ASSOCIATION OF CHEMISTRY TEACHERS

Newsletter

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Promoting Excellence in Chemistry Education

Association of Chemistry Teachers
Newsletter, May - August 2025

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From Editorial Desk

Prof. Wasudeo Gurnule
Chief Editor
Vice President, ACT West Zone
Formerly Kamla Nehru Mahavidyalaya,
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It gives me great pleasure to welcome you to the **32nd issue of the ACT Newsletter**. Each edition of this publication reflects our continued commitment to sharing knowledge, activities of ACT, and science article.

In this issue, we highlight National and International Conferences, organizing seminars, Science exhibitions, Workshops, expert invited talks, Innovating conceptual science experiments, Talent search examinations, ACT content test, training faculty and students etc. We are bringing in the present issue of the newsletter with the reports on the ACT activities, trends in Chemistry, views and news. We have included one scientific article in the present issue. We have also included reports on National Chemistry Events. We humbly request the entire fraternity of ACT to continue to contribute both in terms of their academic and individual achievements for the benefit of entire ACT Community. As we move forward, ACT remains dedicated to fostering learning, engagement, and positive impact across all our endeavours. We invite you to explore the articles, celebrate the milestones, and contribute your thoughts and experiences for future editions.

We invite good suggestions and better contributions from the readers to get best output of the future issues. We welcome you all to participate in the NCCT 2025 at Vikram University, Ujjain.

Thank you for your continued support and enthusiasm—it is your participation that keeps this newsletter vibrant and meaningful. We invite good suggestions and better contributions from the readers to get best output of the future issues. We welcome you all to participate in the NCCT- 2025 during 13-15 November 2025.
With warm regards to one and all

Members of Editorial Board

Honorary Members of ACT

We have great pleasure in bringing the updated list of honorary members of Association of Chemistry Teachers, who are sources of inspiration, guidance and support in activities of ACT.

The editorial board of ACT News Letter is proud of the academic achievements of these legendary honorary members.

Bharat Ratna Prof. C.N.R. Rao, FRS
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Padma Shri Prof. Dr. G. D.Yadav,
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Chairman, National Resource Centre for Chemistry, MoE, GOI
Chairman, Guru Angad Dev Teaching Learning Centre for e-Learning,
SGTB Khalsa College, University of Delhi, Delhi
Founder Vice Chancellor, PDM University, Bahadurgarh, Haryana
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Prof Paul Anastas President and Chief Technology Office, Warner-Babcock Institute for
Chief Chemistry President, Beyond Benign
Distinguished Professor of Green Chemistry,Monash University,USA
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Reports of Activities of ACT

Report on Seminar - Chemistry in Everyday Life

One day seminar on 'Chemisry in Everyday Life' was organized jointly by **Aravindaksha Educational Society and Association of Chemistry Teachers at Telangana Social Welfare residential School and Junior College, Suryapet on 26th June 2025.**

Dr. Mannam Krishna Murthy, Secretary, ACT South zone coordinated this academic event as a part of the silver jubilee year of ACT.

The following acted as resource persons for the academic event.

1. **Dr. Karumanchi Apparo**, Secretary
   Aravindaksha Educational Society's Group of Institutions, Suryapet.
2. **Dr. Mannam Krishna Murthy,** Chief Executive Dean
   Varsity South Education Management Ltd., Hyderabad.
3. **Mr. Kondamudi Ravindra Kumar,** Executive Dean
   Sri Kalyana Chakravarthi Memorial Educational Trust, Vijayawada.
4. **Mr. Koneru Vasudeva Rao**, Founder Trustee
   Koneru Charitable Trust, Old-age Home, Gosala.

The inaugural session was chared by **Mrs. M. Aruna,** Principal, Telangana Social Welfare Junior College, Suryapet, who presented the welcome address. **Dr. K. Apparao and Dr. M. Krishna Murthy** gave brief presentations on behalf of the event organizers.

Two invited talks in the forenoon session and two more in the afternoon session were delivered and the importance of respective talks as follows:

S.No.	Topic	Importance
1	Role of Chemistry in Modern Life	Day to day human life and dependence on Chemical materials
2	Solid Waste Disposal	Physical, Chemical and Biological composition of waste and disposable methods.
3	Chemistry is Bigger than life	Visual presentation with ten examples of chemistry concepts
4	Chemicals in cleaning and washing	Highlighting the composition of dirt and use of soaps and detergents

In the concluding session a magic mirror was presented to Ms. Neelima, Class XII student, for her best interaction in the topics of the seminar. About 260 students of Class IX, X, XI and XII participated in the seminar. All the participants were given participation certificates and free reading material.

Dr. Mannam Krishna Murthy presenting a few copies of Chemistry books to the Principal, Mrs. M. Aruna

Seminar hall packed with girl students of T S W R School and Junior College

International Conference on Emerging Trends in Basic and Applied Sciences

In a landmark event for the region, D.D.R. College, Chabua, hosted its first-ever International Conference on "Emerging Trends in Basic and Applied Sciences" (ETBAS-2025) on August 8–9, 2025. The conference was organized by the Faculty of Sciences in collaboration with the Internal Quality Assurance Cell (IQAC). This two-day event marked a significant academic milestone, drawing together over 100 participants—including scientists, scholars, researchers, and students—from across India and abroad.

Organizers & Sponsors

The conference was Organized by faculty of Sciences in association with IQAC, DDR College and jointly convened by Dr. Bitupon Borthakur, Dr. Biraj Das, and Dr. Eramoni Saikia of the Department of Chemistry. The conference was sponsored by the Association of Chemistry Teachers (ACT) and Punjab National Bank, Chabua (PNB). The event served as a vibrant platform for scientific exchange and collaboration.

Global Participation

Notably, delegates and presenters hailed from countries such as France, Italy, the United States, Ireland, and Singapore alongside participants from reputed Indian universities making ETBAS-2025 a truly global affair.

Inaugural Session

The Inaugural Session featured a welcome address by Dr. Bitupon Borthakur, Convenor of ETBAS-2025, followed by the inaugural speech by Dr. Pradip Borah, Principal of D.D.R. College and Chief Patron of the event. Distinguished guests and faculty members graced the occasion.

Lighting of Lamp by inaugurator Dr. Pradip Borah

Welcome address by convener

Technical Sessions & Keynote Lectures

Across 10 technical sessions, eminent scientists delivered invited lectures. Key speakers included:

- Prof. Kalyan Bhuyan, Dept. of Physics, Dibrugarh University
- Prof. Pankaj Das, Dept. of Chemistry, Dibrugarh University
- Prof. Diganta Sharma, Dept. of Chemistry, Dibrugarh University
- Prof. Kusum K. Bania, Dept. of Chemical Sciences, Tezpur University
- Dr. Purna K. Boruah, Université de Lille, France
- Dr. Sushant Kumar Behera, University of Pavia, Italy
- Dr. Anex Jose, Lawrence Berkeley National Laboratory, USA
- Dr. Debananda Gogoi, RCSI, Dublin, Ireland
- Prof. Pankaj Chetia, Dept. of Life Sciences, Dibrugarh University
- Dr. Palash Dutta, Dept. of Mathematics, Dibrugarh University
- Dr. Bappi Paul, National Forensic Sciences University, Gujarat
- Dr. Dipak Kumar Roy, Dept. of Chemistry, IIT Indore
- Dr. Iftak Hussain, A*STAR Skin Research Labs, Singapore

Young Scientist Talks

Young Scientist Talks were another highlight, featuring exceptional contributions from:

- Dr. Prashurya P. Mudoi (Dibrugarh University)
- Dr. Shivanee B. Gohain (Dimoria College)
- Dr. Gitashree Gogoi (Arunachal University of Studies)
- Dr. Dikshita Dowerah (Arunachal University of Studies)

These talks showcased pioneering work by emerging researchers.

