Respiratory system, Nervous system. Economic importance of insects.	16	17-Aug	13-Sep
I V	1.Mollusca: 2.Echinomata Hemichordaa	08	13-Sep	20-Oct

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Annual Teaching Plan

Department :- Zoology		Class :- B.Sc. First year		
Name of Teacher : Mrs. Sonkamble Roshni		Year :-2023-24		
Subject :- Zoology		Semester:- I		
Paper Name & No : - Paper –II Biodiversity of Vertebrates				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction of Chordates Salient features and classification of chordates up to class level. Origin and Ancestry of Chordata 2. Protochordata: Urochordata-General feature and Phylogeny of Urochordata; Cephalochordata-General feature and Phylogeny of Cephalochordata. 3. Agnatha: General characters and classification of agnatha with suitable examples.	16	15-Jul	01-Aug
II	1. Pisces: General characters and classification up to order level with suitable examples; Scoliodon(Dogfish): External morphology, Digestive system, Respiratory system, Circulatory system, Nervous system, Urinogenital system. Economic importance of Fishes. 2. Amphibia: General characters and classification up to order level with suitable examples; Parental care in Amphibians.	16	01-Aug	17- Aug
III	1. Reptiles: General characters and classification up to order level with suitable examples; Poisonous and non-poisonous snakes; Biting mechanism in snakes; Importance of snake Venom. 2. Aves: General characters and classification up to order level with suitable examples; Flightadaptations in birds; Migration in birds	16	17-Aug	13-Sep
IV	1. Mammals: General characters and classification up to order level with suitable examples; Rat- External characters, Digestives system, Respiratory system, Circulatory system, Nervous system- Brain and spinal cord, Eye and Ear.	08	13-Sep	20-Oct

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Annual Teaching Plan

Department :- Zoology		Class :- B.Sc. First year		
Name of Teacher : Mr. Paikrao S.M.		Year :- 2023-24		
Subject :- Zoology		Semester:- II		
Paper Name & No : - Paper -III Comparative Anatomy Of Vertebrates				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. General characters, origin and Ancestry of Vertebrates. 2. Integumentary System: Development, General structure and function of integument; Derivatives of integument-Epidermal and Dermal derivatives; 3. Skeletal System- Evolution of visceral arches; Comparative account of limbs and girdles	20	1-Jan	20-Jan
II	1. Digestive System: Brief account of alimentary canal and digestive glands. 2. Respiratory System: Brief account of different respiratory organs in vertebrates-Gills, lungs, skin, air sacs and Accessory respiratory organs.	18	20-Jan	8-Feb
III	1. Circulatory System: Brief account of Evolution of heart in vertebrates. Modifications of aortic arches in vertebrates; Blood circulation in various vertebrate groups-Single and Double circulation. 2. Urinogenital System: Developmental Succession of kidney, Evolution of urinogenital system in vertebrates.	20	8-FEB	28-Feb
IV	1. Nervous System : Structure of Neuron; comparative account of Brain of Vertebrates. 2. Sense Organs – Types of receptors- Mechanoreceptors; Photoreceptors; Phonoreceptors.	16	29- Feb	16- Mar

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Annual Teaching Plan

Department :- Zoology		Class :- B.Sc. First year		
Name of Teacher :. Mrs. Sonkamble Roshni.		Year :- 2023-24		
Subject :- Zoology		Semester:- II		
Paper Name & No : - Paper –IV Developmental Biology of Vertebrates.				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction of Developmental Biology 2. Gametogenesis: a) Spermatogenesis b) Oogenesis 3. Types of eggs a) On the basis of amount of yolk b) On the basis of distribution of yolk	16	6-Jan	22-Jan
II	1. Gametes of frog: a) Structure of sperm b) Structure of ovum 2. Frog Embryology : a) Fertilization b) Cleavage c) Blastulation d) Gastrulation e) Formation of three germinal layers. 3. Regeneration in Non-chordates and chordates.	18	22-Jan	10-Feb
III	1. Chick Embryology: (Extra-embryonic membranes) a) Yolk sac, structure & its functions b) Amnion, structure & its functions c) Chorion, structure & its functions d) Allantois, structure & its functions 2. Placentation in mammals: Classification on the basis of a) Mode of origin b) Mode of distribution of Villi c) Function of placenta.	16	10-Feb	26-Feb
IV	1. Stem Cell : a) Sources b) Type-Embryonic, Haemopoietic, Adult, Nervous c) Role of stem cells in Human welfare 2. Embryo Transfer Techniques: a) Gamete Intra-Fallopian Transfer (GIFT) b) Test Tube baby c) Infertility in male d) Infertility in female 3. Parthenogenesis: a) Natural b) Artificial	12	26-Feb	14-Mar



