

E.M. GOPALAKRISHNA KONE YADAVA WOMEN'S COLLEGE
An Autonomous Institution -Affiliated to Madurai Kamaraj University
Re-accredited (3rd Cycle) with Grade A+ & CGPA 3.51 by NAAC



LESSON PLAN

2022-2023

DEPARTMENT OF **ZOOLOGY**

(UG –Odd & Even Semester)



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LESSON PLAN

2022-2023

Class : I B.Sc Zoology

Sem : I

Sub. Code : 22OUZOSE11

Title of the Paper: Computer application

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Introduction to PC and Operating System :Computer, Components of Computer System- Central Processing Unit (CPU), Other input/output Devices, Computer Memory, Hardware and Software. Operating System- Basics of Popular Operating Systems, The User Interface, Running an Application, Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows; Using help; Creating Short cuts.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Aug	II	Understanding MS Word Processing - Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Sep	III	Using MS Excel -Basics of Spreadsheet; Manipulation of cells; performing basics Statistics using spreadsheet applications, creating basic graphs, Editing of Spread Sheet, printing of Spread Sheet.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Oct	IV	Making MS Powerpoint Presentation Basics of presentation software; Preparation and Presentation of Slides; Slide Show; Taking printouts of presentation / handouts.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Nov	V	Introduction to Internet, WWW and Web Browsers- Basic of Computer networks- LAN, WAN, Concept of Internet, Applications of Internet; World Wide Web; Web Browsing software- Search Engines; Understanding URL; Domain name; IP Address.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	

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LESSON PLAN
2022-2023

Class : I B.Sc Zoology

Sub. Code : 22OUZOSE12

Sem : I

Title of the Paper: Dairy Science

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Unit I Dairy Farming-Definition, Scope, Dairy breeds of India and its classification. Exotic cow breed- Jersey and Red Sindhi. Buffalo-Murrah and Surti. Goat -Jamunapari and Malapuri.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	R.S.P
Aug	II	Unit II Common cattle feed and their nutritive values. Rations-its computational and qualities-Balanced ration. Anatomy and physiology of mammary glands. Milk secretion and importance of Colostrum.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	R.S.P
Sep	III	Unit III Milk composition-Nutritive value. Pasteurization of milk -spoilage of milk. Milk products-Butter, Cream, Khoa and Ghee. Adulteration of milk.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	R.S.P
Oct	IV	Unit IV Viral diseases-Cow pox-Foot and mouth disease-Rinder pest. Bacterial diseases -Anthrax-MastitisTuberculosis-Haemorrhagic septicemia. Non-contagious diseases-Milk fever, Parasites of dairy breeds	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	R.S.P
Nov	V	Unit V Role of Co-operative societies in milk production and marketing. Techniques adopted in cattle breeding - inbreeding, Outbreeding and Artificial insemination. Merits and demerits of Dairy Business.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	R.S.P


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LESSON PLAN

2022-2023

Class : I B.Sc Zoology

Sub. Code : 22OUZOID1

Sem : I

Title of the Paper: Applied Zoology

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Unit -I Sericulture - Introduction to Sericulture - Types of silk worms - culture of Mulberry silkworms- Diseases and enemies of silkworms - uses of silk-ahimsa silk	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Aug	II	Unit -II Apiculture - Introduction to Apiculture - Types of Honey Bee - Bee Keeping - Precautions - Products of Bee keeping - Economic Products of Bee Keeping - Economic importance of honey - enemies and diseases of bees - Bee Keeping industry	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Sep	III	Unit -III Aquaculture - Qualities of cultivable fishes - Types of Fish farming .Fish culture - Breeding ponds - nursery ponds - rearing ponds - stocking ponds - Harvesting - Preservation of fishes-fish feed.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Oct	IV	Unit - IV Poultry - Commercial layers and broilers. Poultry housing- deep litter system, Debeaking Poultry diseases- viral disease (Ranikhet), bacterial disease (Fowl cholera), fungal disease (Brooder's pneumonia) and parasitic diseases (Tick fever) Vaccination programme.	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Nov	V	Unit- V Dairy farming - Breeds of cattle's- (Gir & Red Sindhi) dairy products-management. Diseases and mode of prevention (Foot and Mouth Disease and Mastitis). Women entrepreneur - self help groups-marketing -Management	I B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	

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LESSON PLAN

2022-2023

Class : I B.Sc Zoology

Sem : I

Sub. Code : 22OUZO2P

Title of the Paper: Lab in Invertebrata & Chordata

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Body Setae of Earthworm, Nervous system of Earthworm, Paramecium Entire, <i>Entamoeba histolytica</i> ,	I B.Sc Zoology	6	Mounting, Virtual Dissections and Spotters/ Slides	
Aug	II	Salivary Glands of Cockroach, Digestive system of Cockroach, Spicules And Gemmules,	I B.Sc Zoology	6	Mounting, Virtual Dissections and Spotters/ Slides	
Sep	III	Sting of Honey Bee, Reproductive system of Cockroach, <i>Physalia</i> , <i>Aurelia</i> <i>Taenia solium</i> ,	I B.Sc Zoology	6	Mounting, Virtual Dissections and Spotters/ Slides	
Oct	IV	Liver fluke entire, Chaetopterus, Heteroneries.	I B.Sc Zoology	6	Spotters/ Slides	
Nov	V	Peripatus, Sacculina. Nautilus, Chiton, Star Fish and Sea- urchin.	I B.Sc Zoology	6	Spotters/ Slides	