Oral and Poster Presentations

A major attraction was the Oral and Poster Presentation Competitions, where 90 participants competed with academic rigor and enthusiasm. Awards were presented in multiple categories:

Best Oral Presentations:

- **Physics:** Dr. Rituraj Dutta, Asst. Prof., Namrup College
- **Mathematics:** Dr. Nabajit Talukdar, Asst. Prof., Cotton University
- **Life Sciences:** Manash Pratim Dutta, Research Scholar, Dibrugarh University
- **Chemistry:** Dr. Shreemoyee Phukan, Asst. Prof., Silapathar College

Best Poster Presentations:

- **Chemistry:** Dr. Bijoy Ghosh, Asst. Prof., Dhakuakhana College
- **Physics:** Nibedita Dehingia, Asst. Prof., Tingkhong College
- **Life Sciences:** Anmol Kaur, PhD Scholar, The Assam Royal Global University

Valedictory Session

The Valedictory Session brought the successful conference to a close with heartfelt reflections and acknowledgements. Prof. Kusum K. Bania shared his enriching experience at the conference, praising the quality of discussions and hospitality of the host institution. The Vote of Thanks was delivered by Mr. Ranandra Khound, IQAC Coordinator of D.D.R. College. Dr. Pradip Borah, Principal and Chief Patron of ETBAS-2025, expressed gratitude to all contributors and remarked: 'This conference has not only enriched our scientific understanding but also strengthened international academic bonds.'

Conclusion

With ETBAS-2025, D.D.R. College has taken a significant step towards becoming a center of academic excellence and global scientific engagement—putting Chabua firmly on the map of international research collaboration.

Report on the Chemistry Day at Integral University

Report

August 2nd is observed as National Chemistry Day, marking the birthday of the legendary Acharya Prafulla Chandra Ray, an educator and entrepreneur widely regarded as the first modern Indian chemist. The Department of Chemistry, Integral University, Dashauli, UP state organised this event, in collaboration with the Association of Chemistry Teachers, marked the event, which was also aligned with the Sustainable Development Goals 4 (Quality Education) and 9 (Industry, Innovation, and Infrastructure). The event began with an introductory presentation by Dr. Mohammad Imran Ahmad, Assistant Professor, Department of Chemistry, who shed light on the life and achievements of Acharya Prafulla Chandra Ray. Dr. Imran also introduced the vision, mission and objectives of the Chemistry Society Chemophile to the first-year students. He also emphasised the importance of Chemistry in daily life.

After the informative presentation, a General Chemistry quiz was organized for the students. Overall, 65 participants attended the event, coordinated by Dr. Tahmeena Khan and Dr. Mohammad Imran Ahmad, Assistant Professors from the Department of Chemistry.

World Environment Day

The Department of Chemistry, Dibrugarh University in collaboration with Association of Chemistry Teachers (ACT), North East Zone has celebrated the World Environment Day on 5th June, 2025 at Khamtigh at High School, Dibrugarh Assam. Prof. Diganta Sarma, Professor, Department of Chemistry and Life Member of ACT initiated the program. Prof. Sarma addressed the inaugural speech highlighting about the ACT foundation of NE zone and their various initiatives in promoting the science and awareness towards the economic and societal

development. In his speech, he basically focused on the current theme of the world environment day 2025 i.e. '*Putting an End to Plastic Pollution'*.

Dr. Jituranjan Chetia, Senior Instrument Operator, Department of Chemistry and coordinator of the program delivered the welcome address. He briefed about Dibrugarh University and Department of Chemistry and other activities of the occasion. Dr. Surajit Konwer, Associate Professor, Department of Chemistry and Dr. Prashurya Pritam Mudoi, Assistant Professor, Department of Chemistry grace the occasion as the Resource Persons.

Dr. Mudoi in his talk discussed about the role of common man towards the beautification and cleanliness of the environment. He further gave a few examples of common man who has changed the environment with their extremely selfless dedication in the discussion. He mentioned about Mr. Jadav Payeng, the forest man of India, who planted and tended trees on a sandbar of the river Brahmaputra turning it into a forest reserve. He highlighted the duties and responsibilities of the citizen towards greener environment and mother nature. Dr. Mudoi explained the horrific and tragic incidents of chemical pollution with specific mentioned to leakage of methyl isocyanate (MIC) gas from a Union Carbide India Limited (UCIL) popularly known as Bhopal Gas Tragedy (1984) and explosion of Chernobyl Nuclear Power Plant, located near Pripyat, Ukrainian SSR, Soviet Union in 1986.

Dr. Surajit Konwer, in his lecture, primarily focused on plastics in details. He explained the various composition of plastics and its preparation followed by its impact in our day-to-day life. He mentioned about the various types of polymers which are carcinogenic to the environment. He also urged the students to take the initiatives of proper use of plastics and its waste in their home. Prof. Konwer, highlighted the various types of dustbins and its proper use. Furthermore, he addressed the harmful effects of plastics and the evolution of plastic industry in India. In his concluding remarks, he discussed the approaches to reduce excessive use of plastics in our day-to-day life to the high school students.

The program ended successfully with the votes of thanks by Dr. Chetia followed by plantation in the school premises.

Plantation by organisers as a part of the event.

Report on Workshop
Experimentation in Physical Science

A workshop for the rural based students of Telangana was organised at **Zilla Parishad High School, Balemla, Telangana State,** on **27th June 2025, Friday**. The aim of the workshop was to help the student participants to understand and learn concepts of chemistry and physics by witnessing the demo experiments.

The workshop was organized by Association of Chemistry Teachers, matching its silver jubilee year. The academics of this event will be coordinated by **Dr. Mannam Krishna Murthy,** Secretary, ACT South Zone.

The inaugural session was chaired by **Mr. Jella Prasad,** Head Master, Z.P.H. School, Balemla. **Mr. K. Vasudeva Rao,** Founder Trustee, Koneru Charitable Trust, Gosala and **Dr. K. Apparao,** Secretary, Aravindaksha Institutions, Suryapet were the invited guests. Both the guests deliverted briefly on the future prospectives with a motivation to student participants.

Chemistry experiments were demonstrated in the forenoon by **Dr. Mannam Krishna Murthy,** Chief Executive Dean, Varsity South Education Management Ltd., Hyderabad. The demo experiments were based on the concepts :

1. Density destination between solid, liquid and gaseous materials.
2. Understanding the boundary line between absorption and adsorption.
3. Solubility of substances, with the help of polarity concept.
4. Colors of phenolphthalein and methyl orange indicators in indicating acidic and basic nature of solutions.
5. The role of potash alum, to remove colloidal particles of turbid water through coagulation.

Dr K Apprao, Chief Guest addressing the participants at the inaugural session of the workshop

Demo experimentation by Dr. Mannam and Mr. Ravindra

Physics experiments were demonstrated in the afternoon by **Mr. Kondamudi Ravindra Kumar,** Sri Kalyana Chakravathi Memorial Education Trust, Vijayawada. The demo experiments were based on the concepts :

1. Retention time of a vertically dropping particle.
2. Binocular vision and the affect with cylinder view.
3. Plasma state of matter and induced current to glow a small bulb.
4. Influence of external centrifugal force on a moving particle.
5. Draining water from a bottle, effect of gravity and force of air.

About 80 students of Class X and Class XI of Balemla and 4 surrounding villages participated in the work shop, along with 10 school teachers. All the participants were provided with free 'Experimentation in Physical Science' book and certificate of participation.

Report on EduChem

A One day lecture series was organized in the name of **'EduChem',** at **Happy Valley International School, Tadepalli**, Eluru District of Andhra Pradesh State on 22nd July 2025. This event was academically supported by **Association of Chemistry Teachers** and was coordinated by ***Dr. Mannam Krishna Murthy,*** Secretary, South zone of ACT

A talent search objective online test, on basic concepts of chemistry was conducted with the help of Infinity Learn, Hyderabad in two slots 9.00-9.50 and 10.00-10.50 hrs. to 236 registered students of Class XII; 136 students were from the host institution HVI School, 50 students were from Dr. KKR Gowtham College, Anandapuram, Visakhapatnam District and the remaining 50 from Sir C.V. Raman Bhavan, Gudavalli, Krishna District.

