

Report on
Institute/Industrial Visits
Conducted under the DBT Star College Scheme
for the Academic Year 2022-23

and
Educational Tour 2023-24

Date: 28th November to 4th December 2023



Organized by:
Department of Chemistry, Krishna Chandra College,
Hetampur, Birbhum, West Bengal.

Submitted by:
Students of Sem VI and Sem IV

Venue Details :

1. Industry: Premas Biotech Pvt.Ltd,
Plot 77, Sector 4, Imt Manesar, Gurugram, Haryana 122050
 2. Bio Incubator research and development organization: BSC Bio NEST Bio-Incubator,
3rd milestone, Faridabad - Gurgaon Rd, expressway, Faridabad, Haryana 121001
 3. Institution: International Centre for Genetic Engineering (ICGEB)
Aruna Asaf Ali Marg, Jawaharlal Nehru University, New Delhi, Delhi 110067
- Educational Tour: Agra



Festune

The one week Institute/Industrial Visits as well as Educational trip of the chemistry department was organized by Department of chemistry, Krishna Chandra College, Hetampur on 28th November to 4th December 2023 to visit Industry like Premas Biotech Pvt. Ltd, Plot 77, Sector 4, Imt Manesar, Gurugram, Haryana 122050. Bio Incubator research and development organization: BSC Bio NEST Bio-Incubator, 3rd milestone, Faridabad - Gurgaon Rd, expressway, Faridabad, Haryana 121001. Institution: International Centre for Genetic Engineering (ICGEB), Aruna Asaf Ali Marg, Jawaharlal Nehru University, New Delhi, Delhi 110067 and for educational Tour at different Historical places in Delhi, Agra fort, Tajmahal

The purpose of the visit was to provide students with practical exposure to industrial processes related to chemistry and to broaden their understanding of real-world applications of their academic learning. It was an enriching experience aimed at providing students with a hands as

