



DEPARTMENT OF CHEMISTRY  
COURSE OUTCOMES

I B.Sc. Chemistry

SEMESTER 1

Subject Name: **Introduction to Chemistry**      Subject Code: **U22CHC11/ U3CHC1**

In this course the students will

- **To understand**
  - the basics of atomic structure and periodic table
  - functional groups in organic chemistry
  - various electron displacement effects
  - PV isotherm
- **To study**
  - the experimental techniques used in the determination of atomic structure
  - preparation of hydrocarbons
  - various type of reactions in organic chemistry
  - postulates of kinetic theory of gases
  - determination of critical constants
- **To apply**
  - quantum numbers and other principles to write the electronic configuration of elements and predict the shape of atomic orbital
  - IUPAC method to name the organic molecules
  - electron displacement effects to organic molecules and to predict the stability and reactivity
- **To derive**
  - Gas laws
  - van der Waals equation
  - Boyle and inversion temperatures
- **To analyse**
  - the trend of periodic properties
  - the relation between van der Waals constants and critical constants
- **To interpret**
  - the spectrum of hydrogen atom
  - particle and wave character of electron
  - diagonal relationship of elements
  - anomalous behaviour of elements



Subject Name: **ALGEBRA AND TRIGONOMETRY** Subject Code: \_\_\_\_\_

**U22MAAX11**

**In this course the students will**

Cos	CO Statement
<b>CO1:</b>	Gain knowledge on various series like binomial series, logarithmic series, trigonometric series.
<b>CO2:</b>	Develop the ability to solve equations and understand the nature of roots of higher order equations.
<b>CO3:</b>	Acquire knowledge on hyperbolic functions.

Subject Name: **Oils and Fats-I**

Subject Code: \_\_\_\_\_

**U22CHA11/U2CHA11**

**In this course the students will**

CO1: Students learnt about the introduction of oils and fats.
CO2: Also, learnt the physical and chemical properties of oils and fats
CO3: They learnt how to characterize the oils and fats.
CO4: Study the metabolical aspect
CO5: Can get knowledge about various tests.

Subject Name: **Principles of Chemical Analysis - I**

Subject Code: **U22CHS11/ U3CHS11**

**In this course the students will**

CO1: Acquired the basic knowledge on electron transfer reactions
CO2: Understood the theories behind the inorganic salt analysis
CO3: Got the basic concept of volumetric analysis
CO4: Gained the ability to detect elements carbon, hydrogen, oxygen, nitrogen, halogens Sulphur and phosphorus
CO5: Obtained the basic knowledge on estimation of the above elements

Subject Name: **BONDING SKILLS IN CHEMISTRY – I**

Subject Code: **U22CHS12/ U3CHS12**

**In this course the students will**

CO1: Students can draw Lewis structure for various molecules.
CO2: Student can explain the formation of covalent molecule by using valence bond theory.
CO3: To know the theoretical calculation of lattice energy for ionic compounds.
CO4: Students can differentiate chemical bonding and hydrogen bonding
CO5: Student can predict the condition required for the formation of ionic bond



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Semester – II

Subject Name: **General Chemistry**

Subject Code: **U22CHC21/ U3CHC2**

In this course the students will

- **To understand**
  - various isomerism
  - optical activity in organic molecules
  - racemic mixture and racemisation
  - characteristics of p-block elements
  - adsorption isotherms
  - classification of colloids
- **To study**
  - the determination of configuration of geometrical isomers
  - properties of elements, their oxides, hydrides and halides of p-block elements
  - the structure of diborane, silicones and carbides
  - preparation and structure of Xe compounds
  - preparation of sols
  - purification of colloidal solutions
  - optical, kinetic and electric properties of colloids
  - preparation of emulsions
- **To apply**
  - E, Z nomenclature to geometrical isomers
  - R and S notations to organic molecules
  - the concepts of colloids for human welfare
- **To differentiate**
  - aldoximes and ketoximes
  - adsorption and absorption
  - physisorption and chemisorption
  - true solution, colloidal dispersion and suspension
  - sol, gel and emulsion
- **To define**
  - various terms in surface chemistry
  - Hardy – Schulze law
  - Hofmeister series
  - Flocculation value
  - Gold number



