

A.V.E. Society's

DEGLOOR COLLEGE, DEGLOOR

Annual Teaching Plan

Department: - Zoology	Class: - B. Sc. First Year
Name of Teacher :- Mr. Paikrao S. M	Year :- 2016-17
Subject :- Zoology	Semester :- I
Paper Name & No. :- Paper – I LIFE AND DIVERSITY OF ANIMALS - I	

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. Plasmodium vivax-Structure, Life cycle, Pathogen city and Control Measures. 3. Porifera: General Characters and classification up to class level. Sycon: General Morphology, different types of cells. Economic Importance of Porifera	11	01-Jul	04-Aug
II	1. Coelenterate: General Characters and classification up to class level. Polymorphism in Coelenterata. Coral, and Coral reefs, its Economic Importance. 2. Platy helminthes: General Characters and classification up to class level. Taenia Solium : Structure and life cycle 3. Nematohelminthes. Ascaris: Structure and life cycle.	12	05-Aug	04-Sep
III	1. Annelida: General Characters and classification up to class level. Role of Earthworm in Agriculture. 2. Arthropoda: General Characters and classification up to class level. Cockroach: External Morphology, Digestive system, Respiratory system Nervous system. Economic Importance of Insects.	12	05-Sep	04-Oct
IV	1. Mollusca: General Characters and classification up to class level. Economic Importance of Mollusca. 2. Echinodermata: General characters and Classification up to class level. Star Fish: External Morphology and water vascular system. 3. Hemichordata: General Characters and Affinities.	11	05-Oct	06-Nov

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Annual Teaching Plan

Department: - Zoology	Class: - B. Sc. First Year
Name of Teacher :- Mr. Irfan Shaikh	Year :- 2016-17
Subject :- Zoology	Semester :- I
Paper Name & No. :- Paper – II CELL BIOLOGY	

Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction of cell Biology. 2. Microscopy (An elementary idea) a) Light microscopy b) Electron microscopy 3. Types of cells: a) Prokaryotic cell structure b) Eukaryotic cell structure 4. Plasma membrane:	12	01-Jul	04-Aug
II	1. Endoplasmic reticulum: Structure, Functions 2. Golgi complex: Structure, Functions 3. Mitochondria: Structures, Functions 4. Ribosome: Structures, Functions	11	05-Aug	04-Sep
III	1. Lysosomes: Structure, Functions 2. Nucleus: Structures, Functions 3. Nucleolus: Structures, Functions 4. Chromosome: Shape, Structures, Functions. Polytene and Lampbrush chromosomes	11	05-Sep	04-Oct
IV	1. Cell cycle: a) Phases b) Mitosis and its significance c) Meiosis and its significance 2. Cytology of cancer: Malignant Non-malignant	11	05-Oct	06-Nov


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Department: - Zoology

Class: - B. Sc. Second Year

Name of Teacher: - Mr. Paikrao S. M.

Year :- 2016-17

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	01-Jul	04-Aug
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	05-Aug	04-Sep
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	05-Sep	04-Oct
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	05-Oct	06-Nov

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Department: - Zoology	Class: - B. Sc. Second Year
Name of Teacher: - Mr. Irfan Shaikh	Year :- 2016-17
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	01-Jul	04-Aug
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	05-Aug	04-Sep
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	05-Sep	04-Oct
IV	1) Excretion i) Modes of excretion in animals ii) Structure of kidney. ii) 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	05-Oct	06-Nov

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Department: - Zoology		Class: - B. Sc. Third Year		
Name of Teacher :- Mr. Irfan Shaikh		Year :- 2016-17		
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	01-Jul	04-Aug
II	4. Population Ecology-Characteristics of Population A. Nataly, 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	05-Aug	04-Sep
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	05-Sep	04-Oct
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	05-Oct	06-Nov

