

Course outcomes of
B. Sc Chemistry - Semester I
Paper – I

S1-CO1:

Predict the bond order & magnetic behavior for various molecules on the basis of MOED.
In a given, mathematical data, accuracy, precision & error can be explained.

S1-CO2:

Describe the synthesis & list the various types of B, C, Si & N compounds.

S1-CO3:

Based on bond polarization acidity & basicity & stability of reactive intermediate of different hydrocarbs can be determined .

S1-CO4:

Understand physical & chemical reaction of Aliphatic hydrocarbon and aromatic hydrocarbon and the aromaticity of aromatic compounds can predicted by Huckel's rule.

S1-CO5:

Understand Black body radiation, heat capacities of solids, Rayleigh Jeans law, Planck's radiation law, photoelectric effect, Limitations of classical mechanics, Compton effect, de Broglie's hypothesis.

S1-CO6:

Acquire Knowledge about van der Waal's equation and critical state. Derivation of relationship between critical constants and van der Waal's constants.

S1-C07:

Understands how to determine viscosity using Ostwald viscometer and acquire knowledge about Azetrope mixtures.

S1-C08:

By considering principles of solubility product & common ion effect cation can be discriminated by anions in a salt mixture

S1-C09:

Classify stereoisomer's based on symmetry criteria and energy criteria.

S1CO10:

Interpret E/ Z Configuration.

S1 CO11:

Predict the Conformations of simple organic molecules

S1 CO12:

By using Bragg's equation various crystal structure can be determined & by qualitative analysis one can determine the weight of chemical substance.

**Course outcomes of
B. Sc Chemistry - Semester 1I
Paper – 2**

S2-CO1:

To understand the physical and chemical properties of oxides Oxy- acids of p elements.

S2-CO2:

Defines the properties of d-block elements.

S2-CO3:

Defines Structure, bonding and reactivity of Xenon – Oxides, Halides and Oxy-halides and Acquire knowledge about clathrate compounds.

S2-CO4:

Explore the methods of preparation and properties of halogen compound and one can express the stereochemistry of SN1 & SN2 reactions.

S2-CO5:

Explore the methods of preparation and properties of alcohols, ethers and carbonyl compounds and current applications.

S2-CO6:

Acquire knowledge on Hittorf's method, Kohlrausch law, Arrhenius theory, Ostwald dilution law, DebyeHuckle Onsager equation and predicts its applications. Accomplish the Nernst Equation, EMF of a cell, Single electrode potential, Standard hydrogen electrode, electrochemical series.

S2-CO7:

Understand the basic principle of titrations and indicators used for different types of titrations

S2-CO8:

Classify stereoisomer's based on symmetry criteria and energy criteria. Interpret R and S configuration, D/L Nomenclature.

Course outcomes of
B. Sc Chemistry - Semester III

Paper – III

S3 CO1

Defines the properties of f-block elements and non-aqueous solvents

S3CO2

Differentiate the symmetry elements, operations in molecules, lanthanides and actinides

S3CO3

Explore the methods of preparation and properties of alcohols, ethers and carbonyl compounds and current applications

S3CO4

Design the Phase equilibria of one component and two component system, compound with congruent and incongruent melting point.

S3 CO5

Demonstrate the methods of preparations and properties, of colloids, Analyze adsorption isotherms and its industrial applications to reduce pollution and compute the surface area of adsorbent

S3CO6

Know the synthetic techniques of Nano structured materials, its current applications.

S3 CO7

Classify stereoisomer's based on symmetry criteria and energy criteria.

S3CO8

Interpret R and S configuration, D/L Nomenclature and E/ Z Configuration.

S3 CO9

Predict the Conformations of simple organic molecules

Course outcomes of
B. Sc Chemistry - Semester IV

Paper – IV

S4CO1

Describe the postulates and limitations of Werners theory ,Sidwick's and VBT theory. S4CO2

.Acquire knowledge on the IUPAC Nomenclature and solve the EAN of coordination compounds.

S4CO3

Categorise the Organometallic compounds of Li Mg Al abd Metal carbonyls.Dicuss its applications.