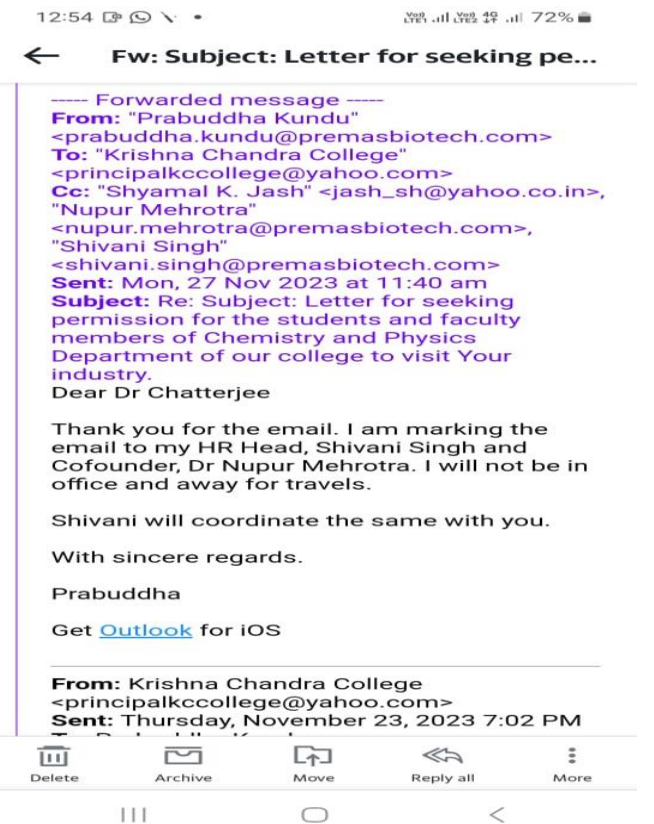
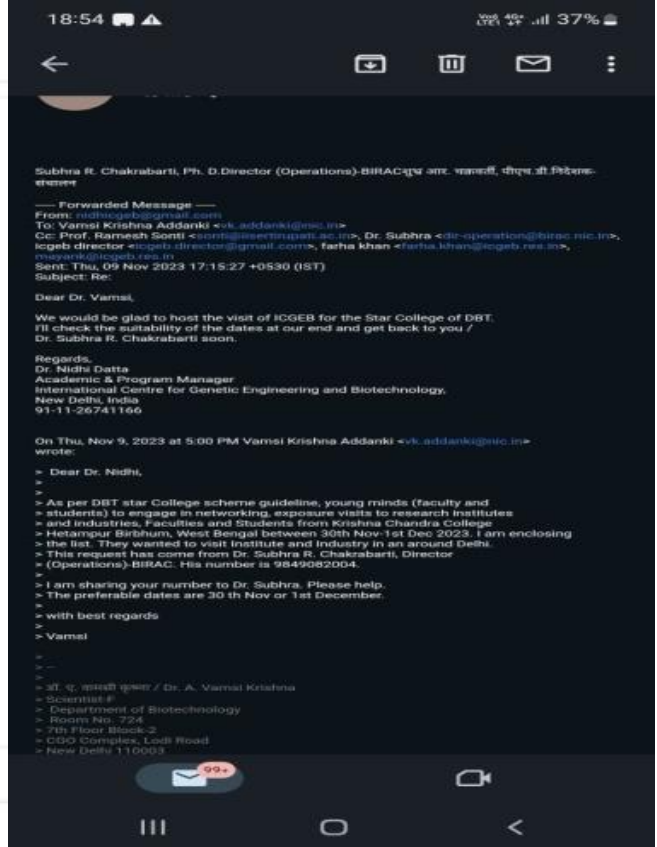
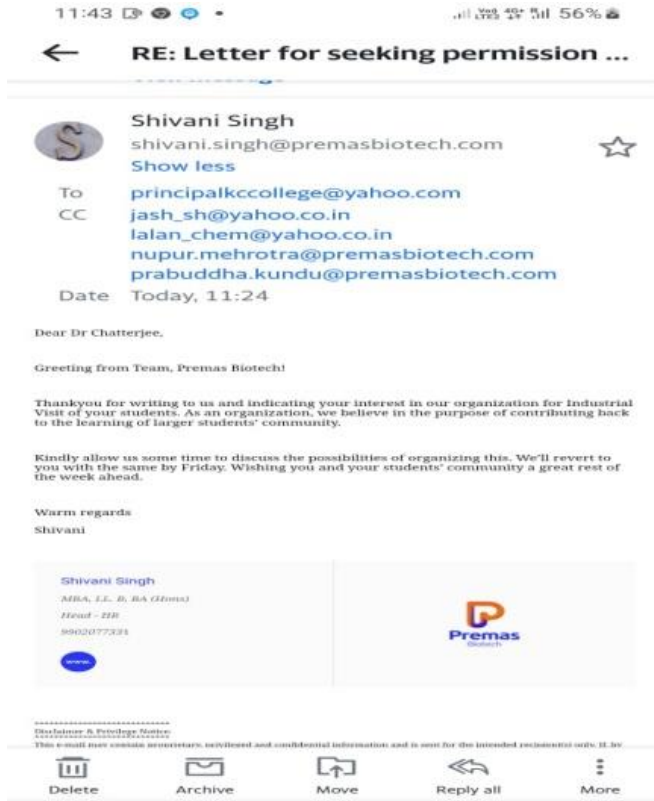
well as understanding of the chemical aspects of this culturally significant region. The tour comprised students of B.Sc. Semester IV and Semester VI accompanied by faculty member, Dr. Lalan Chandra Mandal and Non-Teaching Staff Mr. Sukhen Bouri Mr. Ramayan Ahir and Bimal Rooj and active cooperation of Dr. Debranjhan Ghosh, Dr. Shyamal K Jash, Dr. Hena Paul, Arif Ul Haque, Saikat Kumar Ruj, and Tanay Kumar Mondal.

