RASAYANATVA
HANSRAJ COLLEGE

ANNUAL MAGAZINE

Issue IV

EQUILIBRIUM

2017-18

Department of Chemistry
Hansraj College
University of Delhi

EQUILIBRIUM

EDITORIAL TEAM 2017-18

BEHIND THE SCENES

Faculty:

Dr. Bijendra Singh
Dr. Ranjana Rastogi
Dr. Shampa Bhattacharyya
Dr. Renu Parashar
Dr. Shweta Rastogi
Dr. Himanshu
Dr. Ambika
Dr. Taruna Singh
Mr. Surendra
Dr. Nidhi Rawat

Editorial Board:

Muskan Malik; 2nd Year
Aadya Jaipuria; 1st Year

Technical Team:

Aadya Jaipuria; 1st Year
Shambhvee Pandey; 1st Year
Satyam Kumar; 1st Year

Contributors:

Akash Singh; 3rd Year
Kashish Kalra; 2nd Year
Anju Yadav; 2nd Year

Picture Credits:

Shammy Suraj; 2nd Year

MESSAGE FROM THE PRINCIPAL

Congratulations to the members of Chemistry department for publishing the fourth issue of their annual departmental magazine "Equilibrium". Students and faculty of the department are creatively enhancing this platform every year. Efforts invested in the production and publication of this issue must have been an enriching experience for the students involved.

I hope the magazine enjoys a wide readership.

Keep up the good work.

Dr. Rama

MESSAGE FROM TEACHER-IN-CHARGE

It gives me a great pleasure to know that next issue of our departmental magazine "**Equilibrium**" is ready for publication. The Chemical Society has taken a brilliant initiative in giving itself the identity by the name "**Rasayanatva**". Each issue of magazine is a milestone that marks our growth, unfolds our imaginations, and gives life to our thoughts and aspirations. I applaud the Chemical society, faculty members and students for their hard work and dedication in writing, editing and even in designing the magazine.

I congratulate the entire team for their efforts and wish them Good Luck.

Dr. Chetna Gupta

MESSAGE FROM THE CONVENER

With great jubilation and pride, Department of Chemistry, Hansraj College, brings forth yet another issue of our departmental magazine, "***EQUILIBRIUM'18***". This is the magazine by the students and for the students.

The magazine is a canvas for the students to showcase their talents, creativity, ideas, accomplishments and celebrations of the year bygone.

With great pleasure I congratulate the students' editorial board and also thank the contributors who have made this effort a success. Co-operation and support of the faculty members, right from the conception to completion of the magazine is praiseworthy.

Truly hope that the pages that follow will make an interesting read.

I wish the students all the best for their upcoming examinations and for the future endeavors.

Best Wishes,

Dr. Shweta Rastogi

PRESIDENT'S NOTE

Karan Gehlot
President – Odd semester

The never-ending search for better and better brings me to the Chemistry Department of Hansraj College. I started my journey as a univalent atom which eventually changed into a long chain molecule.Taking responsibility as Department President was not at all easy, but the support of our teachers, my juniors and my lovely supportive classmates makes me feel that this position was only made for me. "Equilibrium" is a perfect example of equilibrium between chemistry and creativity. It consists of very exciting articles, covers partial research work and creativity of the students in and outside the field.

It records the events that took place in our department in 2017-18. All this would not have been possible without the guidance of our respected teachers and support of the students involve.

Lakshya Bajaj
President – Even semester

"I'll Look back on this and smile because it was LIFE and I decided to live it!"

One of the most interesting stages in life that gives you an opportunity to frame yourself, explore your skills, be the artist you always wanted to be, is the "college phase". This golden period at Hansraj college to contribute for the advancement of the Chemical Society "RASAYANATVA'18" was a perfect blend of Joy and hardship for me. It was the guidance and the support that teachers lent us, the assistance and consolidation from the students throughout the journey that inspired me to work for the society. The Department has provided me lots of values that I will cherish lifelong. It was a blessing to be a part of the chemistry department. All I got from the department was love, teachings, unforgettable moments and a big family to remember forever.

EDITORS' NOTE

Aadya Jaipuria(1st Year), Muskan Malik (2nd Year)

Always question and wonder for Science is a way of thinking much more than it is a body of knowledge. Thinking enhances one's creativity, emotions and perception. This is what 'Equilibrium' encourages its readers to practice. Through the means of this magazine, the readers will get an insight into the Chemistry Department of Hansraj College andgain knowledge in the field of Chemistry all while having a lot of fun and laughs.

It was undoubtedly an arduous task to edit this magazine for it is the IVissue and we had some big shoes to fill. We gave our best in order to exceed everybody's expectations and raise the bar for upcoming issues of 'Equilibrium'. This would have not been possible without the assiduous support of the teachers and students of the Chemistry Department andwe are thankful to each one of them.

With all new creativity and passion, we're ready to bring out a yet new riveting and enthralling version of our magazine, 'Equilibrium'. We hope it'll be a great and admirable journey for all the readers to go through the zealous write-ups of the students as well as teachers.

Warm Regards,
AadyaJaipuria, 1st Year
Muskan Malik, 2nd Year

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DEPARTMENT

STUDENTS

FACULTY PHOTO

Left to Right:

I Row: Dr. Yogesh Dixit, Dr. Arun Kant, Dr. Amit Kumar Rawat,Dr. Bijendra Singh, Dr.Shampa Bhattacharya, Dr. Ranjana Rastogi, Dr. Nidhi Rawat, Dr. Shweta Rastogi, Ms. Yogita Bisht, Dr. Indrani, Mr. Hari Mohan Meena.

II Row: Dr. Shailendra Kumar Singh, Mr. Surendra Kumar, Dr. Aparna Bansal, Dr. Sunita Gulia, Dr. Monica Dinodia, Dr. Anjali Saxena, Dr. Chetna Gupta.

Camera Shy: Dr.Renu Parashar, Mr. Satish Chand, Dr. Aparna Garg, Dr. Pratibha Pandey, Dr. Jyoti Singh, Dr.Manoj Kumar, Dr. Himanshu, Dr. Parul Pant, Dr. Brijesh Rathi, Dr. Ambika, Dr. Taruna Singh.

NON-TEACHING STAFF

Left to right:

Mr. Balram, Mr. Radha Kirshan Meena, Mr. Rakesh Kumar, Mr. Subhash Chander, Mr. Rohit, Mr. Manoj Kumar, Dr. Bijendra Singh (Faculty), Mr. Ritesh Kumar Meena, Mr. Md. Usman, Mr. Joginder Singh, Mr. Tulsi Das

Camera Shy: Mr. Onkar Chand Rana, Ms. Kamla Rani, Mr. Vinay Sharma, Mr. Sunil Arya, Mr. Liyakat Ali, Mr. Sunil Kumar, Ms. Poonam, Mr. Sandeep, Mr. Ramesh Kumar

OFFICE BEARERS

Left to Right:

Karan Gehlot(President – odd semester), **Lakshya Bajaj** (President – even semester), **AadyaJaipuria**(Treasurer), **Dr. Chetna Gupta** (TIC),**Dr. Shweta Rastogi** (Convenor), **SonuVerma**(General Secretary), **Shammy Suraj** (Joint Secretary)

3rd Year

Left to right:

I Row: Rajdip, Priyam, Vinay, Vicky, Abhishek jain, Nikunj

II Row: Dileep, Lakshya, Rajat, Rishabh Gupta, Akash, Harendra, Shubh, Rishabhkohli, Himanshu, Kiran Punj

III Row: Ria, Niharika, Priya, Animesh, Yashwant, Yanshu, Saurabh, Ajay, Karan, Tanushree, Mansi, Princi, Suman, Amisha, Harshita, Neha, Chitranshi

IV Row: DectorPegu, Shivam Pandey, Himanshu Chauhan, Mohit, Rahul, Ashish

2nd Year

Left to right:

I Row: Dimple, Rashi Arora, Shrishti, Kashish Kalra, Sanya Nayar, Anupam Singh, Sonu Kumar Verma, Rashmi Yadav, AnkushYadav, Kiran Sharma, Shama Parveen,Tanya Gupta, Shammy Suraj

II Row: Sapna, Deepika, Aanchal Grover, Deepika Meena, Akansha Gupta, Rakshita Jain, Palak Jaiswal, Akash Yadav, Amresh Jaiswal, Shubham Saini, Ayush Vishnovi, Ingit Patel

III Row: Chirag Kapoor, Aditya Jangid, Mukul, Rishabh Pathak, Rajat Bharti, Mohit Kumawat, Prince, Vinod, Keshav Yadav, Arun, Harendra Tanwar

IV Row: Anuj Sharma, Abhishek Kumar, Lalit Lodhi, Ankush Goyal, Ajay, Nitin Yadav

1st Year

Left to right:

I Row: Phalguni Bisht, Nivedita Das, Shivani Gupta, Ishika, Akriti Sankhwar, Akanksha Rao, Suman Sourav, Nikki Mittal, Shruti Aggarwal, Komal Mavi, Aadya Jaipuria

II Row: Ahinsa Jain, Bhavya Babuta, Anjali Mangla, Avani Sahu, Kratika Garg, Aakriti Gupta, Shambhvee Pandey, Satyam Kumar, Parvesh Bansal, Imdad Islam, Rishaam

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IV Row: Asif Ali, Satyam Srivastava, Ankit Dhiman, Vivek Choudhary, Brij Kishore, Vipin Saini, Rohit Yadav, Mohnish Dhiman, Vinay Kaushal, Ashish Chaturvedi

मेरा अनुभव...