The academic event was inaugurated in a virtual mode by ***Dr. K Koteswara Rao,***

Chairman, HVI School, who spoke on the importance of conceptual learning in chemistry. ***Mr. V.V. Siva Prasad,*** General Manager, Dr. KKR Gowtham Schools, was the guest of honour, who gave a brief account on the usefulness of such academic events.

There were four lecture presentations on Chemistry Education, direct class room at HVI School and online linking with the other two academic institutions. One lecture was delivered before lunch and three more after lunch.

Resource persons and supporting faculty of host Institution, along with Dr Mannam Krishna Murthy

Physical interactive session with selected participants, during the Valedictory Session

S.No.	Name of the presenter	Identity of the presenter	Topic of the lecture
1	Mr. N. Srinivasa Reddy	H.V.I. School, Tadepalli	Chemical Combinations
2	Dr. K. Rama Rao	Sir C.V. Raman Bhavan, Gudavalli	Electronegativity and Polarity
3	Mr. S. Srinivasa Rao	H.V.I. School, Tadepalli	Chemical Energetics
4	Dr. M. Krishna Murthy	Varsity South Education Management Ltd., Hyderabad	Atoms and Molecules: Visual theme

In the valedictory session ***Mr. K. Raghu Ram,*** Academic Dean, HVI School, received hard copies of few books, to the host institution, from ACT. He summarized the merits of the academics of the event, in his concluding remarks. Some students interacted with the resource persons. ***Ms. K. Priya Hasini*** of HVI School, received a prize for her best performance in the talent search test.

Academic Participation of ACT EC Members

1. **Prof. Wasudeo Gurnule**, Vice President of ACT West Zone, Delivered Keynote address on "Advanced Sustainable Multifunctional Nanomaterials" in an International Conference on Recent Trends in Advanced Functional Materials for Sustainable Development organized by BTC DAV College, Baniket, Dalhousie, Chamba, 17th May 2025.
2. **Prof. Wasudeo Gurnule**, Vice President of ACT West Zone, Delivered Invited Talk on "Mechanical, Thermal and Rheological Properties of SBR Nanocomposite with Carbon Black Nanofiller" organized by Department of Chemistry, University of Delhi, 19th July 2025.
3. **Prof. D. V. Prabhu**. President of ACT. Delivered Chief Guest Speech during Inaugural session of One Week FDP on Research and Emerging Trends in Chemistry on 28th August 2025 organized by V. V. Institute of Pharmaceutical Sciences, Gudlavalleru, Krishna Dist, AP State .
4. **Prof. Helen Kavitha**, Vice-President of ACT South Zone who has been awarded the prestigious Indo-German WISER Award for the year 2025. Her research project has been granted financial support of INR 39 Lakhs. Prof. Kavitha will be eligible to go to Germany for a month for next three years to share proposed research work with her German counterpart.
5. **Prof. Sudesh Ghoderao** Secretary of ACT West Zone has delivered lecture on 'Development of Scientific Temper' under 'PRAYAS scheme of the Goverment' at Kendriya Vidyalaya, No. 1, Deolali, Nashik on 17 July 2025.
6. Congratulations to **Prof Bhalchandra Bhange**, ICT, Mumbai for appointment on 20th Aug 2025 as Vice Chancellor of Maharaja Sayajirao University of Baroda, Gujarat who was also the chairperson of ACT EC 2025 election process.
7. **Prof. Sudesh Ghoderao,** Secretary of ACT West Zone has visited Prabhus French Polish manufacturing unit in Podanur, Coimbatore, Tamil Nadu on 5th June 2025 to know about its production.
8. **Prof. Sudesh Ghoderao,** visited the NARST, a global organisation for improving science education at Luxembourg and the Luxembourg Science Centre on 7th July He discussed few concepts of Chemistry at the respective centers and presented hard copies of ACT Newsletter.
9. **Dr. A. K. Mitra** is nominated and participated as Mentor with team selected for IChO. The International Chemistry Olympiad (IChO) 2025, one of the world's most prestigious academic competitions in Chemistry—brought together 354 of the brightest students from 90 countries, including two observer nations (Ghana and Honduras). The event was held in Dubai, UAE, from 5th–14th July 2025.

India's Performance :

India delivered a good performance at IChO 2025, securing **two gold and two silver medals**, placing the country **6th in the global ranking**, alongside Ukraine, Uzbekistan, Kazakhstan, and Israel. The top three positions were claimed by the **USA, China, and Vietnam**.

Medal Winners:

- **Gold:** • *Devesh Pankaj Bhaiya* (Jalgaon, Maharashtra) • *Sandeep Kuchi* (Hyderabad, Telangana)
- **Silver:** • *Debadatta Priyadarshi* (Bhubaneswar, Odisha) • *Ujjwal Kesari* (New Delhi)

BASICS OF COLOUR CHEMISTRY

Dr. Mannam Krishna Murthy
Chief Executive Dean
Varsity South Education Management Pvt. Ltd.,
Madhapur, Hyderabad - 500 081.

Principle of colour

Unlike most organic compounds, dyes possess colour. The colour is because of the following :

1) Compounds absorb light in the visible spectrum (400–700 nm)
2) They have at least one colour-bearing group, called chromospheres
3) They have a conjugated system, i.e. a structure with alternating double and single bonds and
4) They exhibit resonance of electrons, which is a stabilizing force in organic compounds.

When any one of these features is lacking from the molecular structure the colour is lost. In addition to chromophores, most dyes also contain groups known as auxochromes, examples of which are carboxylic acid, sulfonic acid, amino, and hydroxyl groups. These auxochromes are colour helpers. Auxochromes are not responsible for colour, but their presence can shift the colour of a colourant. They are most often used to influence dye solubility. The relationships between wavelength of visible and colour absorbed and observed are summarized in Table 1. Some important factors contributing to colour are illustrated in Figure 1 and Figure 2.

Table 1 : Wavelengths of Colours

Wavelength Absorbed	Colour Absorbed	Colour Observed
400–435 nm	Violet	Yellow-Green
435–480 nm	Blue	Yellow
480–490 nm	Green-Blue	Orange
490–500 nm	Blue-Green	Red
500–560 nm	Green	Purple
560–580 nm	Yellow-Green	Violet
580–595 nm	Yellow	Blue
595–605 nm	Orange	Green-Blue
605–700 nm	Red	Blue-Green