Visit Itinerary: The visit commenced early in the morning with all participants gathering at the Bolpur Santiniketan Station where Dr. Shyamal K. Jash received the students for pick up Santiniketan Express to go Howrah station. Where we picked up Train 12323 HWH BME EXP from Kolkata Howrah Junction (HWH) to Delhi. Train departed from Kolkata Howrah Junction (HWH) at 18:50. The journey to old Delhi took approximately 20 hours.

Upon arrival in old Delhi, we reached Dakshin Delhi Kali Bari for staying. The location is Palam Marg, Sector 7, Rama Krishna Puram, New Delhi, Delhi 110022 .

The Journey of our visiting Different places was sketched as following Way:

Sl No	Date	Transport mode	Visiting Place
	30.11.2023	Hired Bus	Industry: Premas Biotech Pvt.Ltd, Plot 77, Sector 4, Imt Manesar, Gurugram, Haryana 122050
	30.11.2023	Hired Bus	Bio Incubator research and development organization: BSC Bio NEST Bio-Incubator, 3rd milestone, Faridabad - Gurgaon Rd, expressway, Faridabad, Haryana 121001
	01.12.2023	Hired Bus	Institution: International Centre for Genetic Engineering (ICGEB) Aruna Asaf Ali Marg, Jawaharlal Nehru University, New Delhi, Delhi 110067





BSC BioNEST Bio-Incubator
at
REGIONAL CENTRE FOR BIOTECHNOLOGY
An Institution of National Importance created through an Act of Parliament
Department of Biotechnology, Govt. of India under the auspices of UNESCO



Date: 30.11.2023

Certificate of Completion

This is to certify that the students and teachers from Physics and Chemistry department of **Krishna Chandra College**, Hetampur, Birbhum, West Bengal, have successfully completed the visit to BSC BioNEST Bio-Incubator (BBB), Regional Centre for Biotechnology, Faridabad on 30th November 2023. During the visit, they interacted with the staff and the startup entrepreneurs.

We wish them all the best for their endeavours!


Sumna Gupta
Chief Operations Officer, Bio-Incubator
Regional Centre for Biotechnology, Faridabad

BSC BioNEST Bio-Incubator (BBB)
Regional Centre for Biotechnology
NCR Biotech Science Cluster
3rd Milestone, Faridabad Gurgaon Expressway
Faridabad 121 001, India

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Quasquicentennial College (125+)
KRISHNA CHANDRA COLLEGE



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(Govt. Sponsored)
ACCREDITED BY NAAC WITH 'GRADE B'
HETAMPUR, BIRBHUM.
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Ref. No.....

Date.....

To
Dr. Prabuddha Kundu
Co-founder and Managing Director
Premas Biotech, Gurgaon, India

Subject: Letter for seeking permission for the students and faculty members of the Chemistry and Physics Department of our college to visit Your industry.

Sir,

I am Dr. Goutam Chatterjee, Principal of Krishna Chandra College, Hetampur, Birbhum, West Bengal. Our Chemistry and Physics Department of our college has been selected for the Star College scheme by the Department of Biotechnology, New Delhi.

It is a part of the institute and industry visit under the DBT Star College scheme. So, I am writing to request your permission to visit your Industry, Premas Biotech, Gurgaon on 30.11.2023. Our K. C. College is a 126-year-old, well-reputed educational institution in the Birbhum district of West Bengal. We have produced many prominent individuals in different fields.

I have communicated with Dr. Prabuddha Kundu, and he informed me to contact you.

The group would be of Chemistry Department (Twenty visitors, comprising Fifteen students, Two faculty members, and three supporting staff) and the Physics Department (Fourteen visitors, comprising Ten students, and four faculty members). I ensure all students will maintain the decorum at the place. Looking forward to a positive reply from your side.

