Anil Neerukonda Institute of Technology & Sciences (Autonomous)
(Permanent Affiliation by Andhra University & Approved by AICTE
Accredited by NBA (ECE, EEE, CSE, IT, Mech. Civil & Chemical) & NAAC)
Sangivalasa-531 162, Bheemunipatnam Mandal, Visakhapatnam District
Phone: 08933-225083/84/87 Fax: 226395
Website: www.anits.edu.in email: principal@anits.edu.in

Applied Chemistry Lab Syllabus
(For 1/IV B.Tech CSE,CSM,CSD)
(With effect from 2023-24)

Course Code: 23CY1201/1202

L	T	P	E	O	Credits	Semester marks	Sessional
-	-	3	-	-	1.5	50	50

Course Objectives:

1. To impart students with practical knowledge and hands-on experience in analytical chemistry and its engineering applications.
2. To enhance students' proficiency in utilizing instrumental analysis techniques for industrial and environmental applications.

Course Outcome:

By the end of the course, students will be able to

CO	Statement
1	Apply volumetric analysis and titration principles to prepare standard solutions, standardize secondary standard solution and assess water quality, food, and soil samples.
2	Proficiently employ diverse analytical methods (Spectrophotometric, pH metric, Conductometric, and Potentiometric) to determine quantity of substances and accurately interpret data results.
3	Cultivate problem-solving and critical thinking skills through practical application of analytical methods and instrumentation in engineering design and decision-making.

List of Experiments

1. Preparation of Standard solutions and Standardisation of acid by using Strong base.
2. Determination of Hardness, pH, TDS in ground water sample.
3. Estimation of Zinc in food samples by Complexometric method.
4. Estimation of copper content in industrial wastewaters.
5. Estimation of available chlorine content in potable water using Iodometric method.
6. Estimation of Iron in biological samples using potassium thiocyanate by Spectrophotometric method.
7. Determination of electrolytic Strength of Lead acid battery by pH metric method.
8. Estimate the strength of acids in an acid mixture by using Conductometric method.
9. Estimation of Chromium in Dichromate by using Potentiometric method.
10. Determination of Viscosity of various liquid fuels using Ostwald’s Viscometer.

Demonstration Experiments

11. Determination of Dissolved Oxygen in a water sample using Iodometric method.

12. Microwave assisted Organic synthesis.

Prescribed Textbooks:

1. "Vogel's text book of Quantitative analysis", 5th edition., G.H.Jeffery., J.Bassett., J.Mendham., R.S.Denney.

2. "Vogel's A text book of Macro and semi micro Inorganic analysis", revised by G.Svehla.