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Department: - Zoology		Class: - B. Sc. Third Year		
Name of Teacher: - Mr. Paikrao S. M.		Year :- 2016-17		
Subject :- Zoology		Semester :- V		
Paper Name & No. :- Paper – XV (A) Pisciculture				
Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Fish farm engineering A. Topography B. Soil type C. Water supply D. Layout of fish farm 2. Fish farm Management A. Preparation & Management of Nursery pond B. Preparation and Management of Rearing pond C. Preparation and Management of Stocking Pond	11	20-Dec	16-Jan
II	3. Biology of Indigenous & Exotic carps. 4. Fish seed resources A. Natural resources-Riverine Resources B. Artificial resources-Induced breeding by Hypophysation a) Historical back ground b) Technique of induce breeding c) Recent trends in induced breeding d) Bundh breeding e) Chinese hatchery f) Striping method. c) Transpiration of fish seed and brooders	11	17-Jan	16-Feb
III	5. Fishing Methods: A. Gears B. Crafts 6. Fish Diseases A. Parasitic Diseases A. Parasitic diseases	12	17-Feb	14-Mar
IV	7. Fish Preservation and processing a) Causes of spoilage of fish b) Methods of fish preservation Chilling, Freezing-drying, Smoking, Drying, Salting and Canning 8. Fish by Products.	11	15-Mar	25-Apr


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Department: - Zoology	Class: - B. Sc. First Year
Name of Teacher: - Mr. Paikrao S. M.	Year :- 2016-17
Subject :- Zoology	Semester :- II
Paper Name & No. : - Paper – III LIFE AND DIVERSITY OF ANIMALS - II	

Chapter No.	Topic-Title	Expected Lectures	Expected Duration	
			From	To
I	1. Introduction of Chordates. 2. Protochordata: Urochordata :- General characters, concept of Retrogressive metamorphosis. Cephalochordate General Characters. 3. Agnatha. Cyclostomata: General characters of cyclostomes	10	16-Dec	18-Jan
II	1. Pisces: General characters and classification of Pisces to Class level. Scoliodon (Dogfish): External characters, Digestive system, Respiratory system, Circulatory System, Nervous system. Economic Importance of Fishes.	12	19-Jan	16-Feb
III	1. Amphibia:- General characters and classification up to order level., Parental care in amphibians. Summer and Winter sleep in Frog. 2. Reptilia: General characters. Poisonous and Non poisonous snakes. Importance of snake Venom. 3. Aves: General characters. Flight Adaptations in birds. Migration of birds.	11	17-Feb	14-Mar
IV	1. Mammals: General characters and classification up to order level. 2. Rat-External characters, Digestive system (Anatomy), Respiratory system, Circulatory system. Nervous system-Brain and spinal cord Eye and Ear.	12	15-Mar	26-Apr



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Department: - Zoology	Class: - B. Sc. First Year
Name of Teacher: - Mr. Irfan Shaikh	Year :- 2016-17
Subject :- Zoology	Semester :- II
Paper Name & No. :- Paper – IV DEVELOPMENTAL BIOLOGY	

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	16-Dec	18-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.	11	19-Jan	16-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	17-Feb	14-Mar
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	15-Mar	26-Apr


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Department: - Zoology		Class: - B. Sc. Second Year		
Name of Teacher: - Mr. Paikrao S. M.		Year :- 2016-17		
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	16-Dec	18-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	19-Jan	16-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	17-Feb	14-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	15-Mar	26-Apr

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Department: - Zoology	Class: - B. Sc. Second Year
Name of Teacher: - Ms. Irfan Shaikh	Year :- 2016-17
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	16-Dec	18-Jan
II	1) Histology of mammalian organs and tissues. i) Stomach ii) Intestine iii) Pancreas iv) Liver v) Kidney vi) Testes vii) Ovary	11	19-Jan	16-Feb
III	1) Carbohydrate metabolism: i) Glycogenesis, Glycogenolysis & Gluconeogenesis ii) Glycolysis iii) Krebs's cycle	11	17-Feb	14-Mar
IV	1) Protein metabolism: i) Deamination and Transamination ii) Ornithine cycle. 2) Lipid metabolism: i) B-Oxidation ii) Ketosis, Ketogenesis and Ketolysis.	12	15-Mar	26-Apr

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Department: - Zoology

Class: - B. Sc. Third Year

Name of Teacher: - Mr. Irfan Shaikh

Year :- 2016-17

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	16-Dec	18-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	19-Jan	16-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	17-Feb	14-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	15-Mar	26-Apr

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Department: - Zoology	Class: - B. Sc. Third Year
Name of Teacher: - Mr. Paikrao S. M.	Year :- 2016-17
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.	11	01-Jul	02-Aug
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	02-Aug	30-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-Sep	30-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	01-Oct	02-Nov


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