

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: June - November 2024

Department : Zoology
Name/s of the Faculty : Dr. Kalpana Jayaraman
Course Title : Cell and Molecular Biology
Course Code : 19ZL/MC/CM54
Shift : I

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Jun 19 – 26, 2024 (Day Order 1 - 6)	Unit 1 Introduction – Cells and the two basic types of cells – Prokaryotes and Eukaryotes; Structural organization Origin of Eukaryotic cells –Endosymbiont theory Unit 4 Nucleic acids: Structure of the nucleotide Structure of DNA- Watson and Crick’s model	Quizizz Quiz Lecture AV presentation The story of Watson and Crick PowerPoint Presentation DNA sequence matching game	Cell and Molecular Biology by Gerald Karp Molecular Cell Biology by Lodish et al	Recapitulation
Jun 27 – July 4, 2024 (Day Order 1 - 6)	Unit 4 Molecular structure of RNA – types and Function DNA Replication: theta model – Initiation, Elongation, Termination	Molecular Models PowerPoint Presentation Simulations	Cell Biology – Gerald Karp Molecular and Cellular Biology – Stephen Wolfe Molecular Cell Biology – Lodish et al.	Group Discussion
July 5 – 12, 2024 (Day Order 1 - 6)	Unit 4 Rolling Circle Model DNA Replication in Eukaryotes DNA Repair	PowerPoint Presentation Audio Visuals Simulation Think – Pair – Share Flipped Classroom	Cell Biology – GeraldKarp Molecular and CellularBiology – Stephen Wolfe Molecular Cell Biology – Lodish et	Quiz Group Discussion

			al. Animations - https://www.dnalc.org/resources/3d/04-mechanism-of-replication-advanced.html	
July 15 – 23, 2024 (Day Order 1 - 6)	Unit 5 Transcription: Biosynthesis of RNA – Transcription Factors Post Transcriptional Modifications	Lecture PowerPoint presentation Simulation	Molecular Biology of the Cell – Alberts et al. Cell and Molecular Biology – Gerald Karp Molecular Biology of the Gene – Watson et al.	Multiple Choice Questions Component 1 Class Test (Units 4.1, 4.2) Max. Marks: 10
July 24 – 31, 2024 (Day Order 1 - 6)	Unit 5 Mechanism of Translation: Genetic Code Post Translational Modifications in Collagen and Insulin RNA interference	Lecture PowerPoint presentation Virtual Labs	Molecular Biology of the Cell – Alberts et al. Molecular Cell Biology – Lodish et al. https://phet.colorado.edu/en/simulations/category/biology www.labxchange.com	Questions based on Audiovisuals
Aug 1 – 5, 2024 (Day Order 1 - 3)	Unit 5 Structural Organization of Prokaryotic genes Regulation of gene expression in bacteria - Lac operon model	Lecture PowerPoint presentation Virtual Labs	Molecular Biology of the Cell – Alberts et al. Molecular Cell Biology – Lodish et al.	Questions based on Audiovisuals

			www.labxchange.c om	
Aug 6 – 10, 2024	C.A. Test – I (Max. Marks: 50)			
Aug 12 – 14, 2024 (Day Order 4-6)	Unit 2 Nuclear Organization	Lecture PowerPoint presentation	Cell and Molecular Biology - De Robertis and De Robertis	Quiz
Aug 16 – 23, 2024 (Day Order 1-6)	Unit 3 Chromosomes – Structure, Types and Functions Cell Cycle: Mitosis, Meiosis Cell Cycle: Regulation	Lecture PowerPoint presentation Concept Map of Cell Cycle Observation of cell division stages in onion root tip and grasshopper testes	Cell and Molecular Biology – De Robertis and De Robertis Molecular and Cellular Biology – Stephen Wolfe	Recapitulation
Aug 27 – Sep 3, 2024 (Day Order 1-6)	Unit 3 Apoptosis Cancer Biology: Characteristics of a CancerCell – Altered Cell Cycle in Cancer cell	Lecture PowerPoint presentation	Cell and Molecular Biology – De Robertis and De Robertis Molecular and Cellular Biology – Stephen Wolfe	
Sep 4 – 11, 2024 (Day Order 1-6)	Unit 3 Genetic Basis of Cancer: Protooncogenes, Oncogenes, TumourSuppressor Genes Unit 1 Cell Membrane: Structural Organization,	Lecture PowerPoint presentation	Cell and Molecular Biology – De Robertis and De Robertis Molecular and Cellular Biology – Stephen Wolfe Molecular Biology ofthe Cell – Alberts et al.	Discussion

