

AMITY  
UNIVERSITY



# AMISCIENCE

VOLUME 2

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**2022**

AMITY INSTITUTE OF APPLIED SCIENCES

# PATRONS



HON'BLE FOUNDER-PRESIDENT  
**DR. ASHOK K. CHAUHAN**

## Vision

Building the nation & the society through providing total, integrated & trans-cultural quality education & be the global front runner in value education & nurturing talent in which modernity blends with tradition.

## Mission

To Provide education at all levels in all disciplines of modern times & in the futuristic & emerging frontier areas of knowledge, learning & research and to develop the overall personality of students by making them out only excellent professionals but also good individuals, with understanding & regards for human values, pride in their heritage & culture, a sense of right and wrong & yearning for perfection & imbibe attributes of courage of conviction & action.



HON'BLE CHANCELLOR  
**DR. ATUL CHAUHAN**

◆◆ AMISCIENCE, gives an insight into the range and scope of the ◆◆ imagination and creativity of our students and faculty members.

## From The Desk of The Vice Chancellor

AMICIENCE, E-magazine of Amity Institute of Applied Sciences provides an intersection of great challenge and great opportunity for the students to review their efforts and to analyse their achievements in research and development. The power of scientific thinking equips and empowers everyone towards a full participation in society and to handle so much more in life. The need of the hour is to introduce a kind of revolutionary scientific teaching. Amity Institute of Applied Sciences consists of 4 departments: Chemistry, Physics, Mathematics and Statistics. Each and every department is unique in their own way. Be it the faculty, the events or the enthusiasm with which everybody works.



**Prof. (Dr.) Balvinder Shukla**  
**Vice Chancellor**  
**Amity University Uttar Pradesh**

We at Amity University make sure to develop the personalities of students with the knowledge of the world and ensure that everyone learns to the best of their capabilities. We not only focus on academics but also on the creative endeavour that will bring out an array of artistic and scientific expressions with distinct individual signatures. AMISCIENCE gives an insight into the range and scope of the imagination and creativity of our students and faculty members. AMISCIENCE provides the platform to the students of our university to unfold the colors of artistic skills inside oneself and give a chance to showcase an image of creativity and talent.

This magazine is a platform that exhibits the literary skills and innovative ideas of teachers and students. My considerable appreciation to all the faculty, staff and students for launching the second edition of the magazine.

I would like to conclude with a quote -

*"The price of success is hard work, dedication to the job at hand, and the determination that whether we win or lose, we have applied the best of ourselves to the task in hand."*

*- Vince Lombardi.*

◆◆ AMISCIENCE, gives an insight into the range and scope of the ◆◆ imagination and creativity of our students and faculty members.

## From The Desk of The Director

The Amity Institute of Applied Sciences (AIAS) is one of the premier Institutions of Amity University Uttar Pradesh. The institute which had a humble beginning in 2008 with 8 students, today has more than 1200 students and around 85 faculty on roll. It has been created to promote and develop pure and applied sciences, undertake teaching, research and other development programmes in different areas, especially Physics, Chemistry, Mathematics and Statistics disciplines. From the inception, this Institute has planned its academic programmes, co-curricular and extra-curricular activities to inculcate skills, abilities and professional qualities to shape the budding youths into versatile scientists and promising innovators in their future career.



