



NEUTRALIZE

A DEPARTMENT E-NEWSLETTER



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FROM HOD'S DESK

I am delighted to announce that Chemical Engineering Department is publishing the Departmental Newsletter “NEUTRALIZE”. The newsletter covers the extensive collection of important data such as achievements of students & faculty members, expert lectures, industrial visits, industrial internships, co-curricular & extra-curricular activities etc. during the period of November 2019 to January 2020. I am sure that this newsletter will serve as a medium to use the information concerning departmental activities and proceedings for continuous growth. I take this opportunity to congratulate our editorial committee members for their great efforts for designing this newsletter. Also, I invite the readers of “NEUTRALIZE” for their contribution and suggestions for the forthcoming issues. Specially, I congratulate my students for participating in various extracurricular activities, research work and competitive exams. My best wishes to all for their bright carrier and successful life.

VISION OF DEPARTMENT

To be a nationally-recognized program in chemical engineering providing excellence in academics through technical education and quality research to fulfil the needs of ever-growing human society

“Solitude is a catalyst for innovation”

MISSION OF DEPARTMENT

- To deliver eminence in technical education to the students that will improve their abilities in terms of critical-thinking, problem solving and enable them to face the challenges in the field of their chosen career
- To create a platform for the dissemination of research and development facilities in collaboration with other esteemed academic institutions and pre-eminent industries for interdisciplinary development
- To provide state-of-art facilities for the sustainable development of society and upgrade the quality of life of the people through leadership in education, research, competence and public services

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

PEO1: To help the students master the basic principles of science and engineering technology that form the basis of modern chemical processes and apply these principles for the solution of real-world problems in a wide range of career opportunities

PEO2: To develop the managerial, leadership and communication skills to successfully lead interdisciplinary teams in order to analyse complex problems and develop robust solutions

PEO3: To identify moral and professional responsibilities in engineering perspective and take cognisant decisions considering the impact of engineering solutions in global, environmental, economical and societal contexts

PEO4: To create professional graduates who will be committed to lifelong learning throughout their careers in terms of higher studies and professional innovations

DEPARTMENT ACTIVITIES

Tree Plantation

Date: 05/06/2018

Timings : 8:00 am to 10:00 am

No. of faculties involved : 02

No. of Participants : 213

Session Conducted by : Mr.Pritam Khandale

Session Conducted under : NEEM Tree Club (NTC)

Coordinators: Mrs.Niharika

Mehta &Mr.

Pritam Khandale

Chemical Department Head:

Dr.Sangeeta

Khandelwal

Location

: College Campus

Session Brief

:

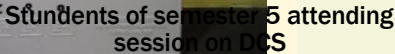
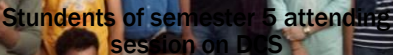
Our college launched an extensive Plantation Programme on the occasion of the World Environment Day in different parts of our locality. We were accompanied by RJ ANMOL for this green initiative. The students and teachers selected the empty places and the roadsides to plant saplings in a well-organized way. The saplings were supplied by the local municipality corporation. In order to restore the eco-balance of the afforestation drive was taken with all seriousness. Participants were highly enthusiastic to make it a big success. The students planted saplings, and fenced them and watered the plants. Every step of the programme was appreciated by the representatives of the administration. The programme created a great stir among the general public too. At the end of the programme the college held a seminar to observe the World Environment Day.

“VISIT TO BLIND SCHOOL”

Date	: 13/03/2018
Timings	: 10:00 am to 2:00 pm
No. of faculties involved	: 01
No. of Participants	: 20
Session Conducted by	: Mrs. Sangeeta Khandelwal
Session Conducted under	: NEEM Tree Club (NTC) Coordinators:
Mrs.Niharika	Mehta & Mr.Pritam Khandale
Dr.Sangeeta	Chemical Department Head: Khandelwal
Location	: Andhjan Mandal, Ahmadabad
Session Brief	:

30 students from 3rd and 5th semesters went to Andhjan mandal, Ahmadabad on 22nd Of June. The students were exposed to the challenges and problems faced by differently abled people and the means and ways in which they make the maximum out of the given situation. The students visited the museum within the institute, and saw various devices, which were designed by IITians. The devices help differently abled to attempt and achieve the day today task and contribute productively to their life and society. The students also visited a dark room, which gives a sense of the dark world that the differently abled people face in their day today life. This gave students the perspective of the challenges the visually challenged people face and the need of finding solutions through technology for them. Students also saw the various activities that the visual challenge people are able to do. This gives a sense of the ability of humans to adapt to any challenge and be productive. Such an experience can go a long way in shaping our students and take up challenges more positively. The visits made students understand the world of visually challenged and at the same time learn that there are no limitations to achieving ones goals in life. Looking at world of visually challenged so closely would make them more compassionate, understanding and a better human being for sure.

“Knowing without seeing is at the heart of chemistry”



“Education's purpose is to replace an empty mind with an open one.”