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LESSON PLAN

2022-2023

Class : II B.Sc Zoology

Sem : III

Sub. Code : 21Z31

Title of the Paper: Cell and Molecular Biology

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
June	I	Microscopy: Principles of compound and electron microscope.	II B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	G. LB
July	I	Cell as the basic unit of living organism – Cell theory – Ultra structure of Prokaryotic and Eukaryotic cells. Physical & Biological properties of Protoplasm.	II B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	G. LB
Aug	II	Plasma Membrane: Ultrastructure and functions (Active and Passive Transport, Osmosis) Endoplasmic reticulum: Structure types and functions. Golgi complex: Structure, Composition and Functions. Lysosome: Structure, Origin, forms and functions.	II B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	A. S. V.
Sep	III	Mitochondria: Structure, Chemical composition and Functions. Ribosomes: Structure and Origin, Chemical composition and Functions. Microbodies, Centrosomes.	II B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	G. LB
Oct	IV	Nucleus & Nucleolus: Structure and functions. Chromosome - Structure of Giant chromosomes and Lamp brush chromosomes. Cell Cycle: Cell division – Mitosis & Meiosis - significance of meiosis. Cancer Cells – Oncogenes, Cell aging, Stem cells. Regulation of gene expression - Lac operon.	II B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	A. S. V.
Nov	V	Nucleic Acids: Structure of DNA & RNA, Types of RNA, Forms of DNA, A, B and Z DNA. DNA Replication and modes of replication, Role of RNA and ribosomes in protein synthesis, Regulation of protein synthesis.	II B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	G. LB

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LESSON PLAN 2022-2023

Class : II B.Sc Zoology

Sem : III

Sub. Code : 21Z4P

Title of the Paper: Lab in Cell and Molecular Biology, Developmental Biology

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Cell Biology: 1. Microscopy - Cell Observation - Operational methods and uses of microscope 2. Onion root tip squash: observation of different stages of Mitosis -Demo	II B.Sc Zoology	6	Chalk and Talk, PPT, Mounting	G. Indira S. S.
Aug	II	3. Cell Counts (Demo Only) a) Total count RBC & WBC - Human b) Differential Count.	II B.Sc Zoology	6	Chalk and Talk, PPT, Virtual lab	G. Indira S. S.
Sep	III	Molecular Biology: 1. Mounting of Barr bodies in the buccal cavity - Demo 2. Isolation of Genomic DNA from Bacteria / Liver tissue (Goat or Chick) Demo only	II B.Sc Zoology	6	Chalk and Talk, PPT, Mounting, Demo	G. Indira S. S.
Oct	IV	Developmental Biology: DNA & RNA , <input type="checkbox"/> Mitochondria , <input type="checkbox"/> Golgi complex,	II B.Sc Zoology	6	Chalk and Talk, PPT, Models & Spotters	G. Indira S. S.
Nov	V	Cell Biology: Onion root tip squash: observation of different stages of Mitosis Molecular Biology: 1. Mounting of Barr bodies in the buccal cavity	II B.Sc Zoology	6	Chalk and Talk, PPT, Mounting	G. Indira S. S.

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LESSON PLAN

2022-2023

Class : III B.Sc Zoology

Sem : V

Sub. Code : 17Z51

Title of the Paper: Genetics

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Introduction to Genetics History of Genetics, General areas of Genetics (Classical, Molecular & Evolutionary) ,Basis of Mendelian Inheritance and Mendelian laws, Interaction of Gene - Complementary Factors, Supplementary Factor, Simple mendelian traits in man	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	G. LB
Aug	II	Linkage and Crossing over - Drosophila-Morgan's experiments - Complete and Incomplete linkage, Linkage groups, Crossing over types, Mechanisms - Cytological evidence for Crossing over- Blood Groups and their inheritance in Human	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	G. LB
Sep	III	Sex Determination and Sex Linked Inheritance: Sex Determination in Man, Sex influenced and Sex limited genes - Non Disjunction and Gynandromorphs - Cytoplasmic inheritance - Maternal effect on <i>Limnaea</i> (Shell Coiling), Kappa Particles in <i>Paramecium</i> , Sex Linked Inheritance- Colour Blindness and Haemophilia in Man.	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	G. LB
Oct	IV	Chromosomal aberrations :Mutation-Molecular Basis of Mutation, Types of Mutation, Mutagens, Mutable and Mutator genes, Chromosomal Aberrations-Autoploidy and	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	G. LB

		Aneuploidy, In born errors of metabolism - phenylketoneuria-Parkinson's disease				
Nov	V	Microbial and Population genetics : Microbial genetics- Recombination in bacteria: Transformation- Griffith experiment, Conjugation- F Factor, H Factor, Sexduction, Transduction- Hershey and Chase experiment- Plasmids and episomes. Population genetics - Hardy Weinberg law, Gene pool and gene frequency, significance and applications	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	G. 2B

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LESSON PLAN 2022-2023

Class : III B.Sc Zoology


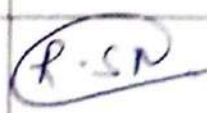

Sem : V

Sub. Code : 17ZE5A

Title of the Paper: Ecology & Evolution

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Ecosystem: Pond as an ecosystem - food chain and its types. Food web - ecological pyramids Light as a limiting factor – Effects of light on metabolism and reproduction. Temperature as a limiting factor .Effects of light on metabolism and morphology.	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	
Aug	II	Terrestrial habitat- grass land, fresh water & marine habitat : Characteristics, stratification, deep sea adaptations.	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	
Sep	III	Characteristics of Community Ecology. Ecotone and edge effect. Ecological niche, equivalence, ecotypes and ecological succession.	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	
Oct	IV	Evidences of Evolution : Brief account on morphological , comparative anatomy Embryological.physiological and Biochemical evidences. Homology & Analogy(example-	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	