Sep 12 - 20, 2024 (Day Order 1- 6)	Unit 1 Cell Membrane: Asymmetry and Fluidity Specializations in Structure Transport Across Membranes	Lecture Flipped Classroom PowerPoint presentation	Cell-A Molecular Approach-Geoffrey Cooper Molecular Biology of the Cell – Alberts et al.	Component 2 - Molecular Role Play Max. Marks: 15
Sep 23 - 26, 2024 (Day Order 1-4)	Unit 1 Cytoskeleton: Microtubules, Actin Filaments and Intermediate Filaments	Lecture PowerPoint presentation Audio Visuals	Cell-A Molecular Approach-Geoffrey Cooper Molecular Biology of the Cell – Alberts et al.	
Sep 27 – Oct 3, 2024	C.A. Test – II (Max. Marks: 50)			
Oct 4 – 5, 2024 (Day 5 & 6)	Unit 2 Cytoplasmic Vacuolar System: Endoplasmic Reticulum, Golgi Apparatus, Peroxisomes	Lecture PowerPoint presentation Presentation by students	Molecular Biology of the Cell – Alberts et al. Cell and Molecular Biology – Gerald Karp www.youtube.com/watch?v=Ptmlvtei8hw	Quiz
Oct 7 - 15, 2024 (Day Order 1 to 6)	Unit 2 Lysosomes: Structure, Polymorphism, Functions and Diseases Cell Receptors and Signal Transduction	Lecture PowerPoint presentation Presentation by students Concept Maps	Cell-A Molecular Approach-Geoffrey Cooper Molecular Biology of the Cell – Alberts et al. Cell and Molecular Biology – Gerald Karp	Component 3 Quiz (Unit 1.3, 1.4, 2.1) Max. Marks: 25
Oct 16 - 22, 2024 (Day Order 1 to 6)	Unit 2 Mitochondria: Structure and Functions Ribosomes: Structure, Types, Functions	Lecture Presentation by students PowerPoint presentation	Cell and Molecular Biology – Gerald Karp Cell-A Molecular Approach-Geoffrey Cooper Molecular Biology of the	Quiz

			Cell – Alberts et al.	
Oct 23 - 24, 2024 (Day Order 1 to 2)	REVISION			

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: June - November 2024

Department : Zoology
Name/s of the Faculty : Dr.Rita Jayaraj
Course Title : Fundamentals of Biotechnology
Course Code : 19ZL/MC/FB54
Shift : I

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Jun 19 – 26, 2024 (Day Order 1 - 6)	Unit 1 Introduction to Biotechnology Scope & Importance Definition & Areas of biotechnology Tools of Genetic Engineering- enzymes, recombinant DNA technology	PowerPoint Presentation	A Text Book of Biotechnology –Dubey Biotechnology- U.Satyanarayana	Discussion
Jun 27 – July 4, 2024 (Day Order 1 - 6)	Unit 1 Cloning vectors- cDNA library- Gene bank. Electrophoresis, – Northern, Southern & Western Blots	PowerPoint	A Text Book of Biotechnology – Dubey	Quiz
July 5 – 12, 2024 (Day Order 1 - 6)	Unit 1 PCR technique Unit2 Cloning in Prokaryotes and Eukaryotes	Audiovisuals	Biotechnology Expanding Horizons – B.D. Singh	Discussion
July 15 – 23, 2024 (Day Order 1 - 6)	Unit 2 Methods of transfer of foreign DNA, Site-directed Mutagenesis	Case Study	Introduction to Biotechnology – Ashim K Chakravarty	Component 1 Test on Techniques Max. Marks: 10
July 24 – 31, 2024 (Day Order	Unit 3 Insulin and Somatotropin DNA probe	PowerPoint	An Introduction to Biotechnology by Godbey W.T	Quiz on the topic

1 - 6)				
Aug 1 – 5, 2024 (Day Order 1 - 3)	Unit 3 ELISA Hybridoma technology	Video PowerPoint presentation	A Text Book of Biotechnology – Dubey	Discussion
Aug 6 – 10, 2024	C.A. Test – I (Max. Marks: 50)			

Aug 12 – 14, 2024 (Day Order 4-6)	Unit 3 DNA finger printing and gene therapy	Video and Animation	Biotechnology- U.Satyanarayana	
Aug 16 – 23, 2024 (Day Order 1-6)	Unit 3 GMO's, benefits and hazards of Gen. Engineering Unit 4 Animal Cell &Tissue culture	Case study Discussion	An Introduction to Genetic Engineering – Desmond Nicholl	Component 2 Research-based Assignment Submission Max. Marks: 20
Aug 27 – Sep 3, 2024 (Day Order 1-6)	Unit 4 Tissue culture – culture techniques	Discussion	Biotechnology- A problem approach - Pranav Kumar and Usha Mina	Comprehension exercises
Sep 4 – 11, 2024 (Day Order 1-6)	Unit 4 Stem Cell culture- Applications and ethical issues	Lab Visit	Introduction to Biotechnology - Ashim K.Chakravarthy	Discussion
Sep 12 - 20, 2024 (Day Order 1- 6)	Unit 4 Intellectual property Rights & Intellectual property protection (IPP)- patenting of biological materials	PowerPoint	Book on IPR	Quiz on the topic
Sep 23 - 26, 2024 (Day Order 1-4)	Unit 5 DNA sequencing- Sanger method and applications	Lab Visit Animation	Biotechnology by Satyanarayana	Discussion
Sep 27 – Oct	C.A. Test – II (Max. Marks: 50)			

