

KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)

Re-accredited by NAAC with 'A' Grade – 3.64 CGPA out of 4 (3rd Cycle)

College of Excellence (UGC)

Coimbatore – 641 029

DEPARTMENT OF CHEMISTRY (Aided)

COURSE OUTCOMES (CO)

B.Sc. CHEMISTRY

For the students admitted

In the

Academic Year 2018-2019

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH101		Title: CORE CHEMISTRY PAPER – I INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - I		
Batch 2018-2019	Semester I	Hours / Week 6	Total Hours 90	Credits 5

Course Objectives

1. To know the concept of qualitative inorganic analysis.
2. To acquaint knowledge about electron displacement effects, hybridization and conformations.
3. To know about the structure of an atom.

Course Outcomes (CO)

K2	CO1	Explain the basic analytical knowledge and group separation of elements.
K2, K3	CO2	Understand and apply the nomenclature of inorganic and organic compounds.
K2, K3	CO3	Explain the isomerism of alkanes and cycloalkanes.
K2	CO4	Acquire the knowledge about the structure of atoms. Understand characteristics of gases.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH202		Title: CORE CHEMISTRY PAPER – II INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - II		
Batch 2018-2019	Semester II	Hours / Week 6	Total Hours 90	Credits 5

Course Objectives

1. To Know about metallurgy and importance of periodic table.
2. To learn about aromatic compounds and Huckel's rule.
3. To study the fundamentals of thermodynamics and thermochemistry.

Course Outcomes (CO)

K1, K3	CO1	Gain knowledge about metallurgy and periodic properties.
K1, K2	CO2	Understand the basic aspects of aromaticity.
K1, K3	CO3	Learn about concepts of thermodynamics.
K1, K4	CO4	Acquire the knowledge in thermochemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH2CL		Title: CORE CHEMISTRY PRACTICAL – I INORGANIC QUALITATIVE ANALYSIS AND PREPARATIONS		
Batch 2018-2019	Semester I & II	Hours / Week 3	Total Hours 90	Credits 2

Course Objectives

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

Course Outcomes (CO)

K1,K2	CO1	Build the knowledge in principles of semi micro qualitative analysis.
K2	CO2	Know about the interfering and non interfering anions.
K2, K4	CO3	Experience to remove interfering anion and group separation of various cations.
K2, K3	CO4	Learn the preparation of inorganic complexes.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH303		Title: CORE CHEMISTRY PAPER – III INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - III		
Batch 2018-2019	Semester III	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)

K2, K3	CO1	Gain knowledge in preparation, standardization of solution and principles of volumetric analysis.
K1, K2	CO2	Study the preparation, properties and reactions of dicarboxylic acids, unsaturated acids and hydroxy acids.
K1, K2	CO3	Study on the preparation and properties of aldehydes and ketones.
K3, K4	CO4	Analyze and apply laws of thermodynamics and thermodynamic properties.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH404		Title: CORE CHEMISTRY PAPER – IV INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - IV		
Batch 2018-2019	Semester IV	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To learn group IA elements.
2. To know about preparation and properties of phenols, amines and diazo compounds.
3. To study phase equilibrium- one and two component systems and solutions.

Course Outcomes (CO)

K2, K3	CO1	Gain the knowledge about the properties of alkali metals.
K1, K2	CO2	Understand the basic aspects of phenols, amines and its derivatives.
K1, K2	CO3	Analyze and apply phase rule to various systems.
K3, K4	CO4	Understand colligative properties and their determinations.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH4S2		Title: SKILL BASED SUBJECT-II WATER CHEMISTRY		
Batch 2018-2019	Semester IV	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	CO1	Understand the importance of water.
K2	CO2	Studying the different types of water pollution.
K4	CO3	Analyze and measurement of toxic chemical substances.
K2	CO4	Gain the knowledge of purification and management of water.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH4CM		Title: CORECHEMISTRY PRACTICAL – II INORGANIC VOLUMETRIC AND ORGANIC QUALITATIVE ANALYSIS		
Batch 2018-2019	Semester III & IV	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)

K1,K2	CO1	Gain the knowledge in principles of volumetric analysis.
K2	CO2	Estimating the amount of substances present in solutions.
K2, K4	CO3	Learn to approach a problem systematically and to interpret the results logically.
K2, K3	CO4	Detect various functional groups present in an organic compound.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH505		Title: CORE CHEMISTRY PAPER – V SPECTROSCOPY AND CHROMATOGRAPHIC TECHNIQUES		
Batch 2018-2019	Semester V	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, K2	CO1	Understand the basic principles, instrumentation of UV-Visible spectroscopy and to utilize their basic aspects to identify various organic compounds.
K2	CO2	Gain the knowledge in principles, instrumentation and functions of IR spectroscopy.
K2, K4	CO3	Study the basic principles and instrumentation of NMR spectroscopy and apply to identify the organic compounds.
K2, K3	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. Exploring the various chromatography techniques and their applications in separation of organic mixtures.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH506		Title: CORE CHEMISTRY PAPER – VI INORGANIC CHEMISTRY-I		
Batch 2018-2019	Semester V	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To understand the theories of bonding in complexes.
2. To gain deep knowledge about nuclear reactions.
3. To have an idea about acids, bases and solids.