	IV	forelimbs), Vestigial organ- (Vermiform appendix, Plica semilunaris), Fossil evidence - Archaeopteryx .Lamarckism , Darwinism, Neo-Darwinism - Mimicry - Batesian and Mullerian Mimicry.		6	Chalk and Talk, PPT, quiz, on the spot test	
Nov	V	Hardy Weinberg law & its Significance- . Factors affecting gene equilibrium- Natural selection - Isolating mechanisms- Speciation - Allopatric & Sympatric speciation - Human evolution - Physical and cultural Evolution.	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	 


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LESSON PLAN
2022-2023

Class : III B.Sc Zoology



Sem : V

Sub. Code : 17ZE5B

Title of the Paper: Biochemistry

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Carbohydrates: classification and biological importance - carbohydrate metabolism - Glycogenesis , Glycolysis , Citric acid cycle and Hexose Monophosphate Shunt .	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	
Aug	II	Amino acid structure and classification , Protein - structure, classification and biological importance- Transamination , Decarboxylation, Transdeamination, Transmethylation, Urea cycle.	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	
Sep	III	Lipids: Classification and structure of cholesterol- β -oxidation of fatty acids - Biological importance of lipids-biosynthesis of fattyacids.	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	

Oct	IV	Enzymes: classification, physico-chemical nature and mechanism of enzyme action, factors affecting enzyme activity-role of coenzymes and enzymes.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Nov	V	Bio -chemical techniques, Principle and biological application of Paper chromatography and Electrophoresis (PAGE only), pH meter, Spectro photometry	III B.Sc Zoology	12	Chalk and Talk, PPT, quiz, on the spot test	


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LESSON PLAN 2022-2023

Class : III B.Sc Zoology

Sem : V

Sub. Code : 17Z61P

Title of the Paper: Lab in Genetics, Ecology & Evolution and Biochemistry

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Genetics: 1. Observation of simple Mendelian Traits in Man. 2. Study of probability with two coins using tossing experiments.	III B.Sc Zoology	12	Chalk and Talk, PPT, Report writing, Observation and statistical calculation	R-SN
Aug	II	Ecology 1. Detection of Transparency of water by Secchi disc. 3. Observation of Animal association, symbiosis parasitism, predation and commensalism.	III B.Sc Zoology	12	Chalk and Talk, PPT, Virtual lab	R-SN
Sep	III	Evolution: 1. Variations – finger prints. 2. Homologous & Analogous organs. 3. Vestigial organs.	III B.Sc Zoology	12	Chalk and Talk, PPT, Charts, Models & Spotters	R-SN
Oct	IV	Bio Chemistry: 1. Principle and pH Measurements of various samples using pH meter.	III B.Sc Zoology	12	Chalk and Talk, PPT, Models & Spotters	R-SN
Nov	V	4. Principle and Electrophoresis-demonstration (PAGE).	III B.Sc Zoology	12	Chalk and Talk, PPT, Demonstration and Virtual lab.	R-SN

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LESSON PLAN 2022-2023

Class : III B.Sc Zoology

Sem : V

Sub. Code : 17Z62P

Title : Lab in Physiology, Microbiology & Immunology and Biotechnology

Total Hours :60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Animal Physiology: 1. Estimation of oxygen consumption by fish 2. Haemoglobinometer	III B.Sc Zoology	12	Chalk and Talk, PPT, Demonstration and Virtual lab.	
Aug	II	Microbiology: 3. Media preparation – Agar plate method. 4. Structure of Bacteria, HIV, TMV and Algae.	III B.Sc Zoology	12	Chalk and Talk, PPT, Charts, Models & Spotters	
Sep	III	Immunology: 1. Histology of Bone marrow, Bursa fabricus, Spleen, Thymus 2. ABO blood groups & Rh factor	III B.Sc Zoology	12	Chalk and Talk, PPT, Demonstration, Charts, Models & Spotters	
Oct	IV	Biotechnology: 1. Transgenic fish & mice 2. Super bug – Pseudomonas putida	III B.Sc Zoology	12	Chalk and Talk, PPT, Charts, Models & Spotters	
Nov	V	3. pBR 322	III B.Sc Zoology	12	Chalk and Talk, PPT, Charts, Models & Spotters	

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LESSON PLAN

2022-2023

Class : III B.Sc Zoology

Sem : V

Sub. Code : 174EV5

Title : Environmental Studies

Total Hours :30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Unit : I Natural Resources - Water Renewable Resources - Forest Resources - Soil Resources - Food Resources - Energy Resources - Non Renewable Resources.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Aug	II	Unit : II Eco System - Structure of an Eco system Abiotic Components - Biotic Components - Functional Components - Food Chain - Energy Flow - Biogeochemical Cycles - Types of Eco System - Types of Aquatic Ecosystem - Pond Ecosystem - Grassland Ecosystem - Desert Ecosystem.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Sep	III	Unit : III Biodiversity and Conservation : - What is Biodiversity - Levels of Biodiversity - Values of Biodiversity - Consumptive use value - Social benefits - Cultural Values - India as a Mega Diversity Nation - Conservation and its sigfiance.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Oct	IV	Unit :IV Pollution : - Types of Pollutants - Types of Pollution - Air Pollution -Water Pollution - Thermal Pollution - Marine Pollution - Soil Pollution - Control	III B.Sc Zoology	6	Online teaching through Google Meet Chalk and Talk, PPT, quiz, on the spot test	



