


# INDIRA GANDHI GOVT. COLLEGE PANDARIYA

## Department of Chemistry

### Program Outcomes : B.Sc. Chemistry

#### Chemistry

Department of Chemistry	After successful completion of three year degree program in Chemistry a students should be able tor
Program Outcomes	<p>PO- 1. Demonstrate, solve and an understanding of major concepts in all disciplines of chemistry.</p> <p>PO- 2. Solve the problem and also think methodically, independently and draw a logical conclusion.</p> <p>PO- 3. Employ critical thinking and the scientific knowledge to design, carry out, record and analyze the results of chemical reaction.</p> <p>PO- 4. Create an awareness of the impact of chemistry on the environment, society, and development outside the scientific community.</p> <p>PO- 5. Find out the green route for chemical reaction for sustainable development.</p> <p>PO- 6. To inculcate the scientific temperament in the students and outside the scientific community.</p> <p>PO- 7. Use modern techniques, decent equipment's and Chemistry software's.</p>

  
PRINCIPAL  
INDIRA GANDHI GOVT. COLLEGE  
PANDARIA, DISTT. KABIRDHAM (C.G.)

## Course Outcome B.Sc. Chemistry

### Class- B.Sc. First Year

Course	Outcomes
	<b>After Completion of this Course &amp; students will be able to :</b>
<b>B.Sc. First Inorganic Chemistry</b>	CO:1 Understand atomic structure and rules, principle related to it. CO:2 Know the structure and bonding in molecules and ions and predict the structure of molecules. CO:3 Study the periodic elements of S block, p blocks and noble gases. CO:4 Understand the basic principles of qualitative analysis.
<b>B.Sc. First Organic Chemistry</b>	CO:1 Distinguish between geometrical and optical isomerism. CO:2 Learn the stereochemistry of organic compounds. CO:3 Understand between aliphatic and aromatic hydrocarbons.
<b>B.Sc. First Physical Chemistry</b>	CO:1 Learns Mathematics and solves problem related to it. CO:2 Understand Gaseous state Chemistry, Properties and laws. CO:3 Write and expression for Rate constant for first and second order equation. CO:4 Solve the numerical problems On Chemical kinetics. CO:5 Explain surface chemistry, liquid state chemistry. CO:6 Understand the absorption of gases by solid isotherms.
<b>Class- B.Sc. Second Year</b>	
Course	Outcomes
	<b>After Completion of this Course &amp; students will be able to :</b>
<b>B.Sc. Second Inorganic Chemistry</b>	CO:1 Understand chemistry of transition metal complexes. CO:2 Learn oxidation and reduction process. CO:3 Understand coordination chemistry and various theory related to it. CO:4 Study of acid-base, non-aqueous chemistry. CO:5 Learn properties of Lanthanide and actinides.
<b>B.Sc. Second Organic Chemistry</b>	CO:1 Understand chemistry of organic halides. CO:2 Learn nomenclature, preparations, properties and relative reactivity of alcohols and phenols and named reactions. CO:3 Learn structure, reactivity preparations and mechanism of named reactions of aldehydes and ketones. CO: 4 Understand properties, structure, binding, and mechanism of named reactions of carboxylic acids. CO:5 Learn Chemistry of nitrogen containing organic compounds.

<b>B.Sc. Second Physical Chemistry</b>	<p>CO:1 Know the meaning of phase, Component and degree of freedom.</p> <p>CO:2 Realize the concept related to chemical equilibrium and phase equilibrium.</p> <p>CO:3 Learn the thermodynamic description of exact, inexact differential and state function.</p> <p>CO:4 Understand thermodynamics terms and solve numerical problems related to it.</p> <p>CO:5 Explain different laws of thermodynamics.</p> <p>CO:6 Study of photochemistry and phenomenon associated with it.</p>
<b>Class- B.Sc. Third Year</b>	
<b>Course</b>	<b>Outcomes</b>
<b>After Completion of this Course &amp; students will be able to :</b>	
<b>B.Sc. Second Inorganic Chemistry</b>	<p>CO:1 Understand nature of bonding in transition metal complexes.</p> <p>CO:2 Learn magnetic and electronic properties of transition metal complexes.</p> <p>CO:3 Get insight of organometallic chemistry.</p> <p>CO:4 Distinguish between hard, soft acid and bases.</p> <p>CO: 5 Understand bioinorganic Chemistry.</p>
<b>B.Sc. Second Organic Chemistry</b>	<p>CO:1 study of carbohydrates: introduction of sugars.</p> <p>CO:2 Understand biomolecules proteins, amino acids and nucleic acids.</p> <p>CO:3 Study of organometallic compounds.</p> <p>CO:4 Study of Synthetic dyes and synthetic polymers.</p> <p>CO:5 Learn instrumentation and features applications, working of several spectroscopic techniques.</p>
<b>B.Sc. Second Physical Chemistry</b>	<p>CO:1 Learn the molecular spectroscopy, Raman, Electronic and vibrational spectroscopy and its application.</p> <p>CO:2 Learns postulates of quantum mechanics, Schrödinger equations and its applications.</p> <p>CO:3 Understand molecular orbital theory and harkles molecular orbital theory.</p> <p>CO:4 Learns about various physical properties of molecules such as dipole moment magnetic property and relationship with molecular structure.</p> <p>CO:5 Know the concept of polarizability.</p> <p>CO: study of photochemistry Its laws and phenomenon associated with it.</p>

Course	Outcomes
	<b>After Completion of this Course &amp; students will be able to :</b>
<b>B.Sc. First Year Chemistry Practical</b>	CO-1 Study the determination of surface tension and viscosity. CO-2 Determine melting and boiling points of various compounds. CO-3 Determine functional groups of several organic mixtures. CO-4 Determine functional groups of several organic mixtures. CO-5 Determine rate of esterification and kinetics of saponification CO-6 Perform crystallization and purification of organic compounds. CO-7 Learns best practices and practices and safety rules of laboratories.

Course	Outcomes
	<b>After Completion of this Course &amp; students will be able to :</b>
<b>B.Sc. Second Year Chemistry Practical</b>	CO-1 Learns weighing, solution preparation of different molarity and normality. CO-2 Performs different volumetric and estimation of different types. CO-3 To understand chromatographic separation. CO-4 Learns determination of transition temperature. CO-5 Performs various thermochemistry experiments to understand concepts of thermochemistry. CO-6 Understand phase equilibrium through experiments.

Course	Outcomes
	<b>After Completion of this Course &amp; students will be able to :</b>
<b>B.Sc. Third Year Chemistry Practical</b>	CO-1 Prepare and synthesize Various inorganic complexes and organic Compounds. CO-2 Performs binary separation of organic mixtures and analysis of compounds. CO-3 Study the gravimetric and volumetric analysis. CO-4 Study the instrumentation and performs various experiments with spectrophotometer, calorimeter, PH meter. CO-5 Learns handling of Instruments.

  
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