Lecture Plan

Name of the college: Government College of Arts, Science and Commerce, Sanquelim- Goa

Name of Faculty: Dr. Amarja Prashant Naik	**Subject: Chemistry**	
Paper code: CHC-241 Mathematical Aspects and Computers in Chemistry	**Program: SY BSc**	**Division: NA**
Academic year: 2024-2025	**Semester: III**	**Total Lectures: 15**

Course Objectives:

1. To familiarize various mathematical concepts in chemistry.
2. To understand various methods of data handling and data analysis.
3. To introduce use of computers in chemistry.

Expected Course Outcome:

At the end of the course, students will be able to

1. To plot various mathematical functions.
2. To solve numerical problems in chemistry.
3. To apply computer software's for data analysis.
4. To explain the types of orbitals and their shapes.
5. To identify order of the reaction by graphical method.
6. To solve numerical from the given data.

Student Learning Outcome:

1. Able to plot for linear equation and time displacement graphs.

2. Able to solve problems based on logarithm, exponential, trigonometric, differential and partial differential, integration.

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
June	28/06/2024	29/06/2024	Nil	Introduction to logarithms and Problem solving	Exercise	Google Classroom	1. Gurdeep Raj, Advanced Physical Chemistry Goel Publication 2. Barnwell, C. N. & McCash, E.M., Fundamentals of Molecular Spectroscopy, 4th Ed. 3. Puri Sharma and Pathania Principles of Chemistry Vishal Publication 4. H. Kaur spectroscopy Pragati edition
July	01/07/2024	06/07/2024	01	Exponential function	Exercise	Google Classroom	
	08/07/2024	13/07/2024	01	Trigonometric function	Exercise	Google Classroom	
	15/07/2024	20/07/2024	01	Curve sketching, time	Exercise	Google Classroom	
	22/07/2024	27/07/2024	01	time-displacement graphs	Exercise	Google Classroom	
	29/07/2024	03/08/2024	01	Graphs of linear equations	Exercise	Google Classroom	
August	5/08/2024	10/08/2024	01	Differentiations,	Exercise	Google Classroom	
	12/08/2024	17/08/2024	01	Partial differentiations,	Exercise	Google Classroom	
	19/08/2024	24/08/2024	01	Maxima and Minima	Exercise	Google Classroom	
September	2/09/2024	7/09/2024	01	Integrations	Exercise	Google Classroom	
	09/09/2024	14/09/2024	01	Methods of statistical data analysis: Mean	Exercise	Google Classroom	

	16/09/2024	21/09/2024	01	Median, Std. Deviation	Exercise	Google Classroom	
	23/09/2024	28/09/2024	01	Introduction to computer software's -MS Excel	Exercise	Google Classroom	
	30/09/2024	5/10/2024	01	Chemdraw, and their use in chemical data management,	Exercise	Google Classroom	
October	7/10/2024	12/10/2024	01	Data analysis, graphing and in	Exercise	Google Classroom	
	14/10/2024	22/10/2024	01	Sketching chemical structures	Exercise	Google Classroom	

***Assessment Rubrics**

Component	Max Marks
ISA 1	5
ISA 2	5
Practical	---
Project	---
Semester End Exam	20