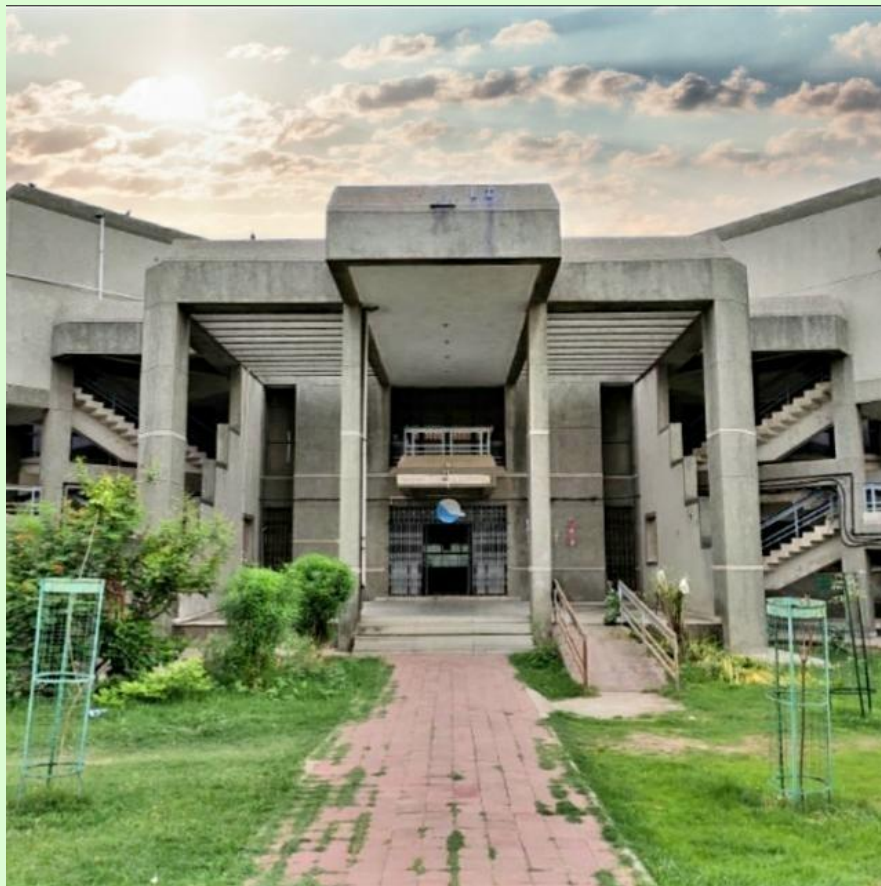


CHEMICAL ENGINEERING DEPARTMENT
VISHWAKARMA GOVERNMENT ENGINEERING COLLEGE



RADIANCE



Newsletter July- December 2022

Nr. Visat Three Roads, Sabarmati-Koba Highway, Chandkheda, Ahmedabad – 382424

From Department Coordinator



Dr. Femina Patel
Department Coordinator

I am pleased to announce that the Chemical Engineering Department is releasing Volume 5, Issue 2 of its Departmental Newsletter "RADIANCE" which highlights the noteworthy achievements of faculty members and students, as well as expert lectures, co-curricular, and extra-curricular activities from July to December 2022.

One of our most notable achievements this year is the reaccreditation of the B.E. Chemical Engineering program by the NBA for the academic year ending on June 30, 2025.

Additionally, we have implemented various new initiatives aimed at aiding our students in accomplishing their aspirations, enlarged our teaching and research labs, and generated additional avenues for practical learning. We believe that these efforts will enable our students to succeed in their professional endeavours. I would like to congratulate all of our students who participated in various co-curricular and extra-curricular activities, and wish them the best of luck in their bright careers and successful lives.

Glimpses of the Department

The Chemical Engineering Department is a dynamic academic department with a young and enthusiastic faculty. The team consists of two Professors, three Associate Professors, nine Assistant Professors, and one laboratory Assistant, all committed to providing quality education to the students. The department fosters a culture of academic excellence and personal growth to equip students with skills to face new challenges and achieve their goals. The faculty's inherent strength, values, dedication, and vision promote student confidence, teamwork, and collaboration. The faculty engages in ongoing professional development opportunities to stay current with industry developments. The department also provides students with industry exposure alongside their studies, enhancing their preparation for future careers. Department frequently organizes expert lectures beyond the curriculum to enrich the learning experience and promote lifelong learning in students. Faculty members mentor the students on their career paths and offer guidance to help them achieve their professional goals.

DEPARTMENT VISION

To foster a vibrant environment for creating professional Chemical Engineers with integrity and ethics.

DEPARTMENT MISSION

- To develop open access laboratories and infrastructure for conducive learning.
- To enhance the professional engineering skills along with entrepreneurship, innovativeness and management.
- To strengthen linkages with industries, alumni and professional bodies.
- To undertake industry collaborative projects and research.
- To inculcate professional ethics and make socially responsible engineers.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

The Chemical Engineering program aims to develop versatile professionals who can excel in a variety of career environments. The Program Educational Objectives of B.E. (Chemical) program is:

- PEO-1:** To prepare graduates who will be skilled in fundamental concepts of Chemical Engineering.
- PEO-2:** To prepare graduates who will be capable of obtaining position in Industrial, Research, Government, Academic, Entrepreneur or other organizations, which use their technical knowledge and professional skills.
- PEO-3:** To prepare graduates who will have proficiency in execution of real time Chemical Engineering projects.
- PEO-4:** To prepare graduates who will contribute to the socio-economic environment of their communities.

FACULTY AT A GLANCE

1	Dr. Femina J. Patel	Ph.D.	Heterogeneous Catalysis, Waste Water Treatment, Automotive Emission Control	Professor
2	Dr. Parin D. Shah	Ph.D.	Green Chemistry and Green Engineering, Waste Water Treatment	Professor
3	Prof. Shuchen B. Thakore	M.E.	Equipment Design	Associate Professor
4	Dr. Beena K Sheth	Ph.D.	Acid separation by Electro dialysis	Associate Professor
5	Dr. Dolly R. Gandhi	Ph.D.	Thermodynamics	Associate Professor
6	Prof. Zoher Z. Painter	M.E.	Cleaner Production	Assistant Professor
7	Dr. Milap G. Nayak	Ph.D.	Alternative Energy, Plasma Pyrolysis	Assistant Professor
8	Prof. Yogesh J. Morabiya	M.E.	Green Engineering	Assistant Professor
9	Prof. Sahil N. Prajapati	M.E.	Waste Water Treatment	Assistant Professor
10	Prof. Sunil R. Patel	M.Tech.	Waste Water Treatment	Assistant Professor
11	Prof. Jay B. Trivedi	M.E.	Waste Water Treatment	Assistant Professor
12	Dr. Ujvala P. Christian	Ph.D.	Polymer Technology	Assistant Professor
13	Prof. Sonal B. Prajapati	M.E.	Pyrolysis, Reaction kinetics	Assistant Professor
14	Prof. Rakesh R. Merchant	B.E.	Chemical Processes	Assistant Professor

