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DEPARTMENTAL NEWSLETTER - CHEMICAL ENGINEERING

**VOLUME-2, Issue-01
(July – Dec-2022)**

Academic Year: 2022-23



Volume 2: Issue 01 (July to Dec-2024)

DEPARTMENTAL NEWSLETTER - CHEMICAL ENGINEERING

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Academic Year 2022-23

Editorial Team

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Faculty Editor: Prof. Nitish D. Galande

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Index

1. Guest Lecture on “Electrical Safety in the Chemical Industry”
2. Guest Lecture on “Electrical Safety in the Chemical Industry”
3. Fire Extinguisher Mock Drill & Demonstration
4. Guest Lecture on “Safety Aspects in the Chemical Industry”
5. Guest Lecture on “Awareness of Process Safety in Chemical Industries”
6. Guest Lecture on “Career in the Chemical Manufacturing Sector”
7. Student Achievement: 5th IEEE International Conference on Advances in Science and Technology

Vision of the Chemical Engineering Department:

“Produce employable graduates through a multidisciplinary approach, equipping them with chemical engineering knowledge and research skills, for the welfare of society.”

Mission of the Department

M1: Impart knowledge and understanding of the diverse fields of chemical engineering profession through curriculum.

M2: Develop chemical engineering professional and research skills to become technically competent professionals.

M3: Inculcate the importance of social and life-long learning.

Program Educational Objectives (PEOs)

PEO1: Graduates of the program will apply chemical engineering principles in engineering practice.

PEO2: Graduates of the program will have technical or professional careers in chemical engineering or in the diverse fields of chemical engineering such as biochemical engineering, energy and environmental engineering etc.

PEO3: Pursue higher study and / or continuously upgrade the knowledge with Personal and professional growth for collective advancement of society.

Programme specific outcomes (PSOs)

POS1: Create Chemical Engineering solutions for problems and processes while taking into account separation operations, reaction kinetics, environmental issues, and waste treatment and, modelling and simulation.

PSO 2: Foster the industrial chemical production process through efficient design and modifications by applying the principles of Chemical Engineering.

PSO 3: Demonstrate responsible professional behaviour by integrating ethical considerations, promoting safety, communicating effectively, and engaging in lifelong learning for societal and Environmental well-being.

Program Outcomes (POs) as per NBA

Program Outcomes (POs) are as follows:

1. **Engineering Knowledge:** Apply the knowledge of mathematics, science, and engineering fundamentals to solve complex chemical engineering problems.
2. **Problem Analysis:** Identify, formulate, and analyze complex engineering problems to reach substantiated conclusions using principles of mathematics, natural sciences, and engineering sciences.
3. **Design/Development of Solutions:** Design solutions for complex engineering problems that meet specified needs with appropriate consideration for public health, safety, and environmental concerns.
4. **Investigation of Complex Problems:** Conduct research-based investigations, including designing experiments, analyzing data, and synthesizing information to provide valid conclusions.
5. **Modern Tool Usage:** Select, apply, and adapt appropriate techniques, resources, and modern engineering tools, including prediction and modeling, to solve complex engineering activities.
6. **The Engineer and Society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues relevant to professional engineering practice.
7. **Environment and Sustainability:** Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice.
9. **Individual and Team Work:** Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and society at large through reports, presentations, and documentation.

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11. **Project Management and Finance:** Demonstrate knowledge of engineering and management principles to manage projects in multidisciplinary environments.
12. **Life-long Learning:** Recognize the need for, and engage in, independent and lifelong learning in the broadest context of technological change.

2022-23_Vol02_Issue 01_Departmental Newsletter_July-Dec-2023

Message from the Principal



Dear Readers,

It is my pleasure to present **Volume 2, Issue 1** of the **Departmental Newsletter – Chemical Engineering for July–December 2022**. This newsletter serves as a platform to highlight the **remarkable achievements, research contributions, and industry collaborations** of our faculty and students. The continuous pursuit of **academic excellence, innovation, and professional growth** is evident in the various activities and initiatives undertaken by the department.

The department's **focus on skill development, sustainability, and industry partnerships** has led to significant progress in **research, technical advancements, and student success stories**. The numerous **guest lectures, MOUs, workshops, and extracurricular activities** showcased in this issue reflect a commitment to holistic education.

I extend my sincere appreciation to the editorial team, faculty, and students for their efforts in curating this newsletter. Let us continue striving for excellence and shaping a brighter future in **Chemical Engineering**.

Dr. Sachin Patil

I/C Principal

Message from the Head of the Department



Dear Readers,

It is with great pride that I present **Volume 2, Issue 1** of the **Departmental Newsletter – Chemical Engineering** for **July–December 2022**. This edition reflects the **dedication, achievements, and innovations** of our faculty and students in academics, research, and industry collaborations. Our department continues to foster an environment of **learning, growth, and professional excellence**.

