

Programme Outcomes

The students have to

PO1	Demonstrate the in-depth knowledge and understanding the scientific principles in chemical science.
PO2	Think intellectually, display professional and practical skills in their career and communicate effectively to the team or society

Programme Specific Outcomes

On successful completion of the programme, the students

PSO1	have adequate knowledge in the core areas of chemical sciences
PSO2	understand the underlying principles in every experiment and able to design, carry out, record and analyze the results of chemical experiments carried out in the laboratory
PSO3	develop critical thinking, problem solving ability and effective oral and written communications
PSO4	gain exposure and ideas in frontier areas of chemical research
PSO5	achieve employability in chemical related industries and academic institutions

Course Code: 20UCY101

Title: Inorganic and Organic Chemistry

Course Outcome

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	CO Statement
K4	CO1	interpret the types of chemical bonding present in molecules
K2	CO2	deduce the geometry of the molecules
K2,K3	CO3	understand and apply the concepts in determining the mechanisms of aliphatic nucleophilic substitution reactions
K3, K4	CO4	apply and interpret the factors affecting in determining the orientation and reactivity of substituted benzene

Course Code: 20UCY202

Title: Organic and Physical Chemistry

Course Outcome

On the successful completion of the course, students will be able to

Knowledge Level	CO Number	CO Statement
K1	CO1	recollect the mechanisms of various naming reactions
K2,K3	CO2	understand and apply usage of active methylene compounds in synthesizing different substituted carboxylic acids and ketones
K3	CO3	apply quantum mechanical treatment to sub-atomic particles of atom
K4	CO4	interpret the significance of laws of thermodynamics and its applications in deriving various other laws of physical chemistry

Course Code: 19UCY203

Title: Inorganic Qualitative Analysis

Course Outcomes

Knowledge Level	CO Number	CO Statement
K3	CO1	To remember the procedure for the analysis of given acid and basic radicals
K4	CO2	To understand the chemical reactions responsible for the precipitation or other reactions leading to identification of the given radicals
K4	CO3	To apply the theoretical knowledge/concept studied to their practical sessions

Course Code: 18UCY507

Title: Nuclear Chemistry and Co-ordination Chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To understand the theory of radioactivity
K2	CO2	To have knowledge on uses of radio-active elements in various fields
K3	CO3	To understand various theories of bonding in coordination compounds and their importance
K4	CO4	To know the chemistry of carbonyls, basic knowledge on metallic bonding and semiconductors

Course Code: 18UCY508

Title: Organic Chemistry -I

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	Recollect and interpret the mechanisms of molecular rearrangements
K2	CO2	Understand the significance of heterocyclic compounds
K3	CO3	Understand the importance of carbohydrate chemistry
K4	CO4	Apply and interpret various chemical methods in deducing the structures of natural products

Course Code: 18UCY509

Title: Electro Chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	Able to write balanced half –cell reactions, determine overall cell reactions and calculate the standard reduction potential
K2	CO2	To understand the principles and applications of conductance measurements
K3	CO3	To describe and understand the operation of electrochemical systems for the production of electric energy, i.e. batteries and fuel cells
K4	CO4	To describe general corrosion in terms of electrochemistry and methods for minimizing corrosion

Course Code: 18UCY510

Title: Dye Chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To learn the basic concepts and theories of colour and its constitution
K2	CO2	To understand the preparation and properties of various types of dyes
K3	CO3	To know the classification and application of different dyes
K4	CO4	To acquire knowledge in process and applications of dyes

Course Code: 18UCY511

Title: Analytical Chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To learn instrumentation and basic principles and applications of modern analytical tools such as thermogravimetry and polarography
K2	CO2	To have knowledge on uses of nephelometry and flame photometry
K3	CO3	To understand the polarography, electrogravimetry and chromatography
K4	CO4	To acquire knowledge and applications of various analytical tools

Course Code: 18UCY5S1

Title: Food Chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To learn about the importance and the basic principles of food processing
K2	CO2	To understand the practical methods of home preservation of foods
K3	CO3	To know about awareness on safety of food supply
K4	CO4	To encourage the students to opt their career as Food chemists in Food industry

Course Code: 18UCY612

Title: Physical Methods and Chemical Structure

Course Outcome

Knowledge Level	CO Number	CO Statement
K1 & K2	CO1	Recollect and understand the basic theoretical concepts in various types of spectroscopy
K4	CO2	Interpret the structure of the unknown molecules from the given spectra
K4	CO3	Evaluate various parameters like bond length, vibrational frequency from spectroscopic techniques
K3	CO4	Apply electrical and magnetic properties in solving the structures of the molecules

Course Code: 18UCY613

Title: Organic Chemistry II

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To develop the knowledge in solving the problems in organic chemistry
K2	CO2	To understand the structure and properties of proteins, DNA, Vitamins and lipids
K3	CO3	To create awareness regarding chemotherapy
K4	CO4	To help the students to opt their career as biotechnologists, pharmacologists or medical representative

Course Code: 18UCY614

Title: Chemical kinetics and photochemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To understand the concept of rate of reaction
K2	CO2	To derive rate equations of various orders
K3	CO3	To understand the effect and consequence of radiation on molecular level
K4	CO4	To get basic knowledge in adsorption theories

Course Code: 18UCY615

Title: Polymer Chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To recognize the principles of polymer recycling and can select appropriate recycle or reuse methods to balance economics and environmental responsibility
K2	CO2	To describe the mechanisms of chain polymerizations, and can predict reaction rates
K3	CO3	To identify the repeat units of particular polymers and specify the isomeric structures which can exist for those repeat units
K4	CO4	To estimate the number- and weight-average molecular masses of polymer samples given the degree of polymerisation and mass fraction of chains present

Course Code: 18UCY616

Title: Project

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To understand the importance of analyzing the quality of potable water
K2	CO2	To analyse, compare and interpret the results of water quality in all the locations
K3	CO3	To decide and interpret the precautionary measures to be taken to save and improve the quality of water in different locations

Course Code: 18UCY617

Title: Gravimetric analysis and physical chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To understand the basic concept of gravimetric analysis
K2	CO2	To get the idea about Physical chemistry experiments
K3	CO3	To enable the students to acquire analytical skills (Qualitative and Quantitative skills)
K4	CO4	To develop practical skills in analytical and Physical chemistry experiments

Course Code: 18UCY6S3

Title: Green Chemistry

Course Outcome

Knowledge Level	CO Number	CO Statement
K1	CO1	To recollect the principles of green chemistry
K2	CO2	To understand the awareness on environment friendly technologies and working conditions
K3	CO3	To apply eco-friendly and less wasteful manufacturing process for the sustainable development of our country
K4	CO4	To acquire awareness about research in the field of green chemistry