“Education is not the filling of a pail, but the lighting of a fire”

– William Butler Yeats

"Education: the key to a better tomorrow"

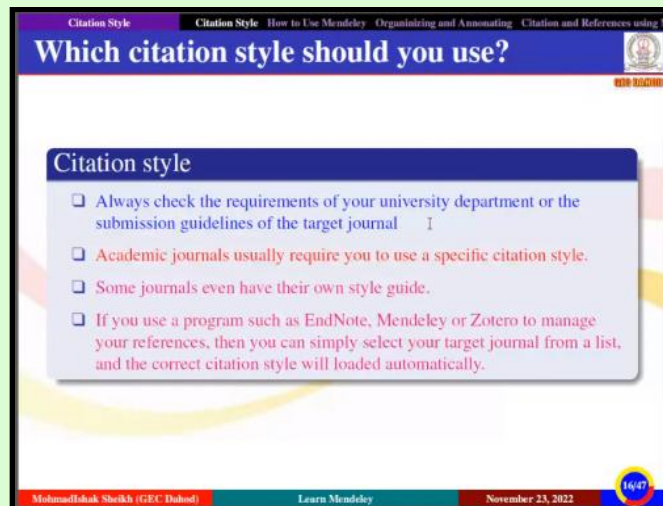
DEPARTMENT ACCOMPLISHMENTS

<p>NBA Accreditation</p>	<p>B.E. Chemical Engineering program has been re-accredited by the National Board of Accreditation (NBA) for the academic years 2022-2023 to 2024-2025, which is valid up to 30-06-2025.</p>
	<p>Dr. Parin Shah was appointed as a member of the Environment Committee of Gujarat Chamber of Commerce and Industry (GCCCI) for year 2022-23 and also appointed as a Professional Invitee Member of the Chemical Taskforce of Gujarat Chamber of Commerce and Industry (GCCCI) for 2022-23.</p>
	<p>Dr. Dolly Gandhi completed her Ph.D. on the 'Synthesis of zeolite Y using novel material and method for catalytic application' under the guidance of Dr. Bhavna Soni & Dr. Rajib Bandyopadhyay from Gujarat Technological University.</p>
	<p>Ajay Kannaujiya, a 5th semester student, was chosen for the GTU External Students Program with IIT - Gandhinagar, enabling him to complete his entire 5th semester (August 2022 to December 2022) at IIT - Gandhinagar. He has successfully finished his 5th semester at IIT, Gandhinagar.</p>
	<p>Yashil Kanani, a 6th semester student, has grabbed the chance to pursue their entire Semester 6 (January 2023 to April 2023) at the renowned IIT, Gandhinagar through the GTU External Students Program with IIT - Gandhinagar.</p>

DEPARTMENTAL ACTIVITIES

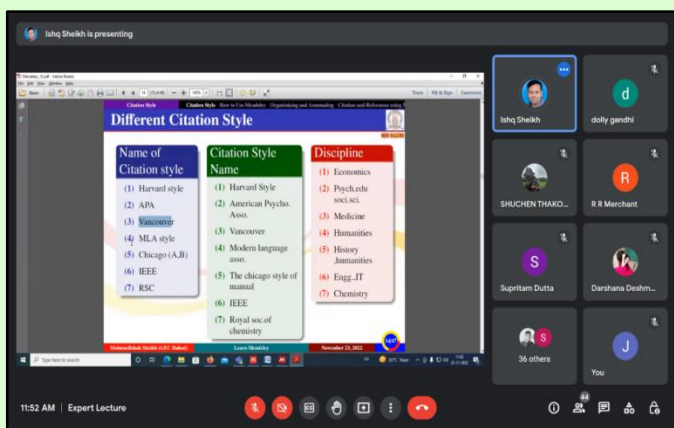
Expert talk on “Mendeley Reference Manager”

On November 23, 2022, Prof. Dolly R Gandhi and Prof. Shuchen B Thakore coordinated an expert talk on "Mendeley Reference Manager" for both undergraduate and postgraduate students. The talk covered various key points, including the difference between references and bibliography, the features of different versions of Mendeley Reference Manager, how to simplify reference management workflow, storing, organizing, and searching for all references from a single library, multiple ways to import and create references using Mendeley Importer, using Mendeley cite to easily insert references from your Mendeley Library into your word document, changing citation styles, and generating a bibliography without leaving your document. The distinguished expert of the session was **Prof. Mohamed Ishak Sheikh**, Assistant Professor from the Electrical Engineering Department at Government Engineering College, Dahod. The session benefited approximately 180 students.



Expert talk on “Energy Conservation Opportunities in Compressor”

Dr. Parin D. Shah coordinated an expert talk on "Energy Conservation Opportunities in Compressor" for both undergraduate and postgraduate students on November 28, 2022. The distinguished expert of the session was **Mr. Raju Shah**, Chief Consultant at Escon Tech., Ahmedabad. Approximately 45 students benefited from the session, which covered various topics such as energy conservation opportunities in a compressor system, steps to improve compressor efficiency, and the effect of intake air temperature and pressure drop across the air inlet filter on power consumption. The session also included a discussion on the typical specific power consumption of reciprocating compressors.



COMPRESSED AIR SYSTEM

GENERATION

- Capacity Determination
- Cold Air Intake
- Compressor Cooling
- Specific Energy Consumption
- Inter Cooler & After Cooler
- Moisture Removal
- Accessories , Receiver
Volume
- Capacity Control



A mock drill was also conducted to create awareness among the students on how to use fire extinguishers and the different types of fire extinguishers available.



Workshop on "Fire Extinguishers Awareness"

On September 13, 2022, a workshop on "Fire Extinguishers Awareness" was coordinated by Prof. Sunil R. Patel. The workshop was attended by a total of 90 students from the department. The expert **Mr. Vijaynath Goswani** from Shantam Group of Fire Extinguishers conducted the workshop, which covered topics such as fire extinguishers awareness and operating procedures.



Session on "Environment Conservation Awareness"

A session on "Environment Conservation Awareness" was organized by Vishwakarma Government Engineering College, Chandkheda and coordinated by the Chemical Engineering Department and NSS on July 30, 2022 in Vishveshvariya Auditorium. **Mr. Pravinbhai Mistry**, a well-known interior designer and Environmentalist was the chief guest for this session.

He delivered a remarkable speech on diverse methods of environmental conservation. This session gave insights into environment conservation awareness to the students, Research Scholars and Faculty Members.