Thank you in advance

Dr. Goutam Chatterjee


Principal
KRISHNA CHANDRA COLLEGE
Hetampur, Birbhum

Communication Letters

Attendees:

Sl No	Name	Gender	Designation	Semester
1.	Dr. Lalan Chandra Mandal	Male	Assistant Professor & HOD, Chemistry Dept.	
2.	Sukhen Bouri	Male	Lab Attendent	
3.	Bimal kr Rooj	male	Lab Attendent	
4.	Ramayan Ahir	Male	Lab Attendent	
5.	Nikita Khan	Female	Student	Sem V
6.	Ramyani Bhattacharya	Female	Student	Sem V
7.	Riya Rewani	Female	Student	Sem V
8.	Shibani Mondal	Female	Student	Sem V
9.	Ishika Acharya	Female	Student	Sem V
10.	Sourav Nandi	Male	Student	Sem V
11.	Akmal Mondal	Male	Student	Sem V
12.	Aritra Das	Male	Student	Sem V
13.	Dip Garain	Male	Student	Sem III

Sl No	Name	Gender	Designation	Semester
14.	Kunal Mondal	Male	Student	Sem III
15.	Moumita Bhattacharyya	Female	Student	Sem III
16.	Parnashree Das	Female	Student	Sem III
17.	Rakhi Pal	Female	Student	Sem III
18.	Rupali Pal	Female	Student	Sem III
19.	Sunanda Dey	female	Student	Sem III

Our student group visited **Premas Biotech Pvt.Ltd.** This company specializes in Contract Research and Manufacturing Services (CRAMS) organization that adheres to cGMP standards. Situated in IMT-Manesar, Gurgaon, near New Delhi, India, the company is built on a robust foundation of scientific knowledge and technological advancement. It is committed to delivering comprehensive research solutions within the life sciences sector. This making it an ideal choice to align with the curriculum of the chemistry department. The organization primarily concentrates on bio-molecules, proteins, receptors, cell-based assays, tailored reporter gene assays, microarray technology, and SNP genotyping, among other areas. With extensive experience in managing challenging-to-express proteins and high-value, low-yield biomolecules, PREMAs Biotech boasts a cGMP-compliant facility capable of producing proteins, receptors, and enzymes in quantities of up to 1400 liters from E. coli and yeast cells. The facility is equipped with advanced technologies, including continuous high-speed and ultra-centrifuges, high-pressure homogenizers, and purification and downstream equipment designed for large-scale operations.

Activities and Experiences:

1. **Company Overview:** The visit began with a comprehensive overview of the company provided by their senior executives. Students gained insights into the company's history, mission, and its position within the industry.
2. **Production Process:** The highlight of the visit was the guided tour of the production facilities. Students observed firsthand the various stages of production, from raw material handling to the final product packaging. This practical exposure helped them understand the application of theoretical concepts in a real-world setting.

3. **Quality Control Measures:** The company's emphasis on quality control was showcased during the visit. Students learned about the rigorous testing protocols employed to ensure product quality and safety.
4. **Interaction with Professionals:** A Q &A session was organized where students had the opportunity to interact with professionals from different departments within the company. This interaction proved to be invaluable as students gained insights into career prospects and industry trends.
5. **Networking Opportunity:** Students also networked with professionals, exchanging contact information and insights that could potentially guide their future career paths.

Conclusion: The industrial visit to New Delhi organized by the Department of Chemistry, KCC, was a resounding success. It provided students with a practical understanding of industrial processes and applications of chemistry in real-world scenarios. Such visits are crucial in bridging the gap between classroom learning and industry demands, preparing students for future challenges in their careers.

Acknowledgments: We extend our heartfelt thanks to the management and staff of [Company/Organization Name] for their warm hospitality and for imparting valuable knowledge to our students. Special thanks to the faculty members of the Department of Chemistry, KCC, for organizing and supervising the visit.

Future Prospects: Moving forward, the department aims to organize more such industrial visits to different sectors of the chemical industry, thereby enriching the learning experience of our students and enhancing their employability skills.

BSc Bio Nest Bio incubator :

Educational Tour Report: Visit to BSC Bio NEST Bio-Incubator

Date of Visit: 30.11.2023

Location: BSC Bio NEST Bio-Incubator, 3rd Milestone, Faridabad-Gurgaon Rd, Expressway, Faridabad, Haryana 121001

1. Introduction

The educational tour to BSC Bio NEST Bio-Incubator aimed to provide participants with firsthand experience and insight into the operations of a leading biotech incubator. This visit was part of our curriculum to understand the application of biotechnology in real-world scenarios, particularly focusing on innovation and entrepreneurship in the biotech sector.