मैं श्री कृश्ण कांगड़ा, हंसराज कॉलेज के रासायन विभाग में लैब असिस्टेंट के पद पर कार्यरत था। रसायन विभाग ने अपने सभी साथियों के साथ एवं अध्यापकगण के साथ 34 वर्षों का अनुभव व अपनी यादों को जागृत कर रहा हूँ तो बड़ी ख़ुशी हो रही है। 34 वर्षों का कार्यकाल सभी साथियों के साथ बड़े अच्छे से व्यतीत किया। मुझे यह जानकारी देते हुए बड़ी खुशी हो रही है कि लैब साथियों एवं अध्यापक व अन्य विभाग के साथियों ने हर समय मुझे योगदान दिया। रसायन विभाग की लाइब्रेरी में 7–8 वर्ष जो मैंने कार्य किया उनके सभी छात्रों का अनुशासन एवं निष्ठा के साथ बढ़ते हुए अनुशासन बनाये रखा। बाद में कम्प्यूटर लैब और रसायन विभाग की लाइब्रेरी में कार्यरत् रहते कॉलेज की गरिमा बनाये रखी।

धन्यवाद!

कृष्ण कांगड़ा

रसायन विभाग

BIDDING ADIEU

The farewell party of the chemistry department for the class of 2017 was held on 5 may 2017 in the college auditorium. The event was organized and managed by 2nd year and 1st year students under the guidance of the convener of the department, Dr Jyoti Singh.

The farewell began with the lighting of the lamp by the teachers of the department as well as the post holders of The Chemical Society followed by the official release of the department magazine 'Equilibrium'. Hence began a series of informal events and games in which all the students of the outgoing batch participated with full enthusiasm. These were interspersed with song and dance performances by the extremely talented students from all the 3 batches. Titles such as 'Mr/Ms Farewell' and 'Mr/Ms Well-Dressed' were awarded on the basis of the level of participation of the students in different activities and how well they were groomed on the occasion. Each outgoing 3rd year student was presented with a memento, a graduation hat and a unique title characteristic to his/her personality.

A lot of students spoke their hearts out about how their college lives went and the nostalgia was palpable. The teachers also shared their fondest memories with the students. The program ended with the cake cutting ceremony and the class of 2017 bid its farewell to The Department of Chemistry, Hansraj College

Ria Miglani
3rd Year

ANNUAL REPORT 2K17-18

The newly named Chemical Society, "RASAYANATVA" is the splendid quintessence of the very reputed Chemistry department. In continuation with our previous practice, this year also a plethora of events had been organized by the Chemical society. The year began with the 1-day workshop on "Chemistry Laboratory Working Skills and Safety Education" for non-teaching staff of Chemistry Department in association with the IQAC on 17th July'17. This was followed by an inaugural international lecture from the distinguished alumni of Hansraj College, Prof. Ram Mohan, Deptt. of Chemistry, Illinois Wesleyan University, USA on 25th Aug.'17 on "Better Living through Green Chemistry". The lecture highlighted the importance of practicing green chemistry through case studies. To honor and appreciate teachers, Teacher's Day was celebrated on 5th Sep.'17. Fresher's party on the theme "Angel and Devil" was thrown on 25th Oct.'17. The department conducted a Concept Test in Chemistry (CONTECH) on 25th Jan.'18 under the aegis of Association of Chemistry Teachers (ACT) c/o Homi Bhabha Centre for Science Education, Mumbai . This test is the need of the hour to promote and generate students' interest in Chemistry.

The lecture entitled "Describing Current Scenario and Career Options" was delivered by Dr. Prasoon Dwivedi from the University of Petroleum and Energy Studies, Dehradun on 30th Jan.'18. Another talk was addressed by Prof. DeshdeepSahdev, IIT, Kanpur on "Manipulating atoms and a lot more in our own backyards" on 1st Feb.'18. The objective of theses interdisciplinary lectures was to expand the horizon of knowledge of students in various fields and directions so that they are better equipped for facing the challenges ahead in life. Throughout the year faculty kept the students engaged in performing and learning new experiments under DBT sponsored star college program.

Then, arrived the most awaited day arrived when annual chemistry department festival, CHEMOTSAV'18 was celebrated on 23rd Feb.'18 with a big bang. The fest featured numerous fun and frolic interesting games like Slip-Slip, Dip, Balloon Pyramid and Spoony Drive along with various other competitions like Slogan Writing on Cleanliness, Poster Making on Pollution and IPL cum Auction Quiz. Our Chemistry students actively participated with full spirit in Logo- Making and Namaankan of chemical society competitions. Young Chemistry minds enthusiastically participated in Everyday Science Quiz, Chemist Treasure Hunt and Chemelfie. This was then followed by two workshops on career opportunities and career counseling on 27th March'18. The last but not the least farewell goodbye function for seniors of the batch 2015-18 will finally be celebrated on 10th Apr.'18 when the IVissue of the Chemistry department annual magazine "EQUILIBRIUM" will be unveiled.

SEMINARS

The legacy of interdisciplinary lectures was continued and three informative lectures were delivered. The session of 2017- 18 was all about getting a new exposure and discovering the various branches and opportunities of Chemistry. The interdisciplinary lectures held throughout the year helped students wonder a bit more of what all they can find if they dig a little.This not only helped us to think more but also encouraged us to read more, to learn more, to see more and to achieve more.

The first lecture held on 25th Oct'17 was delivered by the distinguished alumni of Hansraj College, Prof. Ram Mohan currently working in the Department of Chemistry, Wesleyan University, Illinois USA on ***"BETTER LIVING THROUGH GREEN CHEMISTRY"***. The lecture broadened the horizons of green chemistry and put out a whole new aspect of green chemistry in front of us. How we can take the help of the various case studies and use it in our day to day lives was very aptly put forth by Prof. Ram Mohan.

The second lecture held in series was held on 30th Jan'18 delivered by Dr. Prasoom Dwivedi from the University of Petroleum and Energy Studies, Dehradun on the topic ***DESCRIBING CURRENT SCENARIO AND CAREER OPTIONS.*** Sir highlighted on the need for the students to look deep into this vast subject of Chemistry and find the most suitable career option for them. The notion that there are limited options available after M.Sc. and PhD. was broken and the various paths that lead to a successful career in Chemistry were laid down. The current scenario and concerning issues had a serious impact on each one of us and left everyone pondering over it again and again.

One of the most interesting lectures of this session was addressed by Prof. Deshdeep Sahdev, IIT Kanpur on 1st Feb'18. The topic for that day was ***"MANIPULATING ATOMS AND A LOT MORE IN OUR BACKYARD"***. It led us to a whole new world. A digital example of the manipulation of an atom was shown which left everyone awestruck for a moment. The various experiments and the studies performed by Sir himself were inspiring for everyone present there. His dream to make India as a base for the new discoveries and inventions gave us all a motive to take back with us. His thoughts and ideas were clearly reflected in the lecture and proved to be one the most knowledgeable.

'Modern Chemistry, with its far-reaching generalizations and hypothesis, is a fine example of how far the human mind can go exploring the unknown beyond' the limits of human senses" -Horace G. Deming

PROGRAMS UNDER DBT STAR COLLEGE SCHEME

New Experiments under DBT

1. To determine the heat of precipitation of $BaSO_4$.
2. To carry out the conductometric titration of the mixture of strong acids ($HCl+H_2SO_4$).
3. To study the kinetics of iodination of acetone colorimetrically.
4. Synthesis of coumarin and its derivatives.
5. Preparation of tris(acetylacetonato) iron(III) using green chemistry approach.
6. Preparation of cupraammonium rayon threads from filter paper.

Projects done under DBT

S.No.	Title	Guide
1	Experimental and Theoretical Verification of 1D- Particle in a Box Using Carotenoids.	Dr. Shampa Bhattacharyya
2	(A) Hands on with molecular modelling using the software'ARGUSLAB' and study the conformational analysis of n-Butane. (B) The isomerization of But-2-ene.	Dr. Renu Parashar
3	Using generalized methods to obtain results of different wave functions at corresponding energy levels(BASIC and Microsoft Excel)	Dr.Jyoti Singh
4	Investigating the mixture of HNO_3 and HCl: Conductometrically.	Dr. Nidhi Rawat
5	Extraction of Oils from Seed Bearing Fruits(seasonal)Using n-Hexane and Ethanol.	Dr. Manoj Kumar & Dr. Amit K. Rawat
6	Design and optimization of cost effective automated calibrated intensity sensor cell.	Dr. Shampa Bhattacharyya, Dr. Renu Parashar & Dr. Amit Sehgal
7	Design and optimization of cost effective automated conductivity cell.	Dr. Jyoti Singh, Dr. Nidhi Rawat & Dr. Amit Sehgal

Workshops under DBT

1. Extraction of Fats and SNF from Milk
2. Lab Analysis of Water Quality Parameters
3. Chemical Test on Food Adulteration

FRESHERS' FIESTA

The Fresher's held on 25th October was one of the most awaited eventsof the Chemistry Department especially for the first year students. The day started with a grand lunch buffet which filled our hearts as well as our stomachs. The function took place in the auditorium which was decorated by the 2nd and 3rd year students who made sure the day felt festive.