3, 2024				
Oct 4 – 5, 2024 (Day 5 & 6)	Unit 5 Human Genome Project & its significance	Audiovisuals	Biotechnology by Satyanarayana	Debate
Oct 7 - 15, 2024 (Day Order 1 to 6)	Unit 5 Basic Concept of Bioinformatics: Proteomics and Genomics	PowerPoint Presentation Guest Lecture	Biotechnology by Satyanarayana	Component 3 – Short answer, diagram, objective test (Unit 2.2, 3.1 and 3.2) Max. Marks: 20
Oct 16 - 22, 2024 (Day Order 1 to 6)	Unit 5 Enzyme Technology: Production, Immobilisation and applications	PowerPoint presentation Research paper review	Biotechnology: A problem approach - Pranav Kumar and Usha Mina	Discussion
Oct 23 - 24, 2024 (Day Order 1 to 2)	REVISION			

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: June - November 2024

Department : Zoology
Name/s of the Faculty : Ms. Albina Jerome D
Course Title : Genetics
Course Code : 19ZL/MC/GN54
Shift : I

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Jun 19 – 26, 2024 (Day Order 1 - 6)	Unit 1 Introduction: Mendel and his Experiments - Law of Dominance, Law of Segregation and Law of Independent Assortment	Interaction Lecture Presentation	Concepts of Genetics by Klug, William, S. et al. Principles of Genetics by Snustad and Simmons	Problems based on Monohybrid and Dihybrid crosses
Jun 27 – July 4, 2024 (Day Order 1 - 6)	Unit 1 Back Cross / Test Cross Interaction of Genes: Incomplete dominance Codominance, Lethal Genes, Epistasis (Dominant and recessive)	Lecture Problem Solving	Concepts of Genetics by Klug, William, S. et al.	Quiz
July 5 – 12, 2024 (Day Order 1 - 6)	Unit 1 Penetrance and Expressivity Extra Chromosomal Inheritance: Cytoplasmic inheritance - Plastid	Lecture PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al. Principles of Genetics by	Quiz

	<p>inheritance in <i>Mirabilis jalapa</i></p> <p>Maternal influence - Shell coiling in <i>Limnaea</i></p> <p>Mitochondrial Inheritance - Kearns - Sayre Syndrome</p>		Snustad and Simmon	
<p>July 15 – 23, 2024 (Day Order 1 - 6)</p>	<p>Unit 2</p> <p>Multiple Genic Inheritance: Characteristics – Eg. Skin Colour in Humans - Transgressive Variation (Weight in Chicken)</p> <p>Multiple Allelic inheritance: Characteristics – Eg. Human Blood Groups (A, B, AB, O) - Rh Factor: Inheritance and Significance</p>	<p>Lecture</p> <p>Documentary on skin colour</p> <p>Case study analysis</p>	<p>Genetics – A conceptual approach by Benjamin Pierce</p> <p>Documentary - The Biology of Skin Color – HHMI BioInteractive Video</p>	<p>Problems based on the topic</p>
<p>July 24 – 31, 2024 (Day Order 1 - 6)</p>	<p>Unit 2</p> <p>Linkage and Crossing Over: Complete and Incomplete Linkage in <i>Drosophila</i> - Cytological Proof of Crossing Over, Eg. <i>Drosophila</i> – Linkage Mapping</p>	<p>Lecture</p> <p>Presentation</p>	<p>Concepts of Genetics by Klug, William, S. et al.</p> <p>Principles of Genetics by Snustad and Simmon</p>	<p>Component 1 - Pedigree Construction and Analysis</p> <p>Max. Marks: 15</p>

Aug 1 – 5, 2024 (Day Order 1 - 3)	Unit 3 Sex Determination: Chromosomal Mechanisms of Sex Determination - Sex Determination in Drosophila	Lecture PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al. Principles of Genetics by Snustad and Simmon	Short descriptive test on sex determination
Aug 6 – 10, 2024	C.A. Test – I (Max. Marks: 50)			
Aug 12 – 14, 2024 (Day Order 4-6)	Unit 3 Sex Determination in Humans - Barr Body - Male Haploidy - Environmental Factors Affecting Sex Determination	Lecture	Concepts of Genetics by Klug, William, S. et al. Principles of Genetics by Snustad and Simmon	Discussion on Genetic Mosaicism
Aug 16 – 23, 2024 (Day Order 1-6)	Unit 3 Sex Linkage: Drosophila, Eye Colour – Humans, Haemophilia - Incomplete Sex Linkage - Y- Linked Genes - Sex Influenced and Sex Limited Genes in Humans	PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al. Principles of Genetics by Snustad and Simmon	Problems based on the topic
Aug 27 – Sep 3, 2024 (Day Order 1-6)	Unit 4 Mutations: Different Types - Point Mutations, Molecular Basis - Mutagens	PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al. Genetics – A conceptual approach by	Quiz