S4CO4

Understand the preparation methods and its synthetic applications in industry of carboxylic acids and carbanions.

S4CO5

.Have an idea on all named reactions and mechanisms of carboxylic acids and nitrohydrocompoundsand focus on its industrial applications.

S4CO6

Acquire knowledge on Hittof's method ,Kholrausch law ,Arrhenius theory,Ostwald dilution law,DebyeHuckle Onsagar equation and predicts its applications.

S4CO7

Accomplish the Nernst equation, EMF of a cell ,Single electrode potential, Standard hydrogen electrode,electrochemical series.

**Course outcomes of
B. Sc Chemistry - Semester V**

Paper – V

S5CO1

Understand the theories of coordination compounds and stability of metal complexes.

S5CO2

List and judge the applications of coordination compounds in various fields

S5CO3

Know about the clusters with the examples of Borane and carborane

S5CO4

Compare the property and reactivity of different class of amines and design the synthesis pathway of different organic compounds using amines

S5CO5

Classify heterocyclic compounds and compare their aromatic character and reactivity

S5CO6

Develop concept on reaction kinetics with special reference to factors influencing the rate and evaluate the merits of different theories of reaction rate

S5CO7

Know about electromagnetic radiation and understand the interaction of electromagnetic radiation with molecules - various types of molecular spectra

S5CO8

Learn to analyze the consequences of light absorption with reference to various photo physical processes and photochemical reactions with normal and abnormal quantum yield.

Course outcomes of
B. Sc Chemistry - Semester V

Paper – VI

S6CO1

Acquire the knowledge of principle and methods of solvent extractions and their application.

S6CO2

Understand the classification of Chromatographic methods, principle, nature of adsorbents and solvent systems.

S6CO3

Understand and evaluate Principle, Instrumentation and application of TLC, Paper chromatography, Column chromatography, IEC, GC, HPLC techniques.

S6CO4

Illustrate general features of absorption, its laws.

S6CO5

Acquire the Knowledge of Instrumentation of Spectrophotometry, its principle and with their application in estimation of Iron, Chromium and Manganese in Steel.

S6CO6

Know about the of types of electroanalytical methods.

S6CO7

Analyze the principles, types of electrodes used and applications of potentiometry, Voltametry and conductometry.

Course outcomes of
B. Sc Chemistry - Semester VI

Paper – VII

S7CO1

Understand the concept of Inorganic reaction mechanism with respect to octahedral and tetrahedral complexes

S7CO2

Know about the Biological significance of essential elements and toxicity of heavy metals

S7CO3

Acquire knowledge about carbohydrate chemistry with reference to definition, classification and evaluation of structure from reactions.

S7CO4

Acquire knowledge about chemistry of amino acids – essential amino acids, Biological importance. Learn to relate the peptide bond formation for the synthesis of protein

S7CO5

Have an extensive knowledge on Thermodynamics with reference to different Thermodynamic functions, processes, work of expansion and laws of Thermodynamics

S7CO6

Understand the applications of Thermodynamics in basic sciences for deriving equations, in engineering science for calculating efficiency of machine and evaluation of spontaneity of process. Learn to derive the equation of spontaneity, Gibb's equation and Maxwell's relations

S7CO7

Understand the principle of Nuclear Magnetic Resonance, concept of chemical shift and splitting of signals – spin –spin coupling. Implement the concept in analyzing the NMR spectrum for identification of organic compounds

S7CO8

Understand the basic principle of mass spectrometry and learn to determine the mass spectral pattern of different organic compounds.

Course outcomes of
B. Sc Chemistry - Semester VI

Paper – VIII

S8 CO1

Recalling Infective and hereditary diseases.

S8CO2

Know about the terminology in medicinal chemistry and Nomenclature of Drugs.

S8CO3

Understand ADME of Drugs.

S8CO4

Acquire the knowledge of mechanism of action of drugs and factors effecting action of Enzyme and Receptors.

S8CO5

Evaluate the Synthesis and therapeutic activity of Drugs related to Chemotherapeutics, acting on metabolic disorders and acting on nervous system.

S8CO6

Analyzing the function of molecular messengers and health promoting drugs.