KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

Re-accredited by NACC with 'A+' Grade (4th Cycle)

College of Excellence (UGC)

GN Mills Post, Coimbatore – 641 029

DEPARTMENT OF CHEMISTRY (UG)

COURSE OUTCOMES (CO) OF B.Sc., CHEMISTRY

FOR THE STUDENTS ADMITTED IN

(2021 – 2022)

COURSE OUTCOMES(CO)

Subject code: 21UCH101

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – I** **INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY – I**			
Batch 2021 – 2022	Hours / Week 6	Total Hours 90	Credits 5

Course Objectives

1. To know the concept of qualitative inorganic analysis.
2. To acquire knowledge about nomenclature of Inorganic, organic compounds and chemistry of alkanes and cycloalkanes.
3. To know about the structure of atom and Gaseous state.

Course Outcomes (CO)

K1 – K5	CO1	Explain the basic analytical knowledge and group separation of elements.
	CO2	Understand and apply the nomenclature of inorganic and organic Compounds.
	CO3	Explain the isomerism of alkanes and cycloalkanes.
	CO4	Acquire the knowledge about the structure of atoms.
	CO5	Evaluate and understand the knowledge about characteristics of gases.

Subject code: 21UCH202

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – II** **INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 6	Total Hours 90	Credits 5

Course Objectives

1. Know about metallurgy, importance of periodic table and atomic properties.
2. To learn about Benzene and Aromaticity.
3. To study the fundamentals of thermodynamics and thermochemistry.

Course Outcomes (CO)

K1 – K5	CO1	Obtain problem solving skills in order to modify industrial processes in extraction metallurgy.
	CO2	Gain knowledge about periodic properties
	CO3	Understand the basic aspects Benzene and Aromaticity.
	CO4	Learn about concepts of thermodynamics.
	CO5	Acquire the knowledge in thermochemistry.

Subject code: 21UCH2CL

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PRACTICAL – I** **INORGANIC QUALITATIVE ANALYSIS AND PREPARATIONS**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 90	Credits 2

Course Objectives

1. To demonstrate the basic laboratory technique of semi micro qualitative Analysis.
2. To understand about the interfering anions, its elimination and group separation.
3. To prepare inorganic complexes.

Course Outcomes (CO)

K2 – K5	CO1	Build the knowledge in principles of semi micro qualitative analysis.
	CO2	Know about the interfering and non interfering anions.
	CO3	Experience to remove interfering anion and group separation of various cations.
	CO4	Learn the preparation of inorganic complexes.
	CO5	To get innovative ideas regarding Inorganic compounds

Subject code: 21UCH303

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – III** **INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - III**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To know the basic concepts in quantitative analysis.
2. To observe the chemistry of dicarboxylic acids and reactions involving carbonyl compounds.
3. To enumerate second law of thermodynamics, state functions S, A, G and chemical equilibrium.

Course Outcomes (CO)

K1 – K5	CO1	Gain knowledge in preparation, standardization of solution and principles of volumetric analysis.
	CO2	Study the preparation, properties and reactions of di carboxylic acids, unsaturated acids and hydroxy acids.
	CO3	To Study on the preparation and properties of aldehydes and ketones.
	CO4	Analyze and apply laws of thermodynamics.
	CO5	Inculcates the importance of partial molal properties and disorderliness of the universes.

Subject code: 21UCH404

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – IV** **INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - IV**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To learn group IA elements.
2. To know about various types of alcohols, phenols and their reactions
3. To know about phase rule and phase equilibrium

Course Outcomes (CO)

K1 – K5	CO1	Gain the knowledge about the properties of alkali metals.
	CO2	To understand the basic aspects of alcohols and their derivatives
	CO3	To learn the aromatic electrophilic substitution reactions and commercial uses of phenols
	CO4	Analyze and apply phase rule to various systems and know about the industrial importance of phase rule
	CO5	To face the contemporary challenges on knowledge and which in turn intellectual property right and writing and publishing – Globalization of knowledge.

Subject code: 21UCH4S2

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **SKILL BASED SUBJECT-II** **WATER POLLUTION AND MANAGEMENT**			
Batch 2021 – 2022	Hours / Week 2	Total Hours 30	Credits 3

Course Objectives

1. To know about the sources and characteristics of water.
2. To learn about the analysis of the pollutants in water.
3. To learn the methods of purification and management of water.