			Benjamin A. Pierce	
Sep 4 – 11, 2024 (Day Order 1-6)	Unit 4 Chromosomal Aberrations - Numerical Variations Inborn Errors of Metabolism	Lecture & PowerPoint Presentation	Genetics – A conceptual approach by Benjamin A. Pierce	Component 2 - Genetic Disorder - Diary submission Max. Marks: 15
Sep 12 - 20, 2024 (Day Order 1- 6)	Unit 4 Genetic Counselling Unit 5 Population Genetics: Gene Pool and Gene Frequency, Hardy - Weinberg Law and Factors Influencing Allele Frequency	Guest Lecture PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al. Genetics – A conceptual approach by Benjamin A. Pierce	Genetic Counselling - Role Play Problems based on Population Genetics
Sep 23 - 26, 2024 (Day Order 1-4)	Unit 5 Genetic Regulation of Development in Drosophila: Developmental Stages – Three Major Classes of Developmental Genes (Maternal Effect Genes, Segmentation Genes and Homeotic Genes)	PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al. Genetics – A conceptual approach by Benjamin A. Pierce	Quiz on Classes of Developmental Genes
Sep 27 – Oct 3, 2024	C.A. Test – II (Max. Marks: 50)			
Oct 4 – 5, 2024 (Day 5 & 6)	Unit 5 Epigenetics: Definition – Mechanisms	PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al.	Questioning

<p>Oct 7 - 15, 2024 (Day Order 1 to 6)</p>	<p>Unit 5 Epigenetics and cancer, imprinting, nutrition and ageing.</p>	<p>PowerPoint Presentation</p>	<p>Concepts of Genetics by Klug, William, S. et al.</p>	<p>Component 3 – Quiz (Units 5.1 and 5.2) Max. Marks: 20</p>
<p>Oct 16 - 22, 2024 (Day Order 1 to 6)</p>	<p>Unit 5 Conservation Genetics:- <i>Ex Situ</i> Conservation : Captive Breeding and Gene Banks- <i>In Situ</i> Conservation : Population Augmentation</p>	<p>Lecture & Discussion</p>	<p>Concepts of Genetics by Klug, William, S. et al.</p>	<p>Case study Analysis Panel Discussion</p>
<p>Oct 23 - 24, 2024 (Day Order 1 to 2)</p>	<p>REVISION</p>			

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: June - November 2024

Department : Zoology

Name/s of the Faculty : Dr. Rita Jayaraj, Ms. Albina Jerome D, Dr. Parimalam M & Ms. Janani N

Course Title : Cell and Molecular Biology, Genetics and Biotechnology Practical

Course Code : 19ZL/MC/P553

Shift : I

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Jun 19 – 26, 2024 (Day Order 1 - 6)	Syllabus, Microscopy & Introduction to Micrometry.	Audio Visual Presentation Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Questioning Evaluation of Observation notebook
	Micrometry	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of Observation notebook
	Micrometry - Repeat	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of Observation notebook
Jun 27 – July 4, 2024 (Day Order 1 - 6)	RBC count	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of Observation notebook
	RBC count - repeat	Demonstration & Explanation	Cell and Molecular Biology, Genetics and	Evaluation of Observation notebook

			Biotechnology Practical Manual	
	Study of any five Mendelian Traits	Explanation PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al.	Activity & Problems based on Mendelian Traits
July 5 – 12, 2024 (Day Order 1 - 6)	Mitosis - in onion root tip	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of the slide and observation notebook
	WBC count	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of Observation notebook
July 15 – 23, 2024 (Day Order 1 - 6)	WBC count repeat & Mitosis repeat	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of Observation notebook
	ABO Blood Grouping and Rh typing	Demonstration & Explanation PowerPoint Presentation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Questioning Evaluation of Observation notebook
	<i>Drosophila</i> culture techniques & <i>Drosophila</i> mutants - Workshop	Demonstration & Explanation	<i>Drosophila</i> Culture Techniques - Manual	Culturing of flies by students Identification of Mutant forms of <i>Drosophila</i> and equipments used in the process of

				culturing Drosophila
July 24 – 31, 2024 (Day Order 1 - 6)	Pedigree Analysis of some human inherited traits	Explanation PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al.	Problems based on Pedigree analysis Case study
	Meiosis - in grasshopper testis	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of the slide and observation notebook
Aug 1 – 5, 2024 (Day Order 1 - 3)	Meiosis - in grasshopper testis - Repeat	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of the slide and observation notebook
Aug 6 – 10, 2024	C.A. Test – I			
Class Test 1(15 marks)				
Aug 12 – 14, 2024 (Day Order 4- 6)	Genomic DNA extraction	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of observation notebook Identification of equipments used in the process
Aug 16 – 23, 2024 (Day Order 1- 6)	Bioenzymes - workshop	Demonstration & Explanation	A TextBook of Biotechnology –Dubey	Questioning Students preparing Bioenzymes
	Practical CA 1 (50 marks) (Major Question – 20, Minor Question – 15, Spotters – 15)			

