



Govt. of West Bengal

# Government General Degree College, Nakashipara

NAAC Accredited with B+ Grade (1<sup>st</sup> Cycle)

## Department of Chemistry

Muragachha, Nadia, Pin – 741154

e-mail: chemistry.mgc15@gmail.com

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### 1. Value-Added Course: Essence of Chemistry in Everyday Life

**Date:** 28<sup>th</sup> December, 2024 to 2<sup>nd</sup> January, 2025

Chemistry plays a crucial role in shaping our daily experiences. From the food we eat, the medicines we consume, the clothes we wear, to the environment we live in, chemistry influences our lives in countless ways. This course, *Essence of Chemistry in Everyday Life*, is designed to highlight the practical importance of chemistry and foster an appreciation for its applications in solving real-world problems.

#### Objectives

1. To demonstrate the relevance of chemistry in routine activities.
2. To explain the chemical principles behind food, health, hygiene, environment, and technology.
3. To create awareness about safe and sustainable practices using chemical knowledge.
4. To motivate learners to apply chemical concepts in innovative and entrepreneurial ventures.

#### Duration & Methodology

- **Duration:** 30 hours.
- **Methodology:** Interactive lectures, demonstrations, hands-on activities, and group discussions.

#### Target Audience

- UG students across science and non-science disciplines.
- Any learner interested in understanding the role of chemistry in daily life.

#### Course Highlights

- **Chemistry in Food and Nutrition**
  - Role of preservatives, antioxidants, flavors, and food additives.
  - Chemistry of cooking and digestion.
- **Chemistry and Health**
  - Understanding drugs, medicines, and their effects.
  - Role of soaps, detergents, and disinfectants in hygiene.
- **Chemistry in the Household**
  - Cleaning agents, cosmetics, plastics, and household chemicals.



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- Water purification and treatment.
- **Environmental Chemistry**
  - Air and water pollution, greenhouse gases, and climate change.
  - Waste management and eco-friendly alternatives.
- **Chemistry and Technology**
  - Applications in textiles, paints, dyes, polymers, and nanomaterials.
  - Use of chemistry in energy (batteries, fuels, solar cells).

### Outcomes

By the end of this course, learners will be able to:

- Relate chemical concepts to real-life situations.
- Critically evaluate the safety and impact of everyday chemical products.
- Make informed choices about health, nutrition, and environmental conservation.
- Appreciate chemistry as a tool for sustainable living and innovation.

The value-added course on the *Essence of Chemistry in Everyday Life* is an attempt to bridge textbook learning with practical knowledge. It will empower learners to view chemistry not as an abstract subject but as an integral part of their daily existence, promoting both scientific curiosity and responsible citizenship.

## 2. Workshop on Stereochemistry

**Date: 10<sup>th</sup> & 11<sup>th</sup> January, 2025**

Stereochemistry is a vital branch of chemistry that deals with the three-dimensional arrangement of atoms in molecules and its influence on physical and chemical properties. A deep understanding of stereochemistry is essential for students as it forms the foundation of drug design, enzyme activity, polymer development, and even nanotechnology. This workshop is designed to provide participants with conceptual clarity, hands-on problem-solving skills of stereochemistry.

### Objectives

1. To familiarize participants with the fundamental concepts of stereochemistry.
2. To explore different types of isomerism and their significance.
3. To enhance problem-solving skills in stereochemical analysis and nomenclature.



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### Duration & Methodology

- **Duration:** 2 days (12 hours).
- **Methodology:** Interactive lectures, molecular model demonstrations, problem-solving sessions.

### Target Audience

- UG students of Chemistry.

### Workshop Highlights

- **Basics of Stereochemistry**
  - Structural, geometrical, and optical isomerism.
  - Chirality and enantiomers.
- **Nomenclature Systems**
  - Cahn–Ingold–Prelog (CIP) rules.
  - R/S and E/Z designations.
- **Conformational Analysis**
  - Newman projections, Fischer projections, and Sawhorse representations.
  - Stability and reactivity of conformers.
- **Stereochemistry in Reactions**
  - Stereoselective and stereospecific reactions.
  - Role of stereochemistry in organic synthesis.

### Expected Outcomes

By the end of the workshop, participants will be able to:

- Distinguish between different stereoisomers and assign configurations correctly.
- Apply stereochemical concepts in understanding reaction mechanisms.
- Relate stereochemistry to pharmaceutical, biological, and industrial contexts.
- Strengthen analytical and visualization skills in molecular structures.



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### 3. Project work Submission and Presentation

**Date: 16.08.2024**

**6<sup>th</sup> Semester Chemistry Honours Students**

**Number of Students: 10**

#### List of Students

| Sl No | Name            | Presentation         |
|-------|-----------------|----------------------|
| 1.    | Balaram Sardar  | <a href="#">View</a> |
| 2.    | Chayan Ghosh    | <a href="#">View</a> |
| 3.    | Debabrata Roy   | <a href="#">View</a> |
| 4.    | Jyotirpriya Das | <a href="#">View</a> |
| 5.    | Pritam Pal      | <a href="#">View</a> |
| 6.    | Priya Sen       | <a href="#">View</a> |
| 7.    | Riya Biswas     | <a href="#">View</a> |
| 8.    | Sandip Das      | <a href="#">View</a> |
| 9.    | Sayan Baidya    | <a href="#">View</a> |
| 10.   | Sayantan Dutta  | <a href="#">View</a> |