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LESSON PLAN
2022-2023

Class : III B.Sc Zoology

Sem : V

Sub. Code : 17SEZ51

Title : Biostatistics

Total Hours :30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Unit - I: Basic concepts in Biostatistics - Collection of Data-Editing, presentation, Analysis and interpretations of data collection - sampling.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Aug	II	Unit- II Classification and Tabulation of data. - Diagrammatic presentation of data - Graphic presentation of data.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Sep	III	Unit -III Measures of Central tendency - Mean, Median, and Mode (individual series and continuous series) - Related Problems.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Oct	IV	Unit-IV Measures of Dispersion - Range, Standard Deviation, Variance, Standard Error-Related Problems.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	
Nov	V	Unit-V Correlation & Regression, Basic concepts of probability - Measures and Theorems. Theoretical distributions -Binomial distribution and Chi-square Test, T-test .	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	

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2022-2023

Class : I B.Sc Zoology
Sem : II
Sub. Code : 22OUZO21
Title : Chordata
Total Hours :60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Unit - I Prochordata, Agnatha & Pisces - General characters and classification of Prochordata, Agnatha and Pisces upto Order level. Prochordata: Amphioxus and Balanoglossus - Structural Organisation & Affinities of Balanoglossus, Ascidian- Retrogressive metamorphosis- Agnatha : Structure & Affinities of Cyclostomata (Petromyzon)- Pisces : <i>Scoliodon</i> <i>sorrakowah</i> - lateral line sense organ and <i>Dipnoi</i> (Lung Fishes) - Structural Organisation, General topic - Accessory Respiratory organs of fishes.	I B.Sc Zoology	12	Chalk and Talk, OHP presentations, quiz, on the spot test	R. S. R
Jan	II	Unit - II Amphibia - General characters and classification of Amphibia upto order level- <i>Rana hexadactyla</i> - Structural Organization- Respiratory system- <i>Gymnophiana</i> (Apoda - Legless): Structure and Biological significance- Origin of Amphibia- Characteristics of South Indian Amphibians- <i>Bufo</i> , <i>Rachophorus</i> , <i>Hyla</i> . General topic : Parental care in Amphibia.	I B.Sc Zoology	10	Chalk and Talk, PPT, group discussion , quiz	M. A. V
Feb	III	Unit - III Reptilia - General characters and classification of Reptilia upto order level- <i>Calotes versicolor</i> - Structural Organization- urinogenital system- <i>Sphenodon</i> : Structure- Snakes of South India - <i>Naja naja</i> , (Cobra) <i>Viper russelli</i> (Russell's viper), <i>Hydrophis</i> (Sea snake) - Poison apparatus, Biting mechanism , Venom and First aid methods.	I B.Sc Zoology	13	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs.	R. S. R

		Measures – Noise Pollution – Radiation Pollution.				M.H. V
Nov	V	Unit :V Environmental Ethics and Social Issues : Attitudes of Major Religions towards the Environment – Human Population and Environment – Globalisation and the Environment – Global Environmental Issues – Alternative Lifestyles – Role of Individuals, Organisations and Government in protecting the Environment.	III B.Sc Zoology	6	Chalk and Talk, PPT, quiz, on the spot test	R.S.N.

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LESSON PLAN

2022-2023




Class : I B.Sc Zoology



Sem : II

Sub. Code : 22OUZOSE21


Title : Vermitechnology

Total Hours :30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	UNIT -I Introduction of Earthworm - General morphology of earthworm - body structure, colour, anatomy, biology, reproduction. Three common species: <i>Eisenia foetida</i> , <i>Eudriluseugeniae</i> , <i>Megascolex mauritii</i> . Definitions of vermiculture, vermicompost, vermitechnology.	I B.Sc Zoology	6	Chalk & Talk Method	
Jan	II	UNIT - II Vermiculture and production of Vermicompost: Types of vermicomposting: small scale and large scale. Requirements: environmental-air, moisture, temperature. Setting up a vermiculture unit. Value addition through enrichment of vermicompost.	I B.Sc Zoology	6	PPT	
Feb	III	UNIT - III Vermicomposting - Schemes, maintenance of beds, harvesting worms and vermicompost. Quality, chemical composition of vermicompost, properties and advantages over chemical fertilizers. Packaging and Marketing- cost benefit	I B.Sc Zoology	6	Chalk & Talk Method	

		General topic- Identification of Poisonous snakes and non-Poisonous snakes.				
Mar	IV	Unit - IV AVES - General characters and classification of Aves upto order level- <i>Columba livia</i> - Structural Organization, Physiology of eye- Flight adaptations in birds- Flightless birds and their distribution General topic - Migration in birds.	I B.Sc Zoology	13	Chalk and Talk, OHP presentations, quiz, on the spot test	
Apr	V	Unit - V Mammalia & Comparative Studies -General characters and classification of mammalia upto order level- <i>Oryctolagus cuniculus</i> - Structural Organisation- circulatory system- Aquatic and flying Mammals. General topics -Origin of Chordates and Tetrapod limbs.	I B.Sc Zoology	12	Chalk and Talk, PPT, group discussion , on the spot test	

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LESSON PLAN

2022-2023

Class : I B.Sc Zoology

Sem : II

Sub. Code : 22OUZOSE22



Title : Aquaculture

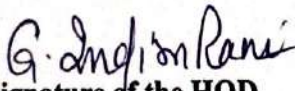
Total Hours :30

	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	UNIT – I Introduction -Need and scope of aquaculture- Aquaculture potentials of India - Inland Fishery resources- cultivable fishes.	I B.Sc Zoology	6	Chalk & Talk Method	R.SN
Jan	II	UNIT – II Culture - Monoculture – poly culture- pen culture – cage culture – Raft culture – its problems – Integrated fish farming- paddy cum fish culture and salt cum shrimp culture.	I B.Sc Zoology	6	PPT	R.SN
Feb	III	UNIT – III Enemies-Predators – control measures – Aquatic weeds and their control measures – Types of fishing nets – Marketing.	I B.Sc Zoology	6	Chalk & Talk Method and PPT	R.SN
Mar	IV	UNIT – IV Pearl fishery-Pearl oyster culture – pearl formation. Mass culture of live feed Artemia, Algae, Spirullina and Daphnia.	I B.Sc Zoology	6	PPT	R.SN
Apr	V	UNIT – V Prawn culture- Fresh water prawn culture- hatchery stocking density – fresh water fish farming – selection of pond, construction, water quality management – conditioning the pond.	I B.Sc Zoology	6	PPT	R.SN

