

**S. N. S. Govt. P.G. College Narayan nagar,
Pithoragarh**

Chemistry Department

Course Outcome

B. Sc. - Chemistry

At the completion of B. Sc. in Chemistry the students are able to:

- Provide a broad foundation in chemistry that stresses scientific reasoning and Analytical problem solving with a molecular perspective.
- Achieve the skills required to succeed in graduate school, the chemical industry and professional school.
- Get exposures of a breadth of experimental techniques using modern instrumentation.
- Understand the importance of the Periodic Table of the Elements, how it came to be, and its role in organizing chemical information.
- Understand the interdisciplinary nature of chemistry and to integrate knowledge of mathematics, physics and other disciplines to a wide variety of chemical problems.
- learn the laboratory skills needed to design, safely and interpret chemical research.
- Acquire a foundation of chemistry of sufficient breadth and the depth to enable them to understand and critically interpret the primary chemical literature.
- Develop the ability to communicate scientific information and research results in written and oral formats.
- learn professionalism, including the ability to work in teams and apply basic ethical principles.

S N S Govt. P.G. College Narayan Nagar,
Pithoragarh

Chemistry Department

Course Specific Outcome

B. Sc. Ist SEM PAPER-I: Organic Chemistry

After Completing the Paper Students are able to understand:

- Types of hybridization sp , sp^2 , sp^3 with examples.
- Types of isomerisation and conditions.
- Curve arrow notation and types of organic reactions.
- I.U.P.A.C., R- S-, E and Z Nomenclature with properties of alkanes and cycloalkanes
- Chiral and Achiral molecule and conformational isomerism.
- Nomenclature of alkenes, benzene, alkynes
- Aromaticity
- Nomenclature and classification of diene
- Nomenclature of alkyl halides
- Mechanism of different types of reactions.
- Ortho/para orientation

B. Sc. Ist SEM PAPER-II: Inorganic Chemistry

After Completing the Paper Students are able to understand:

- Significance of ψ and ψ^2
- Radial angular wave function
- Rules of the filling of the orbitals according to the energy levels in the atom like Aufbau principle/Hund's rule.
- Effective nuclear charge, Shielding effect, Slater's rules, variation of nuclear charge in periodic table.
- Atomic, Ionic, Crystal and Covalent radii.
- Electronegativity, Ionisation energy and enthalpy.
- Variation of electronegativity with bond order.
- Fajan's rule
- Metallic-bond –electron pool
- Periodic properties of s and p block elements
- Diagonal relationship

B. Sc. IInd SEM PAPER-I: Inorganic Chemistry

After Completing the Paper Students are able to understand:

- MO diagrams and bond order of diatomic molecules
- The meaning of the terms used in coordination chemistry
- Acid and base concept
- Characteristic properties of transition elements, co-ordination number and magnetic properties
- Second and third transition series
- Basics of metallurgy

B. Sc. IInd SEM PAPER-II: Physical Chemistry

After Completing the Paper Students are able to understand:

- Preparation, stability, shape and size of colloids
- Colloidal dispersion, Emulsion and Gel
- Equation of state and kinetic theory of gases
- Types of molecular velocities and Maxwell distribution
- Deviation of gases from ideal behaviour
- Definitions and terminology of crystals
- Laws of crystallography
- Catalysis
- Order and molecularity of reactions
- Activation energy

B. Sc. IInd Year Paper-I: Inorganic Chemistry

After Completing the Paper Students are able to understand:

- The meaning of the terms used in coordination chemistry
- Acid and base concept
- Characteristic properties of transition elements, co-ordination number and magnetic properties
- Second and third transition series
- Electrode potential
- Electrochemical series
- Properties of Lanthanides and actinides
- Classification of solvents and their characteristics
- Theories and concept of corrosion.