2. Overview of BSC Bio NEST Bio-Incubator

BSC Bio NEST Bio-Incubator, located in Faridabad, is an initiative designed to support and foster the growth of biotechnology startups. It provides infrastructure, mentorship, and resources to budding biotech entrepreneurs. The incubator is a key player in the development of biotech innovations, offering state-of-the-art laboratories, equipment, and networking opportunities.

3. Objectives of the Visit

To understand the role of incubators in nurturing biotech startups.

To explore the facilities and resources available at the incubator.

To interact with entrepreneurs and mentors to gain insights into the biotech industry.

To learn about the challenges and successes of biotech ventures.

4. Schedule and Activities

4.1. Welcome and Introduction

The visit commenced with a warm welcome from the BSC Bio NEST team.

An introductory presentation was provided, outlining the mission, vision, and impact of the incubator.

4.2. Guided Tour of Facilities

Laboratories: We toured the state-of-the-art laboratories equipped with advanced biotechnology tools and instruments. The facilities included areas for molecular biology, microbiology, and bioinformatics.

Office Spaces: The incubator provides modern office spaces for startups, including meeting rooms and collaborative workspaces.

Networking Areas: Areas designed for networking and collaboration among startups and industry experts were showcased.

4.3. Interactive Session with Startups

Startup Presentations: Representatives from several biotech startups shared their experiences, challenges, and successes. They discussed their innovative projects, ranging from diagnostics to therapeutics.

Q&A Session: Participants had the opportunity to ask questions and engage in discussions with startup founders.

4.4. Panel Discussion with Mentors

A panel of mentors provided insights into the biotech industry, focusing on aspects such as funding, regulatory hurdles, and market strategies.

They offered practical advice and shared their personal experiences working with startups.

4.5. Networking Lunch

A networking lunch allowed participants to interact informally with startup representatives, mentors, and incubator staff.

5. Key Takeaways

Role of Incubators: Incubators like BSC Bio NEST play a crucial role in supporting biotech startups by providing essential resources and mentorship.

Facilities and Resources: The availability of advanced laboratory equipment and collaborative spaces significantly enhances the innovation potential of startups.

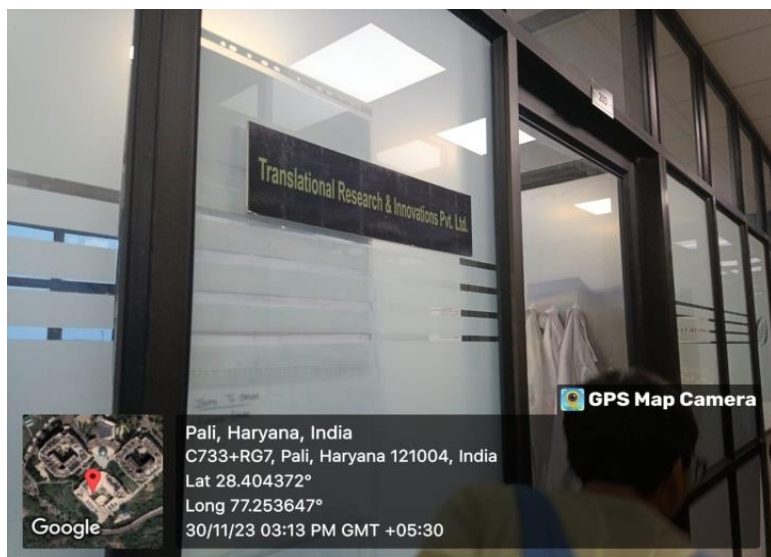
Challenges and Opportunities: The biotech industry presents both significant challenges and opportunities. Key challenges include navigating regulatory requirements and securing funding, while opportunities lie in addressing unmet medical needs and leveraging cutting-edge technology.