***Prof. (Dr.) Sunita Rattan***  
***Director of AIAS***  
***Amity University Uttar Pradesh***

In Amity Institute of Applied Sciences, excellence begins with faculty members who inspire and challenge every student. AIAS faculty create an environment that encourages inquiry and rewards hard work. Students gain new insights by working with investigators on some of the most important but difficult questions of our time. AIAS continues to take dramatic steps forward, advancing the quality of research, education and engagement with the world. Our achievements are made possible by the continuous growth and involvement of students. Their support means the institute will continue to move forward and set new standards in research, teaching and engagement with the world. Through a robust relationship of classroom and experiential learning, our students develop a variety of skills that are foundational for virtually any profession. They gain the ability to think critically and independently, and they learn how to write, reason and communicate clearly. They develop a set of ethics, the ability to adapt and a desire for continued learning that will serve them well throughout their lives and careers. AIAS is committed to developing students of high academic achievement, intellectual curiosity, and strong moral character. As a result, year after year, AIAS produces respectful, responsible, and compassionate young adults, who are well prepared to tackle the challenges that lay ahead. AMISCIENCE, the magazine, is a milestone that marks our growth, unfolds our imaginations, and give wings to our expressions. It unleashes a wide spectrum of creative skills of our editorial team right from writing, editing and designing. I congratulate all the members of editorial team for their sincere efforts and dedication which has resulted in publication of the second issue of AMISCIENCE.

