

## Practical 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: ZOC 107  
Molecular Biology and Evolution

Program: B.Sc

Division:

Academic year: 2024-25

Semester: V

Total Practicals/Labs: 15

Credits: 02

### Course Objectives:

- Explanation of the molecular biology processes
- Elaboration of the evolutionary theories and mechanisms

### Expected Course Outcome:

- In depth knowledge of molecular biology processes
- A broad overview of evolutionary concepts

### Student Learning Outcome:

- Knowledge of molecular biology processes
- Understanding of evolutionary concepts

Month	Practicals/Labs Scheduled Date	No. of Practicals/Labs planned	List of Experiments	Reference books
July 2024	2 July 2024	1	Study of homologous organs	Organic evolution by Rastogi
	9 July 2024	1	Study of analogous organs	Organic evolution by Rastogi

	16 July 2024	1	Study of fossils	Evolutionary biology by Strickberger
	23 July 2024	1	Study of electron micrographs demonstrating the processes of replication, transcription and the presence of split genes	Molecular biology by Becker
	30 July 2024	1	Demonstration of the role of natural selection in changing allele frequencies using simulation studies	Organic evolution by Rastogi
August 2024	6 August 2024	1	Demonstration of the role of genetic drift in changing allele frequencies using simulation studies	Organic evolution by Rastogi
	13 August 2024	1	Study and verification of Hardy-Weinberg law by chi-square analysis	Organic evolution by Rastogi
	20 August 2024	1	Graphical representation and interpretation of data of height , weight of a sample of 100 humans in relation to their age and sex	Genetics by Strickberger
	27 August 2024	1	Quantitative estimation of DNA	Practical physiology by Jayaraman
September 24	3 September 2024	1	Quantitative estimation of RNA	Practical physiology by Jayaraman
		1	Extraction and qualitative detection of DNA and RNA,.	Practical physiology by Jayaraman
	17 September 2024	1	electrophoretic separation of proteins	Practical physiology by Jayaraman
	24 September 2024		Repetition/revision practical	
October 24	1 October 2024		Repetition/revision practical	
	8 October 2024		Repetition/revision practical and certification	
	15 October 2024		certification	