Networking: Building a strong network is essential for the success of biotech ventures. The incubator facilitates valuable connections between entrepreneurs, industry experts, and potential investors.

6. Conclusion

The visit to BSC Bio NEST Bio-Incubator was highly informative and inspiring. It provided a comprehensive overview of how biotech startups are nurtured and the critical role of incubators in fostering innovation. Participants gained valuable insights into the biotech industry and the entrepreneurial ecosystem.

We extend our gratitude to the BSC Bio NEST team for their hospitality and for sharing their expertise with us. This experience will undoubtedly enrich our understanding of biotechnology and entrepreneurship.



Educational Tour Report: International Centre for Genetic Engineering and Biotechnology (ICGEB)

Date of Visit: 01.12.2023

Tour Coordinator: Dr. Lalan Chandra Mandal

1. Introduction

The International Centre for Genetic Engineering and Biotechnology (ICGEB) is a renowned research institution dedicated to advancing the field of genetic engineering and biotechnology. Situated at Aruna Asaf Ali Marg, Jawaharlal Nehru University, New Delhi, Delhi 110067, ICGEB was established in 1983 and has since played a pivotal role in the global scientific community. Our visit aimed to provide a comprehensive overview of the institution's research initiatives, educational programs, and its impact on science and society.

2. Objective of the Visit

The primary objectives of the tour were:

To understand ICGEB's research focus and its contributions to the field of genetic engineering and biotechnology.

To explore the facilities and infrastructure supporting advanced research.

To gain insights into collaborative opportunities and educational programs offered by ICGEB.

3. Overview of ICGEB

ICGEB is a collaborative international institution that combines research excellence with global outreach. It focuses on:

Genetic Engineering: Developing and applying genetic modification techniques to improve health, agriculture, and industry.

Biotechnology: Leveraging biological processes for technological advancements and innovative solutions.

Research and Development: Pioneering research in molecular biology, genomics, and bioinformatics.

The centre is part of the ICGEB network, which includes regional branches in Italy and South Africa, facilitating international research collaborations.

4. Facilities and Infrastructure

During our tour, we had the opportunity to explore various facilities at ICGEB, including:

Laboratories: Equipped with cutting-edge technology for genetic research, including advanced sequencing platforms, molecular biology tools, and bioinformatics resources.

Greenhouses and Growth Chambers: For plant biotechnology research, focusing on genetic modifications for crop improvement and pest resistance.

Bioinformatics and Computational Facilities: Housing high-performance computing systems essential for data analysis and modeling in genomics and systems biology.

The infrastructure reflects ICGEB's commitment to providing researchers with state-of-the-art tools and environments to conduct pioneering research.

5. Research Areas and Projects

ICGEB's research is organized into several core areas:

Health and Disease: Investigating genetic bases of diseases and developing novel therapeutic approaches, including gene therapy and vaccine development.

Agriculture: Enhancing crop yields and resilience through genetic engineering and biotechnological interventions.

Industrial Biotechnology: Developing bioprocesses and bio-products for various industrial applications.

Noteworthy projects discussed include:

Development of genetically modified crops with enhanced nutritional profiles.

Gene therapy research aimed at curing genetic disorders.

Biotechnology applications for sustainable industrial processes.

6. Educational and Training Programs

ICGEB offers a range of educational opportunities:

PhD Programs: In collaboration with various universities, providing rigorous training in genetic engineering and biotechnology.

Postdoctoral Fellowships: Supporting advanced research careers in specialized areas of interest.

Workshops and Seminars: Regularly organized to disseminate knowledge and foster discussions on recent advancements and challenges in the field.

These programs aim to build a skilled workforce and promote the dissemination of cutting-edge scientific knowledge.

7. Collaborations and Outreach

ICGEB is involved in numerous national and international collaborations. The institution works closely with academic, governmental, and industrial partners to enhance research capabilities and address global challenges. Outreach initiatives include:

Global Research Networks: Collaborating with international research institutions and consortia.

Community Engagement: Organizing events and programs to raise public awareness about genetic engineering and biotechnology.