STUDENT CHAPTERS

Elocution Competition organized by IChE students' chapter as a part of National Engineer's Day Celebration

On September 15, 2022, the student organizing committee of IChE Students' Chapter, Chemical Engineering Department of VGEC, organized an **elocution competition** under the guidance of IChE students' chapter faculty coordinator, **Dr. Ujvala P. Christian**, as part of the National Engineer's Day celebration. A total of 12 students participated in the competition, where they were required to express their views on one of the three technical topics provided. Two industrial experts, who were also alumni members of the department, evaluated the participants. These experts were **Mr. Shailesh Bhrahmkshatriya**, a Senior Process Engineer at ONGC-Ahmedabad and an alumnus of 2008, and **Mr. Blesswell Lal**, a Process Engineer at Matangi Industries Ltd., Vatva Ahmedabad, and an alumnus of 2016. Following the evaluation, two winners were declared.

Rank	Enrolment No.	Sem.	Name of Student
1 st	190170105078	7	Machot Chol MakueiMakuer
2 nd	210170105017	3	Raval Rishabh

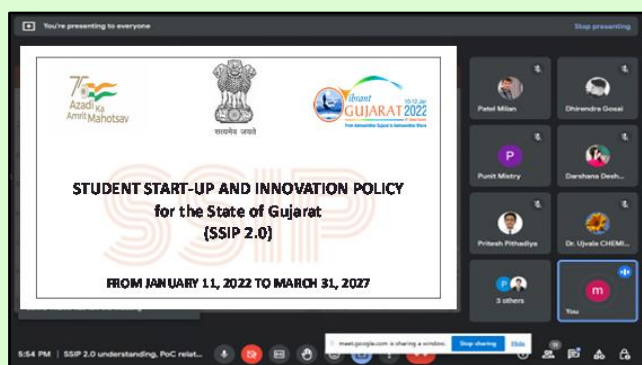




SSIP ACTIVITIES

SSIP 2.0 Awareness Session for Chemical Engineering Students: How to Apply for New SSIP PoCs

Dr. Milap G. Nayak conducted an awareness session on January 31, 2023, for Chemical Engineering students regarding the new SSIP PoCs and how to apply for them. During the session, students were informed about the details of the SSIP activity and the new features of SSIP 2.0 as compared to SSIP 1.0. Additionally, Dr. Nayak discussed the steps taken by the Government of Gujarat to promote the SSIP activity at the Institute level. The session covered the procedure to apply for SSIP, the steps involved, the evaluation process, funding available, and the procedure for purchasing. The importance of SSIP were also discussed in detail with the students.



Dr. Femina J. Patel, Dr. Dolly R. Gandhi, Dr. Milap Nayak

The SSIP and Gujarat Knowledge Society appreciated them for dedicating their valuable time to mentor the team of participants during the Regional Round of Azadi Ka Amrit Mahotsav Hackathon-2022 on October 15 & 16, 2022 at GTU, Ahmedabad.

INDUSTRIAL VISIT

Industrial Visit to Ambuja Intermediates for Third-Year Chemical Engineering Students



Chemical Engineering Department organized an industrial visit to Ambuja Intermediates Ltd., Chattral for third-year students on September 14, 2022. The visit aimed to provide practical knowledge about the manufacturing process of dye intermediates, various unit operations and unit processes, working methods, and employment practices. A total of 56 students, along with faculty coordinator Prof. Sunil R. Patel, participated in the visit. The visit offered students exposure to current work practices and the opportunity to learn practically through interaction.

Industrial Visit to Nirma Limited for Second-Year Chemical Engineering Students

Chemical Engineering Department organized an industrial visit to Nirma Limited, Mandali, for second-year students on December 26, 2022. The visit aimed to provide practical knowledge about the manufacturing process of detergent, soap, sulfuric acid, and oleum, along with various unit operations and equipment. Prof. Parin D. Shah and Prof. Jay B. Trivedi organized the visit, which was attended by 56 students, along with faculty coordinators Prof. Shuchen B. Thakore and Prof. Sonal B. Prajapati. During the visit, the students interacted with plant personnel Mr. Vipulbhai Pandit, who explained the production process and working of process equipment in detail. The students also gained practical experience and knowledge of soap manufacturing, various utilities such as boilers, chilling plants, and ETP units, as they were taken through the industrial premises.



RESEARCH AND INNOVATION

Her Research paper titled "The Effect of Cotton Stalk Concentration on Morphology and Fixing Bromine Content in Char while on Co-pyrolysis with Non-metal Fractions of PCB" published in Biomass Conversion and Biorefinery Journal on November 1, 2022 (Springer, Impact Factor: 4.05).

Ankit Baria, Miraj Patel, Prof. Shuchen B. Thakore, Prof. Zoher Z. Painter

Together with co-authors, presented a paper titled "CAD of Reactor of DCDA Converter" at Chemcon-2022, which was held under the auspices of the Indian Chemical Engineering Congress and the American Institute of Chemical Engineers, organized by Harcourt Butler Technical University in Kanpur, from December 27 & 30, 2022.

Milan Patel, Yashil Kanani, and Chirag Parmar, Dr. Femina J. Patel

Presented their research paper titled 'Novel Green Synthesis of Spinel Catalyst and Studies of its Photo-catalytic activity for the Degradation of Reactive Blue 21 Dye under Visible Light' at the National Conference on "Advanced Research Techniques in Chemical Engineering (ARTCHEM-2022)" organized by Shree Dhansukhlal Thakordas (Colourtex) Department of Chemical Engineering, Sarvajanic College of Engineering & Technology, Sarvajanic University, Surat, Gujarat on December 22 & 23, 2022.

ACADEMIC COLLABORATION

Dr. Femina J. Patel

Served as a jury member at the "CHEMERGENCE2022" event organized by the Chemical Engineering Student Association (ChESA), Indian Institute of Chemical Engineers (IChE), and UG Student Research Cell at Nirma University, Ahmedabad on November 5, 2022.

Dr. Parin D. Shah

Invited as Session Chair for GTU ICON-2022 in Emerging Trends in Engineering and Technology, organized by 2nd Multi-disciplinary International Conference- GTU ICON-2022 in Emerging Trends in Engineering and Technology by GTU's Graduate School of Engineering and Technology on September 21, 2022.