The event began with the lighting of the lamp which signified the presence of the Divine. Knowledge removes ignorance just as light dispels darkness. Hence started the informal event including an abundance of dance and musical performance as well as various games in which each and every first year student participated with full ebullience. Some of the games included were, a saree wearing competition followed by a fashion show which consisted of 6 male players, newspaper dance, impromptu acting and a lot more. The winner of the games won a box of chocolates as the prize.

The event helped a lot of first year students to come up on the stage, get over their stage fright and perform in front of the entire department. Watching some people perform gave us Goosebumps because they were just so good.

Towards the end when all the performances and games were over, the performers and the winners of the games were called on stage for a last fashion show where the boys and girls had to walk the ramp in pairs. Some people looked so professional that they might as well have had summoned the ghost of a supermodel inside them.

Last but not the least; the titles for Star Performer, Mr. /Ms. Fresher and Mr. / Ms. Well dressed were awarded to the best deserving students after which everyone came on stage and danced for a while. After moving out of the auditorium, everyone came together in groups and got pictures clicked.

This marked the end of a great day.

LIFE OF A FRESHER

Every year thousands of students give the 12th board exams with the hope of securing good enough marks to get admission in a DU college and only a few of them are able to achieve their goals. I was one of the lucky few to get into a very reputed Hans Raj College.

Initially I was very scared and had a lot of apprehensions about getting into a new college, studying in a new environment and being surrounded by new people but slowly the nerves started settling in and I realized that I was at an advantage being a fresher. The first day in college has been as great as the 293rd day and it is all because of the ambience provided to me by my classmates, seniors and teachers.

We never felt left out because we weren't made to. The seniors would come to our classes and conduct interaction sessions which helped all of us to get to know each other as well as the seniors. This boosted my confidence in addition to calming my nerves. The teachers too ensured we were settled well and didn't have any problems in our classes in addition to in our personal lives. After being chosen as the treasurer for the Chemical Society, I finally found the hidden confidence inside me and worked hard towards doing justice to it.

The Fresher's of the department was everything I could hope for and made the first year of college even more memorable.

Chemotsav 2018 was a day where we had fun and made memories while getting tired. Chemotsav gave me a taste of what organizing an event is like and also gave me a priceless experience of how to manage the funds and keep everything under budget.

Being a fresher in Delhi University has taught me a lot about myself, life and the society. I wouldn't give up any of this even for a hundred thousand rupees.

Aadya Jaipuria
1st Year

CHEMOTSAV 2K18

Just two days left and there we are the whole Chemical society, deciding about which games to put up. The hustle and bustle of the fests and the preparations filled all the departments of the college with a new thrill and enthusiasm. The Chemical society of the department of Chemistry organizes its annual fest CEHMOTSAV that brings out the different side of the Chemistry department. Usually regarded as a part of the nerds of the college, the Chemistry students display their magic and spread the aura of Chemistry throughout the college. The Chemotsav'18 was held on the 23rdFeb..It not only showcased the team work of students but also the great leadership of whole teaching faculty of department. The last two days of the preparation was a roller coaster ride. With the decorations on peak and management of bills, the two days were devoted completely to make the fest a successful one. Boys and Girls all put their creative minds to work and made the most beautiful hangings and the posters that anyone could see. The teams setting up their respective game stalls prepared for their own decorations and the arranged for the requirements of the game in the minimal budget, which was much appreciated on their part. The posters of the games and the main poster of the fest were printed and were distributed throughout the North Campus just a day before the fest. On the day of the fest, few of us arrived early at the college (at around 7) to make the final and the main banner of the fest. Yes! The main banner was made on the day of the fest only. The majestic flowery banner took just half an hour to be made, but hanging it at the right place was a nerve wrecking task. A slip of hand and it would have been spoiled completely. A group of 6-7 students were involved in the process of hanging it. The rope was blamed every now and then for being so weak. But nevertheless, it was hung just in time displaying the whole grandeur of the fest. The game stalls and the whole area allotted to us for the fest were also wrapped in the brightly colored flags and hangings. The fest was about to begin at 10 and the place and the students along with our teachers got ready to display this beauty of Chemistry to the college. As soon as the registration started, the place was filled with people coming to have a taste of our department. The major highlights of the fest were the treasure hunt, the Science quiz, the poster and slogan making competition.


EMOTSAV'18
MOTSAV

The **treasure hunt** gathered the most crowd as soon as it started giving the clues. Everyone came in to solve this CHEMYSTRY and to win the **elemental hunt.** And of course this mystery could only be solved by students like us only. The winning team was a group from 1st year of Chemistry Honours. The second highlight was the **everyday science quiz** which tested the basic knowledge of the participants. The winners were from our department again with runner up from the Physics Department. The poster making and slogan writing competitions also indulged many students and was a thrill to watch. The various games that were put up at the fest were not the normal games, they were designed in a way to trick you and to make you put all your focus into it. The game that was the invincible was the **SLIP SLIP SLIP** game. Out of the many participants who took the game only one could complete it. Thus showing, the games decided by us were not a child's play. The other games like the **buzz wire game** and **the dip** were an eye catcher too as they celebrated the beauty of science in them. Last but not least, the games like the **spoony drive, separation anxiety** and **the balloon pyramid** puzzled even the teachers as to how could they not complete it.

Overall the games that were put were designed keeping in mind that it celebrated Chemistry and moreover celebrated science. The games were a huge success and the audience enjoyed it a lot. The fest lasted for about 3-4 hours and was a memorable one. The fest was concluded with an open DJ, a photo session and in the end, students were given some refreshments as a pay for their hard work throughout the fest.

Thus, the annual fest of the Chemical Society of the Department of Chemistry, CHEMOTSAV'18 brought out the different aspects of the Chemistry department and showed it to the college that we the Chemistry students are not just limited to ours labs and our beakers. Instead our minds wander in all the possible directions that you can think of, and with our creativity and imagination we can put up an enjoyable and memorable fest like the CHEMOTSAV'18, over and over again.

Shambhvee Pandey, 1st Year

ALUMNI 2017

S. No.	Name of the Student	Course	Name of University	City
1	Sagar Kumar	M.Sc. Integrated	Indian Institute of Science	Bangalore
2	Puneet Goel	M.Sc.	Indian Institute of Technology	Mumbai
3	Aayush			
4	Gurjot Singh			
5	Pratibha Kumari			
6	Urmi			
7	Apoorva Grewal			Delhi
8	Aditya			
9	Harmeet			
10	Kanika			Roorkee
11	Naveen			
12	Shahrukh Alvi			
13	Mahesh			Kanpur
14	Dipti			Chennai
15	Deepak			
16	Astha Jain		University of Delhi	Delhi
17	Varnika			
18	Sakshi Anand			
19	SagarNavria			
20	Jitender			
21	Apeksha Garg			
22	Avdesh			
23	Ved Prakash Meena			
24	Pinky			
25	Shivani			
26	Shaili			
27	Ajay			
28	Ashish Maurya		National Institute of Technology	Jamshedpur
29	Aakash Antal		Gurukul Kangadi Vishwavidyalaya	Rishikesh
30	Shivam		Banaras Hind University	Varanasi
31	Shiwani			Haryana
32	Chayanika Singh	PG Program in Management	IIM	Raipur
33	Gaurav Shukla	M.Sc.	Kanpur University	Kanpur
34	Aman Raja		C.C.S University	Meerut
35	Sachin Malik			
36	Nidhi Arora		Jamia Hamdard University	Delhi
37	Dilpreet Kaur	MBA	IIM	

READ SOME MORE

"Twinkle reads a lot, so she has more to tell me and I have a lot to learn from her." says Akshay Kumar the famous Bollywood actor about his multifaceted wife. What learning is he talking about? "Books are our window to the world."

A well read person is far more informed and aware. Not long ago when 24x7 idiot box, Internet and all those mobiles were not around, life was more simple with pen and paper. Writers used to write, readers used to read, critics used to criticize. Written words are there on almost every aspect of life. You can go for inspirational material, self -help books, travelogues, fiction, nonfiction, religious, science, health, cook books and so on.

Want to have a glimpse of ancient Africa? Read **Wilbur Smith**. Have a cultural tour of different parts of the world with **Paul Theroux**. Take a look at scintillating medical thrillers by **Robert Cook**, legal entertainers by **Jeffery Archer** and Science fiction written by **Isaac Asimov**. For rich Hindi and regional literature **Saahitya**must be a go to. Academy awarded books. And yes, do not forget the old classics. Each classic is a time machine, transporting you to a particular period. List is endless. You need to choose what you want to read at a particular time.

