

Practical Plan				
Name of the college: Government college of Arts Science and commerce Sanquelim Goa.				
Name of Faculty: Ms. Sampada Bhide		Subject: Chemistry		
Paper code: CHC-108		Program: T.Y.B.Sc		Division: A
Academic year: 2024 - 2025		Semester: VI		Total Practicals/Labs: 22 (120 hours)
Credits: 2				
Course Objectives:- To understand and develop the problem solving skills and hands on experience with reference to concepts studied in theory (potentiometry, Conductometry, pH metry, solubility, chemical kinetics.)				
Expected Course Outcome: 1) Understand the concepts of adsorption isotherms and activation energy, solubility product. 2) Develops skills of working and set up of electrochemical cells (potentiometry, pH metry and conductometry) 3) Solve numerical on standard electrode potential and verify the graph of adsorption isotherms.				
Student Learning Outcome: 1) Understand the concepts of adsorption isotherms and activation energy, solubility product. 2) Develops skills of working and set up of electrochemical cells (potentiometry, Ph metry and conductometry) 3) Solve numerical on standard electrode potential and verify the graph of adsorption isotherms.				
Month	Practicals/Labs Scheduled Date	No. of Practical's/Labs planned	List of Experiments	Reference books

January	02/01/2025-04/01/2025	2	Conductometric titration of Lead Nitrate against Sodium Sulphate and to determine the solubility of Lead Sulphate.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
January	06/01/2025-11/01/2025	2	To determine the dissociation constant of a weak dibasic acid using pH metry.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
January	13/01/2025-18/01/2025	2	Preparation of aniline hydrochloride and to determine hydrolysis and hydrolysis constant of aniline hydrochloride.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
January	20/01/2025-25/01/2025	2	To determine the percentage concentration and strength of sulphuric acid, acetic acid and copper sulphate against 0.1 M NaOH by conductometric titration.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
January	27/01/2025-01/02/2025	2	Verification of Debye-Huckel-Onsager equation to dilute solutions of KCl by conductometric method.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
February	03/02/2025-08/02/2025	2	Adsorption of Oxalic acid by charcoal and verifying Freundlich adsorption isotherm.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
February	10/02/2025-15/02/2025	2	Adsorption of Oxalic acid by charcoal and verifying Freundlich adsorption isotherm.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
February	17/02/2025-22/02/2025	2	To investigate the influence of Ionic strength on the rate constants between Potassium	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication.

			Persulphate and Potassium Iodide.	2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
February	24/02/2025-01/03/2025	2	To investigate the influence of Ionic strength on the rate constants between Potassium Persulphate and Potassium Iodide.	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
March	03/03/2025-08/03/2025	2	Using vibrational-rotational spectra of NO molecule: a. Assign the rotational lines to various transitions. b. Calculate i) the value of B ₀ and B ₁ , for R and P branches of spectra. ii) Vibrational frequency and iii) Inter nuclear distance	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
March	10/03/2025-15/03/2025		Using vibrational-rotational spectra of CO molecule. a. Assign the rotational lines to various transitions. b. Calculate i. The value of B ₀ and B ₁ , for R and P branches of spectra. ii. Vibrational frequency and iii. Inter nuclear distance	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
March	17/03/2025-22/03/2025	2	Revision	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
March	24/03/2025-29/03/2025	2	Revision	1)Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 2)Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co

April	31/03/2025-05/03/2025	2	Journal correction	-
April	07/04/2025-11/04/2025	2	Journal correction and certification	-

***Assessment Rubrics**

Component	Max Marks
ISA 1	10
ISA 2	-
Practical	50
Project	-
Semester End Exam	40