



RADIANCE

CHEMICAL ENGINEERING E-NEWSLETTER



Volume I, Issue I

JULY-SEPTEMBER 2018

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FROM PRINCIPAL'S DESK



(Dr. R. K. Gajjar)

Dear Students & Faculty Members, It is a matter of great happiness that the first e-newsletter of Chemical Engineering Department is brought to you. The world is changing fast with innovation and unconventional thinking. This is the era of global technological development and advancement. Industrial, technological, and scientific developments are accelerating at a very fast rate in our country. In such an environment, industry demands highly qualified, skilled, efficient and efficient engineers. Engineering colleges are trying their best to provide engineers as per the requirements of industry.

Quality education contributes in making a beautiful world. To fulfill the on-going mission for providing quality engineers, Vishwakarma Government Engineering College initiated multifold activities related to students and faculty. Chemical Engineering Department contribution is noteworthy in this regard. The aim of Chemical Engineering Department is to create an environment that will groom engineers who will contribute not only to the specific needs of industry, but will also be socially responsible and will leave their distinguished mark in whatever they do. I am sure that the energy and commitment of our dynamic students and highly qualified faculty will lead us to great heights and make the state and nation proud.

FROM HEAD OF DEPARTMENT'S DESK



(Dr. N. M. Patel)

Chemical Engineering is a very wide discipline of Engineering. Chemical Engineers have made important contributions to society over the years in terms of products and processes. There are remarkable contribution by Chemical Engineers in new products development, technology developments, optimum design and operation of chemical plants. The Department prides the excellent learning/research facilities available to faculty/student. The department maintains close liaison with large numbers of process industries to encourage students to work on industry-oriented live projects.

For the first time we launch this departmental e-newsletter to enlighten our students about various activities and achievements of our fellow mates. It is a very good initiative by our department in order to let our students to get updates about the recent developments and achievements.

ABOUT COLLEGE



Vishwakarma Government Engineering College, Ahmedabad was established in August 1994, with an objective of imparting higher education in various fields of engineering and technology. This institute is recognized by All India Council of Technical Education (AICTE), New Delhi and Institute of Engineers (India). The college is administrated by Directorate of Technical Education, Gujarat State, Gandhinagar and is affiliated with Gujarat Technological University. VGEC shifted to its own campus at Chandkheda, Ahmedabad in the year 2005.

“The function of education is to teach one to think intensively and to think critically.”

-Martin Luther King Jr.

ABOUT CHEMICAL DEPARTMENT



VISION:

To create vibrant environment to breed professional chemical engineers with integrity and ethics

MISSION:

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

DEPARTMENT ACTIVITIES

IPR AND CENTRE OF EXCELLENCE VISIT



48 students and 3 Faculties had visited **IPR (Institute for Plasma Research)** situated at Bhat, Ahmedabad and **COE (Centre Of Excellence)** centre situated at VGEC Chandkheda on 3rd August, 2018.

Institute for Plasma Research is an autonomous R & D organization under the authority of Department of Atomic Energy (DAE), Government of India. IPR is largely involved in theoretical and experimental studies in plasma science including basic plasma physics, magnetically confined hot plasmas and plasma technologies for industrial application. The institute owns two operational tokomaks (a machine for controlling thermonuclear fusion) - ADITYA and Steady State Tokomak (SST) - 1.

After successful completion of IPR visit, students and faculties had visited Centre Of Excellence (COE) situated at G-Block, VGEC, Chandkheda. Gujarat Technological University has initiated to build Centre of Excellence (COE) in I-4.0 frontiers of today's technology in Automation Technologies in association with Bosch Rexroth India Limited (BRIN) with an objective of developing industry institute partnership in the field of Automation, Mobile Hydraulic, Automobile, and Mobile Electronics Technologies to bridge technology gaps between industry and academia to foster research and knowledge among the students at GTU. COE consists of Pneumatic Lab, Hydraulic Lab, Mechatronics Lab & Sensor Lab.

EXPERT LECTURE

Dr. Bharat Jain, Member Secretary/ ENVIS Co-ordinator GCPC had been invited as an expert speaker at Chemical Engineering Department, to deliver a lecture on - **"Importance Of Environment For Chemical, Civil, & Mechanical Engineers"** on 7th August-2018.