Course Outcomes (CO)

K2	CO1	Understand the theories of co-ordination compounds.
K4,K2	CO2	Analyze the importance radioactive isotopes.
K1, K4	CO3	Remember nuclear fission and fusion.
K2, K4	CO4	Understand different concepts of acids, bases and solvents

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH507		Title: CORE CHEMISTRY PAPER – VII ORGANIC CHEMISTRY - I		
Batch 2018-2019	Semester V	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 and chemistry of amino acids, proteins and peptides .
3. To study preparation and properties of heterocyclic compounds

Course Outcomes (CO)

K1,K2	CO1	Understanding the fundamental aspects of stereochemistry.
K1,K2	CO2	Learn about preparation, properties and structural elucidation of carbohydrates.
K2, K4	CO3	Study on the various naming reactions and their detailed mechanistic pathway.
K1, K3	CO4	Acquire the knowledge of preparation, synthesis and properties of amino acids, proteins, peptides and heterocyclic compounds.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH508		Title: CORE CHEMISTRY PAPER - VIII PHYSICAL CHEMISTRY - I		
Batch 2018-2019	Semester V	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, polarography and surface chemistry.

Course Outcomes (CO)

K1,K4	CO1	Understanding the concept of conductance and its applications.
K2	CO2	Acquire basic knowledge about electrode potential, electrochemical cell and potentiometric titrations.
K2, K4	CO3	Understanding the fundamental principles of fuel cells, corrosion and its significance.
K2, K3	CO4	Know about basic principles and instrumentation of Polarography and its applications. Gain knowledge about surface chemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH5S3		Title: SKILL BASED SUBJECT - III INDUSTRIAL CHEMISTRY		
Batch 2018-2019	Semester V	Hours / Week 2	Total Hours 30	Credits 3

Course Objectives

1. To gain knowledge about manufacture of sugar and Fermentation.
2. To get the knowledge about Glass, Cement and Ceramics.
3. To have a holistic idea about Pigments and Paints.

Course Outcomes (CO)

K1, K2,K3,K 4, K5	CO1	Know about the manufacture of cane sugar from sugar cane beetroot.
K2, K3, K4,K5	CO2	Understand the conditions of fermentation, characteristics of enzymes and manufacture of beer, wines and poweralcohol.
K1, K2,K3,K 5	CO3	Acquiring knowledge of industrial glass products and methods of manufacture and its types.
K2, K3, K4, K5	CO4	Learn about cement, ceramics, pigments and paints.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH609		Title: CORE CHEMISTRY PAPER – IX INORGANIC CHEMISTRY - II		
Batch 2018-2019	Semester VI	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To know about fundamentals of crystallography, defects in crystals, metallic bonding and alloys.
2. To learn about liquid crystals.
3. To study about reactions of complexes and bio-inorganic chemistry.

Course Outcomes (CO)

K1, K2	CO1	Knowing the difference between amorphous and crystalline solids and their arrangement in crystal lattice.
K2, K3	CO2	Learn about defects in crystals, various theories of metallic bonding and alloys.
K2, K3	CO3	Decide the various crystal structures using X-ray diffraction techniques and study about liquid crystals.
K3, K4	CO4	Study about various ligand substitution reactions, electron transfer reactions in complexes and Bio-inorganic Chemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH610		Title: CORE CHEMISTRY PAPER – X ORGANIC CHEMISTRY – II		
Batch 2018-2019	Semester VI	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To study about Terpenoids and Alkaloids.
2. To understand about Vitamins and Hormones.
3. To learn about Chemotherapy and Green Chemistry
Reactions, applications of Green Chemistry and its limitations.