	Chironomus - Salivary gland chromosome - squash preparation	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of the slide and observation notebook
Aug 27 – Sep 3, 2024 (Day Order 1- 6)	Chironomus - Salivary gland chromosome - squash preparation - Repeat	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of the slide and observation notebook
	Chironomus - Salivary gland chromosome - squash preparation - Repeat	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of the slide and observation notebook
	Observation of normal male and female, Turner's, Klinefelter's and Down's syndrome karyotypes	Explanation PowerPoint Presentation	Concepts of Genetics by Klug, William, S. et al.	Identification of Karyotypes form photographic plates
Sep 4 – 11, 2024 (Day Order 1- 6)	Squamous epithelium squash preparation – Barr body	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Identification of Karyotypes form photographic plates
	Total RNA extraction	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of observation notebook

				Identification of equipments used in the process
Class Test - 2 (15 marks)				
Sep 12 - 20, 2024 (Day Order 1-6)	Agarose Gel Electrophoresis - Demo	Demonstration & Explanation	A TextBook of Biotechnology –Dubey	Evaluation of observation notebook Identification of equipments used in the process
	Agarose Gel Electrophoresis - Group practical	Demonstration & Explanation	A TextBook of Biotechnology –Dubey	Evaluation of observation notebook Identification of equipments used in the process
	Isolation of Plasmid DNA - Demo	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of observation notebook Identification of equipments used in the process
Sep 23 - 26, 2024 (Day Order 1-4)	Isolation of Plasmid DNA - Group practical	Demonstration & Explanation	Cell and Molecular Biology, Genetics and Biotechnology Practical Manual	Evaluation of observation notebook

				Identification of equipments used in the process
	SDS-PAGE (Demo)	Demonstration & Explanation	A TextBook of Biotechnology –Dubey	Evaluation of observation notebook Identification of equipments used in the process
Sep 27 – Oct 3, 2024	C.A. Test – II			
Oct 4 – 5, 2024 (Day 5 & 6)	Hardy - Weinberg Equilibrium – Calculating Gene Frequency and Genotypic Frequency using bead experiments - calculation of Allelic frequency	Explanation Activity	Concepts of Genetics by Klug, William, S. et al.	Problems based on Hardy - Weinberg Equilibrium
	Class Test -3 (15 marks)			
Oct 7 - 15, 2024 (Day Order 1 to 6)	Polymerase Chain Reaction (Demo) & Revision	Demonstration & Explanation	A TextBook of Biotechnology –Dubey	Evaluation of observation notebook Identification of equipments

				used in the process
	Practical CA 2 (50 marks) (Major Question – 20, Minor Question – 15, Spotters – 15)			
Oct 16 - 22, 2024 (Day Order 1 to 6)	Revision			
	Revision			
	Revision			
Oct 23 - 24, 2024 (Day Order 1 to 2)	REVISION			

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: June - November 2024

Department : SOCIOLOGY and ZOOLOGY
Name/s of the Faculty : *Dr.Shanmuga Priya.S and Dr.S.A.Vidhya
Course Title : Socioethnozoology
Course Code : 19ID/IC/SZ55
Shift : I

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Jun 19 – 26, 2024 (Day Order 1 - 6) (6 hours)	*Unit 1 Introduction 1.1 *Basic definitions- Qualities of Sociality 1.1 Basic definitions - Meaning of Ethnobiology and Ethnozoology	Concept Building and Story Telling Lecture with interaction Activity: Connections to discuss each family's traditional practices)	Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press Anderson,E.N and Deborah Pearsall (2011) Ethnobiology: Wiley Blackwell	Quiz Key Words Finding Group discussion
Jun 27 – July 4, 2024 (Day Order 1 - 6) (6 hours)	1.2 Role of animals in human culture: Biological predisposition and individual differences in human attitudes towards animals - Animal Mythology in the Indian context	Lecture and analysis of ethnographic studies	Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press	Component Assignment and Presentation - Ethnographic Survey based study on Little traditions and Conservative