B. Sc. IInd Year Paper-II: Organic Chemistry

After Completing the Paper Students are able to understand:

- Difference between alcohols and phenols
- Difference between aldehydes and ketones
- Characteristic reactions of functional group of alcoholic, phenolic and carbonyl
- Types of electromagnetic radiations and absorption spectroscopy
- Characteristics of functional groups in absorption
- Concept of fingerprint region, intensity and position of IR band
- Grignard's reagent and epoxides
- Nomenclature and properties of carboxylic acids and their derivatives
- Organic synthesis via enolates
- Chemical reaction of nitrogen containing compounds
- Nomenclature of alkyl halides
- Mechanism of esterification and saponification.
- Azo coupling

B. Sc. IInd Year Paper-III: Physical Chemistry

After Completing the Paper Students are able to understand:

- Concept of heat and work.
- Hess's law of constant heat summation
- Concept of engine
- Different statements of second law of thermodynamics
- Carnot Theorem and Carnot cycle
- Concept of different types of processes and path
- Criteria of spontaneity and different thermodynamic functions
- Meaning of the phase, components and degree of freedom
- Expression of phase rule
- Phase equilibrium of one and two component system
- Raoult's and Henry law
- Non ideal systems and liquid mixtures
- Nernst's distribution law
- Electrical conduction and electrolysis
- Types of electrolytes
- Transport of ions
- Debye -Huckel Theory
- Types of electrodes and cells.
- Types of adsorption isotherm.

B. Sc. Vth SEM PAPER: Inorganic Chemistry-5

After Completing the Paper Students are able to understand:

- Stability of metal complexes and co-ordination compounds
- Crystal field theory
- Crystal field splitting in Tetrahedral, Octahedral and Square planer complexes
- Magnetic and spectroscopic properties of transition metal complexes.

B. Sc. Vth SEM PAPER: Organic Chemistry-5

After Completing the Paper Students are able to understand:

- Principles of NMR spectroscopy, magnetic and nonmagnetic nuclei
- Nuclear resonance, chemical shift, shielding and deshielding
- Measurement of chemical shift
- Characteristics of carbohydrates
- Characteristics of organo-sulphur and organometallic compounds

B. Sc. Vth SEM PAPER: Physical Chemistry-5

After Completing the Paper Students are able to understand:

- Introduction of electromagnetic radiation with molecule
- Born –Oppenheimer approximation
- Regions of the spectrum
- Black body radiation, uncertainty principle
- Concepts of operators

B. Sc. VIth SEM PAPER: Inorganic Chemistry-6

After Completing the Paper Students are able to understand:

- Acid base classification
- Hard and soft acid and bases
- Nomenclature and classification of organometallic compounds
- Role of trace elements in biological systems
- Silicones and polymer of phosphorous
- Cement and fertilizers.

B. Sc. VIth SEM PAPER: Organic Chemistry-6

After Completing the Paper Students are able to understand:

- Chemistry of terpenoids
- Types of polymers
- Classification of amino acids, proteins and peptides with their properties
- Soap and detergents
- Colour and constitution
- Synthesis and use of dyes.

B. Sc. VIth SEM PAPER: Physical Chemistry-6

After Completing the Paper Students are able to understand:

- Molecular structure in relation to optical rotation
- Dipole moments
- Laws of photochemistry
- Ideal and non ideal solutions
- Third law of thermodynamics

Programme and course outcomes for all Programmes offered by the institution.

Name of Teacher:

Department:

Courses UG & PG (wise)

Classes	Subject	Paper	course outcomes
B.Sc-I Sem	Zoology	Paper-I - Non-chordata Taxonomy, Evolution and Palaeontology	<ul style="list-style-type: none"> • Able to distinguished between chordates and Non-chordates • Can understand the importance of biodiversity, their taxonomic places and identification.
B.Sc-II Sem	Zoology	Paper-I Cell Biology and Genetics	<ul style="list-style-type: none"> • The students will able to understand the basic structure & functions of cell & its organelles. • Also get to know about various syndromes related to cells and genes
		Paper-II Molecular Biology, Elementary Biotechnology and Biological techniques	<ul style="list-style-type: none"> • Gain knowledge about structure and functions of DNA, mutations and Gene therapy. • Also get to know about various techniques used in biological field.
B.Sc-II Year	Zoology	Paper-I Animal Diversity (Chordata), Developmental Biology and Palaeontology	<ul style="list-style-type: none"> • Able to understand the diversity among chordates, their developmental patterns and evolutionary relationships.
		Paper-II Ecology, Animal Behaviour and Applied Zoology	<ul style="list-style-type: none"> • Students able to understand - • Importance of environment • How to deal with animals • Economic use of animals for human welfare.
B.Sc-IV-30m	Zoology	Paper-I Microbiology	<ul style="list-style-type: none"> • Students will able to understand various microbes, related diseases
		Paper-II Animal Behaviour	<ul style="list-style-type: none"> • Gain a comprehensive understanding of the behaviour of animals.
		Paper-III Toxicology and Histology	<ul style="list-style-type: none"> • Gain understanding of chemical or drugs and its metabolism. • Histological understanding of various organs.
B.Sc VI - Sem	Zoology	Paper-I Biological chemistry and Basic mammalian Endocrinology	<ul style="list-style-type: none"> • Able to understand the chemical aspects of biological processes & functions of hormones.
		Paper-II Animal Physiology	<ul style="list-style-type: none"> • Can understand various biological processes.
		Paper-III Bioinformatics and Biostatistics	<ul style="list-style-type: none"> • Able to apply computer based approaches to the understanding