Course Outcomes (CO)

K2, K3	CO1	Study on the classification, structural elucidation and synthesis of few important terpenoids.
K2, K3	CO2	Learn about structural determination and synthesis of alkaloids.
K1, K3	CO3	Acquire basic knowledge about vitamins and hormones.
K2, K3	CO4	Analyze structural aspects, functions and mode of action of various drug molecules. Acquire basic knowledge about green chemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH611		Title: CORE CHEMISTRY PAPER - XI PHYSICAL CHEMISTRY - II		
Batch 2018-2019	Semester VI	Hours / Week 4	Total Hours 60	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 and colloids.

Course Outcomes (CO)

K1,K2	CO1	Understand the basic principles, various experimental techniques and theories of chemical kinetics.
K2,K4	CO2	Gain the knowledge about principles of photochemical and photosensitized process.
K2, K3	CO3	Study the basic principles and types of catalysis.
K1, K3	CO4	Explore the fundamentals of colloids and its applications.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH6S4		Title: SKILL BASED SUBJECT - IV FOOD CHEMISTRY		
Batch 2018-2019	Semester VI	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 determine the calorific value of foods.

Course Outcomes (CO)

K1, K2,K3,K 4, K5	CO1	Know about the food adulteration, standards of food, contamination and food poisoning.
K1, K2, K3, K4,K5	CO2	Understand about the different preservatives in packaged food.
K1, K2,K3,K 4,K5	CO3	Acquiring knowledge about vinegar, fruit juice, pH value and mineral acids in vinegar. Know about characteristics and adulterations in beverages.
K2, K3, K4	CO4	Understand the calorific values of oils and food.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH6CN		Title: CORECHEMISTRY PRACTICAL – III GRAVIMETRIC ANALYSIS		
Batch 2018-2019	Semester V & VI	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)

K1, K2	CO1	Understand the basic principles of Gravimetric analysis.
K2, K4	CO2	Understand about the various precipitating agents.
K3, K4	CO3	Determination of analyte masses through the gravimetric analysis.
K4	CO4	Improve the accuracy of analysis.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH6CO		Title: CORECHEMISTRY PRACTICAL – IV PHYSICAL CHEMISTRY EXPERIMENTS		
Batch 2018-2019	Semester V & VI	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)

K1, K2	CO1	The results of physical chemistry experiments are incorporated in both theoretical and practical aspects.
K2, K4	CO2	Gain familiarity with a variety of physico-chemical measurement techniques.
K3, K4	CO3	Interpret data from an experiment, including the construction of appropriate graphs and the evaluation of errors.
K4	CO4	Obtain the knowledge about the theories of electrolysis and Chemical kinetics.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 18UCH6CP		Title: CORECHEMISTRY PRACTICAL – V APPLICATION ORIENTED PRACTICAL		
Batch 2018-2019	Semester V & VI	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)

K1,K2	CO1	Gain the knowledge of physical constants and preparation of dyes.
K2	CO2	Know about the preparation of organic compounds.
K2, K4	CO3	Learn about the preparation method of home care products.
K2, K3	CO4	Learn about estimation of hardness of water, dissolved oxygen, saponification of oil and isolation of citric acid.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - I POLYMER CHEMISTRY		
Batch 2018-2019		Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about the types of polymers, polymerization techniques and physical properties of polymers.
2. To learn about polymer processing and synthesis of some commercially important polymers.
3. To have an idea about recent advances in polymer science.

Course Outcomes (CO)

K1, K2	CO1	know about the types of polymers, chemical and physical properties, its industrial applications and uses.
K2, K3, K4	CO2	Understand the various polymerization techniques, processing and different types of individual polymer products.
K1, K2, K3, K5	CO3	Acquiring knowledge of commercially important polymer products and its applications.
K2, K3	CO4	know about the recent advances in polymer products and their applications.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - II NANO AND DYE CHEMISTRY		
Batch 2018-2019		Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To study the basics of Nano Chemistry and Nano materials.
2. To learn about instrumentation characterization of nano materials.
3. To understand the basic concepts of dye chemistry as colour and constitution.

Course Outcomes (CO)

K1, K2	CO1	know about the types and classification of nano chemistry, and physical, chemical properties.
K2, K3, K4, K5	CO2	Understand the various methods of synthesis of nano materials
K2,K3,K4	CO3	Study the characterization techniques to analyze the nano materials.
K2, K3, K4	CO4	Acquiring basic knowledge of dye chemistry and industrial applications of dyes.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - III PHARMACEUTICAL CHEMISTRY		
Batch 2018-2019		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, K2	CO1	gain the knowledge about the common diseases and cure-terms of pharmacology.
K2, K3, K4, K5	CO2	Understand about chemotherapy – antibiotics.
K2,K3,K4	CO3	Learn about drugs meant for diabetes.
K2, K3, K4	CO4	Basic ideas about various health promoting drugs.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - IV AGRICULTURAL CHEMISTRY		
Batch 2018-2019		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, K2	CO1	To gain the knowledge about the origin soil.
K3, K4,	CO2	To understand about physical and chemical properties of soil.
K2, K4	CO3	To learn about plant nutrients.
K2, K3	CO4	basic ideas about pesticides, fungicides and herbicides.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - V Green Chemistry		
Batch 2018-2019		Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about the types of polymers, polymerization techniques and physical properties of polymers.
2. To learn about polymer processing and synthesis of some commercially important polymers.
3. To have an idea about recent advances in polymer science.