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Department :- Zoology	Class :- B.Sc. Second year
Name of Teacher : Mr.Alladwad Hanmant	Year :- 2023-24
Subject :- Zoology	Semester:- III
Paper Name & No : - VI Physiology	

Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1.Enzymes.i)Nature and Classification of enzymes. ii) Mechanism of enzyme action. iii) Factors affecting on enzymes activity.	14	15-Jul	29-Aug
II	3. Nutriton. i) Digestion of carbohydrates, proteins and lipid. 4. ii) Vitamins-Fat soluble and Water soluble vitamins.	16	29-Aug	15- Aug
III	1.Respiration. i) Definition of Aquatic and Aerial respiration. ii) Respiratory organs in man. iii) Mechanism of respiration. iv) Transport of O ₂ and CO ₂ . 2.Circulation. i) Blood-composition & functions. ii) Structure & working of heart. iii) E.C.G. and blood pressure. iv) Blood Clotting	16	15-Aug	31-Sep
IV	1.Excretion i) Modes of excretion in animals. ii) Structure of kidney. iii) Structure of uriniferous tubules. iv) Physiology of urine formation. v) Composition of urine. 2. Nerve physiology. I) Structure & types of neurons. Ii) Structure of synapse. Iii) Conduction of nerve impulse. 3.Muscle physiology. I) Types of muscles-smooth muscles, skeletal muscles & cardiac, ii) Ultra structure of skeletal muscles.	15	31-Sep	15-Oct


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Annual Teaching Plan

Department :- Zoology		Class :- B.Sc. Second year		
Name of Teacher : Mr. Paikrao S.M.		Year :- 2023-24		
Subject :- Zoology		Semester:- III		
Paper Name & No : - PAPER VII: Biochemistry				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	UNIT – I 1. Biomolecules: Classification, Structure and Properties of Carbohydrates. 2. Classification, Structure and Properties of Proteins. Classification, Structure and Properties of Lipids.	18	15-Jul	13-Aug
II	UNIT – II Electrochemical properties of Water, pH and Colligative properties Enzymes: Nomenclature and Classification Mechanism of Enzyme Action- E-S Complex Formation, Lock and Key Model, Induced Fit Theory. Factors affecting Enzyme Activity- Temperature, pH, Concentration of Enzyme, Concentration of Substrate	16	13-Aug	29- Aug
III	UNIT – I 1. Carbohydrate Metabolism: Glycolysis (EMP Pathway) Glycogenesis, Glycogenolysis Glyconeogenesis Citric Acid Cycle (Krebs Cycle) Pentose Phosphate Pathway (HMP shunt)	18	29-Aug	17-Sep
IV	UNIT – IV 1. Lipid metabolism : The β -Oxidation (Beta Oxidation) Pathway Ketosis, Ketogenesis and Ketolysis. 2. Protein metabolism: Transamination, deamination and decarboxylation reactions of amino acids Disposal of nitrogenous waste. Krebs-Henseleit Urea Cycle (Ornithine cycle)..	18	17-Sep	15-Oct

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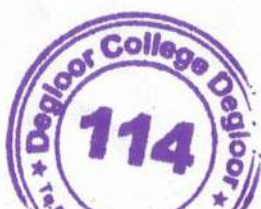
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Department :- Zoology		Class :- B.Sc. Second year		
Name of Teacher : Mr.Alladwad Hanmant		Year :- 2023-24		
Subject :- Zoology		Semester:- IV		
Paper Name & No : - PAPER VIII: Cell Biology and Genetics				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction to Genetics 2. Mendelism i) Mendal's. Laws inheritance ii) Monohybrid dihybrid cross and ratio. iii) Incomplete dominance. iv) Back cross and ratio. 3. Interaction of genes i) Complementary factor ii) Supplementary factor. Iii) Inhibitory factor. Iv) Duplicate genes. v) Lethal genes.	15	1-Jan	15-Jan
II	1. Multiple Alleles and Genes i) Inheritance of ABO Blood groups in Man. ii) Rh factor & Erythroblastosis foetalis in man. iii) Multiple genes-skin pigmentation in man 2. Linkage & crossing over. i) Linkages-definition, types & crossing over, factor affecting crossing over, Significance of crossing over.	11	15-Jan	26-Feb
III	1. Sex determination i) Chomosomal methods of sex determination. ii) Bridge's ratio theory of genic balance. 2. Sex linked inheritance i) Sex kinked inheritance in man-colorblindness, haemophilia, Hypertichisis.	12	26-Feb	8-March
IV	1. Human Genetics i) Syndromes-Turner, Klinefelter, Down, Cat-Cry, Patus. Ii) Inborn errors of metabolism-Phenylketonuria, Alkaptonura, Albinism. Iii) Human pedigree analysis with symbols. 2. Nature and functions of genetic materials. I) DNA-structure, functions, Replications. Ii) RNA-structure, types & functions. Iii) Genetic code.	11	8-March	20-March


