

DEGLOOR COLLEGE, DEGLOOR

Annual Teaching Plan

Department: - Zoology		Class: - B. Sc. First Year		
Name of Teacher: - Mr. Paikrao S. M.		Year :- 2019-20		
Subject :- Zoology		Semester :- I		
Paper Name & No. :- Paper – I Biodiversity of Invertebrates and Chordates				
Chapter 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; Locomotory Organelles and locomotion in Protozoa. Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of <i>Plasmodium vivax</i> .	11	01-Jul	31-Jul
II	3. Porifera:-General characters and classification up to class level with suitable examples; Canal System in <i>Sycon</i> ; Economic importance of Porifera.. 1. Coelenterata: General characters and classification up to class level with suitable examples; Polymorphism in Hydrozoa. 2. Platyhelminthes: General characters and classification up to class level with suitable	12	01-Aug	31-Aug
III	3. Nematelminthes: General characters and classification up to class level with suitable examples; Brief account of each of Structure, Life Cycle, Pathogenicity and Control Measures of <i>Ascaris lumbricoides</i> . 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.	12	01-Sep	03-Oct
IV	1. Mollusca: 2. Echinodermata: 3. Hemichordata:	11	04-Oct	05-Nov

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Annual Teaching Plan

Department: - Zoology		Class: - B. Sc. First Year		
Name of Teacher: - Mr.Patil S.		Year :- 2019-20		
Subject :- Zoology		Semester :- I		
Paper Name & No. :- Paper – II Biodiversity of Invertebrates and Chordates				
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 features and Phylogeny of Urochordata; Cephalochordata-General features and Phylogeny of Cephalochordata. 3. Agnatha : General characters and classification of Agnatha with suitable examples.	12	01-Jul	31-Jul
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.	11	01-Aug	31-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.	11	01-Sep	30-Sep
IV	1. Mammals: General characters and classification up to order level with suitable examples. Rat- External characters, Digestive system, Respiratory system, Circulatory system, Nervous system - Brain and spinal cord, Eye and Ear.	11	01-Oct	31-Oct

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Annual Teaching Plan

Department: - Zoology		Class: - B. Sc. First Year		
Name of Teacher: - Mr. Paikrao S. M.		Year :- 2019-20		
Subject :- Zoology		Semester :- II		
Paper Name & No. :- Paper – III Comparative Anatomy and Developmental Biology 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.	10	11-Dec	26-Dec
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.	12	27-Dec	06-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.	11	06-Feb	18-Feb
IV	1. Nervous System: Structure of Neuron; Comparative account of Brain of Vertebrates. 2. Sense Organs - Types of receptors- Mechanoreceptors; Photoreceptors; Phonoreceptors.	12	18-Feb	29-Feb

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Department: - Zoology

Class: - B. Sc. First Year

Name of Teacher: - Mr. Patil S.

Year :- 2019-20

Subject :- Zoology

Semester :- II

Paper Name & No. :- Paper – IV Comparative Anatomy and 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	11	11-Dec	26-Dec
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.	11	27-Dec	06-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.	11	06-Feb	18-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	18-Feb	29-Feb

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Department: - Zoology		Class: - B. Sc. Second Year		
Name of Teacher: - Mr. Paikrao S. M.		Year :- 2019-20		
Subject :- Zoology		Semester :- III		
Paper Name & No. :- GENETICS		Paper – VI		
Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1) Introduction to Genetics 2) Mendelism i) Mendel's. Laws of inheritance ii) Monohybrid, dihybrid cross and ratio. Iii) Incomplete dominance. iv) Back cross and test cross. 3) Interaction of genes i) Complementary factor ii) Supplementary factor. Iii) Inhibitory factor. iv) Duplicate genes. v) Lethal genes.	11	02-Jul	29-Jul
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) Linkage- definition, types & significance. ii) Crossing over-Mechanism of crossing over, factor affecting crossing over, Significance of crossing over.	11	01-Aug	28-Aug
III	1) Sex determination i) Chromosomal methods of sex determination. Ii) Bridge's ratio theory of genic balance. 2) Sex linked inheritance i) Sex linked inheritance in Drosophila. Ii) Sex linked inheritance in man-colorblindness, haemophilia, Hypertichosis. 3) Cytoplasmic Inheritance- 4) Mutation i) Chromosomal mutations-Structural alterations & Numerical alternation. ii) Genemutations- Sickle cell Anaemia. Iii) Mutagenic agents.	12	01-Sept	28-Sep
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- structures, functions & Replications. ii) RNA-Structure, types & functions. Iii) Genetic code.	11	02-Oct	26-Oct