Subject Name: **LAB: SEMI-MICRO INORGANIC QUALITATIVE ANALYSIS**

Subject Code: **U22CHCP21**

In this course the students will

<b>CO1:</b>	To practice the identification of various anions and cations present in minerals in the presence of eliminating anions.
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Subject Name: **CALCULUS AND MATRICES**

Subject Code: **U22MAAX21/ U2MAA2X2**

In this course the students will

Cos	CO Statement
<b>CO1:</b>	Apply the reduction formula to solve problems in integral calculus.
<b>CO2:</b>	Utilize the concept of vector differentiation to find the curl, divergence of a given vector.
<b>CO3:</b>	Construct the evolutes of any curve using differential calculus.
<b>CO4:</b>	Develop the skills of solving simultaneous equations by making use of the rank of matrices.
<b>CO5:</b>	Find the eigen values, eigen vectors of a given matrix.

Subject Name: **Oils and Fats-II**

Subject Code: **U22CHA21/U2CHA21**

In this course the students will

<b>CO1:</b>	Students learnt about the composition of milk and milk products.
<b>CO2:</b>	Also, they learnt how to analyze the milk products.
<b>CO3:</b>	In the last two units (IV & V) they learnt, composition of mineral oils and synthesis of petrochemicals.

Subject Name: **LAB1: Oil Analysis**

Subject Code: **U2CHA2P**

In this course the students will

<b>CO1:</b>	To know the determination of specific gravity and viscosity.
<b>CO2:</b>	To learn the parameters of surface tension and Iodine value.
<b>CO3:</b>	To study the knowledge about saponification value, acetyl value.
<b>CO4:</b>	To analyze the adulteration of oils by using Halphen test, Baudouin test, Bellier turbidity temperature test.



Subject Name: **Principles of Chemical analysis - II**

Subject Code: **U22CHS21/ U3CHS21**

In this course the students will

<b>CO1:</b>	Understood the concept of purification of solid organic compounds
<b>CO2:</b>	Gained the concept of purification of Liquid organic compounds
<b>CO3:</b>	Got the knowledge to purify the compounds using Chromatography techniques
<b>CO4:</b>	Obtained the ability to find out the empirical and molecular formulae
<b>CO5:</b>	Acquired the basic ideas on error analysis

Subject Name: **BONDING SKILLS IN CHEMISTRY - II** Subject Code: **U22CHS22**

In this course the students will

<b>CO1:</b>	Students can recognize the rules for writing the resonating structure for different molecules.
<b>CO2:</b>	CO2: Students can understand the modification given to the Valence Bond Theory.
<b>CO3:</b>	CO3: Find out the structure of the molecules by applying the concept of Hybridization
<b>CO4:</b>	CO4: Students can test whether the molecule is formed or not by applying Molecular Orbital Theory
<b>CO5:</b>	Student can assign the geometry of molecule which is having irregular geometry by using VSEPR Theory.



**Allied Papers**

Subject Name: **General Chemistry-I for Biological Science**

Subject Code: **U22CHAY11 /U3CHA1Y**

In this course the students will

<b>CO1:</b>	Understand fundamental ideas about organic chemistry and isomerism
<b>CO2:</b>	Preparation properties of hydrogen isotopes
<b>CO3:</b>	Know the various types of colloids
<b>CO4:</b>	Become professionally trained in the area of petrochemicals products and fertilizers
<b>CO5:</b>	Understand importance of polymers in our daily life

Subject Name: **General Chemistry-II for Biological Science**

Subject Code: **U22CHAY21/ U3CHA2Y**

In this course the students will

<b>CO1:</b>	Understand various chromatography technique
<b>CO2:</b>	Know about proteins and Vitamins
<b>CO3:</b>	Understand the importance of significant numbers and various methods for expressing
<b>CO4:</b>	Concentration of the solution.
<b>CO5:</b>	Comprehend the method of estimation carbon, hydrogen, sulphur and halogens.
<b>CO6:</b>	Ability to draw the structure and explain the applications of dyes.