Programme and course outcomes for all Programmes offered by the institution.

Name of Teacher:

Department:

Courses UG & PG (wise)

Classes	Subject	Paper	course outcomes
B.Sc. I (I sem)	Physic	(1) Mechanics (2) Electromag- -netism	The course offers a broad of Newtonian physics and students to develop a view to the law of Nature and working to daily life.
B.Sc. II			
B.Sc. III (III sem)	Physic	(1) Atomic & molecular Physics (2) Quantum mechanics (3) Solid state devices	Almost the outcome is same above except the Quantum which seeks the physics at subatomic level, to the reality of nature.

Programme and course outcomes for all Programmes offered
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Name of Teacher:

Department:

Courses UG & PG (wise)

Classes	Subject	Paper	course outcomes
B.Sc. V Semester	Mathematics	1. Linear Algebra 2. Complex Analysis 3. Functions of several variables and PDE.	Students may go to higher studies in the subject and also they choose other sectors.
B.Sc. VI Semester	Mathematics	1. Numerical Methods 2. Mathematical Statistics 3. operation research	Beurocracy, Technology, and Civil Services. Moreover, they be benefitted through NEET, JAM, GATE, JEST, GRE etc.
B.Sc. I Sem	,	1. Elementary Algebra, Matrices & Trigonometry 2. Differential Calculus	
B.Sc. II Sem	,	1. Geometry and vector Analysis 2. Integral Calculus.	

Programme and course outcomes for all Programmes offered by the institution.

Name of Teacher: Dr. Sudhir Kumar Tiwari

Department: English

Courses UG & PG (wise)

Classes	Subject	Paper	course outcomes
B.A. I I / II Sem.	English Litt.	I / II	Students will identify proper end for questions, identify appropriate materials sources for research, and engage effectively with sources oral communication as well enhance their knowledge in literary
B.A. II	English Litt.	I / II	Students will practice a critical thinking reading skills so that they can develop original ideas, rather than simply echo the ideas of others. Students will learn to evaluate the credibility of sources, use academic sources and incorporate sources of
B.A. III IV / V Sem.	English Litt.	I / II	Demonstrate a broad understanding of literature in English and translate appropriate the role that the historical context plays in the creation and interpretation of literary work.
		I / II	

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Programme and course outcomes for all Programmes offered by the institution.

Name of Teacher: Anul Huda

Department: Sociology

Courses UG & PG (wise)

Classes	Subject	Paper	course outcomes
B.A I sem	Sociology	Paper I	Sociology as a social science and the distinctiveness of its approach among the social sciences.
		Paper II	Present a comprehensive and integrated profile of Indian society. This paper aims to analyse traditional features of Indian society.
B.A II sem	"	Paper I	This paper is intended to familiarize the students with some basic sociological concepts. Its objective is to help students to gain an understanding about society through these concepts.
		Paper II	The continuity between the present and the past is an evident feature of Indian society. This course will enable students to gain a better understanding about their own society.
B.A II year	"	Paper I	This paper is intended to develop an understanding of social dynamics and the process of change.
B.A II year	"	Paper II	This course aims to provide an understanding of the nature of social phenomena. This paper is intended to acquaint the students with different research methods and techniques as a means of understanding social reality.
B.A V sem	"	Paper I	Its objective is to help students to gain an understanding of some of the classical contributions in sociology and their continuing relevance to its contemporary concerns.
		Paper II	The objective of this paper is to help students acquire an appreciation of the potential application of the discipline.
B.A VI sem	"	Paper I	This paper is intended to analyze the various sociological concepts and theories developed by Indian sociological thinkers.