# Head of Departments



**Dr. Ashok Kumar,**  
*Physics*

**Prof. (Dr.) Christine  
Jeyaseelan,**  
*Chemistry*



**Prof. (Dr.) Mandeep  
Mittal,**  
*Mathematics*



**Prof. (Dr.) Dheeraj Pawar,**  
*Statistics*

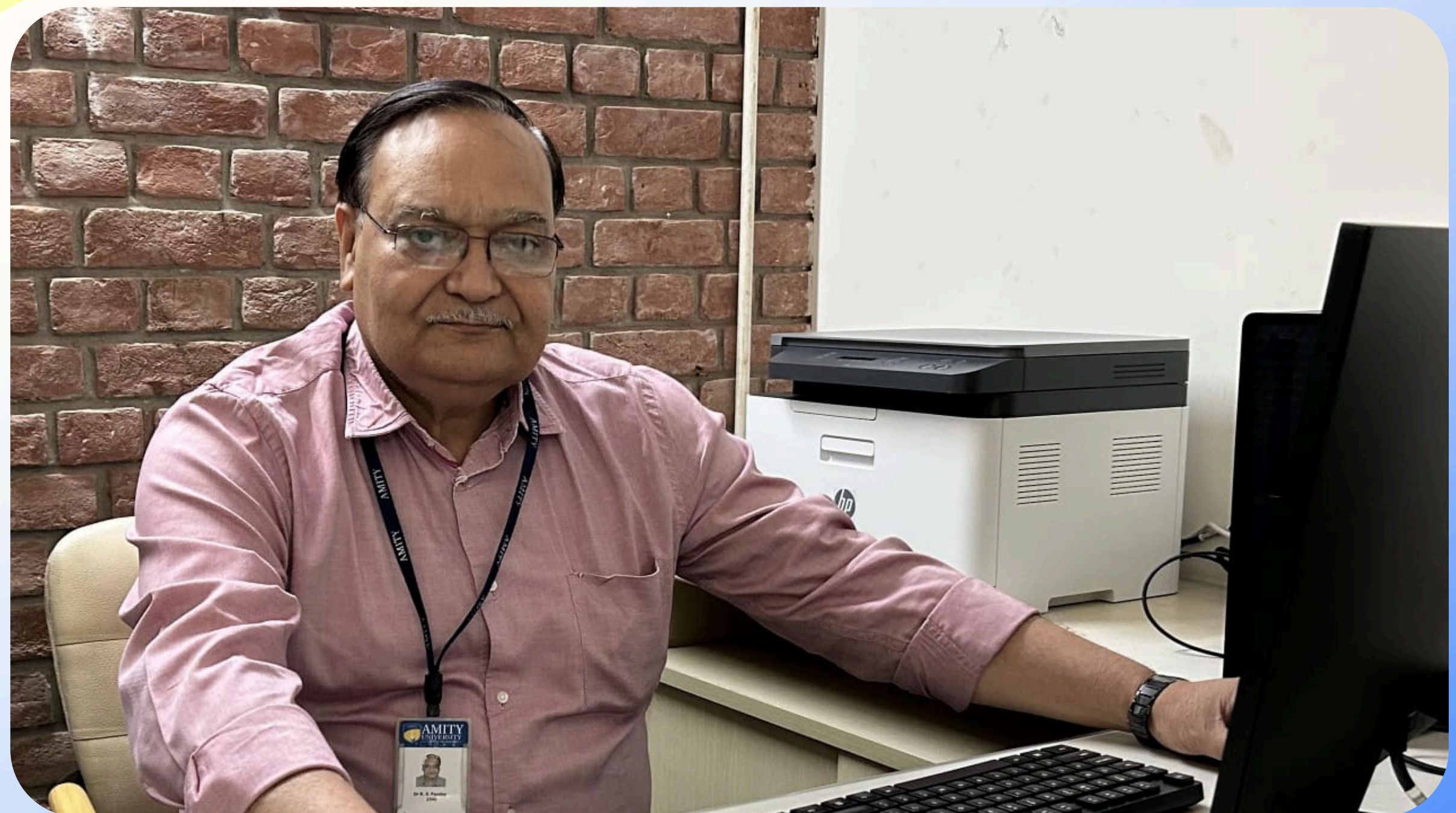


# Head of Departments



**Prof. (Dr) Sangeeta Tiwari,  
Head, Academic  
Coordination**

**Prof. (Dr) R.S. Pandey,  
Head, Research Coordination  
and Lab Development**



**Prof.(Dr) Seema Garg,  
Head, Student Affairs**

# EDITORIAL TEAM



*Manish Singh*  
HEAD DESIGNER



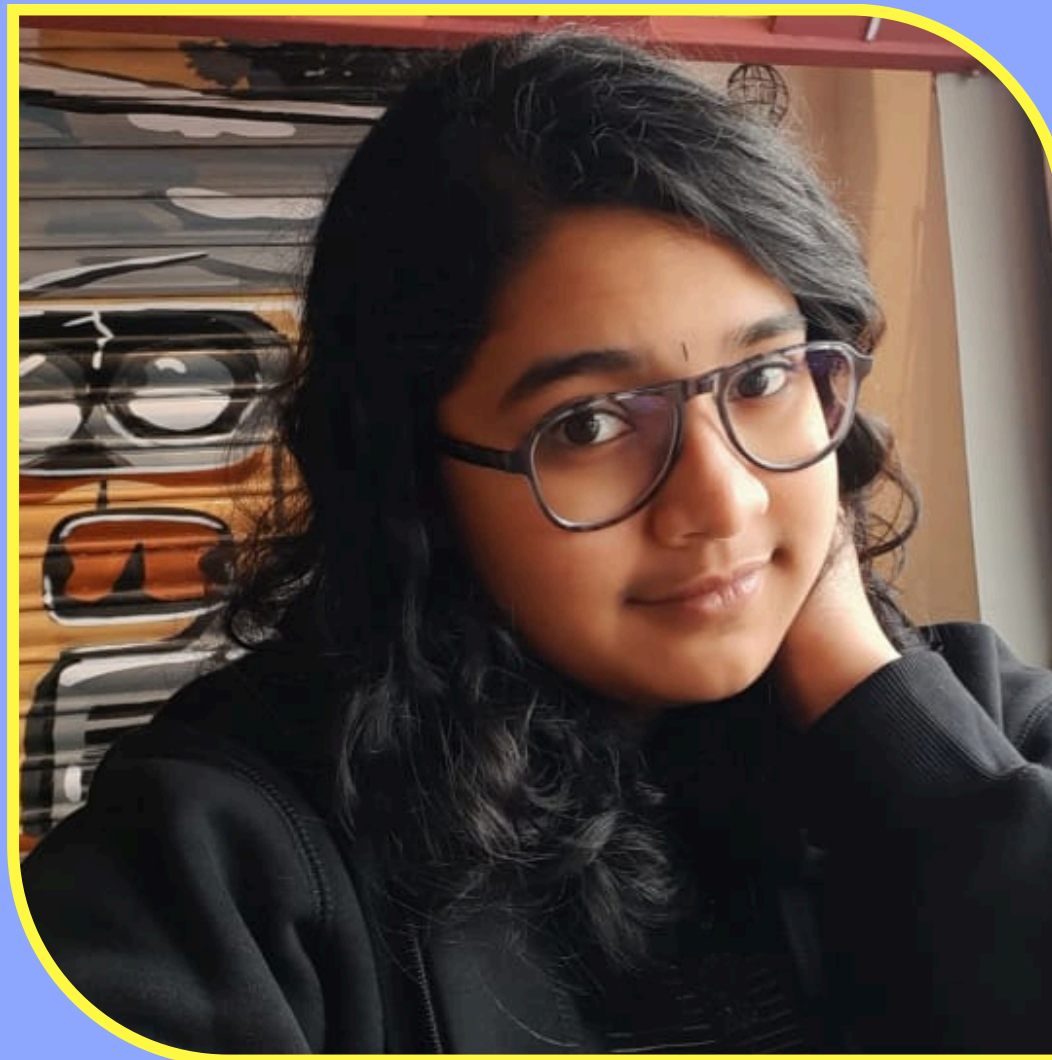
*Simran Kalra*  
HEAD EDITOR



*Harsh Jain*  
MANAGER



*Deepansha*  
EDITOR



*Meera Suresh*  
HEAD CONTENT WRITER



*Ipshita Garg*  
WRITER



*Dr. Sumit Kaur Bhatia*  
FACULTY EDITOR



*Dr. Tejendra Gupta*  
FACULTY EDITOR



*Dr. Deepak Tripathi*  
FACULTY EDITOR

# **ACKNOWLEDGEMENT...**

The second edition of AMISCIENCE will take you on a journey through the enchanting world of science and its connections to areas such as chemistry, physics, mathematics, and statistics, as well as their subfields. As you read, you'll be charmed by the magazine's recreational components. Not only that, but fond memories of our institute in these previous years will undoubtedly be rekindled.

We would like to extend our heartfelt gratitude to our Founder President, Dr. Ashok K. Chauhan, Chancellor, Dr. Atul Chauhan, Vice-Chancellor, Prof. (Dr.) Balvinder Shukla, Head of Institution Prof. (Dr.) Sunita Rattan (Director, AIAS). We would also like to thank, Prof. (Dr.) Christine Jeyaseelan (Head of Department, Chemistry), Dr. Ashok Kumar (Head of Department, Physics), Prof. (Dr.) Mandeep Mittal (Head of Department, Mathematics), Prof. (Dr.) Dheeraj Pawar (Head of Department, Statistics), for providing us the support and guidance in successful launching of the magazine.