Subject Name: **LAB: VOLUMETRIC ANALYSIS**

Subject Code: **U22CHAYP21 /U2CHA2YP**

In this course the students will

<b>CO1:</b>	Understand the apparatus used in volumetric analysis
<b>CO2:</b>	The precautions to using equipment
<b>CO3:</b>	Acquire the knowledge about the standard solutions
<b>CO4:</b>	Prepare standard solutions
<b>CO5:</b>	Acquire the knowledge about strength of the solutions



Subject Name: **General Chemistry-I for Physical Science**

Subject Code: **U22CHAX11/ U3CHA1X1**

In this course the students will

<b>CO1:</b>	Know the basics ideas about organic chemistry
<b>CO2:</b>	Gain knowledge about the estimation of elements.
<b>CO3:</b>	Able to know the details about periodic table and its periodic properties.
<b>CO4 :</b>	Learn the chemical equilibrium and its importance in industrial processes
<b>CO5 :</b>	Acquire knowledge about petroleum and petrochemical products.

Subject Name: **General Chemistry –II for Physical Science**

Subject Code: **U22CHAX21 /U2CHA2X2**

In this course the students will

<b>CO1:</b>	Understand the basics of gaseous state.
<b>CO2:</b>	Able to gain knowledge about colloids and its purification.
<b>CO3:</b>	Study the fundamental of nucleus and its application in radioactive isotope
<b>CO4:</b>	Adequate knowledge about reaction intermediates.
<b>CO5 :</b>	Get the idea about the polymer and its applications.

Subject Name: **Volumetric Analysis**

Subject Code: **U22CHAXP21/U2CHA2PX1**

In this course the students will

<b>CO1:</b>	Understand the solution, solute and solvent.
<b>CO2:</b>	Trained to prepare standard solutions.
<b>CO3:</b>	Know the Principles of volumetric analysis
<b>CO4:</b>	Determine the concentration of unknown solution.
<b>CO5 :</b>	Able to know the applications of volumetric analysis



## **COURSE OUTCOME**

### **SEMESTER III**

#### **Inorganic and Physical Chemistry**

Subject Code: U3CHC3

- To acquire knowledge about metallurgy of a few metals and also to study the preparation,
- To learn the properties and uses of a few important inorganic compounds.
- To study the importance of nuclear reactions.
- To understand the fundamentals of Phase rule and liquid crystals.
- To study the application of distribution law to solvent extraction and purification of solvents.

#### **Differential Equations and Laplace Transforms**

Subject Code: U3MAA3X3

- To enable the students to know the methods of solving differential equations and Partial differential equations
- To understand the Laplace transform, inverse Laplace transform and its applications.

#### **ALLIED – I Oils and Fats – III**

Subject Code: U2CHA31

- To gain knowledge about the extraction of oil and also the chemical composition of oils.
- To learn the fundamentals of hydrolytic and oxidative rancidity.
- To get mastery over refining and bleaching processes.

### **SEMESTER IV**

#### **Organic and Physical Chemistry**

Subject Code: U3CHC4

- To get expertise knowledge in the preparation of substituted benzene and heterocycles.
- To enable the students to gain structural knowledge of different carbohydrates and crystal structures.
- To the basics of colligative property.

#### **Semi-micro Inorganic Qualitative Analysis**

Subject Code: U1CHC4P

- To practice the identification of various anions and cations present in minerals in the presence of eliminating anions.