With a strong emphasis on **industry partnerships, sustainability, and cutting-edge research**, our faculty and students have actively contributed to **publications, technical advancements, and skill development**. The featured **guest lectures, MOUs, workshops, and student initiatives** showcase our commitment to holistic education and real-world applications.

I extend my heartfelt appreciation to the editorial team, faculty, and students for their dedication in compiling this newsletter. Let us continue to push boundaries, explore new possibilities, and contribute meaningfully to the field of **Chemical Engineering**.

Dr. Shyam Tekade

Head of the Department

Message from the Faculty Editor



Dear Readers,

It is with great enthusiasm that I present **Volume 2, Issue 1** of the **Departmental Newsletter – Chemical Engineering** for **July–December 2022**. This edition captures the **academic achievements, research contributions, and industry collaborations** that reflect the department's commitment to **innovation and excellence**.

The dedication of our **faculty and students** in pushing the boundaries of **knowledge, sustainability, and technical expertise** is truly commendable. The various **guest lectures, workshops, MOUs, and student activities** featured in this issue highlight the dynamic and evolving learning environment we strive to create.

I extend my sincere gratitude to the entire editorial team, faculty members, and students for their valuable contributions in making this newsletter a success. I hope this edition inspires all readers to continue their journey of **learning, research, and professional growth**.

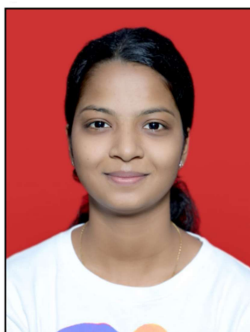
Prof. Nitish D. Galande

Faculty Editor

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Message from Student Editorial Coordinator

Dear Readers,

It is an honour to present **Volume 2, Issue 1** of the **Departmental Newsletter – Chemical Engineering** for **July–December 2022**. This edition highlights the **remarkable achievements, research innovations, and industry collaborations** within our department. The dedication and enthusiasm of our **faculty and students** in advancing knowledge and technical expertise are truly inspiring.

Being part of the editorial team has been a rewarding experience, and I sincerely appreciate the hard work of my fellow students, faculty members, and contributors in bringing this issue to life. Their collective efforts have ensured that this newsletter serves as an engaging and insightful platform for showcasing our department's accomplishments.

I hope this edition motivates and encourages everyone to continue **learning, innovating, and striving for excellence**. Together, we can create a future filled with success and new opportunities.

Ms. Vaishnavi Deshmukh

Student Editorial Coordinator

1. Expert Talk by Industry Experts from Vinati Organics Ltd., Lote

Date: 18th August 2022

Audience: BE Students

Organized by: Chemical Engineering Department, GIT Lavel

The **Chemical Engineering Department of Gharda Institute of Technology** hosted an **expert talk by industry professionals from Vinati Organics Ltd., Lote, on 18th August 2022**. The session aimed to provide **BE students** with valuable insights into **chemical manufacturing, industrial safety, and career opportunities** in the chemical sector.

During the session, the experts covered key topics such as:

- ✓ Recent advancements in chemical processing and technology
- ✓ Industrial safety practices and environmental responsibility
- ✓ Career pathways and required skill sets for chemical engineers
- ✓ Process optimization and challenges in the chemical industry

The event concluded with an **interactive Q&A session**, where students had the opportunity to clarify doubts and gain **firsthand knowledge from industry experts**. This session played a crucial role in **bridging the gap between academia and industry**, equipping students with practical knowledge and career guidance.

2. Guest Lecture on "Fire and Safety"

Date: 17th September 2022

Speaker: Mr. Bharat Bajage (Safety Expert, Deepak Novochem Ltd., Lote)

Audience: SE, TE, and BE Students

Organized by: Chemical Engineering Department, GIT Lavel

The **Chemical Engineering Department of Gharda Institute of Technology** organized an **informative guest lecture on "Fire and Safety"** by **Mr. Bharat Bajage**, a safety expert from **Deepak Novochem Ltd., Lote, on 17th September 2022**.

The session emphasized the **importance of fire safety in industrial environments**, covering critical topics such as:

- ✓ Causes and types of industrial fires
- ✓ Preventive measures and fire hazard identification
- ✓ Emergency response protocols and evacuation procedures
- ✓ Personal protective equipment (PPE) and fire-fighting techniques

Mr. Bajage shared **real-life case studies** and best practices to help students understand the significance of **workplace safety**. The **interactive Q&A session** allowed students to seek expert guidance on safety protocols, making the session highly engaging and insightful.