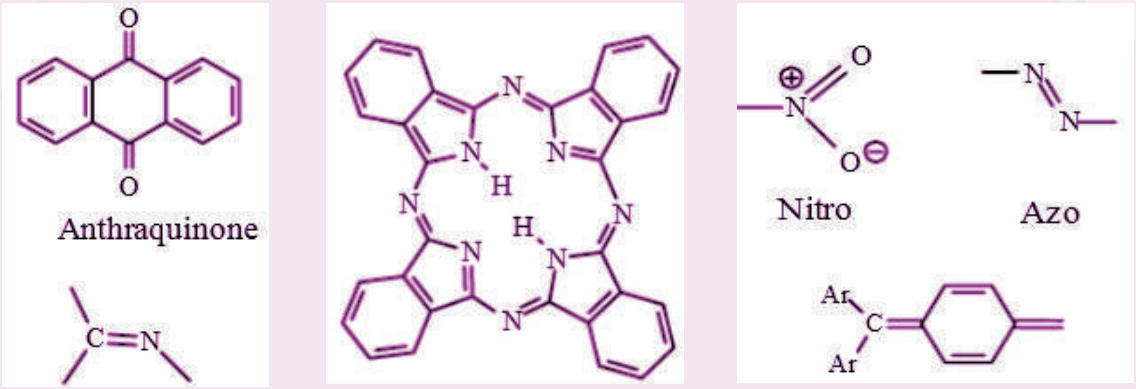


Fig. 1. Some examples of chromophoric groups present in organic dyes

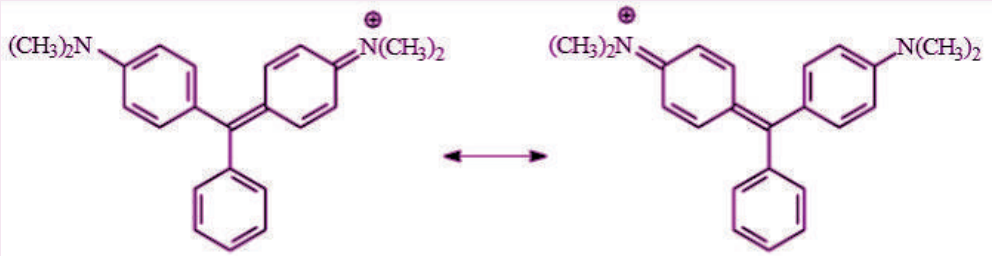


Fig. 2. A pair of resonance structures for Malachite Green

Regarding the requirement of a chromophore generating colour in organic compounds, it is important to note that the chromophore must be part of a conjugated system. This is illustrated through the examples in Figure 3, where it can be seen that placement of an azo group between methyl groups produces a colourless compound, while a yellow-orange colour is obtained when the azo group is placed between aromatic rings.

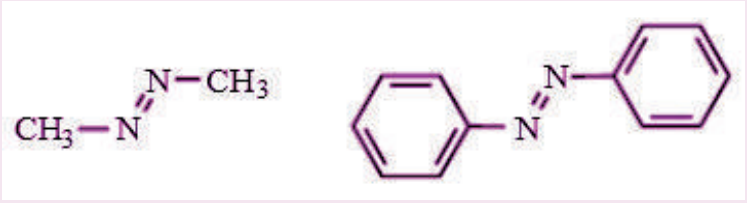


Fig. 3. Importance of having a chromophore within a conjugated system

In addition to influencing solubility, auxochromes are essential ring substituents in providing target colours. This is illustrated in Figure 4, where effects of some substituents are shown:

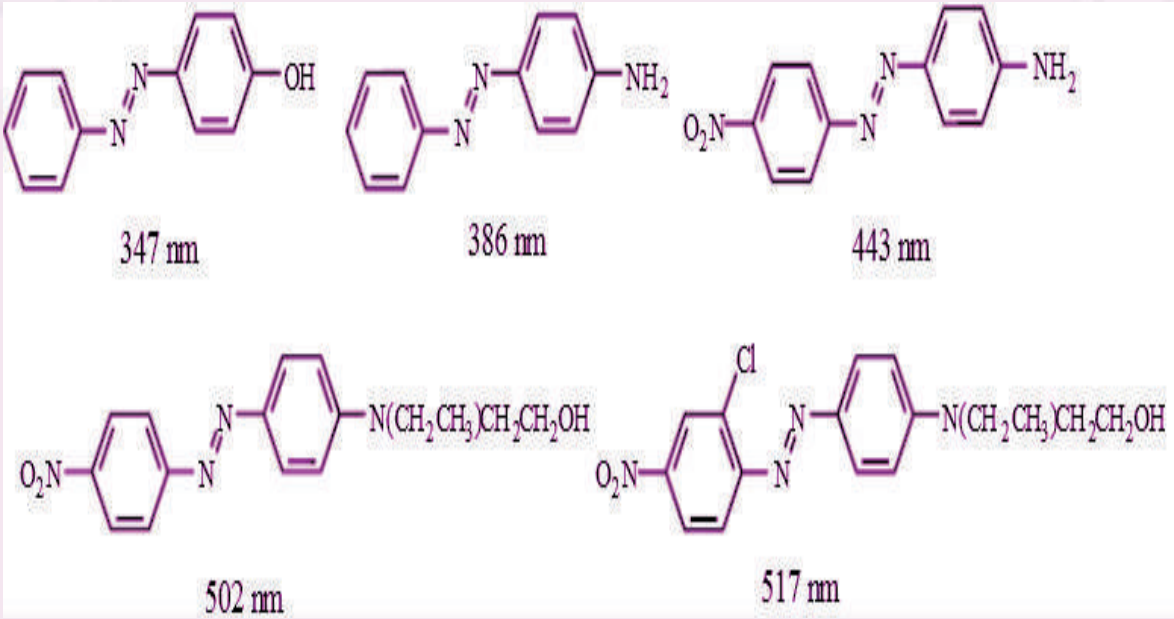


Fig. 4. Effects of substituent groups within an azo-dye system

(i) Adding groups of increasing electron-donating ability to the azobenzene structure has a bathochromic effect (OH versus NH2).

(ii) Electron-donating (NH2) and electron-accepting (NO2) groups placed in conjugation provide a bathochromic effect. In this regard, nitro groups are especially beneficial, contributing to their prevalence in disperse dye structures.

(iii) Increasing the number of electron-attracting groups conjugated with the electron-donor has a bathochromic effect.

(iv) The electron-donating effects of an amino group are enhanced by adding alkyl groups to the N-atom.

Colouring agents

Three classes of colouring agents are listed below :

(i) Pigments : These are finely ground solid particles that don't dissolve in the vehicle but are dispersed in it. Natural pigments are derived from minerals (like ochre) or organic sources (like indigo) and Synthetic pigments are created through industrial processes to achieve a wider range of colours and improved stability (e.g. Prussian blue, phthalocyanine green).

(ii) Dyes : These are substances that are completely soluble in the vehicle. In some applications, like certain inkjet inks, dyes are the preferred colourant.

(iii) Lakes : These are dyes that have been precipitated into a solid, insoluble form, giving them properties similar to pigments.

The vehicle

Two classes of vehicles are listed below :

(i) **Varnish or solvent :** This acts as the carrier for the pigment, transferring it from the printing plate to the paper.

(ii) **Composition :** It is oftesn a sticky and gooey substance made from components like linseed oil (traditionally), petroleum distillates and resins.

Dyes versus Pigments

With regard to their solubility, organic colourants fall into two classes, viz. dyes and pigments. The key distinction is that dyes are soluble in water and/or an organic solvent, while pigments are insoluble in both types of liquid media.

Dyes are used to colour substrates to which they have affinity. Pigments can be used to colour any polymeric substrate but by a mechanism quite different from that of dyes, in that surface-only colouration is involved unless the pigment is mixed with the polymer before fibre or moulded article formation.

Colour creation and stability

Colour intensity : A higher concentration of the colouring substance increases the colour's intensity.

Subtractive colour model : Colours are created through subtractive mixing in printing, where pigments absorb certain wavelengths of light. The CMYK model (Cyan, Magenta, Yellow and Key/Black) is the basis for this process. VIBGYOR (Violet, indigo, blue, green, yellow, orange and red) and CMYK colour models are shown in Fig. 5, along with a colour splash.

Chemical stability : Environmental factors like light, humidity, and interaction with the binder can cause degradation through processes like oxidation and photochemical reaction, which alter the color over time.

Chromophores and auxochromes : The colour of a molecule is determined by its structure. The part of the molecule that absorbs light is called the chromophore, and auxochromes are groups that can modify the colour's intensity and properties.

Fig. 5. Colour splash with VIBGYOR and CMYK models

Report of CONTECH 2024-25

Dr. Subhash P. Singh
National Coordinationr ACT - CONTECH
Department of Chemistry, A.N. College, Patna

As students of science transition from senior secondary education to higher studies, they often find themselves navigating a complex academic landscape marked by multiple entrance examinations. Among the subjects that pose significant challenges, chemistry stands out due to its intricate concepts and diverse applications. Acknowledging these difficulties and the need for a structured approach to evaluating chemistry education at the undergraduate (UG) level, the Association of Chemistry Teachers (ACT) launched CONTECH—a national-level Concept Test in Chemistry.