#### **Statistics, Groups and Fourier Series**

Subject Code: U3MAA4X4

- To know the statistical methods
- To introduce the abstract systems and Fourier series





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**ALLIED - I Oils and Fats - IV**

Subject Code: U2CHA41

- To understand the role of constituents of food
- To learn the role of lipids
- To study about balanced diet
- To get mastery over food preservation

**ALLIED – II Food Analysis**

Subject Code: U1CHA4P

- To study the role of food Adulterants.
- To impart basic knowledge about nutrients.



## **COURSE OUTCOME**

### **SEMESTER V**

#### **ORGANIC CHEMISTRY I**

Subject Code: U3CHC51

- Gain knowledge on polynuclear hydrocarbons and green chemistry.
- Learn the synthesis of new compounds and their uses.
- Understand the concept of aromaticity and aromatic substitution.
- Impart the knowledge of reaction mechanism and substituent effect to the compound.

#### **Physical Chemistry I**

Subject Code: U3CHC52

- Know basic concepts of thermodynamics and its applications to simple systems
- Understand the basic concepts of electrochemistry and their applications
- Acquire the basic knowledge on chemical kinetics and able to apply the principles for the study of simple reactions.
- Impart the skill of applying the principles of chemical and ionic equilibria to solve simple problems.

#### **Inorganic Chemistry I**

Subject Code: U3CHC53

- Learn the students to understand the d-block elements.
- Understand the basics of co-ordination chemistry.
- Acquire knowledge on acid – base concepts.
- Understand the basics of error analysis for analytical chemistry.

#### **SBE- EMPLOYABILITY SKILLS**

Subject Code: U1PS51

- To enrich the Employability Skills by imparting Reasoning skills, Aptitude skills and General Knowledge.

#### **Chemistry in day-to-day life**

Subject Code: U3CHN51

- Learn about cosmetics
- Know about polymers and their role
- Learn the chemical aspects of Milk and milk products
- Understand the role of chemistry in food science
- Know the details of drugs.



**SEMESTER VI  
ORGANIC CHEMISTRY II**

Subject Code: U2CHC61

- Offer sufficient basic knowledge in elucidating the structure of natural products.
- Inculcate the curiosity in learning conformational analysis.
- Provide basic knowledge in the spectroscopy.
- Create awareness in learning re-arrangement reactions.
- Impart the knowledge of dyes and its application.

**Physical Chemistry II**

Subject Code: U3CHC62

- Solve thermo-chemical equations and to get basic ideas on thermodynamics of open system
- Understand the basic concepts of group theory in Chemistry
- Get basic ideas and applications of molecular spectroscopy such as microwave, IR, Raman, Electronic, NMR and EPR.
- Acquire basic knowledge behind various photophysical and photochemical processes

**Inorganic Chemistry - II**

Subject Code: U3CHC63

- Know the basics of thermo analytical methods.
- Understand the basics of metal carbonyls and f-block elements.
- Acquire fundamental knowledge on Chromatographic techniques
- Learn the basics of Bio-inorganic Chemistry

**LAB: Organic preparation and Gravimetric Estimation**

Subject Code: U1CHC6P1

- To study the basics of organic preparation.
- To acquire knowledge on gravimetric estimation.

**LAB: Organic Analysis and Organic Estimation**

Subject Code: U1CHC6P2

- To acquire knowledge about the analysis of simple organic compounds.
- To know the fundamental strategies of organic estimation.



**LAB – Physical Chemistry experiments**

Subject Code: U2CHC6P3

- The theoretical concepts dealt in the physical chemistry theory papers are given as experiments for the better understanding of the concepts.

**PROJECT**

Subject code: U1CH6PR

- To train the students in various research/industry learning skills like critical thinking, creativity, synthesis of knowledge, analyzing capacity, instrument basics and handling and scientific report writing.
- To introduce the frontier areas of research in chemistry and in the interdisciplinary areas among students
- To understand the scope of research programme in chemistry and in the interdisciplinary areas.
- The project work (includes literature review/chemical factory industry visit training /National/University Research Labs visit training / Nuclear Plant/Quality control lab/R&D Lab/field work / theoretical / lab work) is to inculcate students to learn adequate knowledge on research methodology in the subject and prepare them for pursuing research in theoretical / experimental areas of the subject.