Course Outcomes (CO)

K1, K2	CO1	know about the types of polymers, chemical and physical properties, its industrial applications and uses.
K2, K3, K4	CO2	Understand the various polymerization techniques, processing and different types of individual polymer products.
K1, K2, K3, K5	CO3	Acquiring knowledge of commercially important polymer products and its applications.
K2, K3	CO4	know about the recent advances in polymer products and their applications.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE -VI		
		Chemical Industry		
Batch 2018-2019		Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about the types of polymers, polymerization techniques and physical properties of polymers.
2. To learn about polymer processing and synthesis of some commercially important polymers.
3. To have an idea about recent advances in polymer science.

Course Outcomes (CO)

K1, K2	CO1	know about the types of polymers, chemical and physical properties, its industrial applications and uses.
K2, K3, K4	CO2	Understand the various polymerization techniques, processing and different types of individual polymer products.
K1, K2, K3, K5	CO3	Acquiring knowledge of commercially important polymer products and its applications.
K2, K3	CO4	know about the recent advances in polymer products and their applications.

Job Oriented Course (JOC) - TEXTILE CHEMISTRY

Course Objectives

1. To know about manufacture and properties of natural fibres (vegetable fibres, animal fibres) and synthetic fibres.
2. To learn preparatory process before dyeing.
3. To know the principles of bleaching and dyeing.

Course Outcomes (CO)

K1, K2	CO1	Gain the knowledge about both synthetic and natural fibres.
K3, K4,	CO2	Understand about scouring and desizing.
K2, K4	CO3	Learn about bleaching.
K2, K3	CO4	Basic ideas about dyeing.

Programme: B.Sc.,		Title: Bio Technology (I Year), Physics (II year), Botany (II Year), Bio-Chemistry (II Year)		
Course Code: 18UCH1A1/18UCH2A1		Title: ALLIED CHEMISTRY PAPER - I		
Batch 2018-2019	Semester I/III	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,K2	CO1	Understanding the fundamental aspects of chemical bonding and interhalogen compounds.
K1,K2	CO2	Learn about the fundamental aspects of Hybridization, stereochemistry which includes asymmetric carbon, optical isomerism, resolution and Geometrical isomerism.
K2, K4	CO3	Study on the various concepts in Thermodynamics and electrochemistry.
K1, K3	CO4	Acquiring knowledge about Fuel gases and fertilizers.

Programme: B.Sc.,		Title: Bio Technology(I Year), Physics(II year), Botany(II Year), Biochemisrty(II year)		
Course Code: 18UCH1A2/18UCH2A2		Title: ALLIED CHEMISTRY PAPER - II		
Batch 2018-2019	Semester II/IV	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 chemical kinetics and synthetic polymer.

Course Outcomes (CO)

K1,K2	CO1	Understanding the fundamental aspects and applications of coordination chemistry.
K1,K2	CO2	Study on the various heterocyclic compounds, carbohydrates and amino acids which include their classification, preparation and properties.
K2, K4	CO3	Know about the rates of the reaction.
K1, K3	CO4	Acquire the knowledge about of synthetic polymers, fibres and plastics.

Programme: B.Sc.,		Title: Bio Technology(I Year), Physics(II year), Botany(II Year), Biochemisrty(II year)		
Course Code: 18UCH2AL/18UCH4AL		Title: ALLIED CHEMISTRY PRACTICAL – I VOLUMETRIC AND ORGANIC ANALYSIS		
Batch 2018-2019	Semester I & II/III & IV	Hours / Week 3	Total Hours 90	Credits 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,K2	CO1	Remember the basics of volumetric titrations.
K2,K3	CO2	Studying the use of indicators for various titrations.
K2	CO3	Understanding about preliminary analysis of organic compounds.
K4	CO4	Identification of the functional groups.