CONTECH was designed not merely as an assessment tool but as a strategic initiative to enhance the quality of chemistry education at the UG level. By identifying strengths and areas requiring improvement, this initiative enables educators to devise targeted interventions that support both teaching excellence and student success. The overarching objective of CONTECH is to strengthen the teaching profession by continuously assessing and monitoring the academic progress and achievements of UG chemistry students across the country.

Since its inception in 2010, CONTECH has been held annually as a single event per year. However, recognizing the evolving academic needs of UG students nationwide, the format was revised in the academic year 2017–18 to be conducted biannually in two distinct phases—Phase I and Phase II. This adjustment was introduced to better accommodate the diverse learning paces and examination schedules of students, ensuring a more inclusive and effective assessment system.

Structure and Format of CONTECH

The test comprises 80 meticulously designed Multiple Choice Questions (MCQs), each providing four answer options, with only one being correct. Importantly, there is no negative marking for incorrect responses, allowing students to attempt all questions without apprehension. Based on extensive feedback from educators, the test structure has been refined to evaluate two critical dimensions of chemistry learning:

1. **Conceptual Understanding and Application (75%)** – The majority of the questions assess a student's grasp of theoretical principles, comprehension of fundamental concepts, and ability to apply this knowledge in different scenarios.

2. **Process-Oriented and Practical Skills (25%)** – A quarter of the questions are designed to evaluate higher-order thinking abilities, including problem-solving skills, experimental analysis, and interpretation of observational data within real-world or laboratory contexts.

Enhancing Question Quality Through a Nationwide Initiative

To ensure that the question bank remains comprehensive, diverse, and pedagogically sound, ACT organized a **nationwide campaign on Designing Quality MCQs in July 2024**. This initiative sought contributions from chemistry educators across the country, encouraging them to develop thought-provoking and pedagogically relevant questions. The submitted

questions underwent rigorous moderation at the local level, ensuring high standards of clarity, relevance, and academic integrity.

This campaign served a dual purpose: it strengthened the robustness of the question bank while also identifying and recognizing talented educators skilled in designing effective assessment tools. The enthusiastic participation from all regions underscored the collective commitment of the chemistry teaching community toward academic excellence. To honor their contributions, ACT awarded **Certificates of Recognition** to all educators whose questions were selected for inclusion in the final question pool.

Execution and Nationwide Participation

To maximize participation and outreach, ACT officials and chemistry teachers took proactive steps in promoting CONTECH across various institutions. The test was conducted in two phases:

- **Phase I** was successfully held on **31st January 2025**, engaging students in a structured and well-organized assessment experience.
- **Phase II** followed on **22nd March 2025**, providing another opportunity for students to participate, thereby increasing accessibility and inclusivity.

The seamless execution of CONTECH 2024–25 was made possible through the dedicated efforts of ACT Executive members, who played a pivotal role in coordinating with local and college-level coordinators. Their tireless efforts ensured that the test reached a wide spectrum

of students across the country, fostering a stronger connection between the emerging generation of UG chemistry students and ACT.

Evaluating the Impact of CONTECH

In the following section, a **statistical analysis** is presented, offering insights into various aspects of CONTECH's impact. This includes participation trends, student performance metrics, and the overall effectiveness of the test in achieving its intended objectives. By continuously refining its methodology and outreach, CONTECH remains committed to enhancing chemistry education and supporting the academic aspirations of students nationwide.

(IA) Zone wise % of Examination Centres during 2023-24

Table-1 present Zone wise % of Examination Centres during 2024-25

Table-1

Zone	% of participating colleges
West zone	48.78
North zone	12.19
North East zone	12.19
East Zone	4.87
Central Zone	9.75
South Zone	12.19

Figure 1 : shows the zone-wise comparative plot of examination centers in the session 2016, 2017-18, 2018-19, 2019-20, 2022-23, 2023-24 and 2024-25.

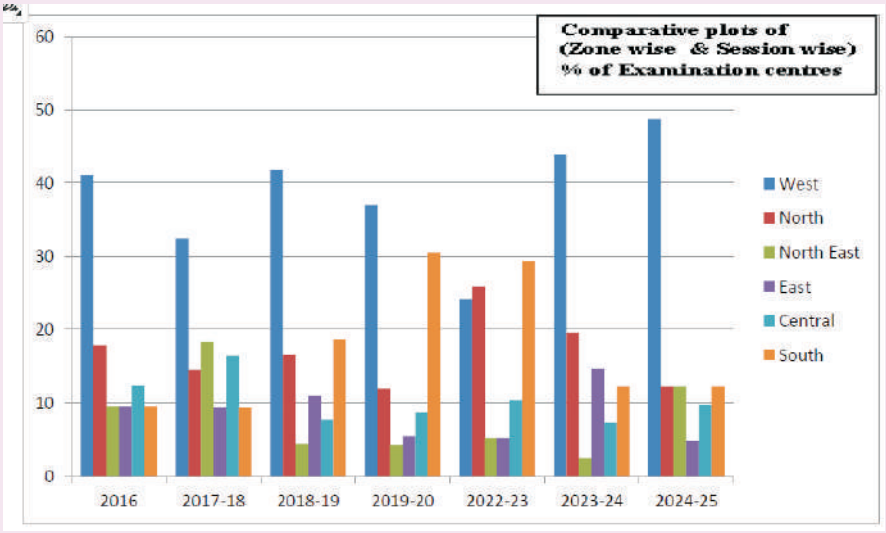


Fig.1: Zone-wise comparative plot of examination centres in the session 2016, 2017-18, 2018-19, 2019-20, 2022-23, 2023-24 and 2024-25

Across Sessions

- The **West Zone** consistently hosted the highest percentage of examination centers, peaking at **48.78% in 2024–25**, showing a strong resurgence from **24.13% in 2022–23**.
- The **North Zone** has seen a **declining trend**, dropping from **17.8% in 2016** to **12.19% in 2024–25**, despite a peak at **25.86% in 2022–23**.
- The **North-East Zone** fluctuated significantly, with **a peak in 2017-18 (18.3%)**, followed by a sharp drop, then a **notable recovery to 12.19% in 2024–25**.
- The **East Zone** saw instability, with a notable dip in **2019–20 (5.4%)**, then a **spike in 2023–24 (14.63%)**, but dropped again to **4.87% in 2024–25**.
- The **Central Zone** exhibited variations but remained relatively stable, hovering between **7% and 16%**, with **9.75% in 2024–25**.
- The **South Zone** had its highest presence in **2019–20 (30.5%)**, declining afterward and stabilizing at **12.19% in 2024–25**.

2. Recent Shifts (Post-COVID Trends: 2022–23 to 2024–25)

- **West Zone** has shown the **strongest growth**, rising from **24.13% (2022–23) to 48.78% (2024–25)**.
- **North Zone** declined sharply from **25.86% (2022–23) to 12.19% (2024–25)**, indicating a reduction in participation or exam centers.
- **North-East Zone** made a **strong recovery**, increasing from **2.43% (2023–24) to 12.19% (2024–25)**.
- **East Zone** showed **a major drop**, from **14.63% (2023–24) to 4.87% (2024–25)**, signaling challenges in maintaining centers.

- **Central Zone** saw a **moderate increase** in 2024–25 but remains below its peak levels.
- **South Zone**, after its peak in **2019–20**, has remained stable at **12.19% in 2024–25**.

Key Observations & Recommendations

- The **West Zone's dominance** suggests strong organizational efforts, and best practices from this zone should be studied for implementation elsewhere.
- **North Zone's sharp decline** signals an urgent need for **strategic intervention**, possibly through increased outreach and incentives for institutions.
- **North-East Zone's recovery** indicates renewed interest, which should be leveraged to sustain and expand participation.
- **East Zone's decline** requires further investigation—factors like logistics, awareness, or institutional interest may need addressing.
- **A more balanced distribution** across zones should be a long-term goal to ensure national-level representation.