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Department: - Zoology		Class: - B. Sc. Second Year		
Name of Teacher: - Mr. Patil S.		Year :- 2019-20		
Subject :- Zoology		Semester :- III		
Paper Name & No. :- Comparative Anatomy & Physiology Paper - VII				
Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Comparative Anatomy of Vertebrates i) Integument ii) Heart iii) Kidney	11	02-Jul	29-Jul
II	1) Enzymes. I) Nature and Classification of enzymes. ii) Mechanism of enzyme action. iii) Factors affecting on enzymes activity. 2) Nutrition. I) Digestion of carbohydrates, proteins and lipid. Ii) Vitamins-Fat soluble and Water soluble vitamins.	11	01-Aug	28-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.	11	01-Sept	28-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 impulses. 3) Muscle physiology. I) Types of muscles-smooth muscles, skeletal muscles & cardiac. Ii) Ultra structure of skeletal muscles.	12	02-Oct	26-Oct



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Department: - Zoology		Class: - B. Sc. Third Year		
Name of Teacher: - Mr. Patil S.		Year :- 2019-20		
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. Bio-geochemical cycles A.	12	02-Jul	29-Jul
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.	11	01-Aug	28-Aug
III	6. Pollution-Sources, Effects & Control A. Air Pollution 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.	11	01-Sept	28-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	11	02-Oct	26-Oct



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Annual Teaching Plan

Department: - Zoology

Class: - B. Sc. Third Year

Name of Teacher: - Mr. Patil S.

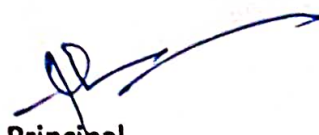
Year :- 2019-20

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. Bio-geochemical cycles A.	12	02-Jul	29-Jul
II	4. Population Ecology-Characteristics of Population A. Natalty, 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.	11	01-Aug	28-Aug
III	6. Pollution-Sources, Effects & Control A. Air Pollution 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.	11	01-Sept	28-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	11	02-Oct	26-Oct



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Department: - Zoology		Class: - B. Sc. Third Year		
Name of Teacher: - Mr. Paikrao S. M.		Year :- 2019-20		
Subject :- Zoology		Semester :- V		
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.	11	02-Jul	29-Jul
II	3. Culture methods i) Pen culture ii) Cage culture 4. Sewage fed fish culture i) Composition of sewage ii) Use in culture iii) Fish species suitable for sewage fed fishery. 5. Man made Hazards and Aquaculture i) Domestic Sewage ii) Agricultural Sewage iii) Industrial Effluents.	11	01-Aug	28-Aug
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) Peral oyster Culture. iii) Edible oyster culture.	12	01-Sept	28-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	11	02-Oct	26-Oct



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Department: - Zoology		Class: - B. Sc. Second Year		
Name of Teacher: - Mr. Paikrao S. M.		Year :- 2019-20		
Subject :- Zoology		Semester :- IV		
Paper Name & No. : - Genetic Engineering & Evolution		Paper - VIII		
Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction of Genetic Engineering 2) Recombinant DNA Technology i) Tools: Enzymes: A) Enzymes: a) Lysing b) Ligases c) Nucleases d) Synthetases B) Vectors:- Cloning vectors 3) Techniques: i) Gel-Electrophoresis ii) PCR (Polymerase Chain Reaction) iii) Southern, Northern and Western Blotting.	12	22-Dec	14-Jan
II	1) Construction of rDNA 2) c-DNA libraries and Genomic libraries 3) Tran genesis and Transgenic animals 4) Cloning and cloned animals (Dolly sheep) 5) DNA fingerprinting.	11	16-Jan	12-Feb
III	1) Concept of Evolution 2) Theories of organic evolution i) Lamarck's theory ii) Darwin's theory iii) Modern synthetic theory-Neo-Darwinism iv) Hugo De Vries Theory	11	14-Feb	11-Mar
IV	1) Evidences of organic evolution a) Anatomical b) Embryological 2) Adaptations:- Aquatic, Terrestrial, Fossorial, Volant and Desert. 3) Hardy-Weinberg's law.	11	14-Mar	26-Apr