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Re-accredited by NAAC with 'A' Grade – 3.64 CGPA out of 4 (3rd Cycle)

College of Excellence (UGC)

Coimbatore – 641 029

DEPARTMENT OF CHEMISTRY (Aided)

COURSE OUTCOMES (CO)

B.Sc. CHEMISTRY

For the students admitted

In the

Academic Year 2019-2020

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH101		Title: CORE CHEMISTRY PAPER – I INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - I		
Batch 2019-2020	Semester I	Hours / Week 6	Total Hours 90	Credits 5

Course Objectives

1. To know the concept of qualitative inorganic analysis.
2. To acquaint knowledge about electron displacement effects, hybridization and conformations.
3. To know about the structure of an atom.

Course Outcomes (CO)

K2	CO1	Explain the basic analytical knowledge and group separation of elements.
K2, K3	CO2	Understand and apply the nomenclature of inorganic and organic compounds.
K2, K3	CO3	Explain the isomerism of alkanes and cycloalkanes.
K2	CO4	Acquire the knowledge about the structure of atoms. Understand characteristics of gases.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH202		Title: CORE CHEMISTRY PAPER – II INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - II		
Batch 2019-2020	Semester II	Hours / Week 6	Total Hours 90	Credits 5

Course Objectives

1. To Know about metallurgy and importance of periodic table.
2. To learn about aromatic compounds and Huckel's rule.
3. To study the fundamentals of thermodynamics and thermochemistry.

Course Outcomes (CO)

K1, K3	CO1	Gain knowledge about metallurgy and periodic properties.
K1, K2	CO2	Understand the basic aspects of aromaticity.
K1, K3	CO3	Learn about concepts of thermodynamics.
K1, K4	CO4	Acquire the knowledge in thermochemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH2CL		Title: CORE CHEMISTRY PRACTICAL – I INORGANIC QUALITATIVE ANALYSIS AND PREPARATIONS		
Batch 2019-2020	Semester I & II	Hours / Week 3	Total Hours 90	Credits 2

Course Objectives

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

Course Outcomes (CO)

K1, K2	CO1	Build the knowledge in principles of semi micro qualitative analysis.
K2	CO2	Know about the interfering and non interfering anions.
K2, K4	CO3	Experience to remove interfering anion and group separation of various cations.
K2, K3	CO4	Learn the preparation of inorganic complexes.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH303		Title: CORE CHEMISTRY PAPER – III INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - III		
Batch 2019-2020	Semester III	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)

K2, K3	CO1	Gain knowledge in preparation, standardization of solution and principles of volumetric analysis.
K1, K2	CO2	Study the preparation, properties and reactions of dicarboxylic acids, unsaturated acids and hydroxy acids.
K1, K2	CO3	Study on the preparation and properties of aldehydes and ketones.
K3, K4	CO4	Analyze and apply laws of thermodynamics and thermodynamic properties.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH404		Title: CORE CHEMISTRY PAPER – IV INORGANIC, ORGANIC AND PHYSICAL CHEMISTRY - IV		
Batch 2019-2020	Semester IV	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To learn group IA elements.
2. To know about preparation and properties of phenols, amines and diazo compounds.
3. To study phase equilibrium- one and two component systems and solutions.

Course Outcomes (CO)

K2, K3	CO1	Gain the knowledge about the properties of alkali metals.
K1, K2	CO2	Understand the basic aspects of phenols, amines and its derivatives.
K1, K2	CO3	Analyze and apply phase rule to various systems.
K3, K4	CO4	Understand colligative properties and their determinations.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH4S2		Title: SKILL BASED SUBJECT-II WATER POLLUTION AND MANAGEMENT		
Batch 2019-2020	Semester IV	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	CO1	Understand the importance of water.
K2	CO2	Studying the different types of water pollution.
K4	CO3	Analyze and measurement of toxic chemical substances.
K2	CO4	Gain the knowledge of purification and management of water.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH4CM		Title: CORECHEMISTRY PRACTICAL – II INORGANIC VOLUMETRIC AND ORGANIC QUALITATIVE ANALYSIS		
Batch 2019-2020	Semester III & IV	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 titrametric analysis.
3. To identify the functional groups of unknown organic compounds.