(II) Zone wise % of Examiners in 2024-25

Zone wise percentage of Examiners is shown in Fig. 2

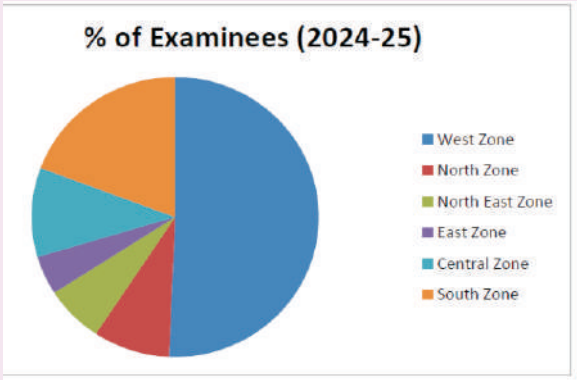


Fig.2: Zone wise percentage of examiners appeared in CONTECH during 2024-25

Table-2 present a comparison of zone wise data showing the percentage of candidates appearing in CONTECH in the session 2016, 2017-18, 2018-19, 2019-20, 2022-23, 2023-24 and 2024-25.

Table -2

Zone wise % of Examinees in consecutive years							
Zone	**2016**	**2017- 18**	**2018-19**	**2019-20**	**2022-23**	**2023-24**	**2024-25**
West	34.41	29.08	49	38.73	32.12	57.05	50.68
North	18.7	14	15.49	11.13	21.8	12.98	8.63
North East	9	11.18	2.08	3.32	2.92	0.96	6.59
East	5.12	5.75	4.15	3.93	2.92	7.43	4.47
Central	21.5	23.27	15.93	16.82	15.1	5.84	10.31
South	11.74	17.31	13.32	26.07	25.11	15.71	19.3

Analysis: Zone-wise Percentage of Examinees Across Consecutive Years

1. Overall Trends (2016–2024-25)

- **West Zone** consistently had the highest share of examinees, with a peak at **57.05% in 2023–24**, slightly declining to **50.68% in 2024–25** but still dominating.
- **North Zone** has experienced a **steady decline**, from **18.7% in 2016** to **8.63% in 2024–25**, reflecting a significant reduction in student participation.
- **North-East Zone** saw **sharp fluctuations**, peaking at **11.18% in 2017-18**, dropping to **0.96% in 2023–24**, and recovering to **6.59% in 2024–25**.
- **East Zone** has maintained **low participation**, ranging from **2.92% to 7.43%**, showing a **slight rise in 2023–24** before declining again.
- **Central Zone** initially had a **strong presence (21.5% in 2016)** but saw a **significant drop to 5.84% in 2023–24**, rebounding to **10.31% in 2024–25**.
- **South Zone** showed strong growth, peaking at **26.07% in 2019–20**, declining in **2023–24 (15.71%)**, and rebounding to **19.3% in 2024–25**.

2. Recent Trends (Post-COVID: 2022–23 to 2024–25)

- **West Zone** has seen a sharp rise in examinees, peaking at **57.05% (2023–24)** before settling at **50.68% (2024–25)**.
- **North Zone's steady decline** suggests a significant loss of student engagement, dropping from **21.8% (2022–23) to 8.63% (2024–25)**.
- **North-East Zone has rebounded** in **2024–25 (6.59%)** after a concerning low in **2023–24 (0.96%)**.
- **East Zone declined again in 2024–25 (4.47%)** after a temporary rise in **2023–24 (7.43%)**.
- **Central Zone's participation fell drastically in 2023–24 (5.84%)** but **doubled to 10.31% in 2024–25**.
- **South Zone** is showing signs of stabilization at **19.3% in 2024–25** after a drop in the previous year.

3. Key Observations & Recommendations

- **West Zone's dominance** in both examination centers and examinees suggests successful outreach and coordination. Replicating these efforts in weaker zones could help balance participation.
- **North Zone's sharp decline** indicates a **loss of engagement**, requiring targeted awareness programs and institutional incentives.
- **North-East and Central Zones show recovery**, signaling potential for future growth if supported by sustained efforts.
- **East Zone remains weak**, necessitating increased promotional efforts and engagement with local institutions.
- **South Zone is stabilizing**, but focused efforts could push participation back to the **2019–20 levels (~26%)**.

(IIIA) Percangage of Students scoring 30 % marks.

Fig 3 shows the percentage of students scoring more than 30% in their respective zones.

The Fig. 3 show the % of Students scoring 30 % or more in their respective zones.

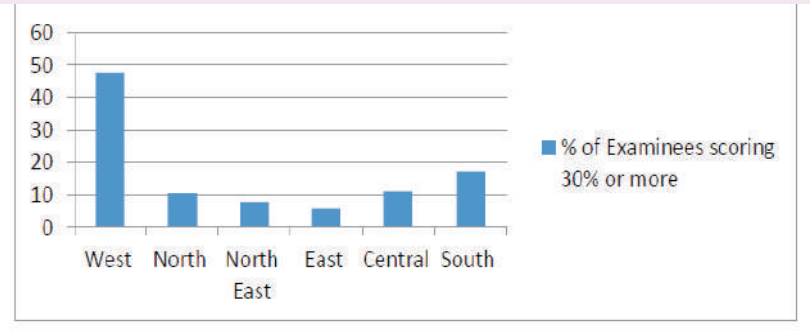


Fig.3 : Zone wise % of Examinees scoring 30% or more

The trend of students' % scoring 30% or more in 2023-24 follows the following sequence; West Zone > South Zone > Central Zone > North Zone > North East Zone > East Zone as has been displayed by fig.3.

Table 6 and fig.6 show the zone wise students'% scoring 30% or more in consecutive years as shown below;

Table -3

Table-3: Zone wise students' % scoring 30% or more in consecutive years

Zone	2018-19	2019-20	2022-23	2023-24	2024-25
West	51.62	33.67	25.97	53.88	47.68
North	78.98	14.96	29.76	16.98	10.54
North East	87.57	4.95	3.55	1.15	7.76
East	71.81	5.58	4.89	11.29	5.86
Central	60	17.17	11.88	3.92	11.01
South	55.74	23.67	23.93	12.75	17.12

The trends and changes in the percentages of examinees scoring 30% or more across different zones over the years 2018-19, 2019-20, 2022-23, 2023-24 and 2024-25 are as follows;

Analysis: Zone-wise Percentage of Students Scoring 30% or More Across Consecutive Years

1. Overall Trends (2018–2025)

- **West Zone** showed fluctuations but remains strong, peaking at **53.88% in 2023–24**, slightly decreasing to **47.68% in 2024–25**.
- **North Zone** saw a **drastic decline** from **78.98% in 2018–19 to 10.54% in 2024–25**, indicating a major drop in student performance.
- **North-East Zone** had **the highest percentage in 2018–19 (87.57%)**, collapsed to **1.15% in 2023–24**, but **recovered to 7.76% in 2024–25**.
- **East Zone** followed a similar **declining trend**, peaking at **71.81% (2018–19), dropping to 5.86% in 2024–25**.

- **Central Zone** saw a **sharp decline** from **60% (2018–19) to 3.92% (2023–24)**, with **slight recovery to 11.01% in 2024–25**.
- **South Zone** remained relatively stable but saw a **drop from 55.74% (2018–19) to 12.75% (2023–24)**, recovering slightly to **17.12% in 2024–25**.