We would like to acknowledge and thank Prof. (Dr.) Seema Garg (Head Student Affairs, AIAS), Prof. (Dr.) Sangeeta Tiwari (Head of Academics) and Prof. (Dr.) R.S. Pandey (Head of Research Coordination and Lab Development) for contributing a generous amount of time and efforts in making of the magazine. We would also like to thank Ms. Sreedevi, Ms. Beena Nair, Ms. Kavita Sharma, Ms. Priyanka, Ms. Nupur, Ms. Kanika Kumar, Mr. Varun and Mr. Ankur Sharma for providing us with all the required details of the institute. We would also like to thank Sanyam Tyagi for his contribution in the magazine. Your support has helped us to produce visually appealing layouts that captivate our readers.

On the behalf of entire AMISCIENCE team, we'd like to express our heartfelt gratitude to all the staff members and students for their outstanding and inspirational articles for this issue. Your work exemplifies the spirit of creativity and academic excellence that we strive to promote through this magazine.

We'd like to express our heartfelt gratitude to everyone of the staff and students who have participated by authoring fantastic and inspirational articles.

**EDITORIAL TEAM  
(AMISCIENCE, VOL-II)**



Amity University was founded in 2005 by an act of the state legislature of Uttar Pradesh. Amity University Uttar Pradesh, Noida has obtained The Leed Platinum Green Building Certification 2018. ISO 9001:2008, ISO 27001:2005, ISO 14001:2004, ISO 22000:2005 and ISO 50001:2011 Certificate from British Standards Institution (BSI), WASC accreditation.