Prof. Shuchen B. Thakore

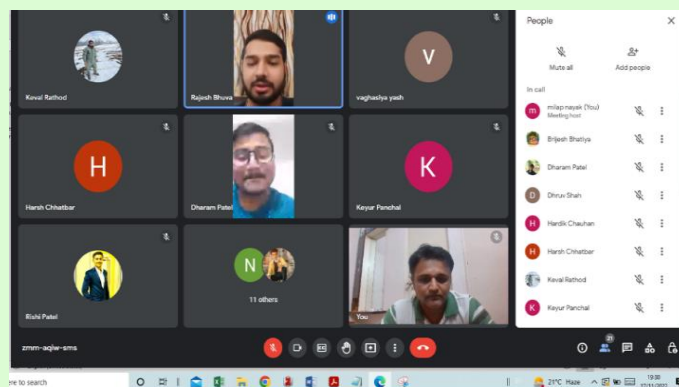
Delivered an expert lecture on 'Process Design of Shell and Tube Heat Exchanger' on September 28, 2022 for the Mechanical Engineering students of VGEC.

ALUMNI INTERACTION

Alumni Interaction on Campus Placement for L&T: Tips for Technical Interview

On November 17, 2022, the Department organized an alumni interaction to educate and inform students about the "CAMPUS PLACEMENT of L&T". The session was

conducted by **Shri. Rajesh Bhuvra** and **Shri. Dharam Patel**, both alumni who had passed out in 2022. They emphasized the significance of studying core subjects for technical interviews and gathering valuable information about the Larsen & Toubro group before appearing for interviews. Additionally, they discussed how to answer technical and non-technical questions during interviews.



The Significance of Chemical Engineers in Industry: Insights from an Alumnus

On November 18, 2022, the department organized an alumni interaction session to enlighten students on the "Significance of Chemical Engineers in Industry." The guest speaker, **Mr. Pratik Dewani**, a Chemical Engineering alumnus from the 2011 batch, emphasized the crucial role of having a comprehensive understanding of the fundamental subjects in this field. He elaborated on the responsibilities of chemical engineers as process engineers in manufacturing plants and highlighted the extensive scope of their role in the design aspect. Mr. Dewani also shared his professional journey as a Director of Eco Earth Technologies and engaged with students to discuss his future plans.



PLACEMENT ACTIVITIES

Campus Interview Preparation: Grooming Session for Chemical Engineering Students

On November 18, 2022, a campus interview awareness session was conducted for Chemical Engineering students to help them prepare for their upcoming interviews. The session began with a technical interview conducted by Prof. Shuchen B. Thakore, in which students participated in a mock interview. Dr. Beena K. Sheth and Dr. Milap G. Nayak also asked various technical questions based on the students' summer internship training.



Dr. Vaseem Qureshi closely observed the students' verbal and non-verbal communication, and also asked them various non-technical questions, providing valuable individual feedback to the students.

Grooming Sessions for Technical Interview

From November 1 to 12, 2022, the Chemical Engineering Department conducted grooming sessions for its students every day from 9:00 to 10:30 AM in J-204. The main objective of these sessions was to prepare the students for their upcoming campus placement. Prof. Shuchen B. Thakore conducted the technical sessions to groom the students for the placement process. A total of 90 students from the department participated in these sessions. The students benefited from revising the basics of the technical subject matter and learning about important technical topics to prepare for their placement interviews.



**PROFESSIONAL DEVELOPMENT:
INSIGHTS INTO STUDENT INDUSTRIAL
TRAINING/INTERNSHIP DETAILS**

Name of Student	Enrollment Number	Name of Industry
Patel Neel	190174105001	KP Industries
Bhatiya Brijesh	190170105002	Zydex Industries Pvt. Ltd.
Chauhan Hardik	190170105005	Lukeron Lubricants
Rohit Chauhan	190170105006	Gujarat Heavy Chemicals Ltd.
Dabhi Jaydeep	190170105007	Amee Castor and Derivatives
Dafda Siddharth	190170105008	Life Science Chemical Pvt. Ltd.
Nirav Dobariya	190170105011	R. K. Synthesis Ltd.
Jatin Dudhat	190170105012	Shree Ganesh Chemicals.
Gabani Utsav	190170105013	R. K. Synthesis Ltd.
Gadhavi Hitesh	190170105014	IFFCO
Jadeja Vijaysinh	190170105015	Ascent Pharma Pvt. Ltd.
Joshi Darshan	190170105016	Elixir Pharma Pvt. Ltd.
Joshi Deep	190170105017	Finex Sieves Pvt. Ltd.
Jugran Ravindar	190170105018	Maxwell additives Pvt. Ltd.
Kanjariya Nikunj	190170105019	Life Science Chemical Pvt. Ltd.
Karena Virat	190170105020	R K Synthesis Ltd.
Khatri Naitik	190170105021	Chem Tech Enterprise Pvt. Ltd.

Shubham Kumar	190170105022	Maxwell Additives Pvt. Ltd.
Lalpurwala Sanket	190170105023	R. K. Synthesis Ltd.
Makvana Vasu	190170105025	Medicine Life Care Pvt. Ltd.
Makwana Nikita	190170105026	Mazda Ltd.
Makwana Vatsal	190170105027	Dhrangadhra Chemical Works
Mungara Parashar	190170105028	Finex Sieves Pvt. Ltd.
Paghdal Gopi	190170105029	Finex Sieves Pvt. Ltd.
Panchal Yash	190170105030	Bodal Chemicals Pvt. Ltd.
Pandit Mohit	190170105031	Chemtech Enterprise Pvt. Ltd.
Pansuriya Harshad	190170105032	Oasis Lmt.
Parmar Anurag	190170105033	R. K. Synthesis Ltd.
Parmar Bharat	190170105034	Elixire pharma Pvt. Ltd.
Parmar Hemendra	190170105035	Zydu Life Sciences Pvt. Ltd.
Parmar Jitendra	190170105036	TATA Chemicals Ltd.
Parmar Pragnesh	190170105037	Diamond Chemicals Pvt. Ltd.
Patel Ansh	190170105038	Akaar Chemical India Pvt. Ltd.
Patel Bhavya	190170105039	Zydu Life Science Pvt. Ltd.
Patel Chirag	190170105040	Ocean Chemical Industries
Patel Dhruvil	190170105042	Bayer Crop Science Ltd.
Patel Haribhushan	190170105043	Unity Organics Pvt. Ltd.
Patel Kuldeep	190170105044	Meghmani Organics Ltd.
Patel Nirmalkumar	190170105045	Royal Industries Pvt. Ltd.
Patel Om	190170105046	Lexine Techno Chem Pvt Ltd.
Patel Parthkumar	190170105047	Panoli Intermediates Pvt Ltd.
Patel Priyank	190170105048	Gujarat Fluoro Chemicals Ltd.
Patel Rajkumar	190170105049	Jay Vir Fiber Industry
Patel Rishi	190170105050	Ruby Colours Pvt. Ltd.
Patel Yashkumar	190170105052	Unity organics Pvt. Ltd.