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Annual Teaching Plan

Department :- Zoology	Class :- B.Sc. Second year
Name of Teacher : Mr. Paikrao S.M.	Year :- 2023-24
Subject :- Zoology	Semester:- IV
Paper Name & No : - PAPER IX: Evolutionary Biology & Genetic Engineering	

Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	3. Introduction to Genetics 4. Mendelism i) Mendal's. Laws inheritance ii) Monohybrid dihybrid cross and ratio. iii) Incomplete dominance. iv) Back cross and ratio. 3. Interaction of genes i) Complementary factor ii) Supplementary factor. Iii) Inhibitory factor. Iv) Duplicate genes. v) Lethal genes.	16	1-Jan	16-Jan
II	3. Multiple Alleles and Genes i) Inheritance of ABO Blood groups in Man. ii) Rh factor & Erythroblastosis foetalis in man. iii) Multiple genes-skin pigmentation in man 4. Linkage & crossing over. i) Linkages-definition, types & crossing over, factor affecting crossing over, Significance of crossing over.	16	16-Jan	2-Feb
III	3. Sex determination i) Chomosomal methods of sex determination. ii) Bridge's ratio theory of genic balance. 4. Sex linked inheritance i) Sex kinked inheritance in man-colorblindness, haemophilia, Hypertichisis. 3. Cytoplasmic Inheritance 4. Mutation i) Chromosomal mutations-Structural alterations & Numerical alternation. ii) Genemutations- Sickle cell Anaemia. iii) Mutagenic agents.	20	2-Feb	22-Feb
IV	3. Human Genetics i) Syndromes-Turner, Klinefelter, Down, Cat-Cry, Patus. Ii) Inborn errors of metabolism-Phenylketonuria, Alkaptonura, Albinism. Iii) Human pedigree analysis with symbols.	16	22- Feb	11- March


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Department :- Zoology		Class :- B.Sc. Third year		
Name of Teacher : Mrs Pooja Phatale.		Year :- 2023-24		
Subject :- Zoology		Semester:- V		
Paper Name & No : - Paper-XII ECOLOGY & ZOOGEOGRAPHY				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction to ecosystem A. Components of an ecosystem. A) Abiotic components- Temperature & Water. B) Biotic components-Producers, consumers & Decomposers. B. Pond ecosystem C. Desert ecosystem 2. Spheres of Earth A. Biosphere E. Ecological Succession-Hydrarch and Xerarch 3. Biogeochemical cycles A.	14	15-Jul	29-Aug
II	4. Population Ecology- Characteristics of Population A. Natality, B. Mortality, C. Population density D. Age distribution E. Population Growth Form 5. Biotic interactions A. Positive interactions- Commensalism, Mutualism B. Negative interactions-competition, Predation, Parasitism.	16	29-Aug	15- Aug
III	6. Pollution-Sources, Effects & Control A. Natality, B. Water Pollution C. Noise Pollution Resources & their limitations. A. 1 Fossil fuels B.2 Nuclear power C.3 Hydel Power B. Non-conventional energy resources-Advantages, limitations & Latest developments A.1 Solar energy B.2 Wind energy C.3 Tidal energy	16	15-Aug	31-Sep
IV	4. Wildlife conservation and endangered species A. Aim & necessity of wildlife conservation B. Wild Life & Endangered species of India. C. Measures to Protect endangered species 5. Zoogeographical Realms- Physical features and fauna A. Australian realm B. Indian/Oriental realm	15	31-Sep	15-Oct

