Practical Plan

Name of the college: Government College of Arts,Science and Commerce Sanquelim		
Name of Faculty: Dr. Sagar Narayan Patil	**Subject: Chemistry**	
Paper code: CHC 203; Inorganic Chemistry -I	**Program: SY BSc**	**Division: Batch II**
Academic year: June2024– 2025	**Semester: IV**	**Total Practicals/Labs: 15**
Credits: 01		

Course Objectives:

1. To apply the fundamental theoretical aspects of qualitative inorganic analysis.
2. To use various titrimetric techniques to estimate the analytes.
3. To use gravimetric methods to estimate metal ions.
4. To prepare inorganic coordination compounds.

Student Learning Outcome:
students will be able to

5. Perform a qualitative analysis of inorganic mixtures.
6. Prepare coordination compounds of transition elements.
7. Determine unknown concentration of analytes using volumetric and gravimetric procedures.

Month	Practicals/Labs Scheduled Date	No. of Practicals/Labs planned	List of Experiments	Reference books
December	09/12/2024 to 21/ 12/ 2024	2	**Volumetric Analysis** 1. Estimation of the amount of nickel in the given nickel sulphate solution (EDTA method). 2. Estimation of Fe (II) ions by titrating it with K2Cr2O7using the internal indicator.	1. G. Svehla, Vogel's Qualitative Inorganic analysis, 7thedn. Pearson Education Ltd. 2. V. Alexeyev. Quantitative Analysis. 2ndedn. Mir Publishers. 1969. 3. J. Derek Woollins, Inorganic experiments, WILEY-VCH, UK, 2011.
January	03/01/2025 to 31/01/2025	4	**Gravimetric Analysis** 1. Estimate the amount of Ni as bis-(dimethylglyoximato)nickel(II) in the given solution of nickel chloride using counter poise method. 2. Estimation of Mn as manganese	As above

			pyrophosphate present in the given manganese sulphate solution. **Inorganic Preparations** 1. Preparation of tris-(ethylenediamine)nickel(II)chloride 2. Preparation of chrome red.	
February	01/02/2025 to 28/02/2025	4	**Qualitative analysis:(4 mixtures to be analyzed)** Semi-micro qualitative analysis of water soluble mixtures containing two cations and two anions. **Cations:** Ba2+, Cu2+, Fe2+, Ni2+, K+, NH4+ **Anions:** CO32-, NO3-, Cl-, SO42-, S2- (To precipitate metal sulphide aqueous H2S solution can be used)	
March	01/03/2025 to 30/03/2025	4	**Qualitative analysis:(4 mixtures to be analyzed)** Semi-micro qualitative analysis of water soluble mixtures containing two cations and two anions. **Cations:** Ba2+, Cu2+, Fe2+, Ni2+, K+, NH4+ **Anions:** CO32-, NO3-, Cl-, SO42-, S2- (To precipitate metal sulphide aqueous H2S solution can be used)K2Cr2O7 by spectrophotometry.	.
April	01/04/2025 to 11/04/2025	2	**VIVA preparation, revision of Mechanism, theory, principle, applications**	