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-200 Concepts in Inorganic and Physical Chemistry	**Program: SY BSc**	**Division: NA**
Academic year: 2024-2025	**Semester: III**	**Total Lectures: 15**

Course Objectives:

1. To understand the origin Raoults law and concept of solution.
2. To learn about different component of phase system.
3. To study the examples of one component and two component system.
4. To introduce colligative properties and to study the distribution law.

1.

Expected Course Outcome:

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

1. Predict the colligative properties of different systems.
2. Calculate the distribution coefficient of binary systems.
3. Prepare normal and molar solutions of a substance.
4. Calculate the amount of substance in given solutions.

Student Learning Outcome:

1. Able to define phase component and degree of freedom.
2. Able to distinguish between one component and two component system.
3. Able apply Nernst distribution law for separation technique.

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	Nil	Exercise	Google Classroom	1. A. Bahl and G.D. Tuli, Essentials of Physical Chemistry by S. Chand Publication (2019, New Delhi, 26thEdn. 2. Puri, Sharma and Pathania, Principles of Physical Chemistry. Vishal publishing house, (2018), New Delhi 1stEdn. 3. J.N. Gurtu, Physical Chemistry,
July	01/07/2024	06/07/2024	01	Phases, components and degrees of freedom of a system	Exercise	Google Classroom	
	08/07/2024	13/07/2024	01	Criteria of phase equilibrium.	Exercise	Google Classroom	
	15/07/2024	20/07/2024	01	Phase diagrams of one-component systems	Exercise	Google Classroom	
	22/07/2024	27/07/2024	01	Water and CO_2 system	Exercise	Google Classroom	
	29/07/2024	03/08/2024	01	Two component system, eutectics, congruent and incongruent melting points	Exercise	Google Classroom	
August	5/08/2024	10/08/2024	01	Zn-Mg, Ag-Pb, NaCl-H2O. Introduction to Raoults law. Colligative properties	Exercise	Google Classroom	
	12/08/2024	17/08/2024	01	Introduction to Raoults law. Colligative properties-Lowering of vapour pressure, depression in freezing point,	Exercise	Google Classroom	

	19/08/2024	24/08/2024	01	Osmosis and osmotic pressure.	Exercise	Google Classroom	Pragati Prakashan, (2020) Meerut, 9thEdn. 4. Gurdeep Raj , Advanced Physical Chemistry, Goel publication, (2010), 36thEdn. Meerut. 5. R.L Madan, Chemistry for degree students, S, Chand and Co. Ltd. (2017) New Delhi, 1stEdn.
September	2/09/2024 9/09/2024	7/09/2024 14/09/2024	01 01	Experimental methods and determination of molecular weight.	Exercise	Google Classroom	
	16/09/2024	21/09/2024	01	Numerical solving			
	23/09/2024	28/09/2024	01	Nernst Distribution Law – Statement. Distribution constant	Exercise	Google Classroom	
	30/09/2024	5/10/2024	01	Factors affecting distribution constant, validity of distribution law,	Exercise	Google Classroom	
October	7/10/2024	12/10/2024	01	Modification of distribution law when molecules undergo a) association b) dissociation.	Exercise	Google Classroom	
	14/10/2024	19/10/2024	01	Application of distribution law solvent extraction, determination of association, dissociation	Exercise	Google Classroom	
	21/10/2024	22/10/2024	01	Numerical solving	Exercise	Google Classroom	

***Assessment Rubrics**

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