ODD SEMESTER 2021-2022

TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr.MadhuramozhiGovindarajalu**

Department : **Zoology**

Programme : **M.Sc**

Programme Code : **PSZ**

Name of the Paper : **GENETICS**

Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• To give an in-depth understanding on the principles and mechanisms of inheritance • To help study the fine structure and molecular aspects of genetic material • To provide an opportunity to learn the importance of inheritance in Man • To provide an understanding on the process and theories in evolutionary biology • To expose students to the basics and advances in Evolution	• Student will test and deepen their mastery of genetics by applying this knowledge in a variety of problem solving situations • Student learn the basic principles if inheritance at molecular level • Job offer: Technician in Karyotyping in Medical Research Centre • Research scientist in ICMR institutes • Research Assistant in Institute of Forest Genetics and Tree Breeding, Coimbatore	• Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Content- 15 hrs Assessment –3 hrs Total – 18 hrs	• Mendelian inheritance • Interaction of genes • Multiple alleles • Linkage and crossing over • Sex determination	09.08.2021 to 03.09.2021	3 3 3 3 3		
Unit II Content- 16 hrs Assessment – 2 hrs Total - 18 hrs	• Structure of gene. • Mechanism of homologous recombination. • Gene expression. • Hardy-Weinberg equilibrium.	04.09.2021 to 25..09.2021	4 4 4 4		
Unit III Content- 15 hrs Assessment – 3 hrs Total - 18 hrs	• Gene mutation • Nuclear transplantation • Extra chromosomal inheritance	27.09.2021 to 30.09.2021	5 5 5		
Unit IV Content- 16 hrs Assessment –2 hrs Total - 18 hrs	• Inborn errors of metabolism • Disorders of purine metabolism. • Disorders of lipid metabolism. • Chromosomal syndrome	30.11.2021 to 14.12.2021	4 4 4 4		
Unit V Content- 15 hrs Assessment – 3 hrs Total - 18 hrs	• Genetic engineering. • Genetic counselling. • Pedigree analysis	15.12.2021 to 28.12.2021	5 5 5		

D. ACTIVITIES:

Activities Name	Details
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) 27.12.2021 to 05.01.2022 CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutorial Ward Meeting	Monthly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : Dr.MadhuramozhiGovindarajalu

Department : Zoology

Programme : B.Sc

Programme Code : USZ

Name of the Paper : Biotechnology

Lecture Hours : 60 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• Know the application of biotechnology in Biological sciences. • Well known the mechanism of gene transfer in prokaryotes. • Learn the role of genetic engineering in human welfare. • Understand the molecular markers and its application in biotechnology. • Know the role of microbes in bioremediations.	• Describe the application of biotechnology in Biological sciences. • Apply the mechanism of gene transfer in prokaryotes. • Analyze the role of genetic engineering in human welfare. • Explain the molecular markers and its application in biotechnology. • Evaluate the role of microbes in bioremediations.	• Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method • Problem Solving Method • Seminar Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Scope and Importance Genetic Engineering. • Gene Cloning. • Tools of Genetic Engineering. • Transgenic plants and animals.	09.08.2021 to 03.09.2021	3 4 4 4		
Unit II Content- 15 hrs, Assessment – 3 hrs Total – 18 hrs	• Blotting techniques. • Gene bank. • Polymerase chain reaction (PCR). • Monoclonal antibody production. • Application of biotechnology in medicine. • Gene therapy.	04.09.2021 to 25..09.2021	3 2 3 2 3 2		
Unit III Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Fermentation techniques. • Construction of fermenter. • Process of fermentation. • Ethanol production. • Application of biotechnology in industry.	27.09..2021 to 30.09.2021	3 3 3 3 3		

D. ACTIVITIES:

Activities Name	Details
Test	Monthly Test- Unit-I (September)
	CIA / Mid Semester –Unit-II (October)
	25.10.2021 to 08.11.2021
	CIA / Model Examination –Unit - III (November)
	28.12.2021 to 07.01.2022
Assignment	Assignment I – Unit – I (September)
	Assignment II – Unit – II (October)
	Assignment III – Unit – III (November)
Quiz	Two Mark Quiz Test - Unit II – Unit – III (November)
Seminar	Unit –III (September and October)
Tutorial Ward Meeting	Monthly once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr. S. ANGELINA GLORITA PARIMALA**

Department : **Zoology**

Programme : **B. Sc**

Programme Code : **USZ**

Name of the Paper : **CC VIII- Environmental Biology, Biodiversity conservation and Evolution**

Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• Define and Introduce the term Environmental Biology • To learn about Community and Population Ecology • To study about Biodiversity • To facilitate the theories on Evolution • To find the Evolutionary trend in Human.	• Know about Environment • Characters of Community and Population • Understand the Evolutionary Process	• Chalk & Talk method • Power Point , • LCD • e – Module • Lecture method • Discussion • Assignment , • Drawing mode method • Seminar

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Abiotic factors • Biotic factors • Pond Ecosystem • Animal Association.	09.08.2021 to 17.08.2021	4 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-
Unit II Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Community- characters • Population - characters • Age pyramids • Biotic potential of Population	18.08.2021 to 14.09.2021	4 Hrs 4 Hrs 3 Hrs 4 Hrs	-	-
Unit III Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Types of Biodiversity • Values of Biodiversity • Threats to Biodiversity • Man – Wild life conflicts	12.10.2021 to 03.10.2021	3 Hrs 4 Hrs 4 Hrs 4 Hrs	-	-
Unit IV Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Hot spots • Conservation of Biodiversity • National Parks • Sanctuaries	08.10.2021 to 23.10.2021	4 Hrs 3 Hrs 4Hrs 4 Hrs	-	-
Unit V Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Origin of life • Theories on Evolution • Molecular Evolution • Evolution of Man	13.11.2021 to 28.11.2021	4 Hrs 2 Hrs 4 Hrs 5 Hrs	-	-