CAREER BOOST: PLACEMENT UPDATES

Sr. No.	Student Name	Name of the Employer
1	Joshi Deep H	TCS
2	Shubham Manoj Kumar	Capgemini
3	Patel Bhavya P	Larson & Tubro
4	Bhatiya Brijesh M	Apara Analyticals
5	Dayani Trupan D	Apara Analyticals
6	Makwana Nikita D	Fives Combustion Pvt. Ltd.
7	Shah Kalash J	Fives Combustion Pvt. Ltd.
8	Rajput Dhavalkumar A	Adani Pvt. Ltd.
9	Sabalpara Nitinkumar L	Adani Pvt. Ltd.
10	Shah Dhruv U	Adani Pvt. Ltd.
11	Sutariya Jankitkumar M	Adani Pvt. Ltd.

STUDENT ACHIEVEMENTS

Risabh Rawal (210170105017)

On September 15, 2022, the runner-up position was obtained in the "Elocution Competition"

Darshan Dholariya (210170105003)

Secured the second place in the 200 m Boys race at VISHWACUP 2022, the annual sports week of Vishwakarma Government Engineering College, Chandkheda. The event was held from October 13 to 15, 2022.

Polra Siddharth	190170105053	Crypton pigments Pvt. Ltd.
Prajapati Sankalp	190170105055	Balaji Industries Pvt. Ltd.
Prajapati Surajkumar	190170105056	Amees Castor & Derivatives Ltd.
Rajput Dhavalkumar	190170105057	Suman Chemical industry Pvt. Ltd.
Rathod Krupalsinh	190170105059	Mafatlal Industry Ltd.
Sabalpara Nitinkumar	190170105062	Harsh Organo Chem Pvt. Ltd.
Satasiya Bhumitkumar	190170105063	R. K. Synthesis Ltd.
Shah Dev	190170105064	Shanti Intermediates Pvt. Ltd.
Shah Dhruv	190170105065	Balaji formalin Pvt. Ltd.
Shah Kalash	190170105066	Mazda Ltd.
Sutariya Jankit	190170105068	Finex Sieves Pvt. Ltd.
Vaghasiya Yash	190170105071	R. K. Synthesis Ltd.
Vala Brijesh	190170105073	Gujarat Heavy Chemicals Ltd.
Vamja Mohit	190170105074	Saurashtra Chemicals Ltd.
Vekariya Mitva	190170105075	Finex Sieves Pvt. Ltd.
Zalavadiya Hemali	190170105077	Finex Sieves Pvt. Ltd.
Chol Makuei	190170105078	Macro Polymers Pvt. Ltd.
Paneliya Mihir	200170105501	Prudence Pharma Chem. Pvt. Ltd.
Suthar Viren	200170105502	Akash Engineering System Pvt. Ltd.
Vegada Narendra	200170105503	Godrej Industry Ltd.
Panchal Yash	200170105504	Akash Engineering System Pvt. Ltd.
Suthar Rachit	200170105505	AKSH Engineering System Pvt. Ltd.
Bhalodiya Kishan	200170105506	Abert life science Pvt. Ltd.
Sangani Parth	200170105507	Vasoya Industries Pvt. Ltd.
Tanna Rahul	200170105511	Aksh Engineering Pvt. Ltd.
Panchal Keyur	200170105512	Oil and Natural Gas Corporation Ltd.
Rathod Keval	200170105516	Orchev Pharma Pvt. Ltd.

STUDENT PARTICIPATION

On July 5, 2022, the Minister of Education, India conducted an interactive session at EDII Campus near Bhat Circle in Ahmedabad, which was attended by 9 students from M.E. Semester-1.

On September 15, 2022, Prof. Sunil R. Patel and 80 students from semester-3 and semester-5 visited the 36 National Games Awareness Campaign at GTU.



On September 17, 2022, Prof. Zoher Z. Painter, Dr. Ujvala P. Christian, and 20 students from semester-3 and semester-5 visited the SSIP R&I Festival.



On September 27, 2022, Prof. Rakesh R. Merchant and 20 students from the department attended the Bhumi Pujan ceremony of the GTU campus in Lekavada, Gandhinagar.



On September 29, 2022, the inauguration of the National Games at Narendra Modi Stadium in Ahmedabad was attended by Professor Jay B. Trivedi and students from Semester-3, Semester-5, and M.E. Semester-1.



Adarsh Prajapati (200170105001)

Successfully secured Social Entrepreneurship internship at HamariPahchan NGO and Volunteering internship at Muskurahat Foundation through Internshala.

Darshan Dholariya (210170105003)

Participated in "Pharma-Recipe" event at GTU Pharmacy Tech-fest (2k22) on October 10, 2022.

Nihar Savakiya (210170105024)

Took part in the national-level competition called "Battledrone" in September 2022.

Meet Patel (210170105022)

Utsav Kumar Patel (210170105031)

Attended the "Power Python Workshop" in September 2022.

Chetan Gohil (210170105033)

Satishkumar Rathwa (210170105054)

Attended the "Technical Seminar - Towards Rural Enhancement" on August 29, 2022.

Atul Dangi (210170105040)

Took part in the "LSP Program" that was held between December 19, 2022 and January 1, 2023.

Took part in the "DAIICT-TechFest" held in December 2022

Arjun Chauhan (210170105048)

Took part in the "AI for All" program and successfully completed the AI Awareness course on December 23, 2022.

On October 20, 2022, Prof. Rakesh R. Merchant and Prof. Yogesh J. Morabiya accompanied the Chemical Engineering students during their visit to DEFEXPO22.



On October 21, 2022, Prof. Shuchen B. Thakore and 30 students from the department attended the prize distribution ceremony of the G3Q quiz competition at The TransStadia, Kankaria, Ahmedabad.

Abhishekanand Pathak (200170105035)

Completed an industrial internship at INEOS STYROLUTIONS from August 8 to August 23, 2022.

Kishan Parmar (200170105041)

Attended the National Cadet Corps Combined Annual Training Camp in Ahmedabad from July 18-27, 2022.

Saurang Jariya (210170105056)
Tarang Parmar (210170105057)
Sauryajeeet Rana (210170105059)
Rajdip Vadhiya (210170105062)
Arjun Aal (210170105071)

Took part in a webinar conducted by Tops Technology in October 2022.

Meet Patel (210170105022)
Utsav Kumar Patel (210170105031)

Took part in the "Power Python Workshop" in September 2022.

Rohan Aarya (210170105014)

Completed the Verzeo Campus Ambassador Program on August 23, 2022

Nishit Patel (200170105012)

On October 2, 2022, participated in an online quiz on "Cyber Bullying" conducted by ISEA Project Phase-II, Government of India and secured 70%.

Successfully participated in an online quiz on "WhatsApp Security" organized by ISEA Project Phase-II, Government of India on October 4, 2022 and obtained a score of 80%.

