

Department of Chemistry, Gargaon College
Programme Specified outcome of Chemistry (Major)

After graduation the students will be able-

PSO1: To understand Inorganic, Organic and Physical Chemistry in their advanced treatment.

PSO2: To provide the students importance of chemical thermodynamics, non-transition metals, metals along with different types of organic reaction.

PSO3: To understand Coordination Chemistry, mechanism and the importance of d- and f block elements.

PSO4: Importance of Halogenated Hydrocarbons, Chemistry of Carbonyls along-with sulphur containing compound are discussed in this course.

PSO5: Electrochemistry is one of the topics that really revolutionized the world nowadays. This paper deals with this particular aspect.

PSO6: Electrochemistry is one of the topics that really revolutionized the world nowadays. This paper deals with this particular aspect.

PSO7: This course is designed to impart the ideas of kinetics, solution equilibrium and surface phenomena amongst the students.

PSO8: The objective of the paper is to give knowledge on organometallic compounds, clusters and organic reagents in inorganic analysis.

PSO9: To acquire knowledge in different types of organic reaction and to understand biochemistry.

PSO10: The objective of the paper is to have knowledge on quantum mechanics with special reference to classical mechanics, symmetry and bonding.

PSO11: To understand different topics like photochemistry, macromolecules, catalysis and statistical thermodynamics.

PSO12: This paper highlights the concept of disconnection approach in organic chemistry as well as different analytical tools like UV, IR, NMR in organic chemistry. Importance of dyes, lipids, polymers are also dealt with.

PSO13: This paper deals with the interaction of electromagnetic radiation with matter in various forms.

Course Outcome of Chemistry

Course Code: CHEM 101:

After completion of the course the students will learn about:-

CO1: Gas

CO2: Liquid

CO3: Solids

CO4: Periodic properties

CO5: Bonding and structure

CO6: Basics of Organic Chemistry

CO7: Stereochemistry

Course Code: CHEM 201:

After completion of the course the students will learn about:-

CO1: Chemical Thermodynamics –I

CO2: Ionic equilibrium

CO3: Non Transition elements

CO4: Metals

CO5: Carbon- Carbon sigma bonds and Carbon-Carbon pi bonds

CO6: Cycloalkanes and conformational analysis

CO7: Aromatic Hydrocarbons

Course Code: CHEM 301:

After completion of the course the students will learn about:-

CO1: Coordination compounds

CO2: Inorganic reaction mechanism

CO3: Chemistry of d- and f- block elements

Course Code: CHEM 302

After completion of the course the students will learn about:-

CO1: Inorganic Qualitative analysis

Course Code: CHEM 303:

After completion of the course the students will learn about:-

CO1: Chemistry of Halogenated Hydrocarbons

CO2: Chemistry of C-O Bond

CO3: Carbonyl Compounds: Aldehydes and ketones (aliphatic and aromatic)

CO4: Carboxylic acid and their derivatives

CO5: Sulphur containing compounds:

Course Code: CHEM 304:

After completion of the course the students will learn about:-

CO1: Organic Qualitative analysis

CO2: Organic preparation

Course Code: CHEM 401:

After completion of the course the students will learn about:-

CO1: Chemical Thermodynamics II

CO2: Conductance

CO3: Electrochemical cell

Course Code: CHEM 402:

After completion of the course the students will learn about:-

CO1: Physical Chemistry experiment

Course Code: CHEM 403:

After completion of the course the students will learn about:-

CO1: Active Methylene Compounds

CO2: Nitrogen containing functional groups: Aliphatic and aromatic Amines:

CO3: Amino acids and proteins.

CO4: Polynuclear Aromatic Hydrocarbons

CO5: Heterocyclic Compounds

CO6: Alkaloids

Course Code: CHEM 404:

After completion of the course the students will learn about:-

CO1: Chromatographic separation of the following mixtures and calculation of R_f value of the compounds.

Course Code: CHEM 501:

After completion of the course the students will learn about:-

CO1: Chemical Kinetics

CO2: Solution and Colligative Properties

CO3: System of Variable Composition and Chemical Equilibrium

CO4: Surface Chemistry

CO5: Colloidal state

Course Code: CHEM 502:

After completion of the course the students will learn about:-

CO1: Physical Experiments

Course Code: CHEM 503:

After completion of the course the students will learn about:-

CO1: Organometallic compound

CO2: Transition metal clusters

CO3: Error in quantitative analysis

CO4: Organic reagents in inorganic analysis

Course Code: CHEM 504:

After completion of the course the students will learn about:-

CO1: Volumetric titrations

CO2: Estimation of Total hardness of water samples

Course Code: CHEM 505:

After completion of the course the students will learn about:-

CO1: Pericyclic reactions

CO2: Bio-molecules

CO3: Nucleic acids & Enzymes

CO4: Pharmaceutical compounds: Structure and Importance

CO5: Terpenes

Course Code: CHEM 506:

After completion of the course the students will learn about:-

CO1: Organic Quantitative analysis

CO2: Food Analysis

Course Code: CHEM 507:

After completion of the course the students will learn about:-

CO1: Symmetry and Group theory

CO2: Quantum Chemistry and Chemical Bonding

CO3: Chemical Bonding

Course Code: CHEM 508:

After completion of the course the students will learn about:-

CO1: Quantitative analysis inorganic compounds

Course Code: CHEM 601:

After completion of the course the students will learn about:-

CO1: Photochemistry

CO2: Macromolecules

CO3: Catalysis

CO4: Phase Equilibria

CO5: Statistical Thermodynamic

Course Code: CHEM 602:

After completion of the course the students will learn about:-

CO1: Physical Chemistry Experiment

Course Code: CHEM 603:

After completion of the course the students will learn about:-

CO1: Bio inorganic Chemistry

CO2: Introduction to material chemistry

CO3: Chromatographic Methods

CO4: Industrial chemistry:

Course Code: CHEM 604:

After completion of the course the students will learn about:-

CO1: Inorganic preparation & Crystallization

Course Code: CHEM 605:

After completion of the course the students will learn about:-

CO1: Disconnection approach in organic synthesis

CO2: UV-visible Spectroscopy, IR Spectroscopy, NMR Spectroscopy

CO3: Lipids

CO4: Dyes

CO5: Polymers

CO6: Green Chemistry

Course Code: CHEM 606:

After completion of the course the students will learn about:-

CO1: Two step organic preparations (monitoring by TLC)

Course Code: CHEM 607:

After completion of the course the students will learn about:-

CO1: General Principles

CO2: Microwave Spectroscopy

CO3: Infrared and Raman spectroscopy

CO4: Electronic spectroscopy

CO5: Spin resonance spectroscopy

Course Code: CHEM 608:

After completion of the course the students will learn about:-

CO1: Project work

Course Code: CHEG 101:

After completion of the course the students will learn about:-

CO1: Atomic Structure

CO2: Chemical Bonding and Molecular Structure

CO3: Kinetic Theory of gases
CO4: Liquid state:
CO5: Solids
CO6: Introduction to Organic Chemistry
CO7: Stereochemistry
CO8: Aliphatic Hydrocarbons

Course Code: CHEG 201:

After completion of the course the students will learn about:-

CO1: Coordination Chemistry
CO2: Chemistry of non-metals
CO3: Inorganic Material Chemistry
CO4: General principles of metallurgy