D. <u>ACTIVITIES:</u>

Activities Name	Details
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) – Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August)
Quiz	Assignment II – Unit –III and Unit – IV (September)
Seminar	Two Mark Quiz Test - Unit I – Unit – V (December)
Tutor Ward Meeting	Unit –V (September and December) Monthly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	**:**	**Dr. S. ANGELINA GLORITA PARIMALA**
Department	**:**	**Zoology**
Programme	**:**	**M.Sc (I M Sc Zoology)**
Programme Code	**:**	**PSZ**
Name of the Paper	**:**	**CCIV- MICROBIOLOGY AND IMMUNOLOGY**
Lecture Hours	**:**	**90 Hrs (5 UNITS)**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• To study about the History and scope of Microbiology • To learn about microbes in food • To acquire the knowledge of diseases caused by the microbes	• Develop the knowledge over the classification of micro organisms • Analyze the food contamination • Understand the importance of microbes in Industrial products production.	• Power Point • e – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method • Problem Solving Method • Seminar Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• History , Scope and classification • Bacterial growth and Nutrition • Types of culture media and culture techniques.	20.09.2021 to 17.10.2021	5 Hrs 5 Hrs 5Hrs	-	-
Unit II Content- 15 hrs, Assessment – 3 hrs Total – 18 hrs	• Role of microbes in food production • Food contamination and spoilage by microbes • Microbes in fermentation	19.10.2021 to 30.11.2021	5 Hrs 5 Hrs 5 Hrs	-	-
Unit III Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Causative agents of Microbes • Control of diseases • Types of Bacterial diseases • Types of Viral diseases	01.12.2021 to 16.12.2021	4 Hrs 3Hrs 4 Hrs 4 Hrs	-	-
Unit IV Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Humoral & Cell mediated Immunity • Lymphoid Organs • Cells of Immune System • Types of Compliments	01.12.2021 to 16.12.2021	4 Hrs 3Hrs 4 Hrs 4 Hrs		

Unit V Content- 15 hrs, Assessment – 3 hrs Total – 18 hrs	• Immunodeficiency diseases • Monoclonal & Polyclonal antibodies • Immuno electrophoresis • ELISA technique	17.12.2021 to 03.01.2022	4 Hrs 3 Hrs 4 Hrs 4 Hrs		

D. <u>ACTIVITIES:</u>

Activities Name	Details
Test	Monthly Test- Unit-III (September)
	CIA / Mid Semester –Unit-IV (October)
	25.10.2021 to 08.11.2021
	CIA / Model Examination –Unit - IV (November)
	28.12.2021 to 07.01.2022
Assignment	Assignment I – Unit – III (September)
	Assignment II – Unit – IV (October)
	Assignment III – Unit – V (November)
Quiz	Two Mark Quiz Test - Unit III – Unit – IV (November)
Seminar	Unit –V (September and October)
Tutorial Ward Meeting	Monthly once

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Teaching Plan

A. **General Information**:

Name of the Faculty	:	Dr.S.Krishnaveni
Department	:	Zoology
Programme	:	II-M.Sc., Zoology
Name of the Paper	:	Animal Physiology
Programme code	:	PSZ
Lecture Hours	:	90

B. About the course :

Course objectives	Course outcomes	Teaching Methodology
• To understand the basics of Physiology. • To study the structure and physiology of different Organs. • To acquire in depth knowledge about the endocrine glands and their role. • Understand the functions of receptors. • Understand the role of endocrine organs in human.	• Know the role of nutrition in human and its source, types and importance. To understand the mechanism of human respiration • To understand the blood circulation and excretion of human. • Recognize the complimentary relationship of structure and function of nerves and describe the interactions between different organ systems to maintain homeostasis • Able to explain the receptors and biological rhythmsin response to internal and external environmental changes. • To know the role of hormones in reproduction of mammals.	• Power Point • e – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method • Problem Solving Method • Seminar Method

C. PLAN OF THE WORK

Unit /Modules	Topic to be covered	Proposed Date	Lecture Hours	Practical Hours	Remarks
Unit I Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Nutrition • Vitamins • Respiration • Transport of O_2 and CO_2	10.8.2021 to 3.9.2021	4 4 4 3		-
Unit II Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Circulation • Excretion • Osmoregulation • Homeostasis	4.9.2021 to 21.9.2021	4 3 4 4		-
Unit III Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Muscle physiology • Chemistry of muscle • Muscle contraction • Nerve physiology • Reflex	30.9.2021 to 29.10.2021	3 3 4 3 2		-
Unit IV Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Receptor • Phonoreceptor • Photoreceptor • Rhythm • Photoperiodicity	30.10.2021 to 15.11.2021	3 3 4 3		-
Unit V Content- 15 hrs, Assessment – 3 hrs Total – 18 hrs	• Pituitary Gland • Thyroid gland • Parathyroid gland	16.11.2021 to 29.12.2021	4 4 3		

	• Adrenal and islets • Male reproductive system • Female reproductive system • Role of hormones in reproduction		4		

D . ACTIVITIES:

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August)
Quiz	Assignment II – Unit –III and Unit – IV (September)
Seminar	Two Mark Quiz Test - Unit I – Unit – V (December)
Tutor Ward Meeting	Unit –V (September and December) Monthly Once