Dhaval Devaliya (200170105016)

Took part in an online quiz on "Password Security" conducted by ISEA Project Phase-II, Government of India on October 2, 2022 and scored 50%.

Successfully scored 78% in an online aptitude test on "Entrepreneurship & Digital Innovation" conducted by Lingaya's Lalita Devi Institute of Management and Sciences on December 18, 2022.

Saurabh Patel (200170105028)

Participated in a TOPS TECHNOLOGIES-organized webinar on "Graphic Design with UI/UX" on September 17, 2022.

Raj Prajapati (200170105039)

Successfully achieved a score of 75% in an online quiz on Covid-19 conducted by VidyanKur Education on December 25, 2022

Karan Chauhan (200170105007)

As a Core Team Member, actively served in AdvNature at Vishwakarma Government Engineering College.

Harmish Kotadiya (200170105002)

Kamya Patel (200170105006)

Karan Chauhan (200170105007)

Prince Patel (200170105009)

Brijesh Badiyavadara (200170105010)

Harmeet Patel (200170105014)

Dhruv Chauhan (200170105020)

Raj Patel (200170105022)

Avinash Lakum (200170105030)

Dev Patel (200170105034)

Premal Khairnar (200170105040)

Dhrupal Jinja (200170105044)

Parmar Chirag (200170105049)

Ajay Kannaujiya (200170105051)

Yuvraj Rathod (200170105056)

Aditya Mahida (200170105058)

Sujal Patel (200170105501)

Jayesh Patil (200170105502)

Dhyey Parekh (200170105504)

Shafik Mansuri (200170105508)

Jay Gujjar (200170105509)

Have achieved the analytic mindset to describe, predict and inform basic business decisions using the fundamental knowledge of E-Commerce on December 25, 2022.

Kamya Patel (200170105006)
Karan Chauhan (200170105007)
Brijesh Badiyavadara (200170105010)
Khush Patel (200170105011)
Dev Patel (200170105034)
Yuvraj Rathod (200170105056)
Sujal Patel (200170105501)
Aman Parmar (200170105507)
Shafik Mansuri (200170105508)
Utsav Vaghani (200170105512)
Kava Sahil (210170105012)
Dev Padiya (210170105018)
Arjun Chauhan (210170105048)

Successfully completed the A2Z of Stock Market for Beginners, an online course authorized by E-learn markets on December 15, 2022

Kamya Patel (200170105006)
Karan Chauhan (200170105007)
Khush Patel (200170105011)
Chirag Parmar (200170105049)
Jenil Khanpara (200170105057)
Sujal Patel (200170105501)
Dhyey Parekh (200170105504)
Kava Avadh (210170105004)
Romit Makwana (210170105023)

Participated in an online quiz on the Constitution of India on November 25, 2022.

Raj Prajapati (200170105039)
Varun Patel (200170105037)
Jayesh Patil (200170105502)
Jay Gujjar (200170105509)

Completed an e-quiz on English Grammar organized by SCOPE, Department of Education on October 11, 2022.

Kartik Radadiya (200170105024)
Jay Gujjar (200170105509)

Successfully completed an online test on "Sports & Games" organized by Sapphire International School on December 25, 2022

Kamya Patel (200170105006)
Manan Purohit (210170105011)

Participated in the MY VGEC - MY CLICK Photography Competition using a mobile phone during August-September 2022.

Kartik Radadiya(200170105024)

Successfully completed an online assessment on "Heritage & Culture" conducted by Lingaya's Lalita Devi Institute of Management and Sciences on December 25, 2022.

Kailash Gorfad (210170105002)
Akshay Asodariya (210170105007)
Utkarsh Bhagat (210170105008)
Risabh Rawal (210170105017)
Dev Padiya (210170105018)
Meet Patel (210170105022)
Sauryajeet Rana (210170105059)

Successfully completed an E-Quiz on noun forms organized by SCOPE on November 6, 2022

Kailash Gorfad (210170105002)
AkshayAsodariya (210170105007)
Utkarsh Bhagat (210170105008)
Jay Patel (2101701050010)
Risabh Rawal (210170105017)
Dev Padiya (210170105018)
Mehul Barot (210170105019)
Himanshu Chariya (210170105045)

Participated and completed the Discover Yourself (DYS) course organized by ISKCON Youth Forum, Ahmedabad on September 9, 2022,

Kailash Gorfad (210170105002)
Kava Avadh (210170105004)
Utkarsh Bhagat (210170105000)
Dinesh Vasani (210170105009)
Jay Patel (2101701050010)
Vankar Rachita (210170105015)
Romit Makwana (210170105023)
Ayush Patel (210170105030)
Patel Tirth (210170105038)
Dhruv Patel (210170105041)
Nalsera Miguel (210170105042)
Lav Mishra (210170105051)
Sauryajeeet Rana (210170105059)
Mihir Kher (210170105061)
Ashvin Kalsariya (210170105072)

Successfully participated in the "Har Ghar Tiranga" initiative by the Ministry of Culture to Commemorate Azadi Ka Amrit Mahotsav by displaying the National Flag on August 13, 2022,

Kava Avadh (210170105004)
Utkarsh Bhagat (210170105008)
Risabh Rawal (210170105017)
Dev Padiya (210170105018)
Arjun Jethva (210170105050)
Anku Sankhla (210170105064)

Participated in a poster making competition held on July 19, 2022.

Jay Patel (2101701050010)
Rachita Vankar (210170105015)

Participated in the Photography Workshop on "Mobile Photography" held on August 5, 2022.

Akshay Asodariya (210170105007)
Utkarsh Bhagat (210170105008)
Risabh Rawal (210170105017)
Nevil Badhani (210170105043)
Arjun Jethva (210170105050)

Participated in the Personality Development Workshop on Sinhad Competition held on October 17, 2022.

Darshan Dholariya (210170105003)
Kava Avadh (210170105004)
Meet Patel (210170105022)
Janmenjay Raval (210170105028)
Utsav Kumar Patel (210170105031)
Chetan Gohil (210170105033)
Tirth Patel (210170105038)
Harsh Patel (210170105039)
Dhruv Patel (210170105041)
Nevil Badhani (210170105043)
Himanshu Chariya (210170105045)
Lav Mishra (210170105051)
Karan Thakar (210170105052)
Satishkumar Rathwa (210170105054)
Tirth Patel (210170105058)
Sauryajeeet Rana (210170105059)
Rajdip Vadhiya (210170105062)
Preet Nannera (210170105066)
Arjun Aal (210170105071)
Abhishek Pandey (220173105001)
Harshidkumar Vankar (220173105016)
Jaivik Kalavadiya (220173105004)
Shrey Patel (220173105009)
Rudraprasad Kumar
Samanta (220173105013)

Attended the "How to Achieve a Winning Personality" workshop on November 17, 2022.