8. Conclusions and Recommendations

Our visit to ICGEB provided valuable insights into its contributions to genetic engineering and biotechnology. The institution's commitment to research excellence and education is evident through its advanced facilities and comprehensive programs.

Recommendations:

For Future Visits: Engage with specific research teams to understand ongoing projects in detail.

For Collaboration: Explore opportunities for joint research projects or student exchange programs.

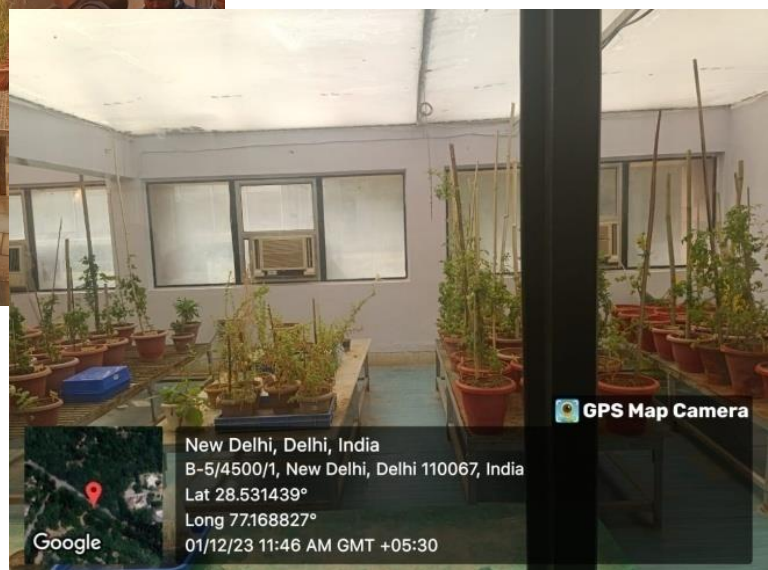
For Educational Pursuits: Consider ICGEB's educational programs for advanced training in biotechnology.

Acknowledgements

We extend our gratitude to the ICGEB staff and researchers for their hospitality and for sharing their insights. Special thanks to Dr. Nidhi Datta, Academic and Programme Manager, ICGEB, New Delhi for her contributions to the tour and discussions.

This report serves as a comprehensive summary of our visit to the International Centre for Genetic Engineering and Biotechnology, highlighting its significant role in advancing genetic and biotechnological sciences.

Photos: ICGEB:





Overall Conclusion :

This industrial and educational trip offered us a rich, multifaceted experience that combines learning with practical exposure. Here's an overall conclusion based on such tours:

Enhanced Understanding: Participants have gained a deeper insight into industry-specific processes, technologies, and operations. Observing real-world applications of classroom theories bridges the gap between academic knowledge and practical skills.

Skill Development: These tours often provide hands-on experiences and real-world problem-solving opportunities, enhancing both technical and soft skills. This can include anything from understanding complex machinery to developing teamwork and communication skills. Our students have received such an excellent opportunity for developing themselves in various skill.

Career Exploration: Exposure to various industries helps participants make informed decisions about their career paths. It allows them to see the day-to-day workings of different roles and sectors, which can be crucial for future career planning. By visiting the industry like Premas Biotech and BSC Bio NEST Bio-Incubator and Great institute like ICGEB, the students got idea about the multidirectional idea for opting career opportunity.

Networking Opportunities: Tours often involve interactions with industry professionals and experts. This networking can be valuable for mentorship, future job opportunities, and gaining industry-specific insights. We have connected with different personalities which will help us in future.

Broadened Perspective: Experiencing different environments and seeing diverse practices fosters a broader perspective on industry standards and challenges. This global or cross-industry view can inspire innovative thinking and adaptability.

Increased Motivation and Engagement: Seeing practical applications of theoretical concepts can reignite interest and motivation in students or employees, leading to greater engagement and enthusiasm for their field of study or work.

In essence, industrial and educational tours are instrumental in providing a practical, immersive learning experience that enhances understanding, skills, and career prospects while also fostering valuable connections and inspiration.

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