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TEACHING PLAN

A.General Information:

Name of the Faculty	**:**	**Dr.S.Krishnaveni**
Department	**:**	**Zoology**
Programme	**:**	**III – B.SC., Zoology**
Name of the Paper	**:**	**Genetics and Microbiology**
Programme code	**:**	**USZ**
Lecture Hours	**:**	**90**

A. About the course :

Course objectives	Course outcomes	Teaching Methodology
• To understand the basics of Genetics • To study the importance of sex determination and mutation • To obtain in depth knowledge in Microbiology • To study the importance of Microbial Diseases Distinguish different chromosomal aberration in human	• Able to explain the role of the mendelian inheritance and multiple alleles in day to day life activities. • Understand the cause and effect of alterations in chromosome number in sex determination. • Understanding the applications of genetics for the welfare of health and treatment of disease, and the impact of selective advantage and natural selection on human genetic disorders. • Acquired technical skills will help the students for collecting and processing biological specimens for analysis.	• Power point • e – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method • Problem Solving Method • Seminar Method

	• Students enable their critical and analytical thinking in the detection of diseases and to distinguish normal and abnormal microscopic pathogens.	

C.PLAN OF THE WORK

Unit /Modules	Topic to be covered	Proposed Date	Lecture Hours	Practical Hours	Remarks
Unit I Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Mental laws • Multiple allele • Blood groups & inheritance • Linkage • Crossing over	11.8.2021 to 16.9.2021	3 hrs 3 hrs 3 hrs 3 hrs 3 hrs	3 hrs	-
Unit II Content- 15 hrs, Assessment – 3 hrs Total – 18 hrs	• Sex Determination • Gynandromorphism • Population Genetic • Hardy, Weinberg law and inheritance	17.9.2021 to 18.10.2021	4 hrs 4hrs 3hrs 4hrs	-	-
Unit III Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Gene mutation • Aneuploidy • Polyploidy • Human genetics	19.10.2021 to 15.11.2021	4hrs 4hrs 3hrs 4hrs	-	-
Unit IV Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• Organization of bacteria • Growth curve of bacteria • Cultural medium • Serial dilution technique • Streak plate method	16.11.2021 to 23.12.2021	3hrs 3 hrs 3hrs 3hrs 3hrs	-	-

Unit V Content- 15 hrs, Assessment – 3 hrs Total – 18 hrs	• Recombination in bacteria • Conjucation, • Transformation and Transduction • Microbial disease in man • Viral disease	24.12.2021 to 21.8.2021	3hrs 3hrs 4hrs 5hrs	-	-

D . ACTIVITIES:

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr. S. VANITHA**

Department : **Zoology**

Programme : **B.Sc**

Programme Code : **USZ**

Name of the Paper : **CC I –Biology of Invertebrates**

Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• To understand the systematic and functional morphology of various groups of invertebrates. • To study the characteristics, economic importance, affinities and adaptations of invertebrates. • Understand the non chordate animals in the world that surrounds us. • Observe the process of evolution from unicellular cells to multi cellular organism. • Able to recognize	• Describe the distinguishing characteristics of the major taxa. Explain the basic aspects of classification details of invertebrates. • Understand biodiversity, habitat,adaptation,organization and taxonomic status of invertebrates. • Recall certain morphological attributes and physiological processes that are distinct and significant to each Phyla. • Understand the systemic and functional morphology of various groups of invertebrates • Explain the basic aspects of	• Chalk & Talk method • Power Point , • LCD • OHP • e – Module • Lecture method • Discussion • Assignment , • Drawing mode method • Seminar

economically important invertebrate fauna.	structural and functional details of Invertebrates • To compare and understand the general and specific characteristics.	

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• General characters and classification up to classes with suitable examples of biological interest. • **Phylum** Protozoa - Detailed study of Paramaecium and Plasmodium • Nutrition in Protozo, Protozoa and Human diseases *(Entamoeba, Trypanosoma, Leishmania, Trichomonas,Toxoplasma, Balantidium* with special reference to mode of infection, pathology and control **Phylum** Porifera • Detailed study of Sycon Canal system in sponges Spicules in sponges.	20.09.2021 to 30.09.2021	4 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-
Unit II Content- 15 hrs,	• **Phylum** Coelenterata - Detailed study of Obelia	01.10.2021	4 Hrs	-	-

Assessment – 3 hrs Total – 18 hrs	• Corals and Coral reefs Ctenophora-General organization and affinities. • **Phylum**-Platyhelminthes-Detailed study of *Fasciola hepatica.* • Parasites affecting Man & Domestic animals (*Schistosoma haematobium, Taenia solium, Hymenolepis nana,Diphyllobothrium latum, Schistosoma nasolis* and *Echinococcus granulosa*)	to 13.10.2021	4 Hrs 3 Hrs 4 Hrs		
Unit III Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• **Phylum-** Nemathelminthes Detailed study of Ascaris • Nematode parasites in man (*Enterobius vermicularis, Ancyclostomaduodenale, Wuchereria bancrofti, Dracunculus medinensis, Trichinella spiralis* with special reference to mode of infection, pathology and control). • **Phylum** Annelida-Detailed study of Nereis • Adaptive radiation in Polychaetes	18.10.2021 to 09.11.2021	5 Hrs 5 Hrs 5 Hrs	-	-