Aumshree Raval (210170105013)
Devangi Padhiyar (210170105036)

Participated in the “IEE Shapat” held on November 7, 2022.

Aumshree Raval (210170105013)
Dev Padiya (210170105018)
Nihar Savakiya (210170105024)
Akshay Buhecha (210170105027)
Janmenjay Raval (210170105028)
Rytham Pitroda (210170105035)
Dhruv Patel (210170105041)
Nevil Badhani (210170105043)
Prince Patel (210170105053)
Satishkumar Rathwa (210170105054)
Rajdip Vadhiya (210170105062)

Participated in the “English Olympiad” which was held from September 26, 2022 to October 1, 2022.

Preet Nannera (210170105066)
Arjun Aal (210170105071)
Shrey Patel (220173105009)

Participated in the “Preamble to the Constitution” held on November 22, 2022.

Akshay Buhecha (210170105027)
Harshidkumar Vankar (220173105016)
Jaivik Kalavadiya (220173105004)
Shrey Patel (220173105009)
Abhishek Sadafale (220173105009)

Participated in the “E Quiz - Tenses and Verbs” held on October 11, 2022.

Raj Surani (210170105026)

Participated in the “Naturopathy Pledge” held on December 18, 2022.

Sahil Kava (210170105012)
Smit Rakholiya (210170105020)
Janmenjay Raval (210170105028)
Utsav Kumar Patel (210170105031)
Dhruv Patel (210170105041)
Himanshu Chariya (210170105045)
Lav Mishra (210170105051)
Karan Thakar (210170105052)
Prince Patel (210170105053)
Tarang Parmar (210170105057)
Tirth Patel (210170105058)
Harshidkumar Vankar (220173105016)
Sagar Pathar (220173105010)
Jaivik Kalavadiya (220173105004)
Shrey Patel (220173105009)
Rudraprasad Kumar Samanta (220173105013)

Participated in the “E Quiz Clauses” organised on December 25, 2022.

Meet Patel (210170105022)
Utsav Kumar Patel (210170105031)
Nidhi Raval (210170105034)
Rytham Pitroda (210170105035)
Priya Vyas (210170105037)
Tirth M. Patel (210170105038)
Harsh Patel (210170105039)
Dhruv Patel (210170105041)
Lav Mishra (210170105051)
Tarang Parmar (210170105057)
Anku Sankhla (210170105064)

Participated in the “Power BI Workshop” in September 2022.

Janmenjay Raval (210170105028)

Participated in the “Meghdhanush 5.0 – A drawing Competition” held on November 29, 2022.

Akshay Buhecha (210170105027)
Chetan Gohil (210170105033)
Dhruv Patel (210170105041)
Lav Mishra (210170105051)
Satishkumar Rathwa (210170105054)
Saurang Jariya (210170105056)
Arjun Aal (210170105071)
Shrey Patel (220173105009)

Participated in the Online Quiz on “India – the mother of Democracy” held on November 18, 2022.

Chetan Gohil (210170105033)
Saurang Jariya (210170105056)
Tarang Parmar (210170105057)
Rajdip Vadhiya (210170105062)

Participated in the “Devtown” in August 2022.

Lav Mishra (210170105051)

Participated in the “Say yes to life, No to Drugs” held on September 7, 2022.

Om Rana (200170105008)
Satyam Singh (200170105013)
Lakshya Sharma (200170105015)
Abhishekanand Pathak (200170105035)

Participated in the football event as part of VISHVACUP 2022, the annual sports week of Vishwakarma Government Engineering College on October 13 to 15, 2022.

Meet Patel (210170105022)
Utsav Kumar Patel (210170105031)
Nidhi Raval (210170105034)
Tarang Parmar (210170105057)

Participated in an online chess tournament held on October 9, 2022

Kamya Patel (200170105006)
Karan Chauhan (200170105007)
Harmeet Patel (200170105014)
Raj Patel (200170105022)
Parl Ajudiya (200170105055)
Aditya Mahida (200170105058)
Tarun Sardarni (200170105063)
Shyam Gorfad (210170105001)
Kailash Gorfad (210170105002)
Kava Avadh (210170105004)
Utkarsh Bhagat (210170105008)
Dinesh Vasan (210170105009)
Jay Patel (2101701050010)
Rachita Vankar (210170105015)
Risabh Rawal (210170105017)
Dev Padiya (210170105018)
Meet Patel (210170105022)
Romit Makwana (210170105023)
Akshay Buhecha (210170105027)
Utsav Kumar Patel (210170105031)
Raj Dhoriyani (210170105032)
Chetan Gohil (210170105033)
Nidhi Raval (210170105034)
Rytham Pitroda (210170105035)
Tirth Patel (210170105038)
Nevil Badhani (210170105043)
Himanshu Chariya (210170105045)
KrishMunjani (210170105047)
Arjun Jethva (210170105050)
Satishkumar Rathwa (210170105054)
Tirth Patel (210170105058)
Sauryajeet Rana (210170105059)
Shubham Gupta (210170105060)

Participated in the GUJARAT GYAN GURU QUIZ (G3Q) organized by the Government of Gujarat's Education Department.

Prince Patel (210170105053)

Participated in the “Saputara Adventure Camp” from August 31, 2022 to September 2, 2022.

Meet Patel (210170105022)

Have participated in CHESS as a part of VISHWACUP 2022 - The Annual Sports Week of Vishwakarma Government Engineering College - held from October 13 to 15, 2022.

AkshayBuhecha (210170105027)

Prince Patel (210170105053)

JanmenjayRaval (210170105028)

Participated in the Volleyball tournament as part of VISHVACUP 2022, the annual sports week of Vishwakarma Government Engineering College, held from October 13 to 15, 2022.

Harmish Kotadiya (200170105002)

Harmeet Patel (200170105014)

Raj Prajapati (200170105039)

Mitesh Chauhan (220170105007)

Bhoi Darpan (2201701050)

Dipesh Prajapati (220170105052)

Kunj Patel (220170105041)

Mayur Kasotiya (220170105024)

Mayurraj Rathod (220170105060)

Shlok Gauswami (220170105017)

Bansi Patel (220170105038)

Participated in the cricket tournament during VISHVACUP 2022, the annual sports week of Vishwakarma Government Engineering College, which took place from October 13 to 15, 2022.

Om Rana (200170105008)

Lakshya Sharma (200170105015)

Tirth M. Patel (210170105038)

Janmenjay Raval (210170105028)

Utsav Kumar Patel (210170105031)

Prince Patel (210170105053)

Participated in the KABADDI event as a part of VISHVACUP 2022 - The Annual Sports Week of Vishwakarma Government Engineering College, held from October 13 to 15, 2022.