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		analysis. Vermicompost as quality manure.				
Mar	IV	Unit-IV Vermiwash- Constituents of Vermiwash- its applications. Uses of earthworms in animal feed industry (biochemical and biotechnological studies) and medicine(ayurvedic and unani) .	I B.Sc Zoology	6	Chalk & Talk Method	
Apr	V	Unit V: Natural enemies of earthworms: Pests (Termites), parasites(Nematodes-Rhabditis) and pathogens(Roundworm) affecting earthworms. Bioremediation through vermitechnology. . Funding agencies and schemes for women entrepreneurs.	I B.Sc Zoology	6	PPT	


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LESSON PLAN

2022-2023

Class : I B.Sc Zoology


Sem : II

Sub. Code : 22OUZOID2

Title : Ornamental fish culture

Total Hours :30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	UNIT-I Introduction to Ornamental fish culture- Indian and world scenario - Advantages of ornamental fish culture - Setting up home aquarium - Aquarium tank: types (Metal framed glass tank, All glasses tank, Acrylic tank, Laminated glass tank) - Materials required for the construction of tanks - Features of Aquaponics.	I B.Sc Zoology	6	Chalk and Talk, and group discussion	
Jan	II	UNIT-II Management-Water quality management - Heating - Lighting - Aeration - Filtering (mechanical, chemical and biological) - Aquarium equipments - Aquarium plants- hydroponics.	I B.Sc Zoology	6	PPT	
Feb	III	UNIT -III Ornamental Fishes- Salient features of Goldfish, Siamase Fighter fish, Molly fish, Cichlids Clownfish, Angel fish and Guppy fishes.	I B.Sc Zoology	6	PPT	
Mar	IV	UNIT-IV Food & Feeding: Nutritional requirements for fish, live feed, artificial feed, composition of ideal fish feed - Parasites & Diseases: Argulosis (Ecto parasites) & Fin rot disease	I B.Sc Zoology	6	PPT	

		(Bacterial disease)and Carp pox (Viral disease)				
Apr	V	UNIT-VMarketing- Ornamental fish Transportation and packing : Methods (open and closed packing), starvation and sedation, factors to be considered for packaging (Density, temperature, dissolved gases, salinity, anaesthetics). Management practices of ornamental fish farms. Conditioning and quarantine methods. Trade regulations and wild life act in relation to ornamental fishes.	I B.Sc Zoology	6	Chalk and Talk, and group discussion	

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LESSON PLAN
2022-2023

Class : I B.Sc Zoology


Sem : II

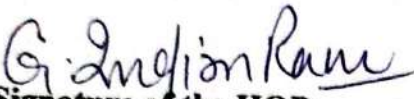
Sub. Code : ~~HEZP~~ **2200202P**

Title of the Paper: Lab in Invertebrata & Chordata

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	3. Calotes - Arterial system 4. Rabbit - Reproductive System Spotters: Agnatha: Petromyzon Pisces: Echeneis and Hippocampus	I B.Sc Zoology	6	Hands on Practical classes	
Jan	II	Cockroach - Reproductive System Calotes - Arterial system Spotters Amphibia: Rhacophorus, Salamander and Bufo.	I B.Sc Zoology	6	Hands on Practical classes	
Feb	III	Rabbit - Reproductive System Spotters: Reptilia: Naja naja, Draco and Chaemeleon	I B.Sc Zoology	6	Hands on Practical classes	
Mar	IV	Earthworm - Body Setae Spotters: Aves : Duck and Kite (beak and claw adaptations) Mammalia: Bat and Echidna	I B.Sc Zoology	6	Hands on Practical classes	

Apr	V	House Fly- Mouth Parts Shark - Placoid scales Spotters: Osteology: Fore and hind limbs of rabbit : Synsacrum of Bird, Skull of Calotes.	I B.Sc Zoology	6	Hands on Practical classes	
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LESSON PLAN

2022-2023

Class : II B.Sc Zoology


Sem : IV

Sub. Code : 21Z41

Title : Developmental Biology

Total Hours :60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Unit - I Theories- Preformation theory, Epigenetic theory, Recapitulation and Germplasm theories. Gametogenesis: Spermatogenesis- Structure and Types of Sperm & Oogenesis - Structure and Types of eggs and egg membranes.	II B.Sc Zoology	12	Chalk and Talk, and group discussion	G. JB
Jan	II	Unit - II Fertilization: Acrosomal reaction, Cortical reaction, Physiological and Biochemical changes and its significance. Parthenogenesis, Cleavage- Types, Patterns, Planes, factors controlling and laws in cleavage. Fate maps in Frog and Morphogenetic movements.	II B.Sc Zoology	12	PPT	G. JB
Feb	III	Unit - III Blastulation and Gastrulation in Chick and Mammal - Organogenesis: Development of eye and brain in Frog - Foetal membranes in Chick - Types of Placenta - Functions of Placenta.	II B.Sc Zoology	12	PPT	G. JB
Mar	IV	Unit - IV Amphibian Metamorphosis- Anatomical and Biochemical changes. Regeneration- Definition and Types. Human Reproduction - Puberty, Menstrual cycle, Menopause. Pregnancy and Child birth -Partuition, Lactation.	II B.Sc Zoology	12	PPT	G. JB