TRAINING AND PLACEMENT WORKSHOP

5th & 7th semester students of Chemical Department had actively participated in one day workshop which was organized by TPO cell -VGEC on 18th September. This workshop was all about developing communication skills as well as how to overcome fear of facing interviews.

"Success is going from failure to failure without losing enthusiasm."

-Winston Churchill

**“Education is
the passport to
the future, for
tomorrow
belongs to
those who
prepare for it
today.”**

-Malcolm X

IEI (Institution of Engineers (INDIA) Students' Chapter)

IEI (Institution of Engineers India) Students' Chapter is present at Chemical Engineering Department since 2015. Prof. Y. J. Morabiya is Faculty Advisor . Following is the student organizing committee (2018-20) of this chapter :

| Designation | Name of Student | Semester |
|------------------|-------------------|----------|
| Chairman | Shah Parth J. | 7 |
| Advisors | Morarji Devita V. | 7 |
| | Parmar Nidhi B. | 5 |
| | Chavda Ekta C. | 7 |
| Convenors | Goyal Hemant S. | 5 |
| | Udara Venuradewa | 5 |
| | Patel Parth B. | 5 |

Expert Talk/ Technical Demonstration, Short Term Courses, Workshop/ Seminar/ Paper Presentation, Model Making/ Poster Presentation, Group Discussion/ Aptitude Test, Quiz Competition, Industrial Visit and Scholarships are the major activities arranged by students under this chapter. These activities can be useful in scoring 100 Activity Points (As a mandatory requirement of GTU to qualify for degree of B. E. Chemical Engineering) as well as importing experience & knowledge.

STUDENTS ACTIVITIES

TREE PLANTATION



VGEC had launched an extensive plantation programme on the occasion of the World Environment Day in different parts of our locality. On 5th August, 2018, all students of chemical engineering department were actively involved in plantation of trees in green space near H-block of Department as well as the college's roadsides in a well-organized way.

વિશ્વકર્મા સરકારી ઈજનેરી કોલેજમાં ૨૦૦ વૃક્ષોનું વાવેતર કરાયું

ગાંધીનગર પાસેના ચાંદમેદા ખાતેની વિશ્વકર્મા સરકારી એન્જિનીયરીંગ કોલેજ ખાતે પર્્યાવરણ જાળવણી યોજના અંતર્ગત વૃક્ષોનું વાવેતર કરાયું હતું. આ કાર્યક્રમમાં કોલેજના વિદ્યાર્થીઓએ ૨૦૦ કસ્ટા વધારે વૃક્ષોનું વાવેતર કર્યું હતું.

પર્્યાવરણ અને જાનુરિ વધે અને સાથે પર્્યાવરણની જાળવણી થાય તેવા ઉમદા હેતુથી આ વૃક્ષારોપણ કાર્યક્રમમાં મુખ્ય મહેમાનપદે ઉચ્ચ શિક્ષણ કમિશનર ડૉ.કે.નિરાલા ઉપસ્થિત રહ્યા હતા. જેમણે કોલેજના આચાર્ય તથા પ્રાધ્યાપકમણ અને ભૂતપૂર્વ તથા વર્તમાન વિદ્યાર્થીઓ સાથે મળીને વૃક્ષારોપણ સંપન્ન કર્યું હતું. વૃક્ષારોપણ દરમિયાન ૫૦થી વધુ સ્વયંસેવકોએ જરોમત ઉદાવી સમગ્ર કાર્યક્રમને સફળ બનાવ્યો હતો. વિદ્યાર્થીઓમાં પર્્યાવરણ અને જાનુરિ તો વધી રહી છે તે આ કાર્યક્રમથી જણાઈ આવ્યું હતું. આ કાર્યક્રમનું આયોજન ભૂતપૂર્વ વિદ્યાર્થી એસોસિએશન, એડવાન્સર ક્લબ અને એનએસએસ યુનિટ દ્વારા કરવામાં આવ્યું હતું.



The saplings were supplied by the local municipality corporation. In order to restore the eco-balance of the forestation drive was taken with all seriousness. Participants were highly enthusiastic to make it a big success which was appreciated by the representatives of the administration and the local forest department officials.

STUDENTS PROJECT GROUP VISIT to IIM- AHMEDABAD



With the world facing an energy crisis due to over exploitation of the limited fossil fuels, use of energy sources that are renewable and eco friendly is the need of the hour. Biogas technology is one such source. Students from the 5th and 7th semester of our department having felt this need have enthusiastically taken up this project to generate biogas from kitchen waste.