Why in this age of "YouTube", "Kindle" and lots of apps, do you need books? Well, an audiovisual clip engages not only your eyes and ears but also your brain and your memory. With day and night exposure to various media very few memories are retained- possibly only the ones that have some sensational impact... While reading, the eyes are sending messages to the brain that should be assessed, imagined, analyzed and imbibed. Thus, the concentration power improves. The imagination may go wild and may force one to think beyond.

According to Alan Bennett "A book is a device to ignite the imagination."Moreover, an easy way of learning a language is to read as much as possible in that language. It upgrades the vocabulary, knowledge and fluency.

Book lovers are sensitive to the feel and touch of a paper, so for them reading on "Kindle" is more like doing a class assignment. Lying in bed reading 5-6

pages of your favourite book to induce sleep can never be achieved with gadgets. But yes, to carry thousands of books in a book over can be done only on "Kindle". So each has its own pros and cons. But you must read because,

"Reading to the mind is what exercise is to the body.As, by the one, health is preserved, strengthened and invigorated; by the other virtue is kept alive, cherished and confirmed." -Joseph Addison.

Dr. Ranjana Rastogi

GLOBALIZATION VERSUS ENVIRONMENT

One of the biggest problems the world is facing today is environmental pollution which is increasing at a rapid rate. This is posing a great threat to mankind warning him to be prepared to bear the irreparable damage to life and property on earth. Environmental pollution is majorly of five types; namely, air, water, soil, noise and light.

The most important cause of all the types of pollution is globalization. It is due to this globalization that the circles of sustainability are affected resulting in deterioration of social sustainability, economic sustainability and environmental sustainability.

Globalization is a consequence of urbanization and industrialization. At one end, globalization has led to an access of technology, improved communication, and luxurious ways of living and has opened up many channels of development. But this is only one side of the picture. The other side of this is not at all rosy. Man has the potential to fulfill his basic needs of food, shelter and clothing from beyond his surroundings. Beyond doubt, the demand of man for fulfilling these basic requirements is increasing. Man is exploiting his dominant position of free hand, erect posture and higher degree of intelligence by collecting resources from beyond his neighborhood. This is just to meet their selfish interests and suitability. Man's greed of luxurious and lavish lifestyle to enjoy technology by going even beyond natural constrains has resulted in overloading of pollutants in the environment.

The consumption of the higher amounts of fuel, a non-renewable source of energy is another issue of global concern. With globalization, there is an increase in food miles and water miles resulting in carbon footprint and water footprint. The environment is no more compatible with the residues of processing, distillation, refining and manufacturing units. This is because the side-products which are the result of these acquired lavish lifestyles are more complex and non-biodegradable with more hunger for energy. The resources that we use today are not readily recycled and leave significant impact on environment. Globalization is not only responsible for more and more consumption of resources but also use of products which can't be easily assimilated by the environment and hence, disturb the whole ecosystem. This is leading to stress on the environment.

Industrialization is leading to generation of more industrial waste due to production, distribution and consumption. The resultant generated side-products, toxic chemicals and wastes are either discharged directly into the water bodies or through ships without any prior treatment. This markedly affects aquatic life. Ships wreckage and leakage is responsible for oil pollution and marine pollution.

Chemicals are also thrown in soils causing soil pollution as the soil no more remains useful for crop production rather it leads to the growth of weeds and plants' damage of genetic make-up and contaminates soil.

The relationship between man and environment is as old as history of man himself. All man- made artificial structures like; multi-storied buildings, industries, factories, complexes, commercial transportation, networking, cutting mountains for making tunnels, highway, etc. have drastically altered natural landscapes and the local inhabitants are forcibly derooted from their place.

Naturally nature's nature is to maintain equilibrium with various life forms and environment. It is the intervention of man due to globalization by industrialization which is disturbing ecological balance. Impact of man on environment is a major global concern and issue. With the technological advancement in various fields, man is crossing all the limits of environment just too quantitatively increase his life span. This is disrupting the intricately woven web of life.

The balance between world population carrying capacity of nature and finite resources has been disturbed tremendously. Thus, the pollution has reached at an

alarming rate. If we don't show concern for environment and appreciate it through our actions for achieving sustainability then we should be ready to bear the repercussions of the environment which will be deadly and irreparable. There won't be any other alarm by the nature but to get alert NOW otherwise the consequences will be experienced only when they outbreak in the form of disasters. For this, together we haveto value nature and care for the environment that will trigger the pro-environmental action. We should curtail the damage on environment if not totally prevent it as it will require decades to correct it still we won't be able to restore the originality.

In some way we have to maintain harmony with the environment to achieve sustainability. Our fate and survival largely depends upon whether we can maintain a new equilibrium between environment with which we are playing and the nature in which we took birth or not. Otherwise, it will be the defeat of modern man himself at the cost of socio-economic technological progress.

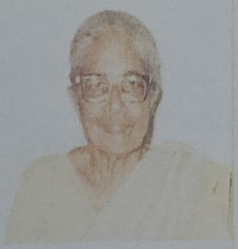
Dr. Shweta Rastogi

The black holes of nature are the most perfect macroscopic objects there are in the universe: the only elements in their construction are our concepts of space and time. - Subrahmanyan Chandrasekhar

Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less. -Marie Curie

WOMEN PIONEERS IN INDIA

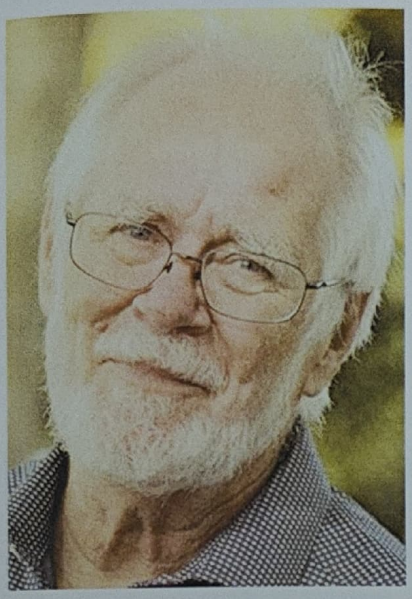
Pre-Independence

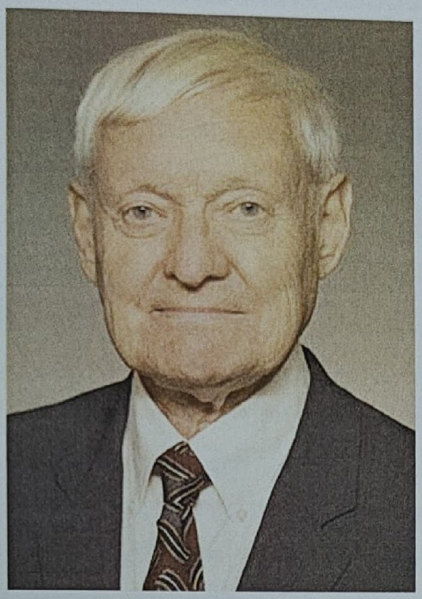
Kadambini (Basu) Ganguly 1861-1923	First female *graduates of the British Empire*. First Indian woman physician of South Asia who was trained in western medicine	
Anandibai Joshee 1865-1887	First Indian women who studied *medicine from abroad* from Women's Medical College in Philadelphia, USA	
Dr. Sohonie (1912-1998)	The first Indian woman to get a Ph.D in a scientific discipline. She started her pioneering work on the nutritional value of *Neera*.	
Anna Mani 1918-2001	Was a physicist and a meteorologist, Authored books " The Handbook for Solar Radiation data for India" and "*Solar Radiation over India*" , Won the *K.R. Ramanathan Medal*	
Ashima Chatterjee 1917-2006	Chemist known for work in organic chemistry and phytochemistry. Developed *anti-epileptic* and *anti-malarial drugs.*	
Rajeswari Chatterjee 1922-2010	First woman engineer from Karnataka. First woman scientist to pioneer the field of *microwave engineering* and *antennae engineering* in India.	

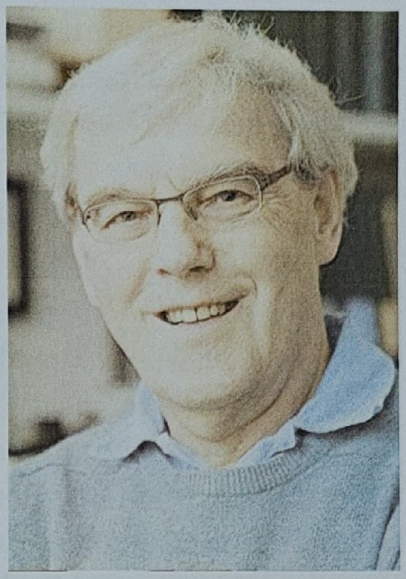
Post-Independence		
Dr. Indira Hinduja	First Indian women who delivered a *test tube baby* on August6, 1986. Pioneered in gamete Intra Fallopian Tube (GIFT) baby on Jan. 4, 1988. Gave India's first baby by developing an oocyte donation technique on Jan. 24, 1991	
Dr. Aditi Pant	One of the first woman to visit the icy continent Antarctic, Honoured with *Antarctica Award* alongwith Sudipta Sengupta, Jaya Naithani and Kanwal Vikku for their outstanding conyribution to the Indian Antarctic Programme.	
Dr. Suman Sahai	Founder of the Gene Campaign in India, Her campaign is running in 17 states across the country, She is the brains and the brawn behind the patent campaign of *Neem* and *Haldi*	
Kalpana Chawla (1962-2003)	**The** first Indian-American astronaut The first Indian woman in space The NASA chief called her a "Terrific astronaut"	
Seetha Somasundaram Minal Rohit Nandini Harinath	The Program Director of the ISRO Space Scientific Program Office Scientist and Engineer, Project Manager, Methane Sensor for Mars. Project Manager, Mission Design and Deputy Operations Director, **Mars Orbiter Mission**	
Tessy Thomas	Known as the "Missile Woman of India." Project director for the Agni-IV missile at the Defense Research and Development Organisation (DRDO)	

NOBEL PRIZE IN CHEMISTRY 2017

2017 Nobel Prize in Chemistry has been awarded to Jacques Dubochet, Joachim Frank and Richard Henderson. Their pioneering work on the use of Cryo-electron microscopy to solve high-resolution structures of biomolecules has provided unprecedented insights into the complexity of life.