Course Outcomes (CO)

K1 – K5	CO1	Understand the importance of water.
	CO2	Studying the different types of water pollution.
	CO3	Analyze and measurement of toxic chemical substances.
	CO4	Gain the knowledge of purification.
	CO5	To get and utilize scientific knowledge about water management and recycling process.

Subject code: 21UCH4CM

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PRACTICAL – II** **INORGANIC VOLUMETRIC AND ORGANIC QUALITATIVE ANALYSIS**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 90	Credits 3

Course Objectives

1. To demonstrate the concept of quantitative volumetric analysis.

2. To understand the various types of titrimetric analysis.

3. To identify the functional groups of unknown organic compounds.

Course Outcomes (CO)

K2 – K5	CO1	Gain the knowledge in principles of volumetric analysis.
	CO2	Estimating the amount of substances present in solutions.
	CO3	Learn to approach a problem systematically and to interpret the results logically.
	CO4	Detect various functional groups present in an organic compound.
	CO5	To acquire hands on knowledge about quantitative and organic analysis

Subject code: 21UCH505

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – V** **SPECTROSCOPY**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 45	Credits 3

Course Objectives

1. To know about the region of electromagnetic spectrum, fundamentals of ultra – violet visible spectroscopy and Infrared spectroscopy.
2. To study Nuclear Magnetic Resonance (NMR) spectroscopy and Mass spectrometry and to interpret and solve problems using various spectra.
3. To have insight about chromatographic techniques.

Course Outcomes (CO)

K1 – K5	CO1	Understand the basic principles, instrumentation of UV-Visible spectroscopy and to utilize their basic aspects to identify various organic compounds.
	CO2	Gain the knowledge in principles, instrumentation and functions of IR and Raman spectroscopy.
	CO3	Study the basic principles and instrumentation of NMR spectroscopy and apply to identify the organic compounds.
	CO4	Know about basic principles and instrumentation of mass spectroscopy technique and the application of various spectral techniques to elucidate the structure of organic molecules.
	CO5	Exploring the various chromatography techniques and their applications in separation of organic mixtures.

Subject code: 21UCH506

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – VI** **INORGANIC CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To understand the key features of coordination compounds, including: the variety of structures, ligands, various theories of coordination complexes, stability of complexes.
2. To identify what radioisotopes and acquaint knowledge about nuclear reactions.
3. To describe about Inorganic acids, bases, Inorganic Solvents and Inorganic Polymers.

Course Outcomes (CO)

K1 – K5	CO1	Understand the theories of co-ordination compounds.
	CO2	Knowledge about basics nuclear Chemistry
	CO3	Analyze the importance of radioactive isotopes and nuclear reactions.
	CO4	Describe about the different concepts of Inorganic acids, bases, Inorganic Solvents and Inorganic Polymers.
	CO5	To gain knowledge about inorganic solvents and inorganic polymers

Subject code: 21UCH507

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – VII** **ORGANIC REACTION MECHANISM**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To study asymmetry and optical activity of organic molecules and basics in carbohydrate.
2. To understand the mechanisms of important organic rearrangements reactions and Preparations and reactions of Amines and Diazo compounds
3. To study preparation and properties of heterocyclic compounds

Course Outcomes (CO)

K1 – K5	CO1	Understanding the fundamental aspects of stereochemistry.
	CO2	Learn about preparation, properties and structural elucidation of carbohydrates.
	CO3	Study on the various naming reactions and their detailed mechanistic pathway.
	CO4	Acquire the knowledge about the preparations and reactions of Amines and Diazo compounds.
	CO5	To inculcate knowledge about five and six membered heterocyclic compounds

Subject code: 21UCH508

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER - VIII** **PHYSICAL CHEMISTRY - I**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To understand the fundamentals of electrochemistry.
2. To know the types and importance of electrodes and electro chemical cells.
3. To study about corrosion, batteries and Electroanalysis.

Course Outcomes (CO)

K1 – K5	CO1	Understanding the concept of conductance and its applications.
	CO2	Acquire basic knowledge about electrode potential, electrochemical cell and potentiometric titrations.
	CO3	Understanding the fundamental principles of electrodes and their types.
	CO4	To gain knowledge about corrosion, protective coatings electroplating and its significance.
	CO5	Know about basic principles and instrumentation of Electrochemical Power Systems, Polarography and its applications.