Course Outcomes (CO)

K1, K2	CO1	Gain the knowledge in principles of volumetric analysis.
K2	CO2	Estimating the amount of substances present in solutions.
K2, K4	CO3	Learn to approach a problem systematically and to interpret the results logically.
K2, K3	CO4	Detect various functional groups present in an <i>organic</i> compound.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH505		Title: CORE CHEMISTRY PAPER – V SPECTROSCOPY		
Batch 2019-2020	Semester V	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,K2	CO1	Understand the basic principles, instrumentation of UV-Visible spectroscopy and to utilize their basic aspects to identify various organic compounds.
K2	CO2	Gain the knowledge in principles, instrumentation and functions of IR spectroscopy.
K2, K4	CO3	Study the basic principles and instrumentation of NMR spectroscopy and apply to identify the organic compounds.
K2, K3	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. Exploring the various chromatography techniques and their applications in separation of organic mixtures.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH506		Title: CORE CHEMISTRY PAPER – VI INORGANIC CHEMISTRY		
Batch 2019-2020	Semester V	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 know the basics of Organometallic chemistry and instrumental methods of analysis for samples
3. To identify what radioisotopes and acquaint knowledge about nuclear reactions.
4. To describe about Inorganic acids, bases, Inorganic Solvents and Inorganic Polymers.

Course Outcomes (CO)

K2	CO1	Understand the theories of co-ordination compounds.
K4,K2	CO2	Knowledge about basics organometallic compounds and instrumental methods of chemical analysis
K1, K4	CO3	Analyze the importance of radioactive isotopes and nuclear reactions.
K2, K4	CO4	Describe about the different concepts of Inorganic acids, bases, Inorganic Solvents and Inorganic Polymers.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH507		Title: CORE CHEMISTRY PAPER – VII ORGANIC REACTION MECHANISM		
Batch 2019-2020	Semester V	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 and chemistry of amino acids, proteins and peptides .
3. To study preparation and properties of heterocyclic compounds

Course Outcomes (CO)

K1,K2	CO1	Understanding the fundamental aspects of stereochemistry.
K1,K2	CO2	Learn about preparation, properties and structural elucidation of carbohydrates.
K2, K4	CO3	Study on the various naming reactions and their detailed mechanistic pathway.
K1, K3	CO4	Acquire the knowledge of preparation, synthesis and properties of amino acids, proteins, peptides and heterocyclic compounds.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH508		Title: CORE CHEMISTRY PAPER - VIII PHYSICAL CHEMISTRY - I		
Batch 2019-2020	Semester V	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, polarography and surface chemistry.

Course Outcomes (CO)

K1,K4	CO1	Understanding the concept of conductance and its applications.
K2	CO2	Acquire basic knowledge about electrode potential, electrochemical cell and potentiometric titrations.
K2, K4	CO3	Understanding the fundamental principles of fuel cells, corrosion and its significance.
K2, K3	CO4	Know about basic principles and instrumentation of Polarography and its applications. Gain knowledge about surface chemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH5S3		Title: SKILL BASED SUBJECT - III INDUSTRIAL CHEMISTRY		
Batch 2019-2020	Semester V	Hours / Week 2	Total Hours 30	Credits 3

Course Objectives

1. To gain knowledge about manufacture of sugar and Fermentation.
2. To get the knowledge about Glass, Cement and Ceramics.
3. To have a holistic idea about Pigments and Paints.

Course Outcomes (CO)

K1, K2,K3,K 4, K5	CO1	Know about the manufacture of cane sugar from sugar cane beetroot.
K2, K3, K4,K5	CO2	Understand the conditions of fermentation, characteristics of enzymes and manufacture of beer, wines and poweralcohol.
K1, K2,K3,K 5	CO3	Acquiring knowledge of industrial glass products and methods of manufacture and its types.
K2, K3, K4, K5	CO4	Learn about cement, ceramics, pigments and paints.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH609		Title: CORE CHEMISTRY PAPER – IX SOLID STATE AND COORDINATION CHEMISTRY		
Batch 2019-2020	Semester VI	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To know about fundamentals of crystallography, defects in crystals, metallic bonding and alloys.
2. To learn about liquid crystals.
3. To study about reactions of complexes and bio-inorganic chemistry.

Course Outcomes (CO)

K1, K2	CO1	Knowing the difference between amorphous and crystalline solids and their arrangement in crystal lattice.
K2, K3	CO2	Learn about defects in crystals, various theories of metallic bonding and alloys.
K2, K3	CO3	Decide the various crystal structures using X-ray diffraction techniques and study about liquid crystals.
K3, K4	CO4	Study about various ligand substitution reactions, electron transfer reactions in complexes and Bio-inorganic Chemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH610		Title: CORE CHEMISTRY PAPER – X CHEMISTRY OF NATURAL PRODUCTS		
Batch 2019-2020	Semester VI	Hours / Week 4	Total Hours 60	Credits 4

Course Objectives

1. To study about Terpenoids and Alkaloids.
2. To understand about Vitamins and Hormones.
3. To learn about Chemotherapy

Course Outcomes (CO)

K2, K3	CO1	Study on the classification, structural elucidation and synthesis of few important terpenoids.
K2, K3	CO2	Learn about structural determination and synthesis of alkaloids.
K1, K3	CO3	Acquire basic knowledge about vitamins and hormones.
K2, K3	CO4	Analyze structural aspects, functions and mode of action of various drug molecules. Acquire basic knowledge about green chemistry.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH611		Title: CORE CHEMISTRY PAPER - XI PHYSICAL CHEMISTRY - II		
Batch 2019-2020	Semester VI	Hours / Week 4	Total Hours 60	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 and colloids.