**Every student at Amity is a success story.**

**– Dr. Ashok K Chauhan**

It has been approved by the University Grants Commission (UGC) under Section 22 of the UGC Act of 1956 and has been certified as "A+" grade by NAAC. It is a member of the Association of Commonwealth University. The campus covers 85 acres of hi tech. Technology is evolving at an alarming rate, and our classrooms are designed to keep up. The campus has environmental awareness and sustainability / alternative energy initiatives such as solar power plants and rainwater harvesting technologies. The campus is for the physically challenged and has physical facilities such as elevators and ramps / rails. The Amity Institute of Applied Science was founded with the support of Amity University

Uttar Pradesh with the vision of becoming an outstanding research center for physics and chemical sciences. Since its inception, the Institute has continued to fulfill the dreams of our prestigious founder, Dr. Ashok K. Chauhan says that all Amity students will be a success story. The excellent facilities of the Institute and the passionate support of AIAS faculty and mentors provide the foundation for the founder president's philosophy. The philosophy behind the institution is to promote in-depth undergraduate and graduate education and conduct research in emerging areas of applied science that are beneficial to the country and the world.

# Research & Innovation

AIAS integrates education and learning into cutting-edge research, promoting both curiosity and creativity in an intellectually vibrant research environment. Faculty members are committed to conducting high quality, practical and valuable research. Our research is underpinned by a powerful set of values that gives it purpose and direction. We focus on improving education and learning by providing information based on the principles of inclusion and social justice. The research is facilitated by faculty members who have been very successful in publishing books, articles and essays on topical issues in national and international journals. We are collaborating with the Government of India Institute (GOI) and many faculties are conducting joint projects funded by GOI. Seminars and workshops are held on a regular basis which prioritize new interdisciplinary topics. We can proudly say that AIAS has about 1500+ publications (including research reports, conference reports, and book chapters) in the last five years.

These statistics include about 600+ Research papers in journals *i.e.*, 226 publications in physics, 149 publications in chemistry, 230 publications in mathematics, and more than 20 publications in statistics.

Our faculty members are currently involved in 19 research projects worth 2 Crores and the following 49 patents filed, out of which 12 have been granted.



विज्ञान एवं प्रौद्योगिकी मंत्रालय  
MINISTRY OF SCIENCE AND TECHNOLOGY

सत्यमेव जयते



# PATENTS...


**INTELLECTUAL PROPERTY INDIA**  
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**GOVERNMENT OF INDIA**  
**पेटेंट कार्यालय**  
**THE PATENT OFFICE**  
**पेटेंट प्रमाणपत्र**  
**PATENT CERTIFICATE**  
(Form 74 of The Patents Act, 1970)

क्रमांक : 011111048  
 SL No :



पेटेंट नं. / Patent No. : 307914  
 आवेदन नं. / Application No. : 1033DEL0009  
 दाखल दिनांक / Date of Filing : 22/05/2009  
 पेटेंट / Patentee : AMITY UNIVERSITY

यहाँ पर पेटेंट प्रमाणपत्र प्रदान किया गया है कि आवेदनकर्ता को अतिरिक्त A PROCESS FOR THE SYNTHESIS OF SEMICONDUCTING METAL OXIDE NANOPARTICLES OF CONTROLLED SIZE DISTRIBUTION नामक आवेदन के लिए, पेटेंट प्रदान किया गया है जो 22nd day of May 2009 से 20 वर्षों के लिए प्रवृत्त किया गया है।  
 It is hereby certified that a patent has been granted to the patentee for an invention entitled A PROCESS FOR THE SYNTHESIS OF SEMICONDUCTING METAL OXIDE NANOPARTICLES OF CONTROLLED SIZE DISTRIBUTION as disclosed in the above mentioned application for the term of 20 years from the 22nd day of May 2009 in accordance with the provisions of the Patents Act, 1970.