Jacques Dubochet

Affiliated with University of Lausanne, Lausanne, Switzerland

https://www.unil.ch/dee/en/home/menuinst/people/emeritus-professors/prof-jacques-dubochet.html

Joachim Frank

From Columbia University, New York, USA

http://news.columbia.edu/NobelPrize2017

Richard Henderson

Affiliated with MRC Laboratory of Molecular Biology, Cambridge, United Kingdom

http://www2.mrc-lmb.cam.ac.uk/groups/rh15/

What is Cryo-EM?

Cryo-Electron Microscopy (Cryo-EM) begins with vitrification, in which the protein solution is cooled so rapidly that water molecules do not have time to crystallize, forming an amorphous solid that does little or no damage to the sample structure (a process known as vitrification). The sample is then screened for particle concentration, distribution and orientation. Next, a series of images is acquired, and two-dimensional classes are computationally extracted. In the final step, the data is processed by reconstruction software, yielding accurate,

detailed, 3D models of intricate biological structures at the sub-cellular and molecular scales. These models can reveal interactions that were impossible to visualize previously, a key to scientific results.

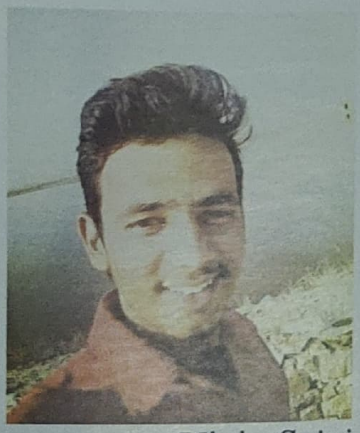
- In 1975, Joachim Frank began work on the algorithms that would analyze fuzzy 2D images and reconstruct them into sharp 3D structures.
- In the early 1980s, Jacques Dubochet succeeded in vitrifying water, which allowed the biomolecules to retain their shape in a vacuum.
- In 1990, Richard Henderson was the first to use an electron microscope to generate a 3D image of a protein at atomic resolution.

The Rise of Cryo-EM

One of the greatest advantages of Cryo-EM relative to conventional structural biology techniques is its ability to analyze large, complex and flexible structures. Oftentimes these cannot be crystallized for X-ray crystallography (XRD) or are too large and complex for nuclear magnetic resonance (NMR) spectroscopy. These include many biologically important proteins, especially those with variable or flexible structures like membrane proteins. The established methods for structure determination, XRD and NMR, are now routinely integrated with Cryo-EM density maps to achieve atomic-resolution models of complex, dynamic molecular assemblies.

Since the first model based on Cryo-EM reconstruction was deposited with the PDB (Protein Data Bank) in 1997, the number of deposited structures has grown exponentially. Cryo-EM was responsible for entries to the EMDB surpassing 1,000 in 2016, with a quarter of all entries deposited that year alone. Many of these most recent depositions include critical macromolecular assemblies previously thought impervious to structure determination.

Source: - fei.com



Vipin *Saini*
1st Year

THERMODYNAMICS IN DAILY LIFE

There you are, in a fun filled carnival going on. Suddenly a wave of people sweep in and what does happen next? The temperature rises and there are drops of perspiration on your head. It is a natural process for a lay man, but when you see it as a chemist, it is a full-fledged phenomenon of thermodynamics going on.

Human body obeys the laws of thermodynamics at all time. When you are in a small crowded room with lots of other people, you feel warm and start sweating. This is the process your body uses to cool itself off. Heat from your body is transferred to sweat. As the sweat absorbs more and more heat, it evaporates from your body, becoming more disordered and transferring heat to the air, which heats up the air temperature of the room. Many sweating people in a crowded room," Closed system ", will quickly heat things up. This is both the first and second law of thermodynamics in action: no heat is lost; it is merely transferred, and approaches equilibrium with maximum entropy.

Take for instance the melting of ice. Every day, ice needs to be maintained at a temperature below the freezing point of water to remain solid. In the process of cooling beverages, we witness the first and second law of thermodynamics. Putting an ice cube into a glass of warm lemonade cools the lemonade even though the ice melts. This is because the total amount of heat in the system has remained the same, it has just gravitated towards equilibrium, where both the former ice cube(now water) and the lemonade are at the same temperature.

Till now, we had a look at the basic examples only but if we talk at a more higher level, we see thermodynamics playing its role there also, for example electricity we rely on electricity to turn on our lights. Electricity; it is, however, a secondary source. A primary source of energy must be converted into electricity before we can flip on the lights.

For example, water energy can be harnessed by building a dam to hold back the water. If we slowly release water through a small opening I the dam we can use the driving pressure of the water to turn a turbine. The work of the turbine can be used to generate electricity with the help of a generator. The electricity was not created out of nothing; it is the result of transforming water energy from the lake into another energy form.

From our sweating to turning of the turbines, thermodynamics is an integrated part of our day to day life.

Satyam Kumar
1st Year

HUMAN BONDS

Universe is vast, Our population is so large,
They interact and make bonding so fast....
But still some people love to stay alone,
and resist bonding, why? World wants to know!
Just the same way as noble gases do,
Always say no to bond, so rude.
Be it small as Helium or large as Xenon,
None wants to hold anyone close.
Some are two faced people,
Just like our Hydrogen of chemistry.
Behave as metal,
But changes to non-metal too,
Can't attain a fixed position in flood.
Some are like metals: lustrous and attractive
Believe in giving, to attain stability.
Some are like halogens: dull but colored,
Keep attracting metals by their love.
Some are like Carbon,
Wants to hold four so close,
But prefers element of his own.
Some are like transition elements,
Forms covalent bond,
Always ready for donating what they hold.
Some are like Actinoids, rarest of all,
Difficult to wonder their characteristics at all.
Bond is broken and made,
To achieve something great.
Some form grouping like SF_6,
Nobody can break them.
Some are like NaCl,
Holds each other so strongly.

Some are like C_2H_5OH and HCl,
Exchange their partners whenever come close.
Some are like benzene that looks simple and sweet,
But understanding them is a critical thing.
Some are toxic like Mercury (Hg),
Some are salty as NaCl,
But some are so cute,
That let me wonder,
Are they made of Cu and Te?

Human chemistry is too wide to know,
Where each one is having something new...

Kirti Dua
1st Year

THE GREATEST SIN OF LIFE

One of my favourite stories is about a man. This man was walking down a path and finds an Egg, an Eagle's Egg, he takes this egg and puts it into the nest of a Backyard Hen. Pretty soon that eagle hatches with the Chicks and grows up with them. Now all his life that eagle did what the Chickens did. He would poke around in the dirt looking for worms and insects to eat; He would fly into the air like chickens do. As time passed that eagle grew old and one day he saw something above him this thing it glided gracefully and majestically through the clouds. "What's that?" the eagle says, "Oh that, that's an eagle" one chicken responds. "He is the king of all birds, the Master of the skies but we belong to the ground because we are just chickens. Don't worry about him, you will never be that" Chicken responds. That Eagle lived and died a Chicken because that is what he thought he was.

It's the same what most of us are going through- "We being a Chicken when we were born as an Eagle". The word "sin" comes from the Greek word "Sin, used in Archery" it means "To miss your mark". The Greatest Sin in life is to "Miss your mark, to not be who you were created to be, to be a chicken instead of an Eagle".

Lakshya Bajaj
3rd Year

WHEN TO JUMP

Put a frog into a vessel fill with water and start heating the water. As the temperature of the water begins to rise, the frog adjust its body temperature accordingly. The frog keeps adjusting its body temperature with the increasing temperature of the water. Just when the water is about to reach boiling point, the frog cannot adjust anymore . At this point the frog decides to jump but it is unable to do so because it has lost all its strength in adjusting with the rising water temperature. Very soon the frog dies.

What killed the frog?

Think about it!

I know many of us will say the boiling water. But the truth about what killed the frog was its own inability to decide when to jump out.

We all need to adjust with the people & situations, but we need to be sure when we need to adjust & when we need to move on. There are times when we need to face situations and take appropriate actions.

If we allow people to exploit us physically, emotionally, financially, spiritually or mentally, they will continue to do so.