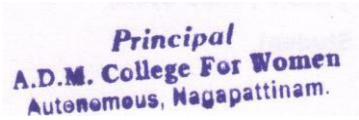
Unit IV Content- 15 hrs Assessment – 3 hrs Total – 18 hrs	• **Phylum** Arthopoda - Detailed study of *Penaeus monodo* • Organisation & affinities of Peripatus • Crustacean larvae & their significance, Economic importance of Insects	12.11.2021 to 09.12.2021	5 Hrs 5 Hrs 5 Hrs	-	-
Unit V Content- 15 hrs, Assessment – 3 hrs Total – 18 hrs	• **Phylum-** Nemathelminthes Detailed study of Ascaris • Nematode parasites in man (*Enterobius vermicularis,* • *Ancyclostomaduodenale, Wuchereria bancrofti,* • *Dracunculus medinensis, Trichinella spiralis* with special reference to mode of infection, pathology and control).	10.12.2021 to 24.12.2021	4 Hrs 2 Hrs 4 Hrs 5 Hrs	-	-

D. <u>ACTIVITIES:</u>

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November)

	Monthly Test– Unit –IV (September)
	27.12.2021 to 05.01.2022
	CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August)
	Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

PRINCIPAL



TEACHING PLAN

E. GENERAL INFORMATION

Name of the Faculty	**:**	**Dr. S. VANITHA**
Department	**:**	**Zoology**
Programme	**:**	**M.Sc (I M Sc Zoology)**
Programme Code	**:**	**PSZ**
Name of the Paper	**:**	**CC II – CELL AND MOLECULAR BIOLOGY**
Lecture Hours	**:**	**90 Hrs**

F. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
Course Objectives: • To understand the cell structure in molecular level. • .To provide the basic idea about cell cycle and regulation • To know the structure and importance of	• .Understand the cell structure in molecular level. • Understand basic idea of cell cycle and regulation to apply in research • .Job offers: Research Scientist in Cancer Research center, Adayar • Research Scientist in Tata Memorial Centre for Advanved	**Methodology adopted are** • Power Point • e – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method,

genetic material • To study the RNA synthesis in prokaryotes and eukaryotes • To understand the prokaryotes and eukaryotes gene expression and regulation	Treatment in Cancer, Parel Mumbai • .Technical officer in Centre for cellular and Molecular Biology(CCMB), TIFR at Hyderabad	• Problem Solving Method • Seminar Method

G. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Content-5hrs Assessment -3 hrs. Total -18hrs	• **Cell membrane:** Molecular 25rganization-molecular models – cell permeability – cell surface differentiations and cell.	**25.09.2021 to 17.10.2021**	**5 Hrs** **5 Hrs**	**-**	**-**

	• cell communication – secretion and endocytic pathways. • **Structure and functions of cells:** Cell organelles – Mitochondria, Golgi complex, Endoplasmic reticulum, Ribosomes and Lysosomes. Peroxisome.structure & function of cytoskeleton and its role in motility. • Methods of cell study : Micrometry – cell culture methods – cell fractionation technique – cytochemical staining methods – cytophotometry – immunochemistry and autoradiography		**5 Hrs**		
Unit II Content -5hrs Assessment - 3 hrs. Total - 18hrs	• **Nucleus:** Nucleoplasm and cytoplasmic relationship- Hammeling's experiment, isolation techniques; ultrastructure of nuclear envelop and nucleoplasm. • **Chromosomes:**–	**20.10.2021 to 19.11.2021**	**5 Hrs** **5 Hrs**	**-**	**-**

	Biochemistry – Organization of chromatin; Chromosomal types – polytene and lamp brush chromosome. • **Cell division:**Cell cycle and mitosis-significance of mitosis; meiosis and reproductive cycle- regulation andsignificance of meiosis.cell cycle-(steps – regulation and control).		**5 Hrs**		
Unit III Content - 5hrs Assessment - 3 hrs. Total -18hrs	• **DNA replication:** Types of replication-conservative, dispersive and semiconservative methods; Process of replication – Origin, replication fork, regulation in prokaryotes and eukaryotes; Role of enzymes and other protein factors in DNA synthesis. • **DNA damage:** Sources and types of DNA damage; Nuclear versus mitochondrial DNA damage; Senescence and apoptosis; DNA damage and mutations. • **DNA repairing mechanism:** Excision repair, SOS repair and mismatch repair.	**22.11. 2021 to 10.12. 2021**	**5 Hrs** **5 Hrs** **5Hrs**	**-**	**-**

Unit IV Content - 5hrs. Assessment - 3 hrs. Total -18hrs	• **RNA synthesis:** Process of transcription-preinitiation, initiation, promoter clearance, elongation and termination; role of enzymes and other protein factors; Measuring and detecting transcription; reverse transcription; synthesis of mRNA in prokaryotes and eukaryotes; synthesis of rRNA; synthesis of tRNA; RNA processing-capping and polyadenylation.RNA editing, Splicing.	**13.12.2021 to 24.12.2021**	**5 Hrs** **5Hrs** **5 Hrs**		
Unit V Content - 5hrs Assessment - 3 hrs. Total -18hrs	• **Genetic code:** Process of translation – initiation, elongation and termination and post translational process; role of enzymes and proteins in protein synthesis – Genetic code. • **Gene regulation:** Lac operon- Structure, genetic nomenclature, lactose analogs, regulation in cyclic AMP and uses in molecular	**27.12.2021 to 12.01.2022**	**5 Hrs** **5 Hrs**		

	biology; Trp operon-repression and attenuation. • **Protein transport:** Intracellular compartments and protein sorting; vesicular traffic in secretory and endocytic pathway, transport from ER through Golgi to lysosome and endosome. • Control of gene expression at transcription level regulation of phages, virus. Prokaryotic and eukaryotic gene expression, role of chromatin in regulating gene expression and gene silencing.		**5Hrs**		