Apr		Unit - V Experimental embryology: Double gradient theory - Cell lineage - Experiments in Sea urchin and Polychaetes - Organizer Concept, Mechanism of Induction, types - Nuclear transplantation -	II B.Sc Zoology	6	OHP presentation	
	V	Teratogenesis - Infertility causes - Applied embryology: Test tube baby and IVF.		6	PPT	G. LB

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LESSON PLAN 2022-2023

Class : II B.Sc Zoology

Sem : IV

Sub. Code : 2174P

Title of the Paper: Lab in Cell and Molecular Biology, Developmental Biology

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Cell Biology 1. Microscopy - Cell Observation - Operational methods and uses of microscope	II B.Sc Zoology	6	Hands on practicals	G. 2B S. S. S.
Jan	II	3. Cell Counts (Demo Only) a) Total count RBC & WBC - Human b) Differential Count.	II B.Sc Zoology	6	Hands on practicals	G. 2B S. S. S.
Feb	III	Molecular Biology 1. Mounting of Barr bodies in the buccal cavity 2. Isolation of Genomic DNA from Bacteria / Liver tissue (Goat or Chick)	II B.Sc Zoology	6	Hands on practicals	G. 2B S. S. S.
Mar	IV	Developmental Biology: 1. Whole mounts of 48hrs and 72hrs Chick Embryo (Demo Only).	II B.Sc Zoology	6	Spotters	G. 2B S. S. S.
Apr	V	<input type="checkbox"/> DNA & RNA , <input type="checkbox"/> Mitochondria , <input type="checkbox"/> Golgi complex, <input type="checkbox"/> Ribosomes, <input type="checkbox"/> Lysosomes, <input type="checkbox"/> Nucleus <input type="checkbox"/> Blastula and Gastrula of Frog.	II B.Sc Zoology	6	Spotters	G. 2B S. S. S.

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LESSON PLAN

2022-2023

Class : III B.Sc Zoology

Sem : VI

Sub. Code : 17Z61

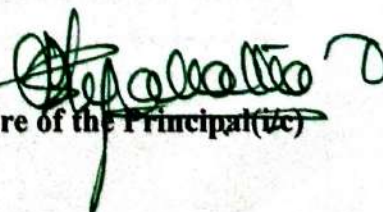
Title : Physiology

Total Hours :60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Nutrition, Types of Nutrition- Balanced Diet- Malnutrition (Marasmus & kwashiorkor) Physiological role of carbohydrates, proteins, fats, vitamins and minerals. Digestion -Function of digestive glands – role of enzymes in digestion – hormonal control of digestion.	III B.Sc Zoology	12	Chalk & Talk method	
Jan	II	Respiration -Types and mechanism of respiration- respiratory pigments- Oxygen transport - CO ₂ transport – Respiratory Quotient (RQ). Circulation - Structure and function of human heart – coronary circulation-ischemic heart diseases- origin and conduction of heart beat- Electrocardiogram(ECG) Blood pressure (BP)- – blood sugar, blood cholesterol, blood urea level in man – blood coagulation.	III B.Sc Zoology	12	PPT	

Feb	III	Osmoregulation - Mechanisms of osmoregulation - Poikilosmotic and Homeosmotic animals. Euryhaline, Stenohaline - Osmoconformers, Osmoregulators, Osmoregulations in crustaceans, fishes and birds. Excretion - Ultra structure and function of kidney and nephron - mechanism of urine formation - hormonal control - Diabetes insipidus .	III B.Sc Zoology	12	PPT	R.SR
Mar	IV	Muscles - Ultra structure of skeletal muscle — Physico chemical properties and mechanism of muscle contraction. Sense organs: Physiology of vision and hearing. Chronobiology - Biological clock, Lunar Rhythm and Circadian Rhythm.	III B.Sc Zoology	12	PPT	R.SR
Apr	V	Nervous system: Structure and types of neuron — conduction of nerve impulse through Axon, Synapse and Neuromuscular junctions - Reflex arc. Endocrine system- Hormones of Pituitary, Thyroid, Parathyroid, Adrenal and Sex glands.	III B.Sc Zoology	12	PPT	R.SR

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LESSON PLAN

2022-2023



Class : III B.Sc Zoology

Sem : VI

Sub. Code : 17Z62

Title : Microbiology & Immunology

Total Hours :60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Introduction to Microbiology - The historical development and scope of Microbiology - Sterilization and disinfections - Physical methods (UV Radiation, Autoclave & Incineration) - Chemical methods (antibiotics & other chemicals) Preparation of nutrient agar and selective agar media - pure culture.- Principles of bacterial staining. Bacterial growth curve.	III B.Sc Zoology	12	Chalk & Talk method	
Jan	II	Food Microbiology- Perishable & non - perishable food - Spoilage of meat, Vegetables, fish, sea foods, Milk & dairy products and cereals - Food preservation - principle and methods. Removal of Microorganisms-maintenance of anaerobic condition - preservation by high & low temperatures-by drying and use of chemical-Food storage	III B.Sc Zoology	12	PPT	

Feb	III	Biogeochemical cycles - Nitrogen Cycle and Phosphorus Cycle .	III B.Sc Zoology	6	PPT	G. 2B M. V
		Microbes for alternate source of energy - Hydrogen producing bacteria - <i>Halobacterium halobium</i>		6	PPT	
Mar	IV	Ontogeny of Lymphoid organs - Myeloid Lineage and Lymphoid Lineage . Primary and secondary organs - Thymus, Bone marrow, Spleen, lymph node- Specific and non specific immunity - B cells, T cells and sub cells - Immune response- cell mediated immune response & humoral immune response.	III B.Sc Zoology	12	PPT	G. 2B M. V
Apr	V	Structure and properties of antigen. Antigen - antibody reaction(precipitation & agglutination). Transplantation- MHC, HLA typing, Hypersensitivity reactions - Type I- anaphylactic reactions, Type II - cytotoxic reactions, Type III - immune complex reactions, Type IV - delayed type hypersensitivity reactions- Vaccine programme.	III B.Sc Zoology	12	PPT	G. 2B M. V