**INTELLECTUAL PROPERTY INDIA**  
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 GEOGRAPHICAL INDICATION

  
 दिनांक : 11/05/2019  
 Controller of Patents

ध्यान दें - इस पेटेंट प्रमाणपत्र के लिए, यह प्रमाणित किया गया है कि आवेदनकर्ता को अतिरिक्त A PROCESS FOR THE SYNTHESIS OF SEMICONDUCTING METAL OXIDE NANOPARTICLES OF CONTROLLED SIZE DISTRIBUTION नामक आवेदन के लिए, पेटेंट प्रदान किया गया है जो 22nd day of May 2009 से 20 वर्षों के लिए प्रवृत्त किया गया है।  
 Note - The fee for renewal of this patent, if it is to be maintained will fall / has fallen due on 22nd day of May 2011 and on the same day in every year thereafter.


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**GOVERNMENT OF INDIA**  
**पेटेंट कार्यालय**  
**THE PATENT OFFICE**  
**पेटेंट प्रमाणपत्र**  
**PATENT CERTIFICATE**  
(Form 74 of The Patents Act, 1970)

क्रमांक : 011111583  
 SL No :




पेटेंट नं. / Patent No. : 308608  
 आवेदन नं. / Application No. : 900DEL0009  
 दाखल दिनांक / Date of Filing : 01/05/2009  
 पेटेंट / Patentee : AMITY UNIVERSITY


यहाँ पर पेटेंट प्रमाणपत्र प्रदान किया गया है कि आवेदनकर्ता को अतिरिक्त "METHOD FOR PREPARATION OF CATALYST, ITS ACTIVITY AND METHOD FOR TREATMENT OF TEXTYLE WASTEWATER" नामक आवेदन के लिए, पेटेंट प्रदान किया गया है जो 1st day of May 2009 से 20 वर्षों के लिए प्रवृत्त किया गया है।  
 It is hereby certified that a patent has been granted to the patentee for an invention entitled "METHOD FOR PREPARATION OF CATALYST, ITS ACTIVITY AND METHOD FOR TREATMENT OF TEXTYLE WASTEWATER" as disclosed in the above mentioned application for the term of 20 years from the 1st day of May 2009 in accordance with the provisions of the Patents Act, 1970.

**INTELLECTUAL PROPERTY INDIA**  
 DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

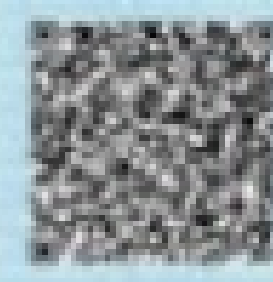
  
 दिनांक : 11/05/2019  
 Controller of Patents

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 Note - The fee for renewal of this patent, if it is to be maintained will fall / has fallen due on 1st day of May 2011 and on the same day in every year thereafter.


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**भारत सरकार**  
**GOVERNMENT OF INDIA**  
**पेटेंट कार्यालय**  
**THE PATENT OFFICE**  
**पेटेंट प्रमाणपत्र**  
**PATENT CERTIFICATE**  
(Form 74 of The Patents Act, 1970)


क्रमांक : 011111583  
 SL No :



पेटेंट नं. / Patent No. : 308608  
 आवेदन नं. / Application No. : 900DEL0009  
 दाखल दिनांक / Date of Filing : 01/05/2009  
 पेटेंट / Patentee : AMITY UNIVERSITY

यहाँ पर पेटेंट प्रमाणपत्र प्रदान किया गया है कि आवेदनकर्ता को अतिरिक्त "METHOD FOR PREPARATION OF CATALYST, ITS ACTIVITY AND METHOD FOR TREATMENT OF TEXTYLE WASTEWATER" नामक आवेदन के लिए, पेटेंट प्रदान किया गया है जो 1st day of May 2009 से 20 वर्षों के लिए प्रवृत्त किया गया है।  
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 दिनांक : 11/05/2019  
 Controller of Patents

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 Note - The fee for renewal of this patent, if it is to be maintained will fall / has fallen due on 1st day of May 2011 and on the same day in every year thereafter.


