

Course Type	Course Code	Name of the Course	L	T	P	Credits
DC	NCYC102	General Chemistry Lab-I	0	0	2	1

Course Objective

To familiarize students with different aspects of Chemistry as taught in an undergraduate course.

Learning Outcomes

Students will correlate the theoretical knowledge with practical chemistry.

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Calibration and use of apparatus.	2	This experiment will provide the knowledge of standard use and calibration of the apparatus.
2	Preparation of primary standard solutions (Oxalic Acid and $K_2Cr_2O_7$)	2	Introduction to Quantitative analysis and its interdisciplinary nature, Titrimetric analysis etc. Basic laboratory practices. These experiments will provide the knowledge of preparation of standard solutions and quantitative estimations.
3	Standardization of NaOH using standard oxalic acid solution.	2	
4	Standardization of $KMnO_4$ using standard oxalic acid solution.	2	
5	Standardization of $Na_2S_2O_3$ solution against standard $K_2Cr_2O_7$ solution.	2	
6	Estimation of Vitamin C.	2	
7	Estimation of (i) arsenite and (ii) antimony iodometrically.	2	
8	Estimation of available chlorine in bleaching powder.	2	
9	Salt Analysis: Identification of acidic radicals	2	The students will learn the acid and basic radicals present in a given salt.
10	Salt Analysis: Identification of basic radicals	2	
11	Separation of mixtures by Thin Layer Chromatography: TLC preparation, Measure the R_f value in each case (combination of two compounds to be given)	2	The students will learn the preliminary characterization of organic compounds, their presence in a mixture, and unique physical properties of identification.
12	Identify and separate the components of a given mixture of 2 amino acids and or 2 sugars.	2	
13	Physical characterization of organic compounds. (State, color, odor, miscibility, litmus test, Ignition test).	2	
14	Determination of the boiling point of a liquid and the melting point of a solid.	2	

Text Book:

1. Mendham, J., A. I. Vogel's Quantitative Chemical Analysis 6th Ed., Pearson, 2009.

Reference Books: Laboratory Manual