

	Practical Plan	
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Name of the college: Government college of Arts Science and commerce Sanquelim Goa.		
Name of Faculty: Ms. Dipika Gosavi	Subject: Chemistry	
Paper code: CHC-302	Program: T.Y.B.Sc	Division: A
Academic year: 2025- 2026	Semester: I	Total Practicals/Labs: 10 (30 hours)
Credits: 1		
Course Objectives:- To develop fundamental laboratory skills for determining solution properties, standardizing solutions, purifying compounds, and performing qualitative analysis with safe and accurate practices.		
Expected Course Outcome: 1. To introduce the fundamentals of electrochemistry. 2. To understand and apply the concepts of quantum mechanics. 3. To learn the principles of vibrational and rotational spectroscopy		
Student Learning Outcome: students will be able to: 1. differentiate between the types of cells used in electrochemistry. 2. use quantum operators for solving numericals. 3. identify and predict structure of molecules using vibrational and rotational spectra. 4. perform conductometric and potentiometric measurements. 5. measure standard oxidation potentials of various metal/metal ion electrodes. 6. calculate internuclear distance of molecules from vibrational-rotational spectra.		

Month	Practicals/Labs Scheduled Date	No. of Practical's/Labs planned	List of Experiments	Reference books
June	23/06/2025-28/06/2025		Practicals not started	
June/July	30/06/2025-05/07/2025	1	To determine the cell constant using 0.1N and 0.02N KCl solution.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
July	07/07/2025-12/07/2025	1	2. To verify Ostwald's dilution law using acetic acid.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
July	14/07/2025-19/07/2025	1	2. To verify Ostwald's dilution law using acetic acid.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
July	21/07/2025-26/07/2025	1	3. To determine the percentage composition of acid mixture (strong acid and weak acid) by titrating against standard 0.1N NaOH.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
July/August	28/07/2025-02/08/2025	1	3. To determine the percentage composition of acid mixture (strong acid and weak acid) by titrating against standard 0.1N NaOH.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
August	04/08/2025-09/08/2025	1	4. To determine standard oxidation potential of Cu/Cu +2 and Zn/Zn+2	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
August	11/08/2025-16/08/2025	1	4. To determine standard oxidation potential of Cu/Cu +2 and Zn/Zn+2	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
August	18/08/2025-23/08/2025	1	5. To determine solubility product of AgCl using potentiometer.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
August	25/08/2025-30/08/2025	1	GANESH CHATURTHI HOLIDAY	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
September	01/09/2025-06/09/2025	1	5. To determine solubility product of AgCl using potentiometer.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
September	08/09/2025-13/09/2025	1	6. To determine formal redox potential of Fe+2/Fe+3 system using 0.1N K ₂ Cr ₂ O ₇ .	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition

September	15/09/2025-20/09/2025	1	6. To determine formal redox potential of $\text{Fe}^{+2}/\text{Fe}^{+3}$ system using 0.1N $\text{K}_2\text{Cr}_2\text{O}_7$.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
September	22/09/2025-27/09/2025	1	7. To plot the orthonormal wavefunctions of a particle in a one dimensional box.	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
September/October	29/09/2025-04/10/2025	1	8. Using vibrational-rotational spectra of HCl and HBr molecules 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) Internuclear distance	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
October	06/10/2025-11/10/2025	1	Repetition	Khosla, B. D.; Garg, V. C. & Gulati, A. Senior Practical Physical Chemistry, R. Chand & Co., New Delhi, 2018, 18th edition
October	13/10/2025-18/10/2025	1	Exam	

Assessment Rubrics

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