ARSD College, University of Delhi

Lesson Plan

Course Name :	B.Sc. (Applied Physical Science) Chemistry– Lab DSC-1					
Semester	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Credit (C)
II		Periodic Properties and Chemical bonding	0	0	02	02
Teacher/Instructor(s)	Dr. Nidhi Dureja and Dr. Ram Swaroop Maharia					
Session	2022-23					

Learning Outcomes: By the end of the course, the students will be able to:
- Understand the different types of standard solutions.
- Understand the stability of different salt during preparation.
- Working with different types of indicators.
- Understand different types of indicators like internal indicator, external indicator, self-indicators
- Understand the different types of reactions and their conditions.
- Learn about chromatography and spraying reagents.
- Learn about different conditions of complex formation.

List of Experiments:

Details of the Lab Course		
Session	**Name of Experiment**	**Contact Hours**
1	Preparation of standard solutions.	4
2	Estimation of Sodium carbonate with HCl.	4
3	Estimation of oxalic acid by titrating it with $KMnO_4$.	4
4	Estimation of Mohr's salt by titrating it with $KMnO_4$.	4
5	Estimation of water of crystallization in Mohr's salt by titrating with $KMnO_4$.	8
6	Estimation of Fe (II) ions by titrating it with $K_2Cr_2O_7$ using internal and external indicators.	4
7	Estimation of Cu (II) ions iodometrically using $Na_2S_2O_3$.	4
8	Chromatographic separation of mixture of metal ions Cu^{2+}, Cd^{2+} or Ni^{2+}, Co^{2+} .	8
9	Estimation of Fe (II) ions by titrating it with $K_2Cr_2O_7$ using a. internal indicator b. external indicator	4
10	Estimation of Cu (II) ions iodometrically using $Na_2S_2O_3$	4
11	Paper Chromatographic separation of mixture of metal ions a) Cu^{2+}, Cd^{2+}	4

	b). Ni^{2+}, Co^{2+}	
12	MOCK TEST	4X2=8
	Total	**60**

Suggested Books:

Sl. No.	Name of Authors/Books/Publishers	Year of Publication/Reprint
1.	Jeffery, G.H.; Bassett, J.; Mendham, J.; Denney, R.C. (1989), Vogel's Textbook of Quantitative Chemical Analysis, John Wiley and Sons.	

Evaluation Scheme:

No.	Component	Duration	Marks
1.	Continuous Evaluation • Quiz/Viva • Observation & Record • Attendance • Mock Exam		40
2.	End Semester Examination	5 hours	40
3	Total		80