The lecture successfully **enhanced students' awareness** of industrial fire safety, preparing them for **safe and responsible professional practices** in the chemical industry.

3. Guest Lecture on "Electrical Safety in the Chemical Industry"

- **Date:** 24th September 2022
- **Speaker:** Mr. Amit Chavan, Dorf Kettle Chemicals Pvt. Ltd., Lote
- □ **Audience:** SE, TE, and BE Students
- **Organized by:** Chemical Engineering Department, GIT Lavel

The **Chemical Engineering Department of Gharda Institute of Technology** hosted an **insightful guest lecture on "Electrical Safety in the Chemical Industry"** by **Mr. Amit Chavan** from **Dorf Kettle Chemicals Pvt. Ltd., Lote**, on **24th September 2022**.

The session covered **critical aspects of electrical safety** in industrial environments, including:

- ✓ Common electrical hazards in chemical plants
- ✓ Safety measures to prevent electrical accidents

✓ Importance of grounding, insulation, and circuit protection

✓ Emergency protocols for electrical failures and fire risks

Mr. Chavan shared **real-world case studies and best practices**, helping students understand **practical safety measures** and the **role of electrical safety in chemical process industries**.

The session concluded with a **Q&A segment**, where students gained valuable insights into **workplace electrical safety**, making the lecture an **enriching and informative experience** for future engineers.

4. Guest Lecture on “Electrical Safety in the Chemical Industry”

□ **Date:** 10th October 2022

□ **Speaker:** Mr. Amit Chavan, Dorf Kettle Chemicals Pvt. Ltd., Lote

□□ **Audience:** SE, TE, and BE Students

□ **Organized by:** Chemical Engineering Department, GIT Lavel

The **Chemical Engineering Department of Gharda Institute of Technology** organized a **guest lecture on "Electrical Safety in the Chemical Industry"** by **Mr. Amit Chavan** from **Dorf Kettle Chemicals Pvt. Ltd., Lote**, on **10th October 2022**.

The session provided valuable insights into **electrical hazards and safety measures** in industrial settings, covering:

✓ Identification of potential electrical risks in chemical plants

✓ Preventive safety measures and best practices

✓ Importance of grounding, insulation, and equipment maintenance

✓ Emergency response strategies for electrical failures

Mr. Chavan shared **practical industry experiences and case studies**, helping students understand the **importance of electrical safety in chemical process industries**.

The session concluded with an **interactive Q&A**, where students gained clarity on **workplace safety protocols** and the **role of electrical engineers in accident prevention**. The lecture was highly beneficial, bridging **theoretical knowledge with real-world applications**.

5. Fire Extinguisher Mock Drill & Demonstration

- **Date:** 8th October 2022
- **Conducted by:** Dr. S.J. Kulkarni, Disaster Management Cell, GIT Lavel
- **Audience:** BE Students
- **Organized by:** Disaster Management Cell, Gharda Institute of Technology, Lavel

The **Disaster Management Cell of Gharda Institute of Technology** organized a **Fire Extinguisher Mock Drill & Demonstration** on **8th October 2022**, led by **Dr. S.J. Kulkarni**. The session aimed to equip students with **practical knowledge and skills** in handling fire emergencies effectively.

Key highlights of the demonstration:

- ✓ **Types of fire extinguishers and their applications**
- ✓ **Techniques for using fire extinguishers in real-life scenarios**
- ✓ **Identifying different classes of fire and appropriate response methods**
- ✓ **Emergency evacuation procedures and fire safety measures**

Students actively participated in the **hands-on training**, learning **proper firefighting techniques** and safety protocols. The drill reinforced the **importance of preparedness in emergency situations**, ensuring students understood **basic fire safety principles** in both **academic and industrial settings**.

The event concluded with an **interactive session**, where students discussed **fire prevention strategies** and **safety regulations** relevant to engineering industries.

6. Guest Lecture on “Safety Aspects in Chemical Industry”

- **Date:** 11th October 2022
- **Speaker:** Mr. S. S. Joshi (Joint Director, DISH Kolhapur)
- □ **Audience:** TE and BE Students
- **Organized by:** Chemical Engineering Department, Gharda Institute of Technology, Lavel

The **Chemical Engineering Department of Gharda Institute of Technology** hosted an insightful **guest lecture on "Safety Aspects in Chemical Industry"** on **11th October 2022**. The session was delivered by **Mr. S. S. Joshi, Joint Director at the Directorate of Industrial Safety and Health (DISH), Kolhapur**.

