

Lecture Plan		
Name of the College: Government College of Arts, Science and Commerce. Sanquelim - Goa		
Name of Faculty: Mrs. Preethi M. Pednekar	Subject: Zoology	
Paper code: ZOO 201 Cell Biology and Genetics	Program: S.Y. BSc	Division: A
Academic year: 26-27	Semester: III	Total Lectures: 15
Course Objectives: Imparting --understanding of the cellular organisation. 2. Understanding the genetic basis of inheritance. 3. Analyze the structure and function of cells, organelles, and cellular components. 4. Gain practical experience in laboratory techniques used in cell biology and genetics research.		
Expected Course Outcome: At the end of the course, students will be able to 1. Explain the cellular organisation. 2. Distinguish between prokaryotic and eukaryotic cell 3. Interpret the transmission of traits based on the laws of		

inheritance. 4. Predict the outcome of monohybrid and dihybrid genetic crosses							
Student Learning Outcome: At the end of the course, students will be able to 1. Explain the cellular organisation. 2. Distinguish between prokaryotic and eukaryotic cell 3. Interpret the transmission of traits based on the laws of inheritance. 4. Predict the outcome of monohybrid and dihybrid genetic crosses							
Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
June 26	22/6/26	27/6/26	1	Monohybrid cross		Power point presentation,	1. B. Alberts, A. Johnson, J. Lewis, M. Raff, K. Roberts, and P. Walter, Molecular Biology of the Cell (6th edn), Garland Science, 2014. 2. C.B. Powar, Cell biology, Himalaya Publishing House, 2010. 3. C.B. Powar, Genetics – Vol.1 Himalaya Publishing House,

							2010. 4. E.J. Gardner, M.J. Simmons, D.P. Snustad, Principles of Genetics (8th Edition), Wiley, 2006. 5. J. Hardin, G. Bertoni, L. Kleinsmith, Beckers World of the Cell (8th Edition) Pearson Benjamin Cummins Publishing House, 2014. 6. P.S. Verma and V.K. Agarwal, Genetics 9th edition, S.Chand Publications, 2010.
July	29/6/26	4/7/26	1	Dihybrid crosses and Mendel's Laws			
	6/7/26	11/7/26	1	Multiple Alleles (Rabbit coat colour),			
	13/7/26	18/7/26	1	Multiple genes (skin colour in humans).			
	20/7/26	25/7/26	1	Epistatic interactions (9:7, 12:3:1)			
	27/7/26	1/8/26	1	Epistatic interactions (13:3, 15:1)			
Aug	3/8/26	8/8/26	1	Sex linked, Sex limited genes			
	10/8/26	14/8/26	1	Sex influenced inheritance			

	17/8/26	22/8/26	1	. Symbols and rules of construction of a pedigree chart (one example each of an autosomal dominant trait, autosomal recessive trait and an X linked recessive trait) .			
	24/8/26	29/8/26	1	Sex determination---- Chromosomal--- Drosophila (genic balance theory),			
	31/8/26	5/9/26	1	Humans-mode of sex determination			
	7/9/26	12/9/26	1	Fowl, Grasshopper, Honeybee.			
	21/9/26	26/9/26	1	Environmental basis of sex determination in Bonelia viridis and Turtles			
Oct	28/9/26	3/10/26	1	Cytoplasmic inheritance ---Kappa particles in Paramecium			
	5/10/26	10/10/26	1	The role of Mitochondria in Maternal inheritance in Humans			
	12/10/26	14/10/26	1	Problems based on genetics and revision			

*** Assessment Rubrics**

Component	Max Marks
ISA 1	7.5
ISA 2	7.5
Practical	25
Project	--
Semester End Exam	60