Let us decide when to jump!

Let's jump while we still have the strength.

Shubh Narayan
3rd Year

INDIAN TEXTILE HERITAGE

WHERE DO WE COME FROM?

We live in an entropic universe, a world whose physical laws randomize, not organize. So the question is this: How can lifeless chemicals magically organize themselves into complex life-forms? If you're looking for some kind of invisible force that creates order in a chaotic universe, there are far simpler answers than God.

When you heat coffee, you focus heat energy into a mug. If you leave that mug on the counter for an hour, the heat dissipates into the room and spreads itself out evenly, like grains of sand on a beach. And the process is irreversible. No matter how long you wait, the universe will never magically reheat your coffee. Nor will it unscramble a broken egg or rebuild an eroded sand castle.

This is entropy at work. Entropy is just a fancy way of saying: things fall apart. In scientific language, we say an organized system inevitably deteriorates.

When an magnet held beneath the paper plate, all the iron filling scattered on plate leaped themselves into an organized arc, aligning perfectly with one another. An invisible force just organized these filings, it is electromagnetism. If we hoist a bowling ball onto the trampoline's rim and rolled it onto the elastic fabric. Its weight create a deep indentation, and immediately the scattered marbles raced into the depression, forming a circle around the bowling ball. It is gravity.

As it turns out, life is not the only example of the universe creating order. Nonliving molecules organize themselves all the time into complex structures. As we see, sometimes the universe does organize matter—which seems to be the exact opposite of entropy. So which is it? Does the universe prefer order? Or chaos? According to most physicists, the answer is chaos. Entropy is indeed king, and the universe is constantly disintegrating toward disorder. What they believe is that the universe functioned with a singular directive, one goal and that is 'to spread energy'.

I believed that there is a twist.. a twist that may hold the key to how life began, however, which related to how the universe spread energy. We know the universe promotes entropy and disorder, so we may be surprised to see so many examples of molecules organizing themselves. Let us visualize—a tornado vortex, a rippled riverbed, a snowflake. All of these, are examples of 'dissipative structures'—collections of molecules that have arranged themselves in structures that help a system disperse its energy more efficiently. To efficiently create chaos, requires some order.

As it turns out, life is an exceptionally effective tool for dissipating energy. A tree, for example, absorbs the intense energy of the sun, uses it to grow, and

then emits infrared light—a much less focused form of energy. Photosynthesis is a very effective entropy machine. The concentrated energy of the sun is dissolved and weakened by the tree, resulting in an overall increase in the entropy of the universe. The same can be said for all living organisms—including humans—which consume organized matter as food, convert it to energy, and then dissipate energy back into the universe as heat. In general terms, I believe life not only obeys the laws of physics, but that life began because of those laws.

Millions of years have passed, and the system was trying to build a structure to dissipate its energy. There it is, DNA—the basis for all life, the living code of biology. And why, you ask, would a system build DNA in an effort to dissipate energy? Well, because many hands make light work! A forest of trees diffuses more sunlight than a single tree. If you're an entropy tool, the easiest way to do more work is to make copies of yourself. As we ran this taught forward, we witnessed Darwinian evolution took off. Evolution is the way the universe continually tests and refines its tools. The most efficient tools survive and replicate themselves, improving constantly, becoming more and more complex and efficient.

Where do we come from? The truth is—we come from nowhere … and from everywhere. We come from the same laws of physics that create life across the cosmos. We are the inevitable result of entropy. Life is not the point of the universe. Life is simply what the universe creates and reproduces in order to dissipate energy.

Akash Singh
3rd Year

We pass through this world but once. Few tragedies can be more extensive than the stunting of life, few injustices deeper than the denial of an opportunity to strive or even to hope, by a limit imposed from without, but falsely identified as lying within.

- Stephen Jay Gould

CHEMISTRY RIDDLES

Q: What is the chemical formula for "banana"?

A: $BaNa_2$.

Q: What did one titration say to the other?

A: "Let's meet at the endpoint."

Q: Did you hear oxygen went on a date with potassium?

A: It went OK.

Q: Anyone know any jokes about sodium?

A: Na

Q: What is the most important rule in chemistry?

A: Never lick the spoon!

Q: Silver walks up to Gold in a bar and says?

A: "AU, get outta here."

Q: What did the scientist say when he found 2 isotopes of helium?

A: HeHe

Q: What do you call a tooth in a glass of water?

A: One molar solution.

Q: When one physicist asks another, "What's new?" what's the typical response?

A: C over lambda.

Q: Why do chemists enjoy working with ammonia?

A: Because it's pretty basic stuff.

Q: What did the bartender say when oxygen, hydrogen, sulfur, sodium, and phosphorous walked into his bar?

A: OH SNaP!

Q: What is the show cesium and iodine love watching together?

A: CSI

Rashmi Yadav
2nd Year

A LETTER FROM CHEMISTRY TO BIOLOGY

My Dear Biology,

With great anger, I have to inform you that your son, Botany was seen roaming in the electromagnetic field with my daughter radioactivity. Your son is now in my custody .I know that he can't live without water and sunlight, so I shall deprive your son of these things. If you want his life to be spared please take his responsibility otherwise I will disturb his colligative properties and next time, if I see him near an electromagnetic field, I will shoot him down with cathode ray gun. With huge respect I diffuse this pressurized statement into your static mind that please don't try to come in the way of radioactivity otherwise with the shock you and your son will remain alive.

Yours always,

Mrs. Chemistry

Shikha Yadav
1st Year

FITNESS IN COLLEGE LIFE

Fitness has become one of the top obsessions among millennial population and is considered fashionable. But just like fashion, there are many fads that come and go even when it comes to all things healthy. Health is a universal trait. Health is state of complete physical, mental and social wellbeing and not merely the absence of disease.When students enter college, their diets deteriorate and they gain or lose weight. Meals are often skipped by college students and management of weight and food is often non -existent or disordered.

The 5 main cruxes about fitness everyone needs to know.

1. Fitness is a lifestyle and something you imbibe outside of your 30 min of workout. For example, using the staircase instead of the elevator or walking small distances instead of using a car or any other means of transport
2. Diet and exercise are born equally important. Being a college student, it is tough to avoid junk food but one must try to minimize it.
3. Perseverance is the key to fitness.
4. Rest is crucial.
5. Stay happy, positive and always feel confident about your body.

Rishabh Kohli, 3rd Year

MY JOURNEY

Not only chemistry improves our life but also, we develop an understanding of our chemical world and satiate our never-ending curiosity. Thus, to improve myself as a chemist I was fortunate enough to attend numerous internships and seminars across India.

One of these was **'Project Innovation'**, an internship which I attended in IIT Bombay. It was organized by BARC, a government organization which aims at promoting scientific skills in India. My internship involved a detailed study of **Polymers and their Applications** in our daily lives.

Another such seminar was on **Biogas and its Future Prospects in Energy Production** at IIT Kharagpur organized by NTPC. It involved a discussion on Biogas. One such project was of a Bio-Toilet whose giant flush can reuse 1500 litres of water for 15 years and this water can further be used to generate electricity.

Finally, I went for a presentation on **Coordination Compounds and their Coloured Detection** organized by IIT Delhi under the tutelage of **Prof. R. Shankar**. All these projects have further increased my understanding of chemistry and fueled my desire to learn more.

It has really been an awesome learning experience. Besides my academics I learned basic moral values and enjoyed interacting with students all around the campus.

I would also like to thank my teachers (Hansraj college), especially Laboratory Teachers who helped me to realise my experimental mistakes.

Rahul Kumar Gupta
IInd Year

क्या लिखूँ

कॉलेज की मैगज़ीन छपने वाली है,
मिला मुझे यह समाचार।
सोचा... तो क्या मैं लिख डालूं,
आर्टिकल दो चार।
कहानी लिखूँ या कविता लिखूँ,
या फिर लिखूँ कोई लेख?
उसके लिए मैं बैठ गया,
टेबल पर सिर टेक।
पापा से पूछा, मम्मी से पूछा,
भैया से पूछा, भाभी से भी पूछा
फौज पर लिखूँ या भ्रष्टाचार पर,
साथ–साथ नोटबंदी भी था विचार।
सुबह बहुत... पर बैठे–बैठे,
सुबह से शाम हो गयी।
और इन्हीं विचारों में खोकर,
यह कविता हो गयी तैयार।

केशव यादव
द्वितीय वर्ष

NATURE

You are the peak of Himalayas,
Calm, pure, serene, blissful.
I want to roam in them,
Get Lost. And find myself in you.
I want to reach the apex and behold them.
Watch the rising Sun.
And the warm rays trickling in,
Illuminating the dark caves,
Time has left in me.
My heart longs for the silence,
The peak offers.
You know there is turbulence,
agitation and disappointment
People have inflicted deep inside.
I want to walk the frozen terrain,
and feel some cold. Soothe myself.
The heat has charred me time and again.
For some time, I want to feel safe,
Guarded in you, by you.
Oblivious of everything,
on the TOP of the world.

Satyam Srivastava
1st Year

माँ सुनो...