Course Outcomes (CO)

K1,K2	CO1	Understand the basic principles, various experimental techniques and theories of chemical kinetics.
K2,K4	CO2	Gain the knowledge about principles of photochemical and photosensitized process.
K2, K3	CO3	Study the basic principles and types of catalysis.
K1, K3	CO4	Explore the fundamentals of colloids and its applications.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH6S4		Title: SKILL BASED SUBJECT - IV FOOD CHEMISTRY		
Batch 2019-2020	Semester VI	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 determine the calorific value of foods.

Course Outcomes (CO)

K1, K2,K3,K 4, K5	CO1	Know about the food adulteration, standards of food, contamination and food poisoning.
K1, K2, K3, K4,K5	CO2	Understand about the different preservatives in packaged food.
K1, K2,K3,K 4,K5	CO3	Acquiring knowledge about vinegar, fruit juice, pH value and mineral acids in vinegar. Know about characteristics and adulterations in beverages.
K2, K3, K4	CO4	Understand the calorific values of oils and food.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH6CN		Title: CORECHEMISTRY PRACTICAL – III GRAVIMETRIC ANALYSIS		
Batch 2019-2020	Semester V & VI	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)

K1, K2	CO1	Understand the basic principles of Gravimetric analysis.
K2, K4	CO2	Understand about the various precipitating agents.
K3, K4	CO3	Determination of analyte masses through the gravimetric analysis.
K4	CO4	Improve the accuracy of analysis.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH6CO		Title: CORECHEMISTRY PRACTICAL – IV PHYSICAL CHEMISTRY EXPERIMENTS		
Batch 2019-2020	Semester V & VI	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)

K1, K2	CO1	The results of physical chemistry experiments are incorporated in both theoretical and practical aspects.
K2, K4	CO2	Gain familiarity with a variety of physico-chemical measurement techniques.
K3, K4	CO3	Interpret data from an <i>experiment</i> , including the construction of appropriate graphs and the evaluation of errors.
K4	CO4	Obtain the knowledge about the theories of electrolysis and Chemical kinetics.

Programme: B.Sc.,		Title: Chemistry		
Course Code: 19UCH6CP		Title: CORECHEMISTRY PRACTICAL – V APPLICATION ORIENTED PRACTICAL		
Batch 2019-2020	Semester V & VI	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)

K1,K2	CO1	Gain the knowledge of physical constants and preparation of dyes.
K2	CO2	Know about the preparation of organic compounds.
K2, K4	CO3	Learn about the preparation method of home care products.
K2, K3	CO4	Learn about estimation of hardness of water, dissolved oxygen, saponification of oil and isolation of citric acid.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - I POLYMER CHEMISTRY		
Batch 2019-2020		Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about the types of polymers, polymerization techniques and physical properties of polymers.
2. To learn about polymer processing and synthesis of some commercially important polymers.
3. To have an idea about recent advances in polymer science.

Course Outcomes (CO)

K1, K2	CO1	know about the types of polymers, chemical and physical properties, its industrial applications and uses.
K2, K3, K4	CO2	Understand the various polymerization techniques, processing and different types of individual polymer products.
K1, K2, K3, K5	CO3	Acquiring knowledge of commercially important polymer products and its applications.
K2, K3	CO4	know about the recent advances in polymer products and their applications.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - II NANO AND GREEN CHEMISTRY		
Batch 2019-2020		Hours / Week 3	Total Hours 45	Credits 5

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, K2	CO1	To understand the basics of Nano Chemistry To know the methods to prepare Nano materials
K2, K3, K4, K5	CO2	To have an idea about Green Chemistry and its limitations
K2,K3,K4	CO3	To gain knowledge about Green solvents in laboratory and also in Industry
K2, K3, K4	CO4	To study the Reactions and applications of Green Chemistry

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - III PHARMACEUTICAL CHEMISTRY		
Batch 2019-2020		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, K2	CO1	gain the knowledge about the common diseases and cure-terms of pharmacology.
K2, K3, K4, K5	CO2	Understand about chemotherapy – antibiotics.
K2, K3, K4	CO3	Learn about drugs meant for diabetes.
K2, K3, K4	CO4	Basic ideas about various health promoting drugs.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - IV AGRICULTURAL CHEMISTRY		
Batch 2019-2020		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, K2	CO1	To gain the knowledge about the origin soil.
K3, K4,	CO2	To understand about physical and chemical properties of soil.
K2, K4	CO3	To learn about plant nutrients.
K2, K3	CO4	basic ideas about pesticides, fungicides and herbicides.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE - V Green Chemistry		
Batch 2019-2020		Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about the types of polymers, polymerization techniques and physical properties of polymers.
2. To learn about polymer processing and synthesis of some commercially important polymers.
3. To have an idea about recent advances in polymer science.