B.A VI sem Sociology Paper II → This course is designed to identify and analyze some emerging social issues and problems

M.A. I sem Sociology Paper I → the basic premise of all classical Sociological theory is that the contemporary world is outcome of a transition from traditional to modern societies. Sociological theory aims to understand what we know as the Modern world

paper II → This course aims to provide and understanding of the nature of social phenomena, the issues involved in social research and the means of understanding and studying social reality. This paper is intended to acquaint the students with different research methods and techniques as a means of understanding social reality

paper III → The basic purpose of agricultural extension is changing the behaviour of farmers as desired. of farmers therefore, knowledge and understanding of rural people is essential. It is the rural sociology which provides this knowledge and understanding about the farmer vis-a-vis rural social system in which he lives

paper IV → It is a normative discipline of sociology seeking to study the structures, environmental processes, changes and problems of an urban area and by doing so provide inputs for urban planning and policy making

M.A II sem Paper I → This paper is intended to analyze the various sociological concepts and theories developed by Indian sociological thinkers the course will also examine the theoretical relevance and analytical utility of the premises methodology and conclusion of these diverse perspectives in understanding society and change

paper II → This course plans to provide exposure to the fundamentals of various quantitative methods which are useful in social research. Teaching certain quantitative methods, statistical techniques and methods to collect and analyse the data would help the students to organize and analyze the information gathered by them

paper III → This paper is intended to familiarize the students with the rural social, political, economic and intellectual context in which sociology emerged as a distinctive discipline

paper IV → This paper is intended to trade and commerce urbanization advance the country's business sectors by providing more jobs and more diverse economy

M.A III sem Sociology Paper I → all of the theories are correct in the sense that they offer compelling explanations for social phenomena. the theoretical perspectives in sociology use ~~both~~ both micro- and macro perspectives to understand sociological and cultural phenomena

Paper II → this paper is intended to familiarise the students with the social, political, economic and intellectual context in which sociology emerged as a distinctive discipline. Its objective is to help students to gain an understanding of some of the classical contributions in sociology and their continuing relevance to its contemporary concerns

Paper III → The primary aim of our curriculum is to provide students with the knowledge and analytic skills necessary to understand tribes, society, culture and problems of tribes etc.

Paper IV → The ability to apply theory and research to real world ~~and~~ problems in criminal justice. Development of critical thinking, ethical decision making and an understanding of diversity as it pertains to crime, offenders, victims and the criminal justice system

M.A IV sem Sociology paper I → Sociologists today employ three primary theoretical perspectives the symbolic interactionist perspective the functionalist perspective and the conflict perspective these perspectives offer sociologists theoretical paradigms for explaining how society influences people and vice versa.

Paper II → Development Sociology is the study of the causes and consequences of economic change in society. the study of development has been one of the fundamental aspects of sociology since the beginnings of the discipline.

Paper III → Gender studies is an interdisciplinary academic field devoted to analysing gender identity and gendered representation.

Paper IV → Demography is a study of human population. A key question is how populations change in size due to the three fundamental demographic processes of births, deaths, and migration. social demography studies the social, economic, and political causes and consequences of these processes

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Programme and course outcomes for all Programmes offered by the institution.

Name of Teacher: निर्मिता कुमार

Department: हि-वी
Courses UG & PG (wise)

Classes	Subject	Paper	course outcomes
बी.ए. प्रथम सेम द्वितीय	हि-वी साहित्य	प्रथम द्वितीय	इस पाठ्यक्रम में छात्रों का जीवन में नैतिक मूल्यों का विकास होगा। इस पाठ्यक्रम के माध्यम से छात्र जीवन में गलत विचारों से निवृत्त रहेंगे।
बी.ए. द्वितीय वर्ष	हि-वी साहित्य	प्रथम द्वितीय	साहित्य के विभिन्न कालों के विकास का अध्ययन से छात्रों को विचारधारा में स्वतंत्र होना चाहिए।
बी.ए. तृतीय / IV सेम	हि-वी साहित्य	प्रथम द्वितीय	पत्रकारिता के समझने में मदद मिलेगी। विद्यार्थी प्रेरित होकर विकास के लक्ष्यों को आसानी से पूरा कर सकेंगे।
बी.ए.	हि-वी भाषा	प्रथम द्वितीय	इस पाठ्यक्रम से छात्रों को भाषा के विकास, इतिहास और उसका विकास का अध्ययन में मदद मिलेगी।