Subject code: 21UCH5ED3

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **EXTRA DEPARTMENTAL COURSE (EDC) - CHEMISTRY IN DAY TODAY LIFE**			
Batch	Hours / Week	Total Hours	Credits
2021 – 2022	2	30	3

Course Objectives

1. To gain knowledge about water treatment in industrial plant and its usage.
2. To get the knowledge about industrial fermentation process, oil, wax and soap preparation.
3. To have a holistic idea about food adulteration, food hygiene and paints manufacture.

Course Outcomes (CO)

K1 – K5	CO1	Basic understanding of water technology and acquire knowledge in the treatment of water for multi-purpose.
	CO2	Study on fermentation and its application on the manufacturing process of alcohol and alcoholic beverages.
	CO3	To understand the chemistry involved in the manufacturing process of oil, fats, wax and soap.
	CO4	To design a demonstration, that provides an opportunity to identify adulteration in food standards.
	CO5	Broadening the knowledge about paints and pigments and their commercial importances.

Subject code: 21UCH609

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – IX** **SOLID STATE AND COORDINATION CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 5	Total Hours 75	Credits 4

Course Objectives

1. To know about fundamentals of crystallography and solid-state Chemistry
2. To study about reactions of complexes.
3.To insight knowledge about Bio – Inorganic Chemistry

Course Outcomes (CO)

K1 – K5	CO1	Knowing the difference between amorphous and crystalline solids and their arrangement in crystal lattice.
	CO2	Learn about defects in crystals, various theories of metallic bonding and alloys.
	CO3	Decide the various crystal structures using X-ray diffraction techniques and study about liquid crystals.
	CO4	Study about various ligand substitution reactions.
	CO5	To acquire knowledge about bioinorganic chemistry.

Subject code: 21UCH610

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER – X** **CHEMISTRY OF NATURAL PRODUCTS**			
Batch 2021 – 2022	Hours / Week 5	Total Hours 75	Credits 4

Course Objectives

1. To study about Terpenoids and Alkaloids.
2. To understand about Vitamins and Hormones.
3. To study the preparations and reactions of amines, Diazocompounds and Chemotheraphy.

Course Outcomes (CO)

K1 – K5	CO1	Study on the classification, structural elucidation and synthesis of few important terpenoids.
	CO2	Learn about structural determination and synthesis of alkaloids.
	CO3	Acquire basic knowledge about vitamins and hormones.
	CO4	To study about Amino acids, peptides and Proteins.
	CO5	To gain knowledge about chemotheraphy.

Subject code: 21UCH611

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORE CHEMISTRY PAPER - XI** **PHYSICAL CHEMISTRY - II**			
Batch 2021 – 2022	Hours / Week 5	Total Hours 75	Credits 4

Course Objectives

1. To understand the basics and theoretical aspects of Chemical kinetics.
2. To learn about kinetics of thermal and photochemical reactions.
3. To gain knowledge about importance of catalysis, colloids and Liquid state.

Course Outcomes (CO)

K1 – K5	CO1	Understand the basic principles, various experimental techniques and theories of chemical kinetics.
	CO2	To understand the importance of various theories explaining chemical kinetic.
	CO3	Gain the knowledge about principles of photochemical and photosensitized Process.
	CO4	Study the basic principles and types of catalysis and colloids.
	C05	Explore the fundamentals of Liquid State.

Subject code: 21UCH6S3

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **SKILL BASED SUBJECT – III** **FOOD CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 2	Total Hours 30	Credits 3

Course Objectives

1. To have an idea about food adulteration and food preservation techniques.
2. To understand the chemistry of vinegar, fruit juices, vegetable acids and beverages.
3. To analyse and characterize chemical aspects of milk.

Course Outcomes (CO)

K1 – K5	CO1	To Know about the nutrition values in food, food adulteration, standards of food, contamination and food poisoning.
	CO2	Understand about the different preservatives in packaged food.
	CO3	Acquiring knowledge about amino acids in vegetables, vinegar, fruit juice, pH value and mineral acids in vinegar.
	CO4	To gain knowledge about commercially important beverage.
	CO5	Understand the detailed information about milk, commercially important dairy products and value-added foods.

Subject code: 21UCH6CN

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORECHEMISTRY PRACTICAL – III** **GRAVIMETRIC ANALYSIS**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 90	Credits 3

Course Objectives

1. To understand the concept of gravimetric analysis.
2. To get acquainted with the experimental procedure of gravimetric analysis.
3. To determine the quantity of analyte in solution.