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LESSON PLAN

2022-2023

Class : III B.Sc Zoology

Sem : VI

Sub. Code : 17ZE6A

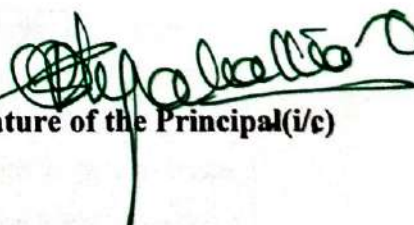
Title : Biotechnology

Total Hours :60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Recombinant DNA Technology - Conventional vs Modern Biotechnology . Biotechnology tree-Tools of genecloning : Restriction Endonucleases , DNA ligase. Cloning vectors: Plasmid, cosmid, & expression vectors. Major steps in gene cloning- Cloning of human insulin gene.	III B.Sc Zoology	12	Chalk & Talk method	G. LB
Jan	II	Industrial Biotechnology: Microbial products – Production of Cyanocobalamine (primary) and Pencillin (Secondary) - Bio Gas Production - stages of methanogenesis – uses. Industrial production and application of ethanol (green fuel)	III B.Sc Zoology	12	PPT	G. LB
Feb	III	Environmental Biotechnology- Biopesticides – biological control of crop pest (bacterial pesticides only) – plant extracts – bt toxin production – biofertilizers – types – definition –phosphate solubilizers & nitrogen fixers –	III B.Sc Zoology	12	PPT	G. LB

		application – super bug – treatment of oil spills in marine environment.				
Mar	IV	Animal Biotechnology - Animal tissue culture – Basic requirements – Culture media and its composition – Transgenesis – Transgenic mice, Transgenic cattle – transgenic plants. Monoclonal Antibody (mAb) - production & its application.	III B.Sc Zoology	• 12	PPT	G. JB
Apr	V	Applied Biotechnology : r-DNA Proteins and their uses – Interferon, IL-2, Factor VIII , Urokinase , TPA , FMD Vaccine in Cattle- Composting, Bioleaching and Bioremediation - Biosafety and Ethics . -GMO & constraints.	III B.Sc Zoology	12 *	PPT	G. JB

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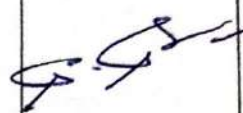
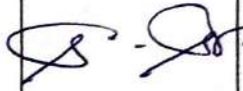


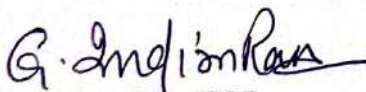
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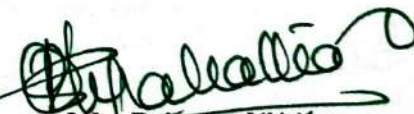
LESSON PLAN
2022-2023

Class : III B.Sc Zoology
Sem : VI
Sub. Code : 17SEZ61
Title : Economic Zoology
Total Hours :30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Jan	I	Sericulture - Introduction to Sericulture – Types of silk worms – culture of Mulberry silkworms-Diseases and enemies of silkworms – uses of silk-ahimsa silk	III B.Sc Zoology	6	Chalk & Talk method	G. LB
Feb	II	Apiculture - Introduction to Apiculture – Types of Honey Bee – Bee Keeping – Precautions – Products of Bee keeping – Economic Products of Bee Keeping – Economic importance of honey – enemies and diseases of bees – Bee Keeping industry	III B.Sc Zoology	6	PPT	G. LB A. S. S.
Mar	III	Aquaculture - Qualities of culturable fishes – Types of Fish farming .Fish culture – Breeding ponds – nursery ponds – rearing ponds – stocking ponds – Harvesting – Preservation of fishes-fish feed	III B.Sc Zoology	6	PPT	G. LB

April	IV	Poultry -Commercial layers and broilers. Poultry housing- deep litter system, cage rearing., feeders & waterers. Summer management, winter management in brief. Debeaking Poultry diseases- viral disease, bacterial disease, fungal disease and parasitic diseases (one each) Vaccination programme.	III B.Sc Zoology	6	PPT	
May	V	women entrepreneur – marketing -Management - Dairy farming - Breeds of cattles- dairy products-management. Diseases and mode of prevention- self help groups.	III B.Sc Zoology	6	PPT	


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LESSON PLAN

2022-2023

Class : III B.Sc Zoology

Sem : VI

Sub. Code : 174VE6

Title of the Paper: Value Education

Total Hours : 30

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Value Education – Need and Importance – Objectives - Types of Values-Nature and concept of Moral education –Value Education Vs Moral Education.	III B.Sc Zoology	6	lecture	
Jan	II	Values of Home –Role of Women in Decision Making –Parental Care-Care of the Aged –Family Conflicts and Resolutions-Gender Justice-Social Justice- Social Integration- Socio Political Awareness	III B.Sc Zoology	6	lecture	
Feb	III	Character Formation towards Positive Personality –Truthfulness, Sacrifice, Sincerity, Self control, Altruism, Tolerance, Confidence, Honesty and Courage.	III B.Sc Zoology	6	lecture	
Mar	IV	Karma Yoga in Hinduism –Love and Justice in Christianity –Brotherhood in Islam, Compassion in Buddhism – Ahimsa in Jainism and Courage in Sikhism –Need for Religious Harmony.	III B.Sc Zoology	6	lecture	
Apr	V	Human rights –Fundamental Rights – Human Rights Act 1993 (Amended 2006)- Consumer Protection Act 1986 –Right to Information Act 2005 –Right to Education Act 2009-Protective Laws for Women –Dowry Prohibition Act 1961 (Amended 1986)And Domestic Violence Act 2005- Constitutional Values- Liberty-Democracy – International Peace.	III B.Sc Zoology	6	lecture	