माँ
सुनो,....
आज दिल कुछ कहना चाहता हैं
जो बातें रेह गयी अधूरी उन्हें पूरी करना चाहता हैं
मन करता है उस दौर में
जाऊँ वपिस
जहाँ बस मेरी नादानी
और तुम्हारा हँस के डाँटना था
जहाँ बस मेरा रूठना
और तुम्हारा मनाना था
मुझे याद आते है
वो लमहयें
मेरा खाना ना खाने पर
तुम्हारा भी ना खाना
मेरे बीमार होने पर
तुम्हारा ना मुस्करना
पर
अब कुछ बातें बदल गयी हैं
माँ तो वैसे ही मनाती हैं
पर हमने रूठना छोर दिया हैं
क्यूँकि शायद हम बदल गये हैं
जरूरतें बदल गयी हैं
मन करता है उस दौर में
जाऊँ वपिस
जहाँ मेरी माँ की गोद बस मेरी हो
और मेरा सारा वक़्त बस उनका हो
बहुत सारी प्यार भरी बातें हो
और थोड़ी शिकायतें हो
मन ने बहुत कह लिया माँ
अब कुछ तेरी सुन्ने को दिल करता हैं.....कुछ तेरी सुन्ने को दिल करता हैं||

Anju Yadav
2nd Year

JUST A SMILE AWAY

We exist in a society with lots of differences. We decide our social status and form social circles. These prejudices isolate us from certain people. But some instances push us to think Are we really so different as humans?

Walking by the road
She saw them again
Little mischievous children
Moving back and forth
In a hustle
Making their way through
The mornings' traffic
She always wondered
What was their life like?
How did they survive?
The hunger growl?
But her mother's words echoed
Stinky fellows
Keep away from them
And she did.

Today was no different
She made her way
With all these thoughts
Rambling in her head
And then someone
Pulled her
Sudden, spontaneous
She saw
It was the stinky boy
Who sold roses
She gave a petrified,
Disgusted look
And a wheezing bike
passed them
Right where she had been
Had he not...

Next day
Her eyes searched,
And she found him
Struggling outside
Closed car glasses
Barefoot,
Marching through
Like a soldier.
She tapped,
He turned
There it was;
A box of delicacies
He hesitantly picked one
And the look!
With his mouth filled
And eyes shining,
It was sheer joy
Watching him have it.
Then it struck her
What seemed so far,
Was just a smile away.

Tanya Gupta
2nd Year

IT'S NOT YOUR FAULT!

It s not your fault!
I agree.
It s not your fault!!
You were not born this way,
Your soul was pure
Your conscience was clear.
You were a clean slate
You weren t born to hate.
You were influenced and prejudiced
It s not your fault!
The moment you exited the womb
Things were already decided
Freedom to choose was denied
You already had a religion, a god
You were perfect, now you are flawed
You were thrown in the middle of a chaos
It s not your fault!
You were brain washed by society.
But man is a curious creature
Doubt and question faith is nature
Still you keep the curiosity inside
Don t reason, just hide in your pride
The path we are treading, you know
the world is dying!!

It may not be your fault
But now, look beyond this illusion
Break its charm, it s never too late.
Introspect, find your soul mate!
Trust me; your fate is never set
Don t settle, try, change and sweat,

Because even if you don t believe,
your actions do matter to us !
It may not be your fault

But brother,
If you still think it s all just a bluff!!
Think again or,
It will all become your fault soon enough!!

Srishti Jaiswal
3rd Year

Falsity in intellectual action is intellectual immorality. - Thomas Chrowder Chamberlin

HIDING HYPOCRISY

Education means to enhance our knowledge, to produce well developed personalities who can think about their environment and understand its mechanism. It also means to eradicate all social evils that are prevalent in our society. But Srilal Sukla has rightly said that "Education has become a bitch who is lying on the road and can be easily kicked off by anyone".

21st century is supposed to be the time when we really need to look beyond every single difference but even today we are playing Machiavellian character. You want to know how; let me tell you. See we discuss Marxism within the four wall of our classroom but outside the wall we have wrapped ourselves in brands. We take pride in telling our friends "Hey see these pair of shoes I bought from that mall".

We discuss feminism in our classroom and proudly call ourselves feminist but when it comes to reality we need songs "CHEESE BADI HAI MAST" to dance to, on our fresher party.

We discuss about pollution and environmental changes and give presentation on these topics but we waste a lot of chemicals in laboratory and are not concerned about environment at all. So you see what is happening? We are only discussing things.

Guys this is the high time when we need not only to discuss but also to be true to every single topic or thing that we are reading, discussing. Then only our education system will make some progress.

Rahul
3rd Year

BELIEVE, YOU CAN

"An All India Rank in Top 10 of JAM", sounds like a big deal doesn't it? But believe me it's really easy to crack. For that matter, any exam is easy to crack, one just needs to have the right spirit, focus and direction. I was asked for my 'success story' of getting AIR 8 in JAM (though, I wouldn't call it a success but a mere beginning), so here it goes.

I wasn't always the best performer in my class during most of my college life, maybe just an above average student, nobody had extraordinarily high hopes with. But, I had a dream, a motivation, a fascination for that 'IITian' tag, because every science student, at some point, in his or her life longs to go to IIT. I knew this was one of the best chances I could ever get to go there.

I'm sure none of the people around me expected me to ace this, and frankly, nobody needed to. Because I had myself. There was loads of inspiration for me in the form of our seniors who had performed exceptionally well the past year. And looking at them made me question, "If they can, why can't I?"

I might not be one of the brightest heads among all my fellow batch mates, but I tried to compensate everything I lacked with hard work. Like most young people nowadays, I too, dread going an extra mile and prefer the idea of shortcuts or tricks. But this time, I knew that only sincerity and hard work could get me through. My parents, teachers, friends and classmates motivated me throughout and cultivated such an environment so as to push me to my limits.

There were a lot of low points during my preparation. At times, when I scored really low marks, I lost my confidence and thought that maybe I didn't have what it takes to be a 'Topper' (which, I believe is an overrated word). But, my father was always there, telling me that, "if I focus all of my energy into believing in myself, nobody could stop me from achieving what I wanted." And that is what I did.

The bottom line is that a person's state of mind and determination are more important than any study material or the number of hours you study for, to crack any competitive exam. Also, one must remember that no exam is the last exam of our life and there's always scope for improvement. All you got to do is work hard, stay focused and remind yourself "YOU GOT THIS!!"

Ria Miglani
3rd Year

FUTURE PROSPECTS IN CHEMISTRY

Options available in chemistry for post graduation:

Many public sector undertakings such as BHEL, Indian Oil Corporation, NTPC, Bhabha Atomic Research Centre (there are PSUs totaling 217 in number) are using the GATE score for selecting candidates for their organizations.

TOP UNIVERSITIES FOR POST GRADUATION IN INDIA:

University	Entrance Exam	Month of Exam	Fill Up of Form	No. of Seats
IIT	✓	February	October	500+
DU	✓	June	May	278
JNU	✓	December	September	6
Jamia Milia Islamia	✓	May	February	44
Jamia Hamdard	✓			20
BHU	✓	May	January	77

Options other than chemistry include:

- UPSC civil services exam
- SSC CGL
- LLB
- MBA

Pursuing chemistry outside India:

- GRE Entrance Exam
- TOEFL Exam

Fields of Chemistry

Analytical Chemist
Bio-medical Chemist
Chemical Engineer
Industrial Research Scientist
Lab Chemist
Forensic Scientist
Pharmaceutical Scientist
Materials Technologist
Production Chemist
Production Officer
R&D Director
Safety Health and Environment
Nano Technology
Toxicology

ENVIRONMENTAL CALENDER

JANUARY

30th: Peace Day

FEBRUARY

2nd: World Wetland Day
28th: National Science Day

MARCH

21st: World Forest Day
22nd: World Water Day
23rd: World Meteorological Day

APRIL

7th: World Health Day
10th: Water resource Day
22nd: Earth Day

MAY

4th: International Energy Day
22nd: International Day of Biological Diversity

JUNE

5th: World Environment Day
26th International Anti-Drug Day

JULY

1ST-7TH: 'VANMAHOTSAVA' Week
11th: World Population Day
28th Forest Festival Day

AUGUST

6th: Hiroshima Day
9th: Nagasaki Day
20th: Rajiv Gandhi AkshayUrja Divas

SEPTEMBER

16th World Ozone Day
22nd: Car Free Day
28th: Green Consumer Day

OCTOBER

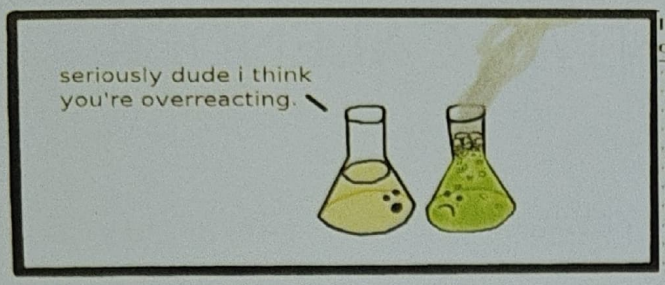
1-7: Wildlife Week
1st: World Habitat Day
3rd: World Nature Day
6th: World Wildlife Day
29th: Natural Day of Disaster Reduction

