

		Practical Plan			
Name of the college: Govt. College of Arts, Science and Commerce, Sanquelim - Goa					
Name of Faculty: Ms. Preethi Pednekar		Subject: Zoology			
Paper code: ZOO 300 (Molecular Biology)		Program: T. Y. BSc		Division: Batch 1	
Academic year: 2025- 2026		Semester: V		Total Practicals/Labs: 15	
Credits:	01				
1. Course Objectives: Acquaint students with basic molecular biology knowledge. 2. 2. Provide the learners with the process of replication of DNA. 3. 3. Understand the processes of transcription and translation in 4. eukaryotes and prokaryotes. 5. 4. Provide the learners with basic skills in molecular biology and 6. handling DNA.					
Expected Course Outcome: At the end of this course, students will be able to: 1. Understand the role of Molecular Biology in modern times. 2. Appreciate the role of the genetic material in cells. 3. Explain the various steps of replication, transcription and translation. 4. Perform the basic techniques in molecular biology.					
Student Learning Outcome: At the end of this course, students will be able to: 1. Understand the role of Molecular Biology in modern times. 2. Appreciate the role of the genetic material in cells. 3. Explain the various steps of replication, transcription and translation. 4. Perform the basic techniques in molecular biology.					

Month	Practicals/Labs scheduled Date	No. of Practical/ Labs planned	List of Experiments	Reference books
July	02/07/2025	1	Study and interpretation of DNA replication— using Electron micrographs	R. C. Dubey, A textbook of Biotechnology, 5th Ed. S. Chand & Co. Pvt. Ltd. New Delhi, 2014. 5. R. C. Dubey, and D. K. Maheswari, Practical Microbiology, S. Chand & Co. Ltd, 2007. 6. S. B. Primrose, and R. M. Twyman, Principles of Gene Manipulation and Genomics - 7 th Edition. Blackwell Publishing Company, 2006.
	9/07/2025	1	Study and interpretation of transcription — using Electron micrograph	
	16/07/2025	1	Study and interpretation of translation — using Electron micrographs	

July	23/07/2025	1	Study and interpretation of split genes— using Electron micrographs	
July	30/07/2025	1	Study and interpretation of ribosomes (prokaryotic and eukaryotic) using photographs	
August	06/08/2025	1	Identification and description of B-DNA, Z-DNA and A-DNA using suitable models/Photographs	
	13/08/2025	1	Isolation and estimation of DNA from a suitable eukaryotic tissue .	
	20/08/2025	1	Quantitative Estimation of RNA from eukaryotic cells.	
		1	Isolation and estimation of DNA from a suitable eukaryotic tissue	
September	3/9/2025	1	Isolation and estimation of plasmid DNA from bacteria.	
	10/09/2025	1	Isolation and estimation of plasmid DNA from bacteria.	
	17/09/2025	1	Isolation of bacterial chromosomal DNA.	
	24/09/2025	1	Isolation of bacterial chromosomal DNA.	
	01/10/2025	1	Determination of molecular weight of DNA (fragments) with the help of DNA ladder by using gel electrophoresis.	
	08/10/2025	1	Certification of journals	
	15/10/2025	1	revision	