	<p>1.3 *Meaning of Ethnology; Sociology; Sociobiology</p> <p>1.1 Animals as zooinicators of weather and climate (in brief)</p> <p>1.4 Interdisciplinary approach in understanding human-animal relationship (Zoological perspective)</p>	<p>Presentation</p> <p>Think -Pair – Share</p> <p>Documentary</p>	<p>Principles of Sociology</p> <p>Documentary: Sense of Danger: How animals can save the world</p>	<p>Ethics of Nature from mythology</p> <p>Max. Marks: 25</p> <p>Interview your classmate</p>
<p>July 5 – 12, 2024</p> <p>(Day Order 1 - 6)</p> <p>(6 hours)</p>	<p>1.4 *Interdisciplinary Approach in understanding Human-Animal Relationship</p> <p>Unit 2 Sociology of Human* and Animal Relationship</p> <p>2.1 *Significance of Sociology of Human-Animal Relationship</p> <p>2.2 *Scope of Sociology of Human-Animal Relationship</p>	<p>Group Discussion and Lecture</p> <p>Flowchart and Discussion</p> <p>Article review and share in Discussion</p> <p>Lecture with interaction</p> <p>Documentary</p>	<p>Adrian Franklin, (1999) Animals and Modern cultures-A Sociology of Human Animal Relations in Modernity. London: Sage Publications</p> <p>Documentary: Mitigating Human-Wildlife Conflict: A Comprehensive Approach at Valparai</p>	<p>Quiz</p> <p>Narratives and articles</p> <p>Group Discussion</p>

	<p>1.4 Interdisciplinary approach in understanding human-animal relationship (Zoological perspective) (continued)</p>			
<p>July 15 – 23, 2024 (Day Order 1 - 6) (6 hours)</p>	<p>2.3* Sociological Perspective on Human Animal Relationship: Symbolic Interactionism Theory and Conflict Theory Unit 3 Ethnozoology 3.2 Animals as Food: Arthropods</p>	<p>Game and Lecture Audiovisual presentation</p>	<p>Adrian Franklin, (1999) Animals and Modern cultures-A Sociology of Human Animal Relations in Modernity. London: Sage Publications</p>	<p>Discussion Debate: Should we eat insects?</p>
<p>July 24 – 31, 2024 (Day Order 1 - 6) (6 hours)</p>	<p>(contd)* 2.3 Sociological Perspective on Human Animal Relationship: Symbolic Interactionism Theory and Conflict Theory 2.4 *Social Relationships and Social Organizations 3.2 Animals as Food: Molluscs, Echinoderms, Vertebrates</p>	<p>Audio Visual presentation Netflix series Chimp Empire Social anthropological kinship videos Audiovisual presentation</p>	<p>K. Gopakumar and G.Balagopal (2021) Health Foods from Ocean Animals: CRC Press Amy J. Fitzgerald (2015) Animals as food:(re)connecting production, processing, consumption, and impacts: Michigan State University Press</p>	<p>Discussion Kinship chart Quiz</p>

<p>Aug 1 – 5, 2024</p> <p>(Day Order 1 - 3)</p> <p>(3 hours)</p>	<p>3.1* Historical and Sociological significance of animal domestication</p> <p>3.3 Animals as medicine: traditional and contemporary</p> <p>3.4 Economic importance of animals and their products</p>	<p>Brainstorming and discussion</p> <p>Lecture with interaction</p>	<p>Kay Peggs (2012) <i>Animals and Sociology</i>. U.K: Palgrave Macmillan</p> <p>Alves et al. (2013) <i>Animals in Traditional Folk Medicine</i></p> <p>https://www.bbc.com/future/article/20200507-medicines-and-drugs-from-animals-venom</p> <p>Shukla and Upadhyay (2016) <i>Economic Zoology</i>: Rastogi Publications</p>	<p>Quiz</p> <p>Incidents from past and its relevance with domestication of animals</p> <p>Review of research articles to create a virtual medicine cupboard</p> <p>Create a Jamboard</p>
<p>Aug 6 – 10, 2024</p>	<p>C.A. Test – I (Max. Marks: 50)</p>			
<p>Aug 12 – 14, 2024</p> <p>(Day Order 4-6)</p> <p>(3 hours)</p>	<p>3.4 *Historical and Sociological importance of animals and their products</p> <p>3.5 Animals as zooinicators of weather and climate</p>	<p>Debate</p> <p>Audiovisual presentation</p>	<p>Romeu <i>et al.</i> (2017) <i>Ethnozoology: Animals in our lives</i>. Academic Press</p> <p>Acharya S. (2011) <i>Lessons from nature in weather forecasting</i>. <i>Indian Journal of Traditional Knowledge</i>.10, 114-124.</p>	<p>Case study - historical analysis</p> <p>Case study analysis</p>

