Practical Plan Name of the college: Government college of Arts Science and commerce Sanquelim Goa. Name of Faculty: Ms. Ankita M. Vernekar 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. No. of **Practicals/Labs List of Experiments Reference** books Month Practical's/Labs Scheduled Date planned

December	09/12/2024-14/12/2024	1	FIP	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. Senior Practical Physical chemistry by B.D. Khosla, V.C. Garg, Adarsh Gulati, published by R. Chand and Co
December	16/12/2024-21/12/2024	2	To study the Kinetics of ethyl acetate by NaOH at two different temperatures and hence determine the energy of activation.	 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	02/01/2025-04/01/2025	2	Conductometric titration of Lead Nitrate against Sodium Sulphate and to determine the solubility of Lead Sulphate.	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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.	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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.	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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.	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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.	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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 Persulphate and Potassium Iodide.	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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 B0 and B1, 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 B0 and B1, for R and P branches of spectra. ii. Vibrational frequency and iii. Inter nuclear distance 	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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	 Systematic experimental Physical Chemistry by W. Rajbhoj, T.K. Chondhekar, Anjali publication. 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