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## **COURSE OUTCOME**

### **SELF LEARNING**

#### **CHEMISTRY COMPETITIVE SKILL DEVELOPMENT COURSE**

SUBJECT CODE: U1CHSL52

- Understand the fundamentals of chemistry concepts
- Apply and solve the chemistry problems
- Prepare for the competitive exam
- Pass the competitive exam successfully



DEPARTMENT OF CHEMISTRY

COURSE OUTCOMES

I M.Sc. Chemistry

Semester I

Subject Name: **Organic Chemistry I**

Subject Code: **P22CHC11**

On completion of course the student can know

<b>CO1:</b>	To study the mechanism of organic reaction.
<b>CO2:</b>	To Study the reaction intermediates and theory behind it.
<b>CO3:</b>	To provide the knowledge about the stereochemistry and geometry of the molecule.
<b>CO4:</b>	To give basics knowledge on the aromatic character of organic molecules.
<b>CO5:</b>	To acquire the knowledge about the detail study of UV, IR and Mass

Subject Name: **Inorganic Chemistry- I**

Subject Code: **P22CHC12/ P19CHC12**

In this course the students will

<b>CO1:</b>	Analyze the effect of non-bonding electrons in molecular structures.
<b>CO2:</b>	Be able to learn about formation, structure and bonding of inorganic polymers.
<b>CO3:</b>	Acquire knowledge about the basics of co-ordination chemistry.
<b>CO4:</b>	Be able to know about the metallurgical process
<b>CO5:</b>	Analyze the effect of non-bonding electrons in molecular structures.

Subject Name: **Physical Chemistry – I**

Subject Code: **P22CHC13**

In this course the students will

<b>CO1:</b>	Will be in a position to explain the theoretical concepts of quantum mechanics, thermodynamics, chemical equilibria and phase equilibria.
<b>CO2:</b>	Will be able to apply the knowledge of quantum mechanics to solve simple quantum mechanical problems and to illustrate the applications of thermodynamic parameters.
<b>CO3:</b>	Will be able to interpret the advanced knowledge on quantum concepts to evaluate the shapes of orbitals as well as to identify the various energy levels in molecular systems and to utilize the thermodynamical functions to understand Lechatelier's principle and phase transition studies.
<b>CO4:</b>	Can calculate various molecular energy levels using principles of quantum mechanics and derive thermodynamic relations.
<b>CO5:</b>	Can establish the applications of various mathematical operations in quantum mechanics and to assess the relation between the thermodynamic parameters and variety of reactions.



Subject Name: **Nano science and Nanotechnology**

Subject Code: **P22CHE11**

In this course the students will

<b>CO1:</b>	Understood the principles and background to nanotechnology.
<b>CO2:</b>	Understand the basics properties of nanomaterial.
<b>CO3:</b>	Make the students to acquire knowledge for the synthesis of nanomaterials.
<b>CO4:</b>	Understood the principles and characterization techniques of nanomaterials.
<b>CO5:</b>	Ability to identify tailor made nano applications for developing nanotechnology.

## SEMESTER II

Subject Name: **Organic Chemistry II**

Subject Code: **P22CHC21**

On completion of course the student can know

<b>CO1:</b>	To study the relationship between conformation and reactivity of organic molecules.
<b>CO2:</b>	To study the NMR Principles, spectral problems solving and interpretation of organic molecules .
<b>CO3:</b>	To acquire the knowledge about the addition reactions and organic naming reactions
<b>CO4:</b>	To get knowledge about the aliphatic substitution reactions of organic compounds.
<b>CO5:</b>	To develop the aromatic substitutions and elimination reactions of organic compounds.