<p>Aug 16 – 23, 2024 (Day Order 1-6) (6 hours)</p>	<p>Unit 4 *Social Evolution 4.1 *Meaning of Social Evolution; Cooperation; coordination and division of labour 4.2 Social Groups: Altruism and kin selection: Dominance and Hierarchy All the above – Zoological perspective</p>	<p>Lecture Video clip Lecture with interaction</p>	<p>Anderson,E.N and Deborah Pearsall, (2011) Ethnobiology, Wiley Blackwell Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press</p>	<p>Situation solving based Assignment Quiz</p>
<p>Aug 27 – Sep 3, 2024 (Day Order 1-6) (6 hours)</p>	<p>(Contd.) 4.2 *Social Groups: Altruism and kin selection: Dominance and Hierarchy 4.3 *Social System and Fitness - The evolution of social organization 4.4 Coloniality: Adaptive basis of coloniality – Adaptive significance of roles- Optimization of Caste Systems - Social insects: Organisation of insect societies, Social Wasps, Ants, Bees and Termites</p>	<p>Video Presentation Documentary Campus Ant/Bee /Wasp Walk</p>	<p>Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press https://genent.cals.ncsu.edu/bug-bytes/social-insects/ Documentary: BBC Planet Ant: Life inside the colony</p>	<p>Quiz Component Observation and documentation of an ant colony and report submission Max. Marks: 25</p>

<p>Sep 4 – 11, 2024</p> <p>(Day Order 1-6)</p> <p>(6 hours)</p>	<p>4.4 *Socialization and Social Behaviour</p> <p>4.4 Primates: Social traits, Ecology of Social Behaviour, Social Behaviour in Chimpanzee</p>	<p>Lecture</p> <p>Lecture with interaction</p> <p>Documentary</p>	<p>Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press</p> <p>Documentary: Chimpanzees of Gombe Stream</p>	<p>Discussion</p> <p>Article on social behaviour of chimpanzees</p>
<p>Sep 12 - 20, 2024</p> <p>(Day Order 1- 6)</p> <p>(6 hours)</p>	<p>Unit 5</p> <p>*Verbal and Non Verbal Communication</p> <p>4.4 Other Social species : Colonial invertebrates, cold-blooded vertebrates, birds</p>	<p>Management Games</p> <p>Audiovisual presentation</p>	<p>Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press</p>	<p>Communication process flowchart</p> <p>Quiz</p>
<p>Sep 23 - 26, 2024</p> <p>(Day Order 1-4)</p> <p>(4 hours)</p>	<p>5.1 *Origin of human language – Forms of communication 5.2 Verbal and non-verbal communication and its functions</p> <p>4.5 The Theory of Parental Investment - Ecology of Parental Care – Parent-Offspring conflict – Alloparental care</p>	<p>Role play</p> <p>Lecture</p> <p>Lecture with interaction</p>	<p>Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press</p>	<p>Quiz</p> <p>Quiz</p>

Sep 27 – Oct 3, 2024	C.A. Test – II (Max. Marks: 50)			
Oct 4 – 5, 2024 (Day 5 & 6) (2 hours)	*Significance of Signs, symbols and gestures 5.3 Non-verbal communication in animals : Discrete versus graded signals - Signal specificity-Signal economy	Communication on games - code language & signals Audiovisual presentation	Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press	Quiz Group Discussion
Oct 7 - 15, 2024 (Day Order 1 to 6) (6 hours)	*Significance of Signs, symbols and gestures 5.4 Modes of communication in animals with examples – functions, advantages and disadvantages	Communication on games - code language & signals Audiovisual presentation	Wilson, E. O. (2000) Sociobiology : The New synthesis (25 th anniversary ed.). Cambridge: Harvard University Press	Quiz (Game-based quiz) Pictionary
Oct 16 - 22, 2024 (Day Order 1 to 6) (6 hours)	*Communication patterns and structure 5.4 Modes of communication in animals with examples – functions, advantages and disadvantages	Lecture Audiovisual presentation	Wilson, E. O. (2000) Sociobiology : The New synthesis (25th anniversary ed.). Cambridge: Harvard University Press	Open Book Test (Game-based review of key terms) Hot Seat
Oct 23 - 24, 2024	REVISION			

(Day Order 1 to 2)	
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: June - November 2024

Department : Zoology
Name/s of the Faculty : Dr. Kalpana Jayaraman
Course Title : Biology of Human Reproduction
Course Code : 19ZL/GE/HR22
Shift : I

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Jun 19 – 26, 2024 (Day Order 1 - 6)	Introduction and syllabus Different systems in the human body and their functioning – general Unit 1 Human Reproductive organs Reproduction - Reproductive organs- male and female Structure of testis – formation of sperms – testicular function	Human model Lecture PowerPoint Presentation	On fertile ground: A natural history of human reproduction – Peter Ellison Biology of Human Reproduction - Pinon Human Reproduction and Development (Inside the Human Body) – A. Cassan	Using Quizizz to test the level of knowledge on human reproduction
Jun 27 – July 4, 2024 (Day Order 1 - 6)	Unit 1 Human Reproductive organs Female reproductive organs Structure of ovary Formation of ova, Ovulation, Menstrual cycle, Hormonal control of reproduction	Human Model Lecture Guest Lecture on Menstrual Hygiene	Human Reproduction and Development (Inside the Human Body) – A. Cassan Biology of Human Reproduction - Pinon	Multiple Choice Quiz on the human reproductive system
July 5 – 12, 2024 (Day Order 1 - 6)	Unit 2 The H-P-G axis Brain and reproduction Puberty, Menopause, Andropause	Audio visual presentation on puberty and menopause Flipped Classroom – students discuss challenges associated with	On fertile ground: A natural history of human reproduction – Peter Ellison Biology of Human Reproduction - Pinon	Group discussion on audio visuals seen