Key Highlights of the Session:

- ✓ **Industrial hazards and risk assessment in chemical plants**
- ✓ **Importance of safety regulations and compliance in industries**
- ✓ **Emergency preparedness and accident prevention strategies**
- ✓ **Case studies on chemical plant accidents and lessons learned**
- ✓ **Implementation of workplace safety culture**

Mr. Joshi provided **real-world insights** into the **safety challenges** faced in the **chemical industry** and emphasized the importance of **proactive safety measures**. The session encouraged students to develop a **safety-first mindset**, preparing them for **responsible roles in the industry**.

The lecture concluded with an **interactive Q&A session**, where students clarified their doubts and discussed **career opportunities in industrial safety**. The event was an **enriching experience**, bridging **academic learning with practical safety applications** in chemical engineering.

7. Guest Lecture on “Awareness of Process Safety in Chemical Industries”

- **Date:** 12th October 2022
- **Speaker:** Mr. Tushar Dhebe, Safety Officer, Thermax Industries Ltd., Pune
- □ **Audience:** SE, TE, and BE Students
- **Organized by:** Chemical Engineering Department, Gharda Institute of Technology, Lavel

The Chemical Engineering Department of Gharda Institute of Technology conducted an informative guest lecture on "Awareness of Process Safety in Chemical Industries" on 12th October 2022. The session was delivered by Mr. Tushar Dhebe, Safety Officer at Thermax Industries Ltd., Pune.

Key Highlights of the Session:

- ✓ Fundamentals of process safety and risk management
- ✓ Common hazards in chemical industries and their mitigation
- ✓ Role of safety protocols, PPE, and emergency response planning
- ✓ Case studies on industrial accidents and safety failures
- ✓ Importance of following regulatory guidelines for chemical processes

Mr. Dhebe emphasized the **critical role of process safety** in preventing **industrial accidents and environmental hazards**. He provided **practical insights** into **real-world safety practices**, ensuring students understood the **importance of a safety-driven work culture**.

The session concluded with an **interactive Q&A**, where students actively engaged in discussions on **safety challenges, career prospects in process safety, and industry expectations**. The event proved to be an **enlightening experience**, equipping students with **essential knowledge on industrial safety and risk management**.

8. Guest Lecture on “Career in Chemical Manufacturing Sector”

- **Date:** 7th December 2022
- **Speaker:** Mr. Digambar Patil, General Manager - Production, Laxmi Industries Ltd., Mahad
- □ **Audience:** SE, TE, and BE Students
- **Organized by:** Chemical Engineering Department, Gharda Institute of Technology, Lavel

The **Chemical Engineering Department of Gharda Institute of Technology** hosted an insightful **guest lecture on "Career in Chemical Manufacturing Sector"** on **7th December 2022**. The session was conducted by **Mr. Digambar Patil, General Manager - Production at Laxmi Industries Ltd., Mahad**, who shared his vast industrial experience with students.

Key Highlights of the Session:

- ✓ **Overview of the chemical manufacturing industry** and its role in various sectors
- ✓ **Career opportunities for chemical engineers** in production, process engineering, quality control, and R&D
- ✓ **Essential skills required** for excelling in the manufacturing sector, including process optimization, safety management, and regulatory compliance
- ✓ **Challenges and innovations** shaping the future of chemical manufacturing
- ✓ **Importance of internships and industrial training** in career development

Mr. Patil provided **valuable insights into industry expectations**, guiding students on **how to prepare for roles in the chemical sector**. He emphasized **practical knowledge, problem-solving skills, and continuous learning** as key factors for career growth.

The lecture concluded with an **interactive Q&A session**, where students clarified doubts regarding **job prospects, required skill sets, and emerging trends in the chemical industry**. The event proved to be an **eye-opening experience**, helping students align their **career aspirations with industry demands**.

9. Student Achievement: 5th IEEE International Conference on Advances in Science and Technology

- ❑ **Student name:** Prasad Chavan
- ❑ **Event:** 5th IEEE International Conference on Advances in Science and Technology
- ❑ **Venue:** K J Somaiya Institute of Engineering and Information Technology, Mumbai
- ❑ **Date of participation:** 2 – 3 December 2022
- ❑ **Category:** Research Paper Presentation

Achievement overview:

Prasad Chavan presented his research paper at the prestigious 5th IEEE International Conference on Advances in Science and Technology, held at K J Somaiya Institute of Engineering and Information Technology, Mumbai. His participation showcased innovative research and technical proficiency, contributing to advancements in science and engineering.

This achievement reflects the dedication of GIT Lvel students towards academic research and innovation, further strengthening the institution's reputation in technical excellence.

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- **Student Coordinators:** MS. Vaishnavi Deshmukh

Department of Chemical Engineering

Academic Year 2022-23.