CHEM TALK

Biosynthesis of magnetic, recyclable spinel photocatalyst with sunlight-driven degradation of reactive dye mixtures

**Patel Milankumar B (210170730006) and
Dr. Femina J. Patel**

In recent years, the issue of environmental pollution caused by reactive dyes has received increasing attention due to their harmful effects on aquatic ecosystems and human health. In this context, the development of photocatalysts capable of degrading reactive dyes has become a major research focus. In this regard, the biosynthesis of magnetic, recyclable spinel photocatalyst with sunlight-driven degradation of reactive dye mixtures has emerged as a promising solution.

A team of researchers has successfully synthesized a new photocatalyst based on the spinel ferrites family, which has remarkable photocatalytic activity in degrading a mixture of reactive dyes in

water under sunlight. The team used a simple, eco-friendly, and cost-effective biosynthesis method to develop the magnetic spinel photocatalyst. The method involved using plant extracts as a reducing agent to synthesize the magnetic spinel photocatalyst. This approach has several advantages over other synthetic methods, including the use of eco-friendly materials, low-cost, and high efficiency.

The resulting product exhibits excellent photocatalytic activity, with a degradation efficiency of over 90% within 90 minutes. The photocatalyst is magnetic, making it easy to separate and recover from the reaction mixture after use. It can be reused for multiple cycles without significant loss in photocatalytic activity. Additionally, the photocatalyst is stable and has a long lifespan, making it a promising candidate for practical applications.

The development of this magnetic spinel photocatalyst offers a new approach to addressing the issue of dye pollution in water. The combination of magnetic properties and efficient photocatalytic activity is a significant breakthrough in the field of photocatalysis. The magnetic spinel photocatalyst could potentially lead to more environmentally-friendly solutions for the treatment of dye pollution in the future.

In conclusion, the biosynthesis of magnetic, recyclable spinel photocatalyst with sunlight-driven degradation of reactive dye mixtures is a promising approach to addressing the issue of environmental pollution caused by reactive dyes. The

success of this research highlights the potential of green chemistry and opens up new avenues for the development of sustainable solutions for environmental challenges.'

Electrochemical Degradation of Reactive Dyes Mixture over DSA Electrodes

**Patel Deep M (210170730006) and
Dr. Femina J. Patel**

The increasing demand for textile dyes has led to an increase in the discharge of untreated wastewater from textile industries, resulting in environmental pollution. Reactive dyes are among the most commonly used dyes in the textile industry and are known for their resistance to biodegradation, making it challenging to treat wastewater effectively. However, the electrochemical degradation of reactive dyes mixture over dimensionally stable anodes (DSAs) offers a promising solution.

The electrochemical degradation of reactive dyes mixture over DSA electrodes is a highly effective and environmentally friendly method for the treatment of textile wastewater. DSAs are a type of electrode material that exhibits high resistance to corrosion and high stability in various chemical environments. The use of DSAs in the electrochemical degradation of reactive dyes mixture offers several advantages over other methods, including high efficiency, low operating costs, and ease of operation.

The electrochemical degradation process involves the application of an electrical current to the wastewater containing the reactive dyes mixture. The current generates highly reactive hydroxyl radicals ($\cdot\text{OH}$),

which attack the chemical bonds of the reactive dyes and break them down into smaller, less harmful substances. The process is highly effective in the degradation of the reactive dyes mixture, with over 95% removal efficiency in a short time.

Moreover, the use of DSA electrodes ensures the sustainability of the process. DSAs are highly durable, and their resistance to corrosion reduces the risk of electrode damage during the electrochemical degradation process. Furthermore, the electrodes are easy to clean and maintain, making them ideal for long-term use.

In conclusion, the electrochemical degradation of reactive dyes mixture over DSA electrodes offers a sustainable and efficient solution for the treatment of textile wastewater. The method is effective, cost-efficient, and environmentally friendly, making it a promising option for industrial wastewater treatment. The use of DSAs in the electrochemical degradation process enhances the durability and sustainability of the process, leading to a cleaner environment and a more sustainable future.

Trans-esterification of Waste Cooking Oil Using a Homogeneous Catalyst Methane Sulphonic Acid

LekhaThanki (210170730011),
Prof. Y. J. Morabiya and
Dr. Milap G. Nayak

Nowadays, the primary source of the world's energy output comes from fossil fuels. Biodiesel, on the other hand, can be used in any standard diesel engine, making it a more renewable option. The American Society for Testing and Materials (ASTM) has defined

biodiesel as a mono-alkyl ester of fatty acids or fatty acid (m)ethyl ester derived from various feed stocks, including waste cooking oils, palm oils, and vegetable oils.

One of the major barriers to commercializing biodiesel is its high cost compared to petroleum-based diesel. The cost of raw materials makes up approximately 70-85% of the total production cost. However, biodiesel offers several benefits, including biodegradability, higher combustion efficiency, portability, availability, renewability, higher cetane number, and flash point. On the downside, biodiesel has lower calorific value and higher pour and cloud point fuel, and it may cause excessive engine wear.

Various methods exist for biodiesel production, including direct use of vegetable oil, micro emulsions, thermal cracking (pyrolysis), esterification, and transesterification. Transesterification, which replaces glycerol in triglycerides with a short-chain alcohol, is the most commonly used process for biodiesel production. Homogeneous catalysts, such as sodium hydroxide (NaOH) and potassium hydroxide (KOH), or acid catalysts, such as sulphuric, sulphonic, phosphoric, and hydrochloric acids, can be used for transesterification.

Waste cooking oil is an excellent choice for biodiesel production since it is cheaper than virgin vegetable oils and other feed stocks. The use of methane sulphonic acid (MSA) can reduce the acidity of the waste cooking oil before the alkaline transesterification reaction. MSA is a green and eco-friendly catalyst that has been recycled up to three

times without losing its activity. The acid strength of the catalyst plays a crucial role in protonating the carboxylic moiety of the fatty acid, resulting in higher activity of sulphuric and methane sulphonic acids. In summary, the most practical and common way of producing biodiesel is transesterification, which involves the catalysed reaction of waste cooking oil with alcohol to yield biodiesel and glycerol

Every problem has 2 solutions

- 1- भाग लो (Run Away)
- 2- भाग लो (Participate)

Choice is Yours

"Learning today, leading tomorrow"

"Empowering minds, shaping futures"

"Invest in knowledge, reap the rewards of success"

"Education: unlocking limitless possibilities"

"The foundation of success is education"

CREATIVE CORNER



Nidhi Raval (2nd Year)

EDITORIAL TEAM

Dr. Femina J. Patel

(Department Coordinator)

Prof. Zoher Z. Painter

(Newsletter Team Coordinator)

Chauhan Karan (3rd Year)

Patel Tirth Mahesh (2nd year)

Patel Vatsal Nimeshbhai (1st year)