In order to get an idea about how a biogas plant works, students had visited a biogas plant installed at IIM Ahmedabad on 5th September 2018. The biogas plant at IIM-Ahmedabad is fed with 50 Kg of the mess waste on a daily basis. The gas generated is then used for boiling water in the canteen. The students were explained about the function of each and every part of the plant in detail. This visit helped the students to get an overview about the operation of a biogas plant and gave them a clear vision about how to go ahead with the project.

BLOOD DONATION AND THALASSAEMIA TEST

Students of Chemical Engineering Department had actively participated in Blood Donation Camp and Thalassaemia Test organized by NSS-VGEC Group on 18th September, 2018 .



“The road to success is desire, dedication, discipline and determination”

-Anonymous

INDUCTION PROGRAM BATCH – 2018

“The highest education is that which does not merely give us information but makes our life in harmony with existence.”

-Rabindranath Tagore

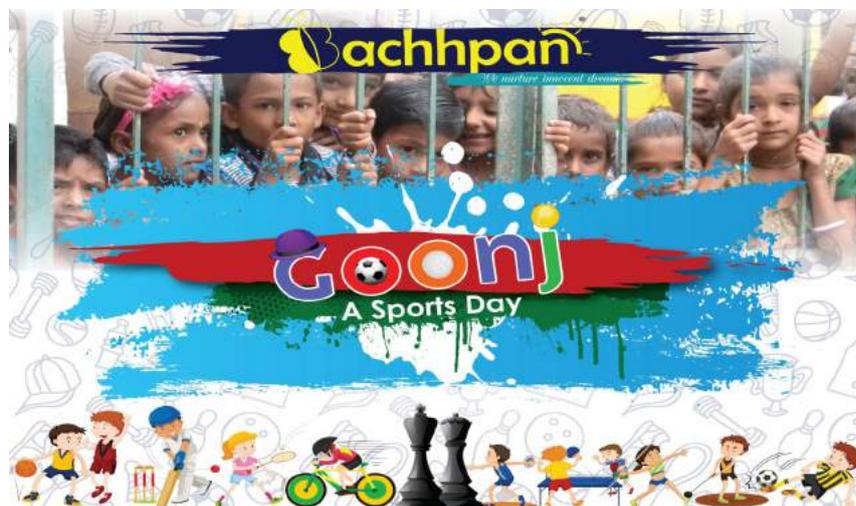


Chemical engineering department had organized induction program for the 1st year students. This program was organized as per guideline of Gujarat Technological University the aim was to build a bridge between school and college life through a 21 days programs.

Different activities were conducted during Induction Program under the head of Physical Activities, Creative Arts, Universal Human Values (UHV), Literacy and Adventure.

Students actively involved in activities like, art and craft, waste to best ideas, recycling ideas of plastic waste, learning of Vedic mathematics,

BACHHPAN



‘BACHHPAN’ is a student run NGO working against child-labour for children welfare. BACHHPAN is successfully making impact in many slum areas across different cities by imparting free education.

‘BACHHPAN’ NGO had organized GOONJ- Sports day on 21st September, 2018 held at Vgec campus (I & A block).

Students of Chemical Engineering Department, Nayan Chovatiya and his team mates had coordinated this event very successfully. At the end, students had been rewarded and food packet distribution was arranged for children.

**“Thinking
should become
your CAPITAL
ASSET , no
matter
whatever ups
and downs you
come across in
your life.”**

-A.P.J. Kalam

**“Challenges
are what make
life interesting
and
overcoming
them is what
makes life
meaningful.”**

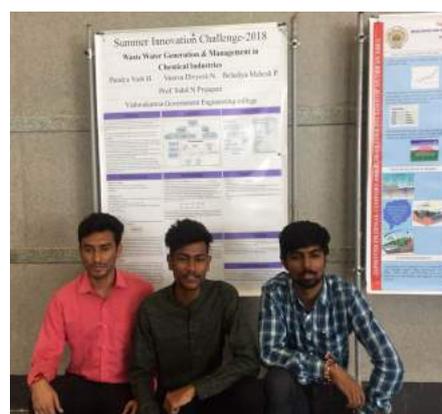
-J.J. Marine

VISWACHHTA



VGEC had initiated ‘Viswachhta Campaign’. Students of Chemical Engineering Department had actively participated in “Ideathon” which is based on your imagination, thinking and creativity about plastic free and green campus on 13th August, 2018. This activity was coordinated by Prof. S. A. Amin, Associate Professor. Around 70 students had conveyed their ideas through the same.