Subject Name: **Inorganic Chemistry II**

Subject Code: **P22CHC22**

In this course the students will

<b>CO1:</b>	Be able to predict molecular geometries of the coordination compounds with the help of bonding theories
<b>CO2:</b>	Understand the formation structure and bond properties of metal carbonyls
<b>CO3:</b>	Be able to learn the applications of metal carbonyls in industrial process
<b>CO4:</b>	Acquire knowledge about the reaction mechanism of co-ordination compounds
<b>CO5:</b>	Be able to know about the effect of rearrangement in inorganic complexes

Subject Name: **Physical Chemistry – II**

Subject Code: **P22CHC23**

In this course the students will

<b>CO1:</b>	Will be in a position to discuss the need for approximation methods in quantum mechanics, basic concepts of chemical kinetics, catalysis and Group theory.
<b>CO2:</b>	Will be able to predict antisymmetric nature of electron spin, various theories and their validity for the study of uni & bi-molecular reactions and the spectral selection rules of molecules with the aid of their symmetric properties.
<b>CO3:</b>	Will be able to apply the concepts of Huckel molecularorbital calculations for the prediction of delocalization energies of $\pi$ -electron systems, the study of reaction



	mechanism to fix the explosion limit of gas phase reactions and group theory for the theoretical prediction of hybridization in molecules
<b>CO4:</b>	Can establish kinetics and mechanism for several branched and non-branched chain reaction and catalytic reactions and to construct the character tables using Great Orthogonality theorem.
<b>CO5:</b>	Can develop applications of homogeneous, heterogeneous and enzyme catalytic reactions.

Subject Name: **Organic Chemistry Practical I**

Subject Code: **P22CHP21/ P19CHP21**

In this course the students will

<b>CO1:</b>	Over all, this practical skill is the basic principle and laid down the foundation for the synthesis and finding lead drug compounds for the treatment of several diseases in the world.
<b>CO2:</b>	Many macro molecules used as drug which can synthesis with help of simple molecule and principle.
<b>CO3:</b>	Also several textile industries dyeing the cloth with help of organic coloured compounds. The organic coloured compound can prepared with help of this fundamental preparations.
<b>CO4:</b>	Today's life can't survive without use of plastic. This practical skill can help to prepare plastic by polymerization of organic monomer.
<b>CO5:</b>	In order to prepare drug, pure form of drug is essential. The student can prepare the pure drug lead compounds and purification with help of chromatography skills.

Subject Name: **LAB: Inorganic Chemistry Practical I**

Subject Code: **P22CHP22/ P19CHP22**

In this course the students will

<b>CO1:</b>	Studying the basic idea behind the separation of cations.
<b>CO2:</b>	To understand and execute the principles of inorganic qualitative and quantitative analysis

Subject Name: **LAB: Physical Chemistry Practical I** Subject Code: **P22CHP23/ P19CHP23**

In this course the students will

<b>CO1:</b>	Will be in a position to apply the theoretical concepts of electrochemistry, partition coefficients, chemical kinetics, surface chemistry and spectroscopy by the way of performing simple experiments.
<b>CO2:</b>	Will be able to extend the applications of potentiometric and conductometric techniques to find out dissociation constant of weak electrolytes, pH of solutions and solubility of sparingly soluble salts.
<b>CO3:</b>	Can calculate various physical constants by the way of performing experiments.
<b>CO4:</b>	Will be able to interpret the UV Visible and IR spectra and spectrofluorometric data of simple compounds.
<b>CO5:</b>	Can establish the applications of various techniques learnt for designing projects.





Subject Name: **Industrial Chemistry**

Subject Code: **P22CHN21**

In this course the students will

<b>CO1:</b>	The role of chemistry industry.
<b>CO2:</b>	Gain the knowledge / processes of various industries.
<b>CO3:</b>	Understand the principles of Soap/polymer/Oil industries.
<b>CO4:</b>	Get exposure of importance of chemistry industry.
<b>CO5:</b>	Gain the processes involved in small / large scale chemistry industries.