NOVEMBER

21st: World Fisheries Day
26th: World Environment Protection Day

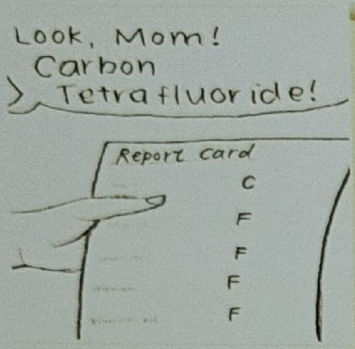
DECEMBER

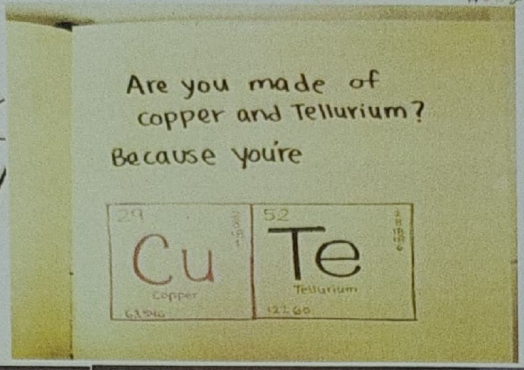
2nd: National Pollution Prevention Day
14th: National Energy Conversation Day
29th: International Day for Biodiversity

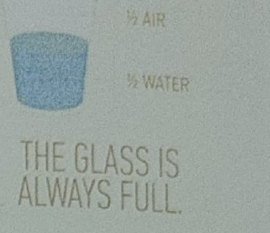


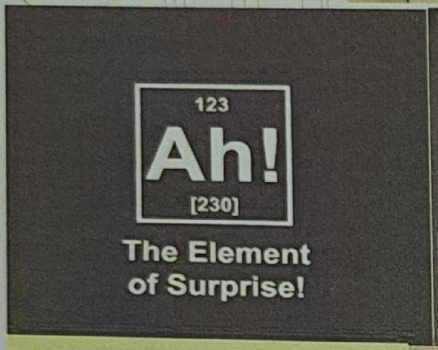
If Chemistry students make movies, the names of movies will be

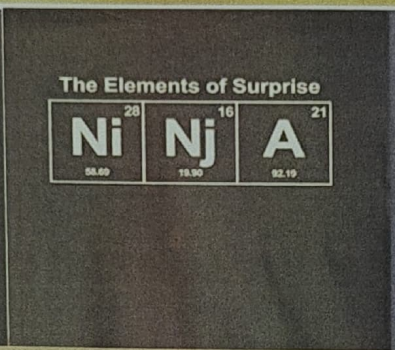
'Life in a Lab'
'Laga apron meindaag'
'3 test tubes'
'Munna bhai HCl'
'Ajab element ki gajab valency'
'My name is oxygen'
'I hate Dalton's theory'
'Jab we experiment'
'Kabhi oxidation kabhi reduction'
'Experiment apna apna'
'Compound na milenge dobara'

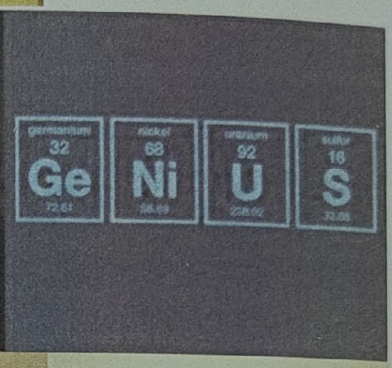




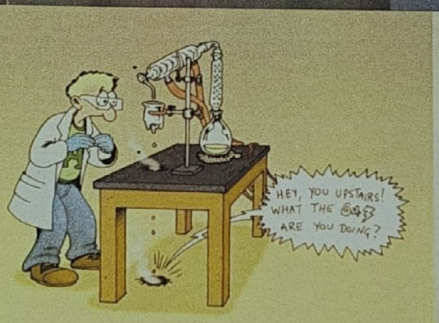








Chemistry Joke:
What do you do to a sick chemist ?
A:If you cant Helium or Curium then just Barium !!

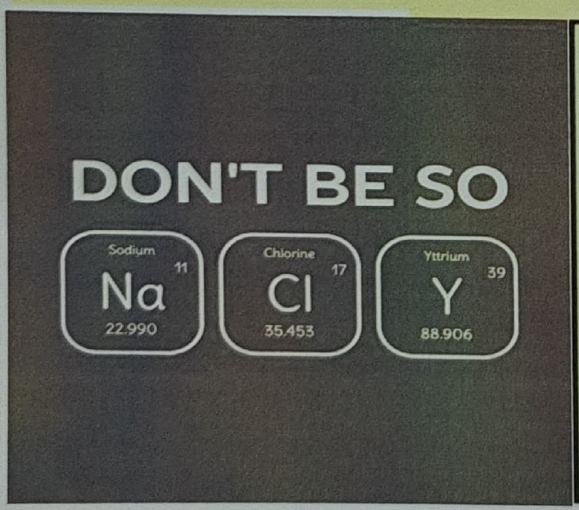


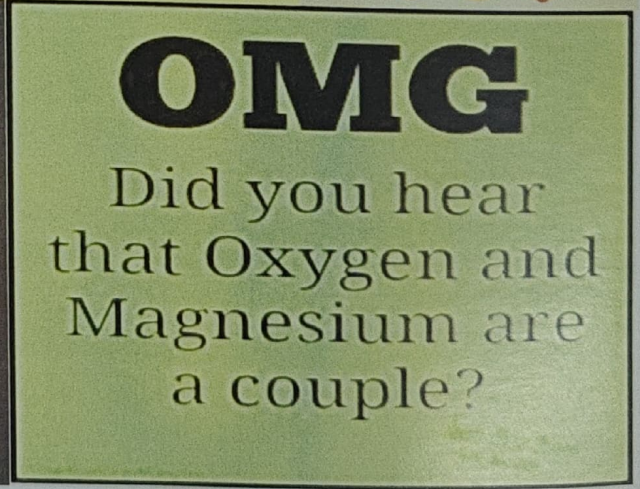
Gilbert accidentally creates the universal solvent, but can't keep his sample for analysis!

Girl After Studying Organic Chemistry:

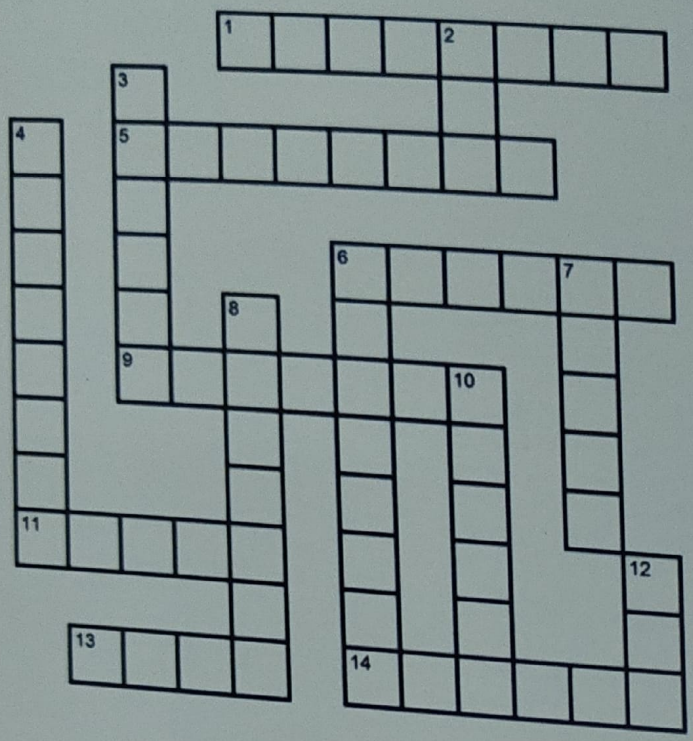
Rishtey wali Aunty: Beta kya kya Bna leti ho?

Larki: Phenol, Alcohol, Ketone, Glucose, etc.





CROSSWORD



Across

1. The subatomic particle of an atom that has a negative charge is called a(n) ____.

5. A chemical ____ occurs when 2 or more molecules interact with each other causing the molecules to change.

6. The 4 fundamental states of matter are: solid, liquid, gas and ____.

9. The subatomic particle of an atom that does not have an electric charge is called a(n) ____.

11. The ____ gases are found in group 18 of the periodic table, the last column on the right (helium, neon, argon, krypton, xenon & radon).

13. The amount of matter in a object

14. Organic chemistry is the branch of chemistry that deals with compounds containing ____.

Down

2. How many hydrogen atoms are in a molecule of water?

3. The positively charged subatomic particle in the nucleus of an atom is called a(n) ____.

4. The chemical element with atomic number 1. It's the first element in the periodic table.

6. The ____ table is a tabular arrangement of the elements.

7. A type of material that is considered a good conductor of electricity and heat

8. The central core of the atom containing protons and neutrons

10. The atomic ____ is the number of protons in an atom.

12. A charged atom or molecule (the number of electrons is not equal to the number of protons)

CHEM ACADEMY

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