STUDENTS ACHIEVEMENT



Team of 7th semester students—Pandya Yash, Vasava Divyesh and Beladiya Mahesh secured 3rd prize for their project work on ‘Waste Water Generation and Management in Chemical Industries’ in Summer Innovation Challenge-2018 organized by SSIP- Cell, Govt. of Gujarat. They awarded cash prize of ₹ 20000 by Honorable Chief Minister of Gujarat Shri Vijay Rupani on September, 10- 2018.

ALUMNI CORNER

MESSAGE FROM ALUMNI



Mr. Vivek Popat
(Alumni- Batch 2011)

Current Designation:
Nuclear Scientist,
BARC, Mumbai.

I am proud to be an alumni of VGED which has stood as a platform for elevating me to the position where I am today. In the fruitful 4 years spent, I was nurtured and molded to face the challenges and grab the opportunities that lie ahead. Rather than classroom knowledge I got chance to explore with the practical world which still holds in hand in all my endeavours.

The quality of faculty and their friendly approach to the students always stand out to the aspiring. The industrial approach and seminars facilitated to gain insight about the chemical industry.

I thank the chemical engineering department for providing such a wonderful environment to develop individuals like me & wish them all the very best for all the efforts they take to develop a better tomorrow.

ALUMNI MEET

VGED ALUMNI ASSOCIATION had organized Alumni Meet of pass out batch 2011 to 2015 on 29th September, 2018 in auditorium A block from 3 pm onwards. Many Alumni of Chemical Engg. were actively participate in this meet. This event had activities like open mic and cultural events. RJ Parth and writer Hiren Kavadi, some of the famous alumni's' presence made the event more cherishing. The major objective of this meet was to connect with old alumni.

MEHFIL-E-KAVITA

Mehfil-e-Kavita presented by MyToolBag Productions exclusively for the poets, the independent thinkers and the poem lovers who believes in the power of expression through words, acts and plays. The event was conducted by Prashant Dhodiya—an alumni of Batch 2017 pass out.

GRAPHIC DESIGN WORKSHOP



VGED Alumni Association has come up with an amazing 2 day workshop on 'Graphic Designing' under the expertise of the best designers of VGED. 15 students of Chemical Engineering Department had participated in this course.

“As engineers, we must realise that what we are today is because of society and we have commitment and obligation to pay back to the society for what we have received from it”.

-E. Sreedharan
(The Metro Man of India)

RESEARCH ACTIVITIES

ON GOING SSIP PROJECTS

| Name of Student | Title of Project | Name of Project Supervisor |
|--|---|--|
| Chauhan Dhaval Priyam Acharya Blesswell Lal Samixa Jha | Flexible Water Storage Pot | Prof. B. K. Sheth |
| Damor Darshan Dave Ramya Dhamecha Milan Dhameliya Abhishek Gagiya Vishal | Hydro Jet Ejector system for cooling using water-alcohol emulsion | Prof. D. D. Mandaliya |
| Harshitaben Patel Kinderkhediya Yashkumar Kumbhani Raxit | Food grade water based emulsion of cumin oil | Prof. D. R. Gandhi & Prof. Y. J. Morabiya |
| Parth Shah Ekta Chavda Ankit Yadav | Separation of Carbon Dioxide from flue gases using Ionic Liquids | Prof. D. D. Mandaliya |
| Vishwa Zaveri Jash Ukani Rushali Mistry Jayvallabh Gorasiya Nidhi Parmar | Portable Biogas Plant | Prof. S. A. Amin |
| Yash Pandya Jenish Beladiya Sanjay Meda | Zeolite membrane filter for oxygen reach air | Prof. N. M. Patel & Prof. S. N. Prajapati |

FACULTY ACTIVITIES

FACULTY ACHIEVEMENTS



Prof. Kamlesh Gurjar, Assistant Professor in Chemistry had successfully completed his PhD Viva-Voce on 6th September-2018. His thesis entitled 'Synthetic & Mechanistic Investigations on Copper Mediated C-N Bond Formation in Arylation Reaction' was accepted by Gujarat Technological University (GTU) for the degree of Doctor of Philosophy (PhD).