-Malcolm Forbes

EXPERT TALKS

Instrumentation and Process Control

Date :	08/04/2018
Timings :	10:00 am to 12:00 pm
No. of Participants :	40
Session Conducted by :	Mr. Mayan Shah
Session Conducted under :	NEEM Tree Club (NTC)
Coordinators :	Mrs.Niharika Mehta & Mr.PritamKhandale
Chemical Department Head :	Dr.Sangeeta Khandelwal
Location :	Newton Hall

Session Brief :

The department organized an expert talk based on the industrial process control and instrumentation which was delivered by Mr. Mayan Shah. He shared his 35 years of industrial experience with the students regarding the controlling system of the industries. He gave a brief about the basics of the control system and alarm management. Importance of alarm management in an industry was discussed. He also gave some examples of incidents that were caused due to poor alarm management. Thereafter he gave an introduction about the course that he has designed based on the safety control system of an industry and encouraged the students to join the course for better knowledge of the course. This talk benefited the students in terms of technical skills required to be a successful process engineer.

“Experiences are the chemicals of life with which the philosopher experiments”



Mr. Mrityunjay Kumar giving live demo to students

“The whole purpose of education is to turn mirrors into windows.”

- Sydney J. Harris

NEWS: TECH

Engineers develop a new way to remove carbon dioxide from air!!

- The process could work on the gas at any concentrations, from power plant emissions to open air, say MIT researchers.
- A new way of removing carbon dioxide from a stream of air could provide a significant tool in the battle against climate change
- The new system can work on the gas at virtually any concentration level, even down to the roughly 400 parts per million currently found in the atmosphere.
- There are different methods under this research for different power plants.

The rarest naturally-occurring element in the Earth's crust is astatine.

○ Fossil fuel-based power plants:

- Most methods of removing carbon dioxide from a stream of gas require higher concentrations, such as those found in the flue emissions from fossil fuel-based power plants.
- A few variations have been developed that can work with the low concentrations found in air, but the new method is significantly less energy-intensive and expensive, the researchers say.
- The technique, based on passing air through a stack of charged electrochemical plates.
- The device is essentially a large, specialized battery that absorbs carbon dioxide from the air (or other gas stream) passing over its electrodes as it is being charged up, and then releases the gas as it is being discharged.
- In operation, the device would simply alternate between charging and discharging, with fresh air or feed gas being blown through the system during the charging cycle, and then the pure, concentrated carbon dioxide being blown out during the discharging.

Superfluid Helium defies gravity and climbs on walls.

EVER WONDERED WHY?

There are videos on internet of a man, frying snacks in an oil with his bare hands. Science behind it is *leidenfrost effect*. hands are first dipped in cold water and then in frying oil. The instant at which hand is dipped into oil, water gets evaporated. oil does not come in direct contact with skin and one can easily fry snacks with bare hands.

Leidenfrost effect

The Leidenfrost effect is a physical phenomenon in which a liquid, close to a surface that is significantly hotter than the liquid's boiling point, produces an insulating vapor layer that keeps the liquid from boiling rapidly.

Every hydrogen atom in your body is likely 13.5 billion years old because they were created at the birth of the universe

DARE TO ANSWER

Instructions :

ANSWERS OF THIS QUIZ WILL BE PUBLISHED IN NEXT EDITION OF NEUTRALIZE.

1. Enamel ware has a coating of

- A. red lead B. glass
- C. boro silicates D. tin

2. The substance coated on plastic tape-recorder tapes is

- A. zinc oxide B. iron oxide
- C. iron sulphate D. manganese oxide

3. The essential element in all organic compound is

- A. nitrogen B. sulphur
- C. chlorine D. carbon

4. The substance present in good amounts in the sea and administered in certain deficiency diseases is

- A. fluorine B. sodium chloride
- C. iron D. iodine

5. The relationship between atomic masses and physical properties of elements was obtained by

- A. Pauling B. Mendeleev
- C. Robert Brown D. Lothar Mayer

6-Mica is a

- A. bad conductor of heat and a good conductor of electricity B. good conductor of both heat and electricity
C. bad conductor of both heat and electricity D. good conductor of heat and a bad conductor of electricity

7-Chemically, baking soda is

- A. baker's yeast B. sodium chloride
C. sodium bicarbonate D. calcium phosphate

8-The most malleable metal is

- A. platinum B. iron
C. gold D. silver

9-The purity of primary gold is

- A. 24 carat B. 32 carat
C. 24 quartz D. 22 carat

10-The essential element in all organic compound is

- A. nitrogen B. sulphur
C. chlorine D. carbon

QUESTION QUEST

If you have any Engineering related curious questions, you can mail us on the mentioned Mail-ID. We will shortlist most interesting questions and answer them in the next edition of “NEUTRALIZE”.

Mail-ID to send your questions

neutralizenewsletter@gmail.com

“Great minds discuss ideas; average minds discuss events; small minds discuss people.”
-Eleanor Roosevelt