## **COURSE OUTCOME**

### **SEMESTER III Organic Chemistry III**

Subject Code: P19CHC31

- To plan and execute organic synthesis
- To get mastery over photochemical, oxidation, reduction and rearrangement reactions.
- To study the structural elucidation of heterocycles,
- To revise the structure of carbohydrate.

### **Inorganic Chemistry III**

Subject Code: P19CHC32

- To understand the importance of various bio-inorganic compounds.
- To study the role of inorganic chemistry in biological system.
- To be well-versed in electronic spectra, NMR, EPR and Mossbauer spectra of inorganic compounds.

### **Physical Chemistry III**

Subject Code: P19CHC33

- To study electrochemistry in detail.
- To make students competent to microwave, infra-red and electronic spectra.
- To perceive statistical thermodynamics.

### **Analytical Methods in Chemistry**

Subject Code: P19CHC34

- To provide basic understanding of electroanalytical and thermoanalytical techniques.
- To study the importance of various spectroanalytical methods.

### **Medicinal and Pharmaceutical Chemistry**

Subject Code: P19CHE31

- To get mastery over all the fundamentals of medicinal chemistry.
- To study the synthesis, mechanism, action and applications of various types of drugs.

### **Polymer chemistry**

Subject Code: P19CHE32

- To study the classifications and properties of different polymers
- To learn the various polymerization techniques.

### **SEMESTER IV Organic Chemistry IV**

Subject Code: P19CHC41

- To get mastery over retrosynthesis.
- To study the structural elucidation of alkaloids, terpenoids and steroids.
- To learn ORD, CD and chromatographic techniques.
- To gain the basic knowledge in green chemistry.



### **Inorganic Chemistry IV**

Subject Code: P19CHC42

- To review nuclear chemistry thoroughly
- To gain a detailed knowledge of lanthanides and actinides.
- To learn the fundamentals of solid state chemistry.
- To study the role of photochemistry in inorganic chemistry.

### **Physical Chemistry IV**

Subject Code: P19CHC43

- To learn the physical chemistry background for various spectral techniques.
- To study precisely colloids and surface chemistry
- To get a detailed knowledge in photochemistry.
- To study the role of physical aspects of some biological process

### **Organic Chemistry Practical II**

Subject Code: P19CHP41

- To study the basics of separation and analysis of mixture of organic compounds.
- To interpret the UV, IR and NMR spectra of organic compounds.

### **Inorganic Chemistry Practical II**

Subject Code: P19CHP42

- To practice quantitative estimation of more than one cation using volumetric and gravimetric estimations.
- To practice the preparation of simple co-ordination compounds.
- To study the basics of photolorimetric estimation of metals.



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## **COURSE OUTCOME**

### **SELF LEARNING**

#### **CRITICAL ANALYSIS OF GATE/CSIR-NET QUESTIONS**

SUBJECT CODE: P19CHSL32

- Understand the fundamentals of chemistry concepts
- Apply and solve the chemistry problems
- Prepare for the competitive exam
- Pass the competitive exam successfully



**COURSE OUTCOMES**

**UNDERGRADUATE**

**III - Year**

**V - Semester**

**Employability Skills**

**Subject Code: U1PS51**

**In this course, the students will**

<b>CO1:</b>	Enrich them with the employability skills like reasoning skills and aptitude skills.
<b>CO2:</b>	Get adequate exposure to various types of competitive examinations.
<b>CO3:</b>	Get enough training in OMR based answer sheet.



**COURSE OUTCOMES**

**UNDERGRADUATE**

**I - Semester**

**Value Education**

**Subject Code: U1VE11**

**In this course, the students will**

<b>CO1:</b>	Learn to choose their own personal moral and spiritual values.
<b>CO2:</b>	Learn to become responsible citizens.
<b>CO3:</b>	Get sensitized to value formation.