H. <u>ACTIVITIES:</u>

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September)

	27.12.2021 to 05.01.2022
Assignment	CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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ODD SEMESTER 2021 - 2022

TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr.K.G.Selvi**

Department : **Zoology**

Programme : **I B.Sc Chemistry- Allied Zoology**

Programme Code : **USZ**

Name of the Paper : **Biology of Invertebrates and Chordates**

Lecture Hours : **60 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• To understood the Organization and .life history of Single cell Organism. • To acquired knowledge on the characteristics and life history of helminthes. • To learn the organization, life cycle and adaptations of prawn, Mussel and Earthworm.. • To study the internal anatomy of Pisces,	• Understood the Organization and .life history of Single cell Organism. • Acquired knowledge on the characteristics and life history of helminthes. • Learn the organization, life cycle and adaptations of prawn, Mussel and Earthworm.. • Study the internal anatomy	• Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Assignment Method, • Problem

Amphibian and Reptiles. • To understand the morphology and anatomy of Aves and Mammals	of Pisces, Amphibian and Reptiles. • Understand the morphology and anatomy of Aves and Mammals	Solving • Method • Seminar Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Content- 9 hrs. Assessment- 3 hrs. Total - 12 hrs	• Organisation and life history • Phylum Protozoa - Paramaecium. • Phylum Porifera - Ascon sponge Phylum Coelenterata - Obelia	9.8.21 to 31.8.21	3 3 3		
Unit II Content- 9 hrs. Assessment- 3 hrs. Total - 12 hrs	• Organisation and life history • Phylum Platyhelminthes - Taenia solium • Phylum Ashelminthes - Ascaris • Phylum Annelida -	1.9.21 to 22.9.21	3 3 3		

	Earthworm				
Unit III Content- 9 hrs. Assessment- 3 hrs. Total - 12 hrs	• Organisation and life history • Phylum Arthropoda - Tiger Prawn • Phylum Mollusca - Freshwater mussel • Phylum Echinodermata - Star fish	23.9.21 to 18.10.21	3 3 3		
Unit IV Content- 9 hrs. Assessment- 3 hrs. Total - 12 hrs	• Pisces – Shark – External feature & Respiratory system • Amphibia – Frog – External feature , Excretory & Circulatory system • Reptilia – Calotes – External feature & Structure of Brain	20.10.21 to 19.11.21	3 3 3		
Unit V Content- 9 hrs. Assessment- 3 hrs. Total - 12 hrs	• Aves – Pigeon – External feature , • Respiratory system & Flight	20.11.21 to 24.12.21	3 3		

	adaptation • Mammalia – Rabbit – Dentition, Digestive system and Urinogenital system		3		

D. ACTIVITIES:

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : Dr.K.G.Selvi

Department : Zoology

Programme : III B.Sc Zoology

Programme Code : USZ

Name of the Paper : Applied Entomology

Lecture Hours : 90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• To understand the classification and working of insect systems • To understand their adaptations to the environment • To look into some commercial applications of entomology with • special reference to • beneficial insects, sericulture, insect	• Know about the steps required to do insect systematic and classify • insect pest using key characters. • Understand morphology of insect pest. • Apply the skill for various sustainable commercial production of • apiculture, sericulture and lac culture. • Understandtheimpact of	• Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Assignment Method, • Problem Solving • Method • Seminar

pests and their control, vector • borne diseases etc. • Skill to rear and mass production of commercially important	harmful insect pest in agriculture. • Analyze and apply multi-disciplinary approaches related to integrated pest control	Method

C. PLAN OF THE WORK:

Unit / Modules	**Topic to be covered**	**Proposed date**	**Lecture Hrs**	**Practical Hrs**	**Remarks**
Unit I Content - 15 hrs. Assessment - 3 hrs. Total -18hrs	• Taxonomy and Classification: Classification and key • characters of important Orders such as Coleoptera (Rhinoceros beetle),. • Lepidoptera (Plain tiger butterfly),. • Diptera (Aedes mosquito), Hemiptera(Bed bug), • Hymenoptera (Indian Honey Bee), Orthoptera (Grasshopper) , Isoptera,(Termites).	9.8.21 to 31.8.21	5 5 5		

Unit II Content - 15 hrs. Assessment - 3 hrs. Total -18hrs	• Biology of insects: General organization of a typical Insect - • types of head; Thorax – Abdomen – Antenna – Mouth Parts • –Legs –Wings - Sense organs; Sound producing organs. • Structure of Digestive system – Circulatory system – • Excretory system – Respiratory system - Nervous system – Reproductive system. • Metamorphosis and types; Types of larvae and pupae. • Role of endocrine and • pheromones.	1.9.2 to 22.9.21	4 4 4 3		
Unit III Content - 15 hrs. Assessment - 3 hrs. Total -18hrs	• Commercial Entomology: Apiculture- Biology and lifehistory • of honeybees: Methods	23.9.21 to 18.10.21	5		

	ofbeekeeping – Equipment and tools-Apiary management, Bee products, Diseases of honeybees. • Sericulture- Mulberry sericulture - Non-Mulberry , sericulture. • Lac culture:- Propagation of lac insects –Natural enemies of lac insects and their management-Lac extraction		5 5		
Unit IV Content - 15 hrs. Assessment - 3 hrs. Total -18hrs	• Harmful insects:Vector borne diseases: Method of transmission of parasitic agents with special reference to mosquitoes and housefly. • Host – parasite interaction with examples. • Polyphagous insect • pests: Locusts, termites, hairy caterpillars, cutworms, grampod bore.	20.10.21 to 19.11.21	5 5 5		
Unit V	• Insect pests and their	20.11.21	5		

