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-100	Program: F.Y.BSc.	Division:			
Academic year: 2024 - 2025	Semester: II	Total Practical/Labs: 15 (30 hours)			
Credits:					
1					
Course Objectives:					
• To translate certain theoretical concepts learnt ear	lier into experimental knowledge by providing ha	nds-on experience of basic laboratory			
To introduce the fundamentals and having technical	an of a langetic on the analysis of the stimulation of				
• To introduce the fundamentals and basic techniqu	les of volumetric and gravimetric estimations.				
Expected Course Outcome					
At the end of the course students will be able:					
CO1: to perform hasic volumetric, gravimetric estimations, viscoscity and surface tension determination.					
CO2: to purify organic compounds using purification techniques.					
CO3: to identify chemical nature of different types 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 identification of chemical nature of organic compounds					
103. to get hands on experience on the identification of chemical nature of organic compounds.					

Month	Practical/Labs Scheduled Date	No. of Practical /Labs planned	List of Experiments	Reference books
December	14/12/2024	1	Pre-Lab session (Laboratory safety, concept of normality and molarity and stoichiometric calculations).	Ref 1 and 2
	04/01/2025	1	Calibration of Burette and Pipettes.	Ref 1 and 2
	11/01/2025	1	To prepare 100 mL of standard 0.1 M K ₂ Cr ₂ O 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
	18/01/2025	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.
January	25/01/2025	1	Purification of organic compounds: i) Recrystallization of Benzoic acid by using water as solvent and determination of melting point.	Ref 1 and 2
	01/02/2025	1	Purification of organic compounds: ii) Sublimation of Naphthalene and Determination of Melting point.	Ref 1 and 2
	08/02/2025	1	Determination of surface tension of two unknown liquids or dilute solutions by stalagmometer method	Ref 1 and 2
February	15/02/2025	1	Determination of viscosity of two unknown liquids or dilute solutions by using Ostwald's viscometer.	Ref 1 and 2
	22/02/2025	1	Study of the variation of viscosity of an aqueous solution with concentration of solute.	Ref 1 and 2
	01/03/2025	1	Gravimetric analysis: Determination of percentage composition of the given mixture ZnO + ZnCO3	Ref 1 and 2
	08/03/2025	1	Determination of solubility and chemical nature of both solids and liquids.	Ref 1 and 2

March $\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Determination of solubility and chemical nature of both solids and liquids.	Ref 1 and 2		
	22/03/2025	1	Purification of organic compounds: iii) Distillation of Acetone and determination of boiling point.	Ref 1 and 2
	29/03/2025	1	Determination of surface tension of two unknown liquids or dilute solutions by stalagmometer method	
April	05/04/2025	1	Determining the viscosity of two unknown liquids or dilute solutions using Ostwald's viscometer.	Ref 1 and 2

References

- Vogel's Text book of Qualitative analysis
 Vogel's Textbook of Quantitative Analysis

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