Course Outcomes (CO)

K2 – K5	CO1	Understand the basic principles of Gravimetric analysis.
	CO2	Understand about the various precipitating agents.
	CO3	Determination of analyte masses through the gravimetric analysis.
	CO4	Improve the accuracy of analysis.
	CO5	To gain knowledge about Metal analysis in cosmetic products using AAS

Subject code: 21UCH6CO

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORECHEMISTRY PRACTICAL – IV** **PHYSICAL CHEMISTRY EXPERIMENTS**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 90	Credits 3

Course Objectives

1. Transformation of theoretical knowledge gain to practical aspects.
2. To have experience in handling electrical and non-electrical equipments.
3. To determine the strength of various solutions through spectrometric and electrochemical techniques.

Course Outcomes (CO)

K2 – K5	CO1	The results of physical chemistry experiments are incorporated in both theoretical and practical aspects.
	CO2	Gain familiarity with a variety of physico-chemical measurement techniques.
	CO3	Interpret data from an experiment, including the construction of appropriate graphs and the evaluation of errors.
	CO4	To know about Determination of Cell Constant, Specific conductivity and Equivalent conductivity of strong electrolyte.
	CO5	To determine strength of acids and bases by Conductometric Titration.

Subject code: 21UCH6CP

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **CORECHEMISTRY PRACTICAL – V** **APPLICATION ORIENTED PRACTICAL**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 120	Credits 4

Course Objectives

1. To demonstrate the basic laboratory techniques and application oriented physical constants.
2. To prepare organic dyes, organic compounds and home care products.
3. To estimate the hardness of water, DO, available chlorine in bleaching powder and saponification value of an oil.

Course Outcomes (CO)

K2 – K5	CO1	Gain the knowledge of physical constants and preparation of dyes.
	CO2	Know about the preparation of organic compounds.
	CO3	Learn about the preparation method of home care products.
	CO4	Learn about estimation of hardness of water, dissolved oxygen, saponification of oil and isolation of citric acid.
	CO5	To understand practical experience on the preparation of soap, detergent powder, phenoil and soap oil.

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **MAJOR ELECTIVE – I** **POLYMER TECHNOLOGY**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about basics of polymers, polymerization and plastic materials
2. To learn about polymer processing and synthesis of some commercially important polymers and to know about various polymer processes techniques.
3. To know different type of plastics, advancements, disposal, applications

Course Outcomes (CO)

K1 – K5	CO1	Know about the types of polymers, chemical and physical properties, its industrial applications and uses.
	CO2	Understand the various polymerization techniques, processing and different types of individual polymer products.
	CO3	Acquiring knowledge of commercially important polymer products and its applications.
	CO4	To know about the recent advances in polymer products and their applications.
	CO5	To know about Recent Advances in Polymers.

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **MAJOR ELECTIVE - II** **NANO AND GREEN CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 45	Credits 3

Course Objectives

1. To gain knowledge about in - depth look at the basics of Nano Chemistry and to know the methods to prepare Nano materials.
2. To get the knowledge about Green Chemistry and its limitations.
3. To have a holistic idea about green solvents in laboratory as well as in Industry and also to study the Reactions and applications of Green Chemistry.

Course Outcomes (CO)

K1 – K5	CO1	To understand the basics of Nano Chemistry.
	CO2	To know the methods to prepare Nano materials.
	CO3	To have an idea about Nano chemistry in medicine.
	CO4	To gain knowledge about green solvents in laboratory and also in Industry.
	CO5	To study the Reactions and applications of Green Chemistry.

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **MAJOR ELECTIVE - III** **PHARMACEUTICAL CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about the common diseases and cure-terms of pharmacology and drug action.
2. To get introduced to chemotherapy – antibiotics.
3. To know the drugs meant for diabetes.

Course Outcomes (CO)

K1 – K5	CO1	Gain the knowledge about the common diseases and cure-terms of pharmacology.
	CO2	Gain knowledge about various drugs.
	CO3	Understand about chemotherapy – antibiotics.
	CO4	Learn about drugs meant for diabetes.
	CO5	Basic ideas about various health promoting drugs.

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **MAJOR ELECTIVE – IV** **AGRICULTURAL CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about basics of soil chemistry and the physical properties of soil.
2. To get introduced to chemistry aspects of soil and various nutrients present in soil- waste for one, food for another.
3. To know the chemistry of pesticides, fungicides and herbicides.