Prof. S.N. Prajapati guided a SSIP project team of chemical engineering students (7th Semester), who secured 3rd position in Institutional Innovation category of Summer Innovation Challenge-2018 based on theme of Water organized by SSIP Cell, Govt. of Gujarat; and on 10th September-2018 they awarded ₹20,000 Cash prize and memento by Hon. Chief Minister Shri Vijaybhai Rupani.

FACULTY PARTICIPATION IN FDP/CONFERENCE/SEMINAR

Prof. Z. Z. Painter had attended one week training program on "Advances in Nanotechnology" conducted by NITTTR-Bhopal, Ex. Centre- Ahmedabad from 9th to 13th July, 2018.

Prof. J. B. Trivedi had participated in one week faculty development programme on "Beyond the classroom towards Excellence" organized by Indian Institute of Teachers Education- Gandhinagar from 6th to 11th August, 2018.

Prof. S. N. Prajapati had attended one week faculty development programme on "Beyond the classroom towards Excellence" organized by Indian Institute of Teachers Education- Gandhinagar from 5th to 10th September, 2018.

Prof. Z. Z. Painter had attended two day seminar on "Pollution Control, Cleaner Production & Chemical Security Program-Issues and Concerns" jointly organized by IEI-Ahmedabad, IICHe, GPCB and SAL Engg. College on 19th to 20th Sept. 2018.

Prof. S. R. Patel had attended two day seminar on "Pollution Control, Cleaner Production & Chemical Security Program-Issues and Concerns" jointly organized by IEI-Ahmedabad, IICHe, GPCB and SAL Engg. College on 19th to 20th Sept. 2018.

FACULTY INTERACTION DETAILS

Dr. N. M. Patel, Head of Department newly elected as Joint Honorary Secretary of IICHe-Ahmedabad Regional Centre during the period of 2018-2020.

Dr. D. D. Mandaliya, Associate Professor participated in MHRD-AICTE Innovation club workshop at AICTE, New Delhi on 13th August, 2018. He had also participated in meeting for organizing Industrial Hackathon on 10th Sept. 2018.

PAPER PUBLICATION AND PRESENTATION

| Name of Faculty | Type of Publication National/ International | Title of Paper | Publication in Book/ Journal/ Conference/ Seminar | Name of Book/ Journal/ Conference/ Seminar | ISSN/ISBN |
|--|---|---|--|---|-----------------|
| Prof. B. K. Sheth | International | Analysis of molar flux and current density in the electro-dialytic separation of sulfuric acid from spent liquor using an anion exchange membrane | Journal | Korean Journal of Chemical Engineering, Springer, (2018). | ISSN: 1975-7220 |
| Prof. N. M. Patel and Prof. S. N. Prajapati | National | Feasibility Study and Economic Analysis for Oxy-Fuel Combustion in Furnace of Ceramic Industries With Flue Gas Recycle | Conference | Seminar On Pollution Control, Cleaner Production & Chemical Security Program-Issues and Concerns. | E- Proceedings |
| Prof. Z. Z. Painter | National | Comparison of Multi Solute Effluent Adsorbent Studies for Treatment of CPC Blue using Different Adsorbents | Conference | Seminar On Pollution Control, Cleaner Production & Chemical Security Program-Issues and Concerns. | E- Proceedings |
| Prof. Z. Z. Painter and Prof. R. R. Merchant | National | Study of Heavy Metal Removal from Waste Water by Adsorption | Conference | Seminar On Pollution Control, Cleaner Production & Chemical Security Program-Issues and Concerns. | E- Proceedings |
| Prof. S. R. Patel | National | New trends of electro-coagulation for heavy metal removal from waste water: A review | Conference | Seminar On Pollution Control, Cleaner Production & Chemical Security Program-Issues and Concerns. | E- Proceedings |

EDITORIAL TEAM MEMBERS

| | |
|------------------------|--|
| Mentor | Prof. S. A. Amin, Associate Professor |
| Editor | Prof. U. P. Christian, Assistant Professor |
| Student Editors | Mr. Prabhat Singh & Mr. Mayank Rajput (3 rd year) |
| Student Members | Mr. Hitesh Kewlani (3 rd year), Ms. Rushali Mistry (4 th year), Ms. Vishwa Zaveri (4 th year) |

CONTACT US:

LAYOUT PLAN:



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Your valuable feedback and suggestion are welcome.



Live Life cleaner
by
making Earth greener