Content - 15 hrs. Assessment - 3 hrs. Total -18hrs	control • Insects as crop pests: Major pests of the following crops and their life cycles. • Types ofinjuries and nature of amage caused to paddy (Brown pant hopper), sugarcane (Root borer),. • pulses (plume moth), vegetables (brinjal-Shoot and fruit borer), Coconut (Red Palm Weevil)and stored grain pests (Pulse beetle).	to 24.12.21	5 5		

D. ACTIVITIES:

Activities Name	**Details**
Test Assignment	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)

Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr.K.G.Selvi**

Department : **Zoology**

Programme : **II M.Sc Zoology**

Programme Code : **PSZ**

Name of the Paper : **Bioinformatics and Computer Application in Biology**

Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• To understand the importance of bioinformatics in biology • To familiar with application of bioinformatics tool • To know the concept of biostatistics • To understand the applications of biostatistics in biology • To obtain in depth knowledge in computer and its	• Understand the Biological databases and its scope • Learn sequence alignment to construct phylogenetic tree using of bioinformatic tools.. • Skill to predict protein structure using RASMol package.	• Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Assignment Method, • Problem Solving • Method

application	• Understand the concept of computer programming which make it necessary • to integrate informatics when solving biological problems. • Understand it has become an important focus for industry, particularly in the • post-genomic era.	• Seminar

C. PLAN OF THE WORK:

Unit / Modules	**Topic to be covered**	**Proposed date**	**Lecture Hrs**	**Practical Hrs**	**Remarks**
Unit I Content - 5hrs. Assessment - 3 hrs. Total -18hrs	• Objectives of Bioinformatics, kinds of data used, Data integration, Data analysis, Carriers in Bioinformatics, Scope of bioinformatics – Useful bioinformatics sites – Bioinformatics in Pharmaceutical	9.8.21 to 31.8.21	5		

	industry – Bioinformatics orientation in IT industry. • Biological databases –Tools for Searching biological databases – Sequence and Structural databases – Nucleotide Sequence Databases - NCBI, GENE BANK, EMBL DDBJ • Protein Sequence databases – Swissprot, PIR – Structural database • (PDB, CATH, and SCOP)		5 5		
Unit II Content - 5hrs. Assessment - 3 hrs. Total -18hrs	• Sequence alignment – Methods of pair wise alignment – Algorithms– Needleman &wunch algorithm – Smith waterman algorithm • Amino acid substitution matrices – PAM – BLOSUM- Multiple sequence alignment (MSA) – Clustal W. • Phylogenetic analysis: Concept of	1.9.2 to 22.9.21	5 5 5		

	trees, Methods of Phylogenetic • analysis - Distance matrix methods, Characters based methods- Steps on Constructing alignments and phylogenies				
Unit III Content - 5hrs. Assessment - 3 hrs. Total -18hrs	• Conceptual models of protein structure – Predicting Protein structure and function from sequence. • Determination of structure – feature detection – secondary structure prediction . • Predicting 3 D structure - the relationship of protein three – didimension structure to protein function.	23.9.21 to 18.10.21	5 5 5		
Unit IV Content - 5hrs. Assessment - 3 hrs.	• Introduction to computer**:** History of computer – components of a computer .	20.10.21 to 19.11.21	5		

Total -18hrs	• Block diagram – input devices – output devices- classification of computer – computer virus. • Computer Programming concepts**:** Algorithms, Flowchart. • Computer operating system**:** DOS and WINDOWS		5 5		
Unit V Content - 5hrs. Assessment - 3 hrs. Total -18hrs	• MS office application: Word Processor : MS - Word • ii)Data Processor : MS - Excel • iii)Presentation : MS Power point • Computer application**:** Office automation: E-mail and Internet. • Applications of statistical packages: SPSS.	20.11.21 to 24.12.21	5 5 5		

D. ACTIVITIES:

Activities Name	Details
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) 27.12.2021 to 05.01.2022 CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr. T.SUMATHI**

Department : **Zoology**

Programme : **M.Sc**

Programme Code : **PSZ**

Name of the Paper : **RESEARCH METHODOLOGY**

Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
Objectives to ▪ This study is being undertaken within a framework of a set of approaches and uses procedures, methods and techniques that have been tested for their validity and reliability. ▪ Biostatistics	**Students will be able to** • Understand the basic concept of research. • Learn the importance and sources of literature and hypothesis testing concept.. • Efficient in document preparation,	**Methodology adopted are** • Chalk & Talk method • Power Point , • LCD • e – Module • Lecture method • Discussion • Assignment , • Drawing mode method • Seminar

provides a clear specification of the hypothesis to be tested. ▪ Know the basic concept of biostatistics • 4. Understand the applications of statistic in biological data 5. Obtain in depth knowledge in data collection	research article writing and project proposal writing • Learn data collection and descriptive statistics • Ability to use the applications of biostatistics to conduct research in the area of biology.	