2. Post-COVID Trends (2022–2025)

- **West Zone** surged from **25.97% (2022–23) to 53.88% (2023–24)** and remains strong at **47.68% (2024–25)**.
- **North Zone** saw a **continuous decline** from **29.76% (2022–23) to 10.54% (2024–25)**.
- **North-East Zone** dropped **to an alarming 1.15% in 2023–24**, but slightly improved in **2024–25 (7.76%)**.
- **East Zone** peaked at **11.29% in 2023–24**, but dropped again in **2024–25 (5.86%)**.
- **Central Zone** bottomed at **3.92% in 2023–24** but improved to **11.01% in 2024–25**.
- **South Zone** is showing some **stabilization**, increasing from **12.75% (2023–24) to 17.12% (2024–25)**.

3. Key Observations & Recommendations

- **West Zone remains the strongest performer**, showing resilience and strong student participation.
- **North and East Zones need immediate intervention**—with declining scores, efforts should focus on curriculum support and student motivation.
- **North-East and Central Zones show slight improvement**, indicating potential for recovery if given proper academic support.
- **South Zone is stabilizing**, but requires a focused strategy to regain its **pre-COVID performance levels (~23–24%)**.
- **A more balanced distribution of performance** across zones is necessary, requiring targeted **teacher training programs and academic support initiatives**.

Sample figures of students participation in the CONTECH 2024-25

Overall, the analysis highlights the importance of continuous monitoring and assessment of educational performance at the regional level to identify areas for improvement and track progress over time.

(IIIB) % of Students scoring 60% or more in their respective zones during 2023-24

The comparative data of % students scoring 60 % or more in their respective zones during 2023-24 is exhibited in Table 7 which gets displayed by Table 4.

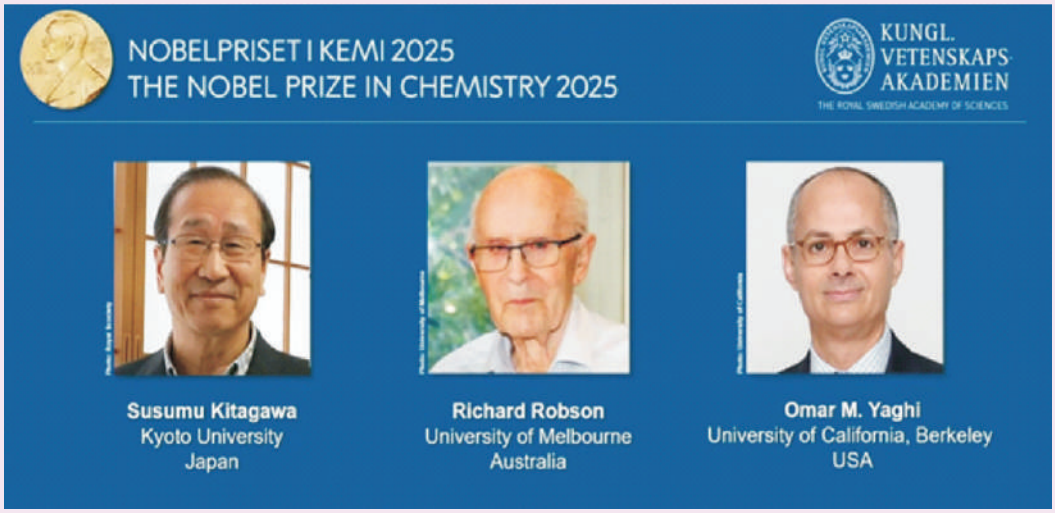
Table 4

Zone	% of Examinees scoring 60% or more
West Zone	38.77
North Zone	7.14
North East Zone	11.22
East Zone	11.9
Central Zone	9.52
South Zone	21.42

The Nobel Prize in Chemistry 2025

Molecular Architecture contains Rooms for Chemistry

The Nobel Prize laureates in chemistry 2025 have created molecular constructions with large spaces through which gases and other chemicals can flow. These constructions, **metal–organic frameworks**, can be used to harvest water from desert air, capture carbon dioxide, store toxic gases or catalyse chemical reactions.



Susumu Kitagawa, **Richard Robson** and **Omar Yaghi** are awarded the **Nobel Prize in Chemistry 2025**. They have developed a new form of molecular architecture. In their constructions, metal ions function as cornerstones that are linked by long organic (carbon-based) molecules. Together, the metal ions and molecules are organised to form crystals that contain large cavities. These porous materials are called metal–organic frameworks (MOF). By varying the building blocks used in the MOFs, chemists can design them to capture and store specific substances. MOFs can also drive chemical reactions or conduct electricity.

"Metal–organic frameworks have enormous potential, bringing previously unforeseen opportunities for custom-made materials with new functions," says Heiner Linke, Chair of the Nobel Committee for Chemistry.

It all started in 1989, when Richard Robson tested utilising the inherent properties of atoms in a new way. He combined positively charged copper ions with a four-armed molecule; this had a chemical group that was attracted to copper ions at the end of each arm. When they were combined, they bonded to form a well-ordered, spacious crystal. It was like a diamond filled with innumerable cavities.

Robson immediately recognised the potential of his molecular construction, but it was unstable and collapsed easily. However, Susumu Kitagawa and Omar Yaghi provided this building method with a firm foundation; between 1992 and 2003 they made, separately, a series of revolutionary discoveries. Kitagawa showed that gases can flow in and out of the constructions and predicted that MOFs could be made flexible. Yaghi created a very stable MOF and showed that it can be modified using rational design, giving it new and desirable properties.

Following the laureates' ground-breaking discoveries, chemists have built tens of thousands of different MOFs. Some of these may contribute to solving some of humankind's greatest challenges, with applications that include separating PFAS from water, breaking down traces of pharmaceuticals in the environment, capturing carbon dioxide or harvesting water from desert air.

Susumu Kitagawa, born 1951 in Kyoto, Japan. PhD 1979 from Kyoto University, Japan. Professor at Kyoto University, Japan.

Richard Robson, born 1937 in Glusburn, UK. PhD 1962 from University of Oxford, UK. Professor at University of Melbourne, Australia.

Omar M. Yaghi, Born 1965 in Amman, Jordan. PhD 1990 from University of Illinois Urbana-Champaign, USA. Professor at University of California, Berkeley, USA.

New Catalyst Could Make Plastic Recycling a Whole Lot Less Complicated

The future of plastic recycling could soon become far simpler and more efficient. Researchers at Northwestern University have developed a new plastic upcycling method that greatly reduces — and may even eliminate the need to pre-sort mixed plastic waste. At the heart of the process is a low-cost nickel-based catalyst that selectively targets polyolefin plastics, including polyethylenes and polypropylenes, which make up nearly two-thirds of global single-use plastic consumption. This means the catalyst could be applied to large volumes of unsorted polyolefin waste.

When activated, the catalyst converts these low-value solid plastics into liquid oils and waxes that can be repurposed into higher-value products such as fuels, lubricants, and candles. The catalyst can be reused multiple times and, notably, is also capable of breaking down plastics contaminated with polyvinyl chloride (PVC), a toxic material long considered to make plastics "unrecyclable."

Key challenges and breakthrough potential

The study was recently published in the journal *Nature Chemistry.*

"One of the biggest hurdles in plastic recycling has always been the necessity of meticulously sorting plastic waste by type," said Northwestern's Tobin Marks, the study's senior author. "Our new catalyst could bypass this costly and labor-intensive step for common polyolefin plastics, making recycling more efficient, practical, and economically viable than current strategies."

"When people think of plastic, they likely are thinking about polyolefins," said Northwestern's Yosi Kratish, a co-corresponding author on the paper. "Basically, almost everything in your refrigerator is polyolefin-based — squeeze bottles for condiments and salad dressings, milk jugs, plastic wrap, trash bags, disposable utensils, juice cartons and much more. These plastics have a very short lifetime, so they are mostly single-use. If we don't have an efficient way to recycle them, then they end up in landfills and in the environment, where they linger for decades before degrading into harmful microplastics."