Course Outcomes (CO)

K1, K2	CO1	know about the types of polymers, chemical and physical properties, its industrial applications and uses.
K2, K3, K4	CO2	Understand the various polymerization techniques, processing and different types of individual polymer products.
K1, K2, K3, K5	CO3	Acquiring knowledge of commercially important polymer products and its applications.
K2, K3	CO4	know about the recent advances in polymer products and their applications.

Programme: B.Sc.,		Title: Chemistry		
		Title: MAJOR ELECTIVE -VI		
		Chemical Industry		
Batch 2019-2020		Hours / Week 3	Total Hours 45	Credits 5

Course Objectives

1. To know about the types of polymers, polymerization techniques and physical properties of polymers.
2. To learn about polymer processing and synthesis of some commercially important polymers.
3. To have an idea about recent advances in polymer science.

Course Outcomes (CO)

K1, K2	CO1	know about the types of polymers, chemical and physical properties, its industrial applications and uses.
K2, K3, K4	CO2	Understand the various polymerization techniques, processing and different types of individual polymer products.
K1, K2, K3, K5	CO3	Acquiring knowledge of commercially important polymer products and its applications.
K2, K3	CO4	know about the recent advances in polymer products and their applications.

Job Oriented Course (JOC) - TEXTILE CHEMISTRY

Course Objectives

1. To know about manufacture and properties of natural fibres (vegetable fibres, animal fibres) and synthetic fibres.
2. To learn preparatory process before dyeing.
3. To know the principles of bleaching and dyeing.

Course Outcomes (CO)

K1, K2	CO1	Gain the knowledge about both synthetic and natural fibres.
K3, K4,	CO2	Understand about scouring and desizing.
K2, K4	CO3	Learn about bleaching.
K2, K3	CO4	Basic ideas about dyeing.

Programme: B.Sc.,		Title: Bio Technology (I Year), Physics (II year), Botany (II Year), Bio-Chemistry (II Year)		
Course Code: 19UCH1A1/19UCH2A1		Title: ALLIED CHEMISTRY PAPER - I		
Batch 2019-2020	Semester I/III	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,K2	CO1	Understanding the fundamental aspects of chemical bonding and interhalogen compounds.
K1,K2	CO2	Learn about the fundamental aspects of Hybridization, stereochemistry which includes asymmetric carbon, optical isomerism, resolution and Geometrical isomerism.
K2, K4	CO3	Study on the various concepts in Thermodynamics and electrochemistry.
K1, K3	CO4	Acquiring knowledge about Fuel gases and fertilizers.

Programme: B.Sc.,		Title: Bio Technology(I Year), Physics(II year), Botany(II Year), Biochemisrty(II year)		
Course Code: 19UCH1A2/19UCH2A2		Title: ALLIED CHEMISTRY PAPER - II		
Batch 2019-2020	Semester II/IV	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 chemical kinetics and synthetic polymer.

Course Outcomes (CO)

K1,K2	CO1	Understanding the fundamental aspects and applications of coordination chemistry.
K1,K2	CO2	Study on the various heterocyclic compounds, carbohydrates and amino acids which include their classification, preparation and properties.
K2, K4	CO3	Know about the rates of the reaction.
K1, K3	CO4	Acquire the knowledge about of synthetic polymers, fibres and plastics.

Programme: B.Sc.,		Title: Bio Technology(I Year), Physics(II year), Botany(II Year), Biochemisrty(II year)		
Course Code: 19UCH2AL/19UCH4AL		Title: ALLIED CHEMISTRY PRACTICAL – I VOLUMETRIC AND ORGANIC ANALYSIS		
Batch 2019-2020	Semester I & II/III & IV	Hours / Week 3	Total Hours 90	Credits 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,K2	CO1	Remember the basics of volumetric titrations.
K2,K3	CO2	Studying the use of indicators for various titrations.
K2	CO3	Understanding about preliminary analysis of organic compounds.
K4	CO4	Identification of the functional groups.