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Department: - Zoology	Class: - B. Sc. Second Year
Name of Teacher: - Mr. Patil S.	Year :- 2019-20
Subject :- Zoology	Semester :- IV
Paper Name & No. :- Paper – Endocrinology, Histology & Biochemistry Paper - IX	

Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1) Endocrinology i) Pituitary gland ii) Thyroid gland iii) Adrenal gland iv) Islet's of Langerhans (Pancreas) v) Menstrual Cycle.	11	22-Dec	14-Jan
II	1) Histology of mammalian organs and tissues. i) Stomach ii) Intestine iii) Pancreas iv) Liver v) Kidney vi) Testes vii) Ovary	11	16-Jan	12-Feb
III	1) Carbohydrate metabolism: i) Glycogenesis, Glycogenolysis & Gluconeogenesis ii) Glycolysis iii) Krebs's cycle	11	14-Feb	11-Mar
IV	1) Protein metabolism: i) Deamination and Transamination ii) Ornithine cycle. 2) Lipid metabolism: i) B-Oxidation ii) Ketosis, Ketogenesis and Ketolysis.	12	14-Mar	26-Apr


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Department: - Zoology		Class: - B. Sc. Third Year		
Name of Teacher: - Mr. Patil S.		Year :- 2019-20		
Subject :- Zoology		Semester :- VI		
Paper Name & No. :- Paper – XIV Ethology, Biometry & Bioinformatics				
Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Classification of Animal Behavior- A. Inborn or stereotyped animal behavior-Taxis and Instincts with examples. Acquired animal behavior-Imprinting, Conditioning, Habituation, Reasoning C. Social Behaviour in Insects- Honeybee.	6	22-Dec	14-Jan
II	2. Communication in animals A. Auditory Communication B. Chemical Communication C. Visual Communication Introduction & Types of Mimicry- Protective, Conscious and Aggressive Introduction & Types of Colouration- Protective, Aggressive & Warning.	12	16-Jan	12-Feb
III	4. Collection & Classification of Data 1. Types of data-Geographical, Chronological, Quantitative, Qualitative, Continuous, Discontinuous. 2. Methods of collection of data. 5. Measure of Central Tendency 1. Arithmetic Mean, Median & Mode 2. Measures of Variability-Standard Deviation & Standard Error. 6. Graphic Representation of data 1. Histogram 2. Pie Diagram 3. Polygen Frequency Curve.	15	14-Feb	11-Mar
IV	7.1 Computer & their Application in Biology 7.2 Internet & its uses 7.3 Search engines. 7.4 World wide web 7.5 Introduction to Bioinformatics. 7.6 Application of Bioinformatics 7.7 Introduction to Biological Database a) NCBI b) Pub Med	12	14-Mar	26-Apr


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Year :- 2019-20

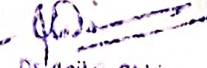
Subject :- Zoology


Semester :- VI

Paper Name & No. : - Paper – XV (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.	11	22-Dec	14-Jan
II	3. Culture methods i) Pen culture ii) Cage culture 4. Sewage fed fish culture i) Composition of sewage ii) Use in culture iii) Fish species suitable for sewage fed fishery. 5. Man made Hazards and Aquaculture i) Domestic Sewage ii) Agricultural Sewage iii) Industiral Effluents.	11	16-Jan	12-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) Peral oyster Culture. iii) Edible oyster culture.	12	14-Feb	11-Mar
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	11	14-Mar	26-Apr


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