A world-renowned catalysis expert, Marks is the Vladimir N. Ipatieff Professor of Catalytic Chemistry at Northwestern's Weinberg College of Arts and Sciences and a professor of chemical and biological engineering at Northwestern's McCormick School of Engineering. He is also a faculty affiliate at the Paula M. Trienens Institute for Sustainability and Energy. Kratish is a research assistant professor in Marks' group, and an affiliated faculty member at the Trienens Institute. Qingheng Lai, a research associate in Marks' group, is the study's first author. Marks, Kratish and Lai co-led the study with Jeffrey Miller, a professor of chemical engineering at Purdue University; Michael Wasielewski, Clare Hamilton Hall Professor of Chemistry at Weinberg; and Takeshi Kobayashi a research scientist at Ames National Laboratory.

The polyolefin predicament

From yogurt cups and snack wrappers to shampoo bottles and medical masks, polyolefin plastics are part of everyday life. They are the most widely used plastics in the world, produced in enormous quantities. By some estimates, more than 220 million tons of polyolefin products are manufactured globally each year. Yet, according to a 2023 report in the journal *Nature*, recycling rates for these plastics remain troublingly low, falling between less than 1% and 10% worldwide.

Northwestern researchers created a nickel catalyst that simplifies recycling by breaking down mixed plastics, even those contaminated with hard-to-recycle PVC, into valuable new products.

This poor recycling record is largely due to the durability of polyolefins. Their structure is made up of small molecules connected by carbon-carbon bonds, which are notoriously strong and difficult to break apart. “When we design catalysts, we target weak spots,” Kratish said. “But polyolefins don't have any weak links. Every bond is incredibly strong and chemically unreactive.”

Problems with current processes

Currently, only a few, less-than-ideal processes exist that can recycle polyolefin. It can be shredded into flakes, which are then melted and downcycled to form low-quality plastic pellets. But because different types of plastics have different properties and melting points, the process requires workers to scrupulously separate various types of plastics. Even small amounts of other plastics, food residue, or non-plastic materials can compromise an entire batch. And those compromised batches go straight into the landfill.

Another option involves heating plastics to incredibly high temperatures, reaching 400 to 700 degrees Celsius. Although this process degrades polyolefin plastics into a useful mixture of gases and liquids, it's extremely energy-intensive.
“Everything can be burned, of course,” Kratish said. “If you apply enough energy, you can convert anything to carbon dioxide and water. But we wanted to find an elegant way to add the minimum amount of energy to derive the maximum value product.”

Accelerated by contamination

With its single, precisely defined, and isolated active site, the nickel-based catalyst possesses unprecedented activity and stability. The catalyst is so thermally and chemically stable, in fact, that it maintains control even when exposed to contaminants like PVC. Used in pipes, flooring, and medical devices, PVC is visually similar to other types of plastics but significantly less stable upon heating. Upon decomposition, PVC releases hydrogen chloride gas, a highly corrosive byproduct that typically deactivates catalysts and disrupts the recycling process.

Amazingly, not only did Northwestern's catalyst withstand PVC contamination, PVC actually accelerated its activity. Even when the total weight of the waste mixture is made up of 25% PVC, the scientists found their catalyst still worked with improved performance. This unexpected result suggests the team's method might overcome one of the biggest hurdles in mixed plastic recycling — breaking down waste currently deemed “unrecyclable” due to PVC contamination. The catalyst also can be regenerated over multiple cycles through a simple treatment with inexpensive alkylaluminium.

List of ACT Life Members During May' 2025 to August' 2025

Sr. No.	Names	LM No.	Institution
1	Dr. Smita Kumari	2762	Dept. of Chemistry, College of Commerce, Arts & Scinece, Patna, Bihar - 800020
2	Dr. Maya Pai M.	2763	Dept. of Chemistry, FNS, M. S. Ramaiah University of Applied Sciences, Peenya Industrial Area, Bangalore - 560058
3	Dr. Mehdi Al Kausor	2764	Science College, Kokrajhar,PO & Dist. Kokrajhar, BTS, Assam - 783370
4	Dr. Sharmistha Chakraborty	2765	Science College, Kokrajhar. PO & Dist. Kokrajhar Dist. Kokrajhar, BTR, Assam - 783370
5	P.Sasi	2766	Sengamala Thayaar Educational Trust Women's College Autonomous, Sundarakkotttai, Mannargudi - 614016
6	S.Sujatha	2767	Sengamala Thayaar Educational Trust Womens College, Sundarakkottai, Mannargudi, Thiruvarur District,Tamilnadu-614016 (India)
7	Dr.C.Manivannan	2768	Division of Chemistry, School of Sciences, Faculty of Engineering and Technology, SRM Institute of Science and Technology, Tiruchirappalli - 621105.
8	Dr. Goutam Kumar	2769	Department of Chemistry, HNB Garhwal University BGR Campus, Pauri-246001, Uttarakhand (India) & Co-Coordinator, UoU Study Centre, Pauri.
9	Dr Farhat Aisha Ansari	2770	Department of Chemistry, Integral University, Dasauli, Bas-ha Kursi Road, Lucknow(U.P.) - 226026
10	T. Satya	2771	G. Pulla Reddy Engineering College, Near Pasupula Village, Kurnool - Nandyal, Main Road, Kurnool, Andhra Pradesh - 518007
11	Dr. Bapurao B. Shingate	2772	Department of Cchemistry Dr. Babasaheb Ambedkar Marathwada University, Ch. Sambhaji Nagar - 431004
12	Dr. Y. Aparna	2773	16-1-486, Dept. of Sciences & Humanities, Matrusri Engineering College, Saidabad, Hyderabad - 500059
13	Dr. M. Makeswari	2774	Department of Chemistry, Sree Saraswathi Thyagaraja College, Pollachi, TamilNadu - 642107, (India)
14	Dr. A. Arun Viveke	2775	CH-04, Department of Chemistry, St. Joseph's College, Tiruchirappalli Tamilnadu -620002
15	Dr. V. N. Kowshalya	2776	Department of Chemoistry, Kongu Engineering College, Perundurai, Tamilnadu - 638060

List of ACT Life Members During January' 2025 to April' 2025

Sr. No.	Names	LM No.	Institution
16	Dr. S. Nirmaladevi	2777	Department of Chemistry, Kongu Engineering College, Perundurai, Tamilnadu - 638060
17	Varsha Burman	2778	Chouksey College of Science & Commerce, Bilas pur (C.G.) - 495004
18	Dr. M. Letticia	2779	PG & Research Department of Chemistry, Bishop Heber College,Tiruchirappalli, Tamilnadu - 620002
19	Dr. Rohit Kumar Bargah	2780	Govt. Shyama Prasad Mukharjee College, Sitapur, Surguja, (Chattisgarh) - 497111
20	Prof. Mamta Sharma	2781	Dept. of Chemistry, K. M. College University of Delhi - 110007
21	Prof. Sandeep Kumar Sharma	2782	K-93, Kirti Nagar, New Delhi-110015
22	Swati Nagare	2783	Kamla Nehru Mahavidyalaya, Sakkardara Square. Nagpur - 440024
23	Shabana Ahmad	2784	Qatar
24	Dr. Asha Dagadu Jangale	2785	School of Chemical Sciences, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon - 425001
25	Dr Kavita Gour	2786	Priyadarshini Bhagwati College of Engg, Umred Road Nagpur - 440024
26	Dr. Shaziya Mohammed Irfan Momin	2787	K.M.E.S., G. M. Momin Women;s College, Bhiwandi, 421302
27	Dr. Pritam Roy	2788	K. G. Reddy College of Engineering & Technology, Beside Moinabad Police Station, Chilkur Village, Moiinabad, Hyderabad - 500075
28	V. Santhanam	2789	Department of Chemistry Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya Enathur, Kanchipuram – 631561 (Tamil Nadu)
29	Subhadeep Roy	2790	St. John Hight School, 158, Charu Chandra PIE Lake Gardens, Kolkata - 700033
30	Dr. Naureen Khan	2791	SORT, Peoples University, Bhanpur, Bhopal, M.P. India - 462037

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