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LESSON PLAN 2022-2023

Class : III B.Sc Zoology

Sem : VI

Sub. Code : 17Z61P

Title of the Paper: Lab in Genetics, Ecology & Evolution and Biochemistry

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Genetics: 3. Multiple Allelic Inheritance-Rh factor 4. Observation on the study of Polygenetic inheritance of quantitative traits to be interpreted(Neem leaf serration).	III B.Sc Zoology	12	Hands on Practical classes	
Jan	II	Ecology 2. Analysis of dissolved oxygen in water sample.	III B.Sc Zoology	12	Hands on Practical classes	
Feb	III	Evolution: 4. Connecting link- Archaeopteryx 5. Examples of evolutionary importances - Peripatus , Limulus & Archaeopteryx.	III B.Sc Zoology	12	Spotters	
Mar	IV	Bio Chemistry: 2. Principle and Amino acids separations using Paper Chromatography-demonstration	III B.Sc Zoology	12	Hands on Practical classes	
Apr	V	4. Principle and Electrophoresis-demonstration (PAGE).	III B.Sc Zoology	12	Spotter	

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LESSON PLAN 2022-2023

Class : III B.Sc Zoology

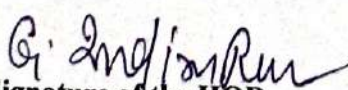
Sem : VI

Sub. Code : 17Z62P

Title of the Paper: Lab in Physiology, Microbiology & Immunology and
Biotechnology

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
Dec	I	Animal Physiology: 3. Qualitative analysis of ammonia, urea and uric acid.	III B.Sc Zoology	12	Hands on Practical classes	R.S
Jan	II	4. Demonstration of blood pressure using Sphygmomanometer	III B.Sc Zoology	12	Hands on Practical classes	R.S
Feb	III	Microbiology: 1. Simple staining. 2. Gram staining.	III B.Sc Zoology	12	Spotters	R.S
Mar	IV	Immunology: 3. HLA & MHC	III B.Sc Zoology	12	Spotter	R.S
Apr	V	Biotechnology: 4. Ti plasmid 5. Humulin	III B.Sc Zoology	12	Spotter	R.S


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LESSON PLAN

2022-2023

Class : I B.Sc Zoology

Sem : I

Sub. Code : 22OUZO11


Title of the Paper: Invertebrata

Total Hours : 60

Month	Unit	Description of the Syllabus	Class	Hours Allocated	Teaching Mode & Methods	Course Teacher Signature
July	I	Binomial Nomenclature – Rules of Nomenclature, outline classification of invertebrates. Phylum Protozoa: Classification upto class level and their characters with an Indian example - <i>Trypanosoma gambiense</i> . Structural organization of <i>Paramecium caudatum</i> - Digestive system.. General Topic: Locomotion in Protozoa.	I B.Sc Zoology	8	Chalk and Talk, PPT, quiz, on the spot test	G. Indirani
	I	Phylum Porifera: Classification upto class level and their characters with an Indian example – Hyalonema. Structural organization of <i>Leucosolenia</i> - Reproductive system. General Topic: Canal system of sponges.	I B.Sc Zoology	7	Chalk and Talk, PPT, quiz, on the spot test	R.S. Rajdgeri
August	II	Phylum Coelenterata: Classification upto class level and their characters with an Indian example – Hydra. Structural organization of <i>Obelia</i> – Reproductive system. General Topic: Coral, Coral reefs formation and Conservation	I B.Sc Zoology	8	Chalk and Talk, PPT, quiz, on the spot test	S. S. S.

Sep		<p>Phylum Helminthes: Classification upto class level and their characteristics with an Indian example - <i>Taeniasolium</i>. Structural organization of <i>Fasciola hepatica</i> - Excretory system in Liver fluke. General Topic: Parasitic adaptations in Platyhelminthes.</p>	I B.Sc Zoology	7	Chalk and Talk, PPT, quiz, on the spot test	R.S. Rayaluri
	III	<p>Phylum Annelida: Classification upto class level and their characteristics with an Indian example- Chaetopterus. Structural organization of <i>Megascoloxmauriti</i> - Excretory system. General Topic: Metamerism in Annelida.</p>	I B.Sc Zoology	8	Chalk and Talk, PPT, quiz, on the spot test	
Oct	IV	<p>Phylum Arthropoda: Classification upto class level and their distinguishing characters with an Indian example - Scorpion. Structural organization of freshwater Prawn - Excretory system. General topic: Parasitic Adaptations of Crustaceans and their significance.</p>	I B.Sc Zoology	7	Chalk and Talk, PPT, quiz, on the spot test	
Nov	V	<p>Phylum Mollusca: Classification upto class level and their distinguishing characters with an Indian example - Chiton. Structural organization of <i>Pila globosa</i> - Digestive system. General Topic: Cephalopods are advanced Molluscs.</p>	I B.Sc Zoology	8	Chalk and Talk, PPT, quiz, on the spot test	G. IndjionRani
	V	<p>Phylum Echinodermata: Classification upto class level and their distinguishing characters with an Indian example - Sea cucumber. Structural organization of <i>Asterias rubens</i> - Water vascular</p>	I B.Sc Zoology	7	Chalk and Talk, PPT, quiz, on the spot test	

G. IndjionRani
Signature of the HOD


Signature of the Principal (I/C)