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Department :- Zoology		Class :- B.Sc. Third year		
Name of Teacher : Mr.Alladwad Hanmant		Year :- 2023-24		
Subject :- Zoology		Semester:- V		
Paper Name & No : - Paper-XIIIA -Pisciculture.				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	UNIT- I. Fish Farm Engineering 1.1 Topography; 1.2 Soil type; 1.3 Water supply; 1.4 Layout of fish farm 2. Fish Farm Management 2.1 Preparation and Management of Nursery pond 2.2 Preparation and Management of Rearing pond 2.3 Preparation and Management of Stocking Pond	14	15-Jul	29-Aug
II	UNIT - II 1. Biology of Indigenous and Exotic carps. 2. Fish seed resources 2.1 Natural resources- Riverine resources 2.2 Artificial resources- Induced breeding by Hypophysation a) Historical back ground b) Technique of Induced breeding c) Bundh breeding d) Chinese hatchery e) Striping method 2.3 Transportation of fish seed and brooders 3. Capture Fishery Introduction, Capture Fishery Resources in India. 1. Sardine fishery 2. Mackerel fishery 3. Bombay Duck fishery.	16	29-Aug	15- Aug
III	UNIT III 1. Fishing Methods 1.1 Gears - Traps, Gill nets, Cast nets, Drag nets 1.2 Crafts - Masula, Catamaran, Odum, Vanchi 1.3 Recent advances in fishing methods - Electrical Fishing, Light Fishing and Fish finder 2. Fish Diseases 2.1 Fish Diseases caused by Pathogens and Parasites- Symptoms and Treatment a) Bacterial- Dropsy, Furunculosis, Tailrot or Finrot b) Fungal- Gillrot, Dermatomycozes c) Protozoan- Costiasis, Ichthyophthirius d) Helminth- Gyrodactylosis, Dactylogyrosis e) Arthropod- Lernaeasis, Argulusis 2.2 Non parasitic diseases	16	15-Aug	31-Sep
IV	8. Characteristics of water i) Physical properties of Water. ii) Chemical properties of water iii) Biological properties of water. 9. Aquarium keeping-i) Construction of Aquarium keeping v) aquarium fishes.	15	31-Sep	15-Oct



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Department :- Zoology		Class :- B.Sc. Third year		
Name of Teacher : Mrs Pooja Phatale.		Year :- 2023-24		
Subject :- Zoology		Semester:- VI		
Paper Name & No : Paper- XIV-Ethology, Biometry and Bioinformatics.				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	UNIT – I Ethology 09 1. Classification of Animal Behavior- 1.1. Inborn or stereotyped animal behavior – Taxis and Instincts with examples. 1.2. Acquired animal behavior – Imprinting, Conditioning, Habituation, Reasoning. 1.3 Social Behaviour in Insects –Honeybee..	16	2-Jan	20-Jan
II	UNIT – II Ethology 3. 1. Communication in animals 2. Mimicry and Colouration 4. 2.1 Types of Mimicry- Protective and Aggressive 5. 2.2 Types of Colouration- Protective, Aggressive and Warnin	18	20-Jan	08-Feb
III	UNIT – III Biometry 12 1. Collection and Classification of Data 1.1 Methods of collection of data 1.2 Types of classification of data - Geographical, Chronological, Quantitative, Qualitative, Continuous, Discontinuous. 2. Measures of Central Tendency Arithmetic Mean, Median and Mode 3. Graphic Representation of Data 3.1. Histogram 3.2 Pie Diagram 3.3 Polygon Frequency Curve	16	08-Feb	24-Feb
IV	10. UNIT – IV Bioinformatics 12 11. 1.1 Computer and their Applications in Biology 1.2 Internet and its Uses 12. 1.3 World Wide Web 1.4 Search Engines 13. 1.5 Broad Applications of Bioinformatics 14. 1.6 Introduction to Biological Database	12	24-Feb	15-Mar

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Department :- Zoology		Class :- B.Sc. Third year		
Name of Teacher :: Mr.Alladwad Hanmant		Year :- 2023-24		
Subject :- Zoology		Semester:- VI		
Paper Name & No : - Paper-XIII(A) Applied Zoology- Aquaculture.				
Chapter No	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction to aquaculture i) Definition, Scope and importance of aquaculture ii) Concepts of extensive, intensive. 2. Types of aquaculture i) Monoculture ii) Polyculture iii) Integrated fish farming- a) Paddy cu fish culture b) Fish-cum pig farming c) Cattle-cum fish farming d) Fish-cum duck farming.	16	1-Jan	16-Jan
II	6. Culture methods i) Pen culture ii) Cage culture 7. Sewage fed fish culture i) Composition of sewage ii) Use in culture iii) Fish species suitable for sewage fed fishery. 5. Manmade Hazards and Aquaculture i) Domestic Sewage ii) Agricultural Sewage iii) Industrial Effluents.	16	16-Jan	2-Feb
III	6. Aquatic weeds & their control. i) Types of weeds ii) Advantages & Disadvantages of weeds iii) Weed Control-Manual, Mechanical, Chemical & Biological 7. Culture of Non Fish organisms i) Fresh water prawn Culture ii) Pearl oyster Culture. iii) Edible oyster culture.	20	2-Feb	22-Feb
IV	15. Characteristics of water i) Physical properties of Water. ii) Chemical properties of water iii) Biological properties of water. 16. Aquarium keeping-i) Construction of Aquarium keeping v) aquarium fishes.	16	22- Feb	11- March

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