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Total 18 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Basic concepts of research • Types of Research • Empirical. • Research Methods versus Methodology	09.08.2021 to 17.08.2021	4 Hrs 3 Hrs 4 Hrs 3 Hrs	-	-
Unit II Total 18 Hrs Test-1Hr Assignment-1Hr	• Importance of literature reviewing • Identifying gap areas from	18.08.2021 to 14.09.2021	4Hrs 4Hrs 3Hrs	-	-

Seminar-1Hr	literature review • Hypothesis – Null and Alternate • references, tables and figures, bibliography.		4Hrs		
Unit III Total 18 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Research and Documentation • Abstracts and research papers – Preparation • peer reviewed journals- citation index – h-index - impact factors • Project Proposal writing, Research articles, Oral Communications	12.10.2021 to 03.10.2021	3 Hrs 4 Hrs 3Hrs 4 Hrs	-	-
Unit IV Total 18 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• data in Biostatistics frequency distribution, handling of data. • standard deviation, coefficient of variations, probability distribution • arithmetic mean, other means, median, mode • hypothesis testing.	08.10.2021 to 23.10.2021	4Hrs 3Hrs 3Hrs 4Hrs	-	-
Unit V Total 18 Hrs Test-1Hr Assignment-1Hr	• Student's t, confidence limit, analysis of variance • two way analysis of	13.11.2021 to 28.11.2021	4Hrs 2Hrs 4 Hrs 4Hrs	-	-

Seminar-1Hr Quiz-1Hr	variance, assumptions, regression, correlation. • Multivariate analysis • Principal components using correlation matrix,				

D. <u>ACTIVITIES:</u>

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	**:**	**Dr. T.SUMATHI**
Department	**:**	**Zoology**
Programme	**:**	**B.Sc**
Programme Code	**:**	**USZ**
Name of the Paper	**:**	**VERMICULTURE**
Lecture Hours	**:**	**75Hrs (5 UNITS)**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
• **Course Objectives:** • To study about the History and scope of Microbiology • To learn about microbes in food • To acquire the knowledge of diseases caused by the microbes	• **Learners will be able to** • Understand the classification and diversity of earthworm • Know the morphology and lifecycle of earthworm. • Aware of the role of earthworm in sustainable agriculture and its feeding habits. • Apply the advanced techniques in organic wastes.	**Methodology adopted are** • Power Point • e – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method

	• Understand different methods of vermincomposting.	

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Total 15Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• History , Scope and classification • Earth worms – Outline Classification – • Features of Eudrilidae – Megascolidae • Lumbricidae – Ecological Classification – • Epigeic – Anecie and Endogeic forms – Humus Feeders – Humus Formers.	10.08.2021 to 17.10.2021	4Hrs 3Hrs 4Hrs	-	-
Unit II Total 15 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• General body structures of earthworms. • Morphology – Coelom – Body wall • LocomotionExcretion-Respiration-Digestive, Circulatory, Nervous and Reproductive	19.10.2021 to 30.11.2021	3Hrs 4Hrs 4Hrs	-	-

	systems- Cocoon formation..				
Unit III Total 15 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Food and Feeding of earthworm – • Humus feeders- Humus formers- Saprophages • DetritivoresGeophages Role of earthworms in sustainable agriculture – • organic farming – Earthworm activities- • soil fertility and texture- soil aeration- water percolation- decomposition and moisture.	01.12.2021 to 16.12.2021	2Hrs 3Hrs 3Hrs 3Hrs	-	-
Unit IV Total 15 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Organic wastes: Municipal, Agricultural and other wastes • vermiwash- preparation of pre-digested materials. • Methods of harvesting, packing and storage.	01.12.2021 to 16.12.2021	2Hrs 3Hrs 3Hrs 2Hrs		
Unit V Total 15 Hrs	• Composting – Vermicomposting – • Methods – Pit, Heap	17.12.2021 to 03.01.2022	3Hrs 3Hrs		

Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	and Tank. Advantages • – Products – Vermicompost and Verrmiwash – • Earthworms in waste water management. Economy of Vermiculture. Cost benefits analysis.		2 Hrs 3 Hrs		

D. ACTIVITIES:

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December)
Seminar	Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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TEACHING PLAN

E. GENERAL INFORMATION

Name of the Faculty	**:**	**Dr. T.SUMATHI**
Department	**:**	**Zoology**
Programme	**:**	**B.Sc**
Programme Code	**:**	**USZ**
Name of the Paper	**:**	**NME I - PUBLIC HEALTH AND HYGINE**
Lecture Hours	**:**	**75 Hrs (5 UNITS)**

F. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
Course Objectives: • 1. To enlighten the non- major elective students about the general knowledge on their health and hygiene. • To create general health awareness the hazardous impacts and remedy. • Understand the	**Learners will be able to** • Understand the classification and diversity of earthworm • Know the morphology and lifecycle of earthworm. • Aware of the role of earthworm in sustainable agriculture and its feeding habits.	**Methodology adopted are** • Power Point • e – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method

communicable and non communicable disease and its prevention. • Understand the different environmental pollution and its hazards. • Learn WHO programme of public health and hazards.	• Apply the advanced techniques in organic wastes. • Understand different methods of vermincomposting.	

G. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I **Total 15 Hrs** Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Scope of Public health and Hygiene – • nutrition and health – classification of foods • – Nutritional deficiency diseases- • Vitamin deficiency diseases.	10.08.2021 to 17.10.2021	3Hrs 4Hrs 4Hrs	-	-
Unit II Total 15 Hrs Test-1Hr Assignment-	• Environment and Health hazards: • Environmental degradation • – Pollution – Air, Water,	19.10.2021 to 30.11.2021	4Hrs 4Hrs	-	-

1Hr Seminar-1Hr Quiz-1Hr	Land and Noise-associated health hazards •		3Hrs		
Unit III Total 15 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr **Quiz-1Hr**	• Communicable diseases and their preventive and control measures. • Measles, Hepatitis, HIV /AIDS,Cholera, • Malaria and Filariasis..	01.12.2021 to 16.12.2021	4 Hrs 3Hrs 4 Hrs	-	-
Unit IV Total 15 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Non-Communicable diseases and their preventive measures. • .Genetic diseases, Cancer, Cardio vascular diseases • , Chronic respiratory disease, Diabetes, Epilepsy	01.12.2021 to 16.12.2021	4 Hrs 3Hrs 4Hrs		
Unit V Total 15 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Health Education in India – WHO Programmes • – Government and Voluntary Organizations and their health services – • Precautions, First Aid and awareness on epidemic/sporadic diseases	17.12.2021 to 03.01.2022	4 Hrs 3Hrs 4Hrs		

H. ACTIVITIES:

Activities Name	Details
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August) Assignment II – Unit –III and Unit – IV (September)
Quiz	Two Mark Quiz Test - Unit I – Unit – V (December) Unit –V (September and December)
Seminar	Monthly Once
Tutor Ward Meeting	

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	**:**	**Dr. T.SUMATHI**
Department	**:**	**Zoology**
Programme	**:**	**M.Sc**
Programme Code	**:**	**PSZ**
Name of the Paper	**:**	**Animal Phylogeny and Biodiversity**
Lecture Hours	**:**	**90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
Objectives to Objectives: • To give a thorough understanding in the origin of life in Invertebrate animals. To acquire an in-depth knowledge on the paleontology in animal world. • To develop an holistic appreciation on the	**Students will be able to** • Understand and study of the Origin and phylogeny of Invertebrates and Chordates • Understand the primitive forms of invertebrates and vertebrates distribution • Understand the status and mode of living of different	**Methodology adopted are** • Chalk & Talk method • Power Point , • LCD • e – Module • Lecture method • Discussion • Assignment , • Drawing mode method • Seminar

phylogeny, relationships • adaptations in animals To understand theories of primate characteristic features, classification and affinities. • Learn the animal diversity which is an essential topic for biologists to know the distribution, and phylogeny of animal	forms of animals. • Learn the animal phylogeny and its evolution • Students understand the biodiversity of Invertebrates and Chordates	

C. <u>PLAN OF THE WORK:</u>

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I Total 18 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Phylogeny of Invertebrates: Biogenetic Law – Gastrea Theory – Origin of Matazova. • Origin of Bilateria: Trochophore theory, syncytial, • Planuloid theory,	09.08.2021 to 17.08.2021	4 Hrs 3 Hrs	-	-

	Ctenophore theory – Origin and • Phylogeny of Annelida: Corn or Fission theory • – Origin of Arthropoda – Onychophora – Trilobita – Eurypterida – Xiphosura		4 Hrs 3Hrs		
Unit II Total 18 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• .Phylogeny of Invertebrates: • Origin of Mollusca – Phylogeny of Mollusca :Neopilina , Nautiloids, Ammonoids and Belemnites. – • Origin of Echinodermata: Coelenterate ancestry. • , Annelidan ancestry, Laphophorate ancestry,	18.08.2021 to 14.09.2021	4 Hrs 3Hrs 3 Hrs 4 Hrs	-	-
Unit III Total 18 Hrs Test-1Hr Assignment-	• Phylogeny of Vertebrates: Origin of chordates. • Theories of origin of Chordates. • Ostracoderm:	12.10.2021 to 03.10.2021	3 Hrs 3Hrs 4 Hrs 4 Hrs	-	-

1Hr Seminar-1Hr Quiz-1Hr	characteristic features, classification and affinities. • Origin of vertebrates – Theories for the origin of vertebrates .Placoderms:				
Unit IV Total 18 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Phylogeny of Vertebrates: Origin of Reptilia • : connecting link between amphibian and reptilian, Evolution of reptilian, Golden Age of reptiles, Ratitae. • Origin of Birds: Fossil birdArchaeopteryx, • Origin of flight in birds. Prototheria and Metatheria: characteristic features, classification and affinities.	08.10.2021 to 23.10.2021	4 Hrs 3 Hrs 4Hrs 3Hrs	-	-
Unit V Total 18 Hrs Test-1Hr Assignment-1Hr Seminar-1Hr Quiz-1Hr	• Biodiversity: definition – types – genetic, species and ecosystem diversity. • Values and uses of biodiversity. • Biodiversity measurements, Mega diversity centres. Loss	13.11.2021 to 28.11.2021	4 Hrs 3 Hrs 4 Hrs 3Hrs	-	-

	of biodiversity. Conservation of biodiversity : in situ (afforestation, social forestry, agro forestry. • Biosphere reserves, national parks and sanctuaries), ex situ (Cryopreservation, gene banks, sperm banks.				

D. <u>ACTIVITIES:</u>

Activities Name	**Details**
Test	Monthly Test- Unit-I (August) Monthly Test - Unit-II (September) CIA / Mid Semester – Unit-I - Unit-III (First 1/2 Unit)- 2 ½ Units (November) Monthly Test– Unit –IV (September) **27.12.2021 to 05.01.2022** CIA / Model Examination -Unit-III(Second 1/2 Unit) –Unit-V- 2 ½ Units
Assignment	Assignment I –Unit –I and Unit –II (August)
Quiz	Assignment II – Unit –III and Unit – IV (September)
Seminar	Two Mark Quiz Test - Unit I – Unit – V (December) Unit –V (September and December)
Tutor Ward Meeting	Monthly Once

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