		puberty and menstrual phase		
July 15 – 23, 2024 (Day Order 1 - 6)	Unit 2 Course of human development – Procreation, Fertilization, Implantation, Placentation, Embryonic and Fetal Development	Audio visual presentation of the course of human development	On fertile ground: A natural history of human reproduction – Peter Ellison Biology of Human Reproduction - Pinon	Quiz based on audio-visual
July 24 – 31, 2024 (Day Order 1 - 6)	Unit 2 Sex Determination Prenatal Diagnosis: Invasive and Non-invasive methods Pregnancy Parturition and lactation	Guest Lecture on Diet during pregnancy and importance of breast feeding	Biology of Human Reproduction - Pinon	Group discussion on using technology for sex determination
Aug 1 – 5, 2024 (Day Order 1 - 3)	Unit 2 Consanguinity	Lecture	On fertile ground: A natural history of human reproduction – Peter Ellison	Group discussion on the cultural basis of consanguineous marriages and their impact on the next generation
Aug 6 – 10, 2024	C.A. Test – I			

Aug 12 – 14, 2024 (Day Order 4-6)	Unit 2 Fetal Loss and Birth Defects	PowerPoint presentation	Biology of Human Reproduction - Pinon	
Aug 16 – 23, 2024 (Day Order 1-6)	Unit 3 Male and female infertility: Smoking, Obesity, Stress, Alcoholism, Psychoactive Drugs	Lecture Group Discussion on impact of lifestyle on fertility	On fertile ground: A natural history of human reproduction – Peter Ellison Human Reproduction and Development (Inside the Human Body) – A. Cassan	Component 1– Submission of posters on either of the following topics: Amniocentesis, Obesity and Infertility, Stress and Infertility, MTP, Puberty, Diet during Pregnancy, Consanguinity,

				Smoking and Infertility, Genetic Counseling, Contraceptives) Max. Marks: 15
Aug 27 – Sep 3, 2024 (Day Order 1-6)	Unit 3 Artificial control of fertility Contraception	Lecture PowerPoint presentation	On fertile ground: A natural history of human reproduction – Peter Ellison Human Reproduction and Development (Inside the Human Body) – A. Cassan	Quiz
Sep 4 – 11, 2024 (Day Order 1-6)	Unit 3 Abstinence Medical termination of Pregnancy	Lecture Discussion on MTP	On fertile ground: A natural history of human reproduction – Peter Ellison	Ethical issues relating to MTP
Sep 12 - 20, 2024 (Day Order 1- 6)	Unit 3 Sexually transmitted diseases Gonorrhoea, Syphilis Genital Herpes	PowerPoint presentation	On fertile ground: A natural history of human reproduction – Peter Ellison	Discussion on prevention of STDs
Sep 23 - 26, 2024 (Day Order 1-4)	Unit 3 Induced Ovulation Artificial Insemination, <i>In vitro</i> Fertilization and embryo transfer-Test tube babies TET GIFT ZIFT	Audio visual and PowerPoint presentations Guest Lecture on ART	Human Reproduction and Development (Inside the Human Body) – A. Cassan	Component 2– Written test on ethical issues relating to reproductive technology – Unit 3 Max. Marks: 10
Sep 27 – Oct 3, 2024	C.A. Test – II			
Oct 4 – 5, 2024 (Day 5 & 6)	Unit 3 Methods of preservation of gametes and embryos Ethical and policy issues involving sperm banks and egg donors	Lecture Group Discussion	Human Reproduction and Development (Inside the Human Body) – A. Cassan	

			On fertile ground: A natural history of human reproduction – Peter Ellison	
Oct 7 - 15, 2024 (Day Order 1 to 6)	Unit 3 Stem Cell Banking Ethical and policy issues in stem cell banking Adoption- Organization – Laws	Lecture Flipped Classroom	Human Reproduction and Development (Inside the HumanBody) – A. Cassan On fertile ground: A natural history of human reproduction – Peter Ellison	Students presentations on aspects of Adoption
Oct 16 - 22, 2024 (Day Order 1 to 6)	Unit 3 Surrogate motherhood Social context of surrogate parenting Ethical and policy issues in surrogate parenting	Lecture Group discussion	Human Reproduction and Development (Inside the HumanBody) – A. Cassan On fertile ground: A natural history of human reproduction – Peter Ellison	CA Test (Units 1 and 2) Max. Marks: 25
Oct 23 - 24, 2024 (Day Order 1 to 2)	REVISION			