Course Outcomes (CO)

K1 – K5	CO1	To gain the knowledge about the origin soil.
	CO2	To understand about physical and chemical properties of soil.
	CO3	To get introduced to chemistry aspects of soil and various nutrients present in soil- waste for one, food for another.
	CO4	To learn about plant nutrients.
	CO5	To know basic ideas about pesticides, fungicides and herbicides

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **MAJOR ELECTIVE - V** **DAIRY CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know the chemistry of milk and milk products
2. To know the basics of milk proteins, milk lipids, milk carbohydrates, and milk vitamins.
3. To acquire knowledge of dairy products, analyze the constituents of milk products.

Course Outcomes (CO)

K1 – K5	CO1	Learning the chemistry of milk and milk products
	CO2	Knowing the basics of milk proteins, milk lipids, milk carbohydrates, and milk vitamins.
	CO3	Understanding the production and composition of milk products.
	CO4	By applying the acquired knowledge of dairy products, analyze the constituents of milk products.
	CO5	To know commercial values of milk.

Programme Code: 04	**B.Sc.** Chemistry		
Title of the paper: **MAJOR ELECTIVE - VI** **LEATHER CHEMISTRY**			
Batch 2021 – 2022	Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To obtain the knowledge on the structure and composition of the hides, skin and Leather.
2. To know the basic principles involved in the pre-training methods of leather manufacture.
3. To understand the problems caused by tannery effluents and to develop the method to dispose the tannery waste in safe manner.

Course Outcomes (CO)

K1 – K5	CO1	Learning the basic principles involved in the pre-training methods of leather manufacture.
	CO2	Understanding the different types of tanning and the physico-chemical principles.
	CO3	Widening a skill on the preparation and chemistry of chrome tanning liquids and their factors involving in it.
	CO4	Gaining the broad idea on the chemical methods of curing and preserving the hides in different medium.
	CO5	To know about animal by-products.

Subject Code: 21UCH1A1/21UCH3A3

	B.Sc., Bio Technology (I Year), Physics (II year), Botany (II Year), Bio-Chemistry (II Year)		
Title of the paper**: ALLIED CHEMISTRY PAPER - I**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To understand the fundamentals of Chemical bonding.
2. To study Hybridizations, asymmetry and optical activity of organic molecules.
3. To study the basic principles of thermodynamics and electrochemistry.

Course Outcomes (CO)

K1 – K5	CO1	Understanding the fundamental aspects of chemical bonding and Interhalogen compounds.
	CO2	Learn about the fundamental aspects of Hybridization, stereochemistry which includes a symmetric carbon, optical isomerism, resolution and Geometrical isomerism.
	CO3	Study on the various concepts in Thermodynamics.
	CO4	Study on the various concepts in Electrochemistry.
	CO5	Acquiring knowledge about Fuel gases and Petroleum.

Subject Code: 21UCH2A2/21UCH4A4

	B.Sc., Bio Technology (I Year), Physics (II year), Botany (II Year), Bio-Chemistry (II Year)		
Title of the paper: **ALLIED CHEMISTRY PAPER - II**			
Batch 2021 – 2022	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To know the fundamentals of Coordination compounds.
2. To learn about some natural products, amino acids and proteins.
3. To study about adsorption, solution and synthetic polymer.

Course Outcomes (CO)

K1 – K5	CO1	Understanding the fundamental aspects and applications of coordination chemistry.
	CO2	Study on the various heterocyclic compounds, carbohydrates and amino acids which include their classification, preparation and properties.
	CO3	To gain knowledge about amino acids and vitamins.
	CO4	Know about the principles of adsorption and solution.
	CO5	Acquire the knowledge about synthetic polymers, fibers and plastics

Subject Code: 21UCH2AL/21UCH4AL

	B.Sc., Bio Technology (I Year), Physics (II year), Botany (II Year), Bio-Chemistry (II Year)

Title of the paper: **ALLIED CHEMISTRY PRACTICAL – I**

VOLUMETRIC AND ORGANIC ANALYSIS

Batch	Hours / Week	Total Hours	Credits
2021 – 2022	3	90	2

Course Objectives

1. To demonstrate the basic laboratory technique of titration.
2. To gain deep knowledge about analysis of organic substances.
3. To identify the functional groups of unknown compounds.

Course Outcomes (CO)

K1 – K5	CO1	Remember the basics of volumetric titrations.
	CO2	Studying the use of indicators for various titrations.
	CO3	Understanding about preliminary analysis of organic compounds.
	CO4	Identification of the functional groups.
	CO5	Focuses on job opportunities on various chemistry and chemistry related sectors.