Lecture Plan

Name of the college: Govt. college of Arts Sci. and Com. Sanquelim

Name of Faculty: Ms. Varsha K. Sail	**Subject:**Chemistry	
Paper code: CHC-106	**Program: T Y BSc**	**Division: A**
Academic year: 2024 - 2025	**Semester: V**	**Total Lectures: 15**

Course Objectives:

Chemistry of different compounds of halogen, introduction to solid state chemistry,

Expected Course Outcome: Student gain knowledge about different type of compounds of halogen, the defects in solids and the periodic propertties

Student Learning Outcome:

Students learn and understand the basics of different compounds of halogens, their properties and are introduced to

basic of solids state							
Month	**Lecture From**	**Lecture To**	**No. of lectures allotted per week**	**Topic, Subtopic to be covered**	**Exercise/ Assignment**	**ICT Tools**	**Reference books**
June	28/06/24	06/07/24	01	Topic 1 **Chemistry of halogens-Prsession** – halogen and its properties, Introduction to componds of halogen. Interhalogen **classification and types.**		Smart board, PPT and chalk and black board	Lee, J.D. *Concise Inorganic Chemistry* ELBS, 1991. 2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. *Basic Inorganic Chemistry*, 3rd ed., Wiley. 3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. *Concepts and Models in Inorganic Chemistry*, John Wiley & Sons. 4. Huheey, J.E., Keiter, E.A.,

							Keiter, R.L. & Medhi, O.K. *Inorganic Chemistry: Principles of Structure and Reactivity*, Pearson Education India, 2006.
July	8/07/24	13/07/24		General methods of preparation and chemical properties of :of Interhalogens, structure, bonding of interhalogen		Smart board, PPT and chalk and black board	
	15/07/24	20/7/24		iii) Oxyacids of halogens in different oxidation states: General methods of preparation and chemical properties structure, bonding and acid strength			
	22/07/24	27/07/24		ii) Polyhalide ions General methods of preparation and			
	28/07/24	3/08/24		chemical properties			
August	5/08/24	10/08/24		structure, bonding			
	12/08/24	17/08/24		iv) Pseudohalogens; General methods of preparation and chemical properties			
	19/08/24	24/08/24		structure, bonding and acid strength			
	26/08/24	31/08/24		Topic 2- **Inorganic Solid State Chemistry** Defects in solids, Thermodynamic basis for			

				defect.			
September	2/09/24	14/09/24		Types of defect. Point defects; Schottky and Frenkel defects, Colour centre,			
	16/09/24	21/09/24		Extended defects and Non-stoichiometry			
	23/09/24	28/09/24		Consequenses of defect			
	30/09/24	05/10/24		Band Theory of solids: Band gaps, Metals,			
October	07/10/24	12/10/24		, Band gaps Insulators and Semi-conductors			
	14/10/24	22/10/24		revision			

*** Assessment Rubrics**

Component	Max Marks
ISA 1	10
ISA 2	
Practical	
Project	
Semester End Exam	

Practical Plan

Name of the college: Govt college of Arts Science and Commerce, Sanquelim.		
Name of Faculty: varsha K sail	**Subject:** Inorganic chemistry	
Paper code:CHC-106	**Program: TY BSc**	**Division: Batch i and iv**
Academic year: 2023- 2024	**Semester: V**	**Total Practicals/Labs: 60 hrs**
Credits:02		
Course Objectives: Learn estimation of metal by gravimetric method and synthesis of inorganic compounds		
Expected Course Outcome: student learn technique of gravimetric estimation and preparation of compounds, understand theory and calculation involved.		
Student Learning Outcome: Learn technique of Gravimetric estimation and preparation. Student should be able to understand theory and do calculation		

Month	Practicals/Labs Scheduled Date		No. of Practicals/Labs planned	List of Experiments	Reference books
June	28/06/24	06/07/24		Practical batches/workload not yet allotted	1. G.H. Jeffery, J. Bassett, J. Mendham, R. C. Denney, Vogel's Textbook of Quantitative Chemical Analysis, 5th Edn. ELBS
July	8/07/24	13/07/24			
	15/07/24	20/7/24	2 practical session of 4 hours each	To estimate the amount of Al as Al_2O_3 in the given solution of aluminium sulphate.	
	22/07/24	27/07/24	2 practical session of 4 hours each	To estimate the amount of Fe as Fe_2O_3 in the given solution of ferric chloride containing barium chloride and free HCl.	
	28/07/24	3/08/24	2 practical session of 4 hours each	To estimate the amount of nickel as Ni-DMG in the solution of nickel chloride containing copper chloride and free HCl	2.S. Ratan, Experiments in Applied Chemistry, 3rd Edn. S.K. Kataria & Sons 3.O. P. Pandey, D. N. Bajpai and S. Giri, Practical Chemistry, Revised Edn. S. Chand.

August	5/08/24	10/08/24	2 practical session of 4 hours each	To estimate the amount of barium as $BaCrO_4$ in the solution of barium chloride containing ferric chloride and free HCl.	
	12/08/24	17/08/24	2 practical session of 4 hours each	To estimate the amount of Zinc as $Zn_2P_2O_7$ in the given solution of zinc sulphate containing copper sulphate and free H_2SO_4.	
	19/08/24	24/08/24	2 practical session of 4 hours each	Preparation Potassium trioxalatoferrate (III).	
	26/08/24	31/08/24	2 practical session of 4 hours each	Preparation of potassium trioxalatoaluminate(III).	
September	2/09/24	14/09/24	2 practical session of 4 hours each	Preparation of Tristhioureacopper(I) sulphate	
	16/09/24	21/09/24	2 practical session of 4 hours each	Preparation of Cobalt (III)Hexammine complex	
	23/09/24	28/09/24		revision	
	30/09/24	05/10/24		revision	
October	07/10/24	12/10/24		Exam	
	14/10/24	22/10/24		Exam