

Curriculum Plan

(Even Semester 2024-25)

Teacher Name: **Dr. Rajesh Kumar Meena**

Course: B.Sc. (H) Chemistry, Sem VI

Paper Name: Principles in qualitative analysis and bioinorganic Chemistry

S.No.	Contents	Allocation of Lectures	Month wise schedule to be followed	Assignments/ Presentations etc
1.	Unit-1: Theoretical Principles in Qualitative Analysis: Basic principles involved in analysis of cations and anions. Solubility product, common-ion effect. Principles involved in separation of cations into groups and choice of group reagents.	8 Lect.	2nd week of January -1st week of February	-Syllabus Overview -Reference Books -Problem solving
2.	Interfering anions (fluoride, borate, oxalate and phosphate), need to remove them after Group II and methods of removal. Analysis of insoluble substances.	8 Lect.	2 nd week of February- 4 th week of February	-Problem solving - Home Register Overview
3.	Unit-2: Bioinorganic Chemistry: Metal ions present in biological systems, classification of elements according to their action in biological system. Geochemical effect on the distribution of metals. Sodium / potassium pump, conduction of nerve impulses, Ca-pump, carbonic anhydrase and carboxypeptidase.	12 Lect.	4 th week of February – 3 rd week of March	- Related Problems - Assignment - Home Register Overview - Student's difficulties
4.	Excess and deficiency of some trace metals. Toxicity of metal ions (Hg, Pb, Cd and As), reasons for toxicity.	4 Lect.	1 st week of April - 2 nd week of April	- Revision session prior to home - Student's difficulties
5.	Use of chelating agents in medicine, Cisplatin as an anti-cancer drug. Iron and its application in bio-systems, Haemoglobin, Myoglobin, cytochrome-C-oxidase; Storage and transfer of iron.	5 Lect.	3 rd week of April - 1 st week of May	- Revision session prior to home - Student's difficulties