Practical Plan

Name of the college: Government College of Arts, Science & Commerce, Sankhali, Goa		
Name of Faculty: Geeta Thakur	**Subject: Chemistry**	
Paper code: CHC-221 (Basics of Chemical Laboratory Management)	**Program: S.Y.BSc.**	**Division:**
Academic year: 2025 - 2026	**Semester: IV**	**Total Practical/Labs: 30 hours**
Credits: 1		

Course Objectives:

1. Enable student to identify and classify different glass wares
2. To prepare solution of different concentration and dilution
3. Distinguish between different types of electrodes
4. Acquaint students with hazard symbols and labels

Expected Course Outcome:

At the end of the course student will be able to-

1. implement necessary precaution while working in chemical laboratory
2. apply procedure of management, purchase and storage.
3. identify and classify common glassware and apparatus, prepare standard solutions and know the basics of Identify and classify different glasswares
4. Prepare solution of different strength/volume and know the different terms used for labeling concentration.
5. Identify and classify different types electrodes
6. Interpret hazard symbols and labels of supplied commercial chemicals

Student Learning Outcome:

At the end of the course students will be able:

LO1: Identify and classify different glass wares and hazard symbols and their labels

LO2: Prepare solution of different concentration and dilution
LO3: Analyze different types of electrodes

Month	Practical/Labs Scheduled Date	No. of Practical /Labs planned	List of Experiments	Reference books
December	11-12-2025	1	Identification and classification of glassware 1. To identify and classify different types of flasks and funnels (Minimum four different types of each.)	[1-4]
	18-12-2025	1	To identify and classify different types of pipettes and burettes (Minimum two different types of each.)	[1-4]
January	08-01-2026	1	To identify and classify different types of pipettes and burettes (Minimum two different types of each.)	[1-4]
	22-01-2026	1	Classification, Assembling and Application of condensers-Normal condenser (Liebig Condenser), Double coiled condenser, Hickman distilling head and fractional distillation (Description and labeled diagrams expected)	[1-4]
February	5-02-2026	1	Classification, Assembling and Application of condensers-Normal condenser (Liebig Condenser), Double coiled condenser, Hickman distilling head and fractional distillation (Description and labeled diagrams expected)	[1-4]
	19-02-2026	1	Identification of labels and Hazard Symbols 1. Draw the label and describe the information on commercial chemical and reagent labels- (Minimum two solids and two liquids)	[1-4]

March	5-03-2026	1	2. Draw and identify the hazard symbols (ref-Safety datasheet (SDS), Globally Harmonized System (GHS) for hazard communication). Note- Minimum Nine Symbols to be studied.	[1-4]
	19-03-2026	1	3. Classification of fire and fire extinguisher (Description and labeled diagrams expected of minimum four types of each)	[1-4]

References:

1. G.H. Jeffery, J. Bassett, J. Mendham, R. C. Denny.*Vogel's Textbook of Quantitative Chemical Analysis,* 5th edition, Longman Scientific and Technicals , England.1989
2. Brian S. Furniss, Antony J. Hannaford, Peter W.G.Smith, Austin R. tatchell.*Vogel's Textbook of practical Organic chemistry,*5th edition,8th impression 2011 Publisher-Person education Ltd England 1989
3. National Research council of Naional Academies, *Prudent Practices in Laboratory-handling and management of chemical hazards.* The National Academies press. Washington D.C 2001
4. John O'M Bockris, Amulya K.. Reddy *Modern Electrochemistry 1 Ionics* ,2nd Edition, ,Publisher-Springer, UK 1989
5. John Kenkel, *Analytical chemistry for Technicians* 4th edition, CRC press, Tylor & Francis Group, Boca Raton, London, 2013

*** Assessment Rubrics**	
Component	**Max Marks**
Practical	25