

Practical Plan

Name of the college: Government College of Arts, Science & Commerce, Sanquelim, Goa		
Name of Faculty: Dr. Dattaprasad D. Narulkar	Subject: Fundamentals of Chemistry (Major)	
Paper code: CHC-101	Program: F.Y.BSc.	Division:
Academic year: 2026 - 2027	Semester: I	Total Practical/Labs: 15 (30 hours)
Credits:1		
Course Objectives: - To translate certain theoretical concepts learnt earlier into experimental knowledge by providing hands-on experience of basic laboratory techniques required for chemistry. - To introduce the fundamentals and basic techniques of volumetric and gravimetric estimations.		
Expected Course Outcome: At the end of the course, students will be able: CO1: to perform basic volumetric, gravimetric estimations, viscosity and surface tension determination. CO2: to purify organic compounds using purification techniques. CO3: to identify the chemical nature of different types of organic compounds.		
Student Learning Outcome: At the end of the course, students will be able: LO1: to acquire the knowledge and skill of basic volumetric, gravimetric estimations and experiments related to Physical Chemistry. LO2: to get hands-on experience on the purification techniques for organic compounds. LO3: to get hands-on experience in the identification of the chemical nature of organic compounds.		

Month	Practical/Labs Scheduled Date	No. of Practical/Labs planned	List of Experiments	Reference books
June	20/06/2026		-	
	27/06/2026	1	Pre-Lab session (Laboratory safety, concept of normality and molarity and stoichiometric calculations).	Ref 1 and 2
July	04/07/2026	1	Calibration of Burette and Pipettes.	Ref 1 and 2
	11/07/2026	1	To prepare 100 mL of standard 0.1 M $K_2Cr_2O_7$ solution and carry out dilution to 0.05, 0.01, 0.005, and 0.001 M in 100 mL standard flasks.	Ref 1 and 2
	18/07/2026	1	Volumetry: To prepare 100 ml of 0.1 N KHP solution and standardize the given approximate 0.1 N NaOH solution.	Ref 1 and 2
	25/07/2026	1	Purification of organic compounds: i) Recrystallization of Benzoic acid by using water as solvent and determination of melting point.	Ref 1 and 2
August	01/08/2026	1	Purification of organic compounds: ii) Sublimation of Naphthalene and Determination of Melting point.	Ref 1 and 2
	08/08/2026	1	Determination of surface tension of two unknown liquids or dilute solutions by stalagmometer method	Ref 1 and 2
	15/08/2026	1	Independence Day	Ref 1 and 2
	22/08/2026	1	Determination of the viscosity of two unknown liquids or dilute solutions by using Ostwald's viscometer	Ref 1 and 2
	29/09/2026	1	Study of the variation of viscosity of an aqueous solution with the concentration of solute.	Ref 1 and 2
September	05/09/2026	1	Gravimetric analysis: Determination of the percentage composition of the given mixture $ZnO + ZnCO_3$	Ref 1 and 2
	12/09/2026	1	Determination of solubility and chemical nature of both solids and liquids.	Ref 3
			Ganesh Chaturthi break (14/09/2025 - 19/09/2025)	
	26/09/2026	1	Determination of solubility and chemical nature of both solids and liquids.	3

Month	Practical/Labs Scheduled Date	No. of Practical/Labs planned	List of Experiments	Reference books
October	03/10/2026	1	Purification of organic compounds: iii) Distillation of Acetone and determination of boiling point.	3
	10/10/2026	1	Determining the viscosity of two unknown liquids or dilute solutions using Ostwald's viscometer.	Ref 1 and 2

References

1. Vogel's Text book of Inorganic Qualitative analysis
2. Vogel's Textbook of Inorganic Quantitative Analysis
3. Vogel's Text book of Organic Qualitative analysis

* Assessment Rubrics	
Component	Max Marks
ISA	15
Practical SEE	25
Semester End Exam	60
Total	100