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**पेटेंट कार्यालय**  
**THE PATENT OFFICE**  
**पेटेंट प्रमाणपत्र**  
**PATENT CERTIFICATE**  
(Form 74 of The Patents Act, 1970)

क्रमांक : 011127000  
 SL No :



पेटेंट नं. / Patent No. : 348093  
 आवेदन नं. / Application No. : 496DEL0009  
 दाखल दिनांक / Date of Filing : 16/03/2009  
 पेटेंट / Patentee : AMITY UNIVERSITY

यहाँ पर पेटेंट प्रमाणपत्र प्रदान किया गया है कि आवेदनकर्ता को अतिरिक्त "DEVELOPMENT OF HUMIDITY SENSOR USING CROSS LINKING POLYMERS WITH ELECTROLYTES." नामक आवेदन के लिए, पेटेंट प्रदान किया गया है जो 16th day of March 2009 से 20 वर्षों के लिए प्रवृत्त किया गया है।  
 It is hereby certified that a patent has been granted to the patentee for an invention entitled "DEVELOPMENT OF HUMIDITY SENSOR USING CROSS LINKING POLYMERS WITH ELECTROLYTES." as disclosed in the above mentioned application for the term of 20 years from the 16th day of March 2009 in accordance with the provisions of the Patents Act, 1970.

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 दिनांक : 20/03/2009  
 Controller of Patents

ध्यान दें - इस पेटेंट प्रमाणपत्र के लिए, यह प्रमाणित किया गया है कि आवेदनकर्ता को अतिरिक्त "DEVELOPMENT OF HUMIDITY SENSOR USING CROSS LINKING POLYMERS WITH ELECTROLYTES." नामक आवेदन के लिए, पेटेंट प्रदान किया गया है जो 16th day of March 2009 से 20 वर्षों के लिए प्रवृत्त किया गया है।  
 Note - The fee for renewal of this patent, if it is to be maintained will fall / has fallen due on 16th day of March 2011 and on the same day in every year thereafter.

# PATENTS...

**INTELLECTUAL PROPERTY INDIA**  
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**GOVERNMENT OF INDIA**  
 THE PATENT OFFICE  
 PATENT CERTIFICATE  
(Rule 14 of The Patents Rules)

आइ.पी.ए. / Patent No. : 334082  
 आवेदन सं. / Application No. : 1030/DEL/2012  
 दाखल की तिथि / Date of Filing : 03/04/2012  
 आवेदक / Patentee : ARMY UNIVERSITY

इस प्रकार घोषित किया जाता है कि आवेदक को निम्नलिखित **GRAPHENE BASED CHEMICAL SENSOR FOR THE DETECTION OF TOXIC HEAVY METAL COMPLEXES IN DRINKING WATER** का पेटेंट प्रदान किया गया है, जो आवेदन सं. 1030/DEL/2012 दिनांक 03/04/2012 के अंतर्गत दाखल किया गया था।  
 It is hereby certified that a patent has been granted to the patentee for an invention entitled **GRAPHENE BASED CHEMICAL SENSOR FOR THE DETECTION OF TOXIC HEAVY METAL COMPLEXES IN DRINKING WATER** as disclosed in the above mentioned application for the term of 20 years from the 3rd day of April 2012 in accordance with the provisions of the Patents Act, 1970.

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आइ.पी.ए. / Patent No. : 334082  
 दिनांक / Date of Grant : 03/04/2012  
 आइ.पी.ओ. / Controller of Patents

नोट - इस पेटेंट का शुल्क, जो कि 03/04/2012 के दिन प्रदाय किया गया था, 03/04/2012 के दिन प्रदाय किया गया था।  
 Note - The fee for renewal of this patent, if it is to be maintained will fall due later than on 03/04/2012 and on the same day in every year thereafter.

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(Rule 14 of The Patents Rules)

आइ.पी.ए. / Patent No. : 337957  
 आवेदन सं. / Application No. : 749/DEL/2009  
 दाखल की तिथि / Date of Filing : 15/04/2009  
 आवेदक / Patentee : ARMY UNIVERSITY

इस प्रकार घोषित किया जाता है कि आवेदक को निम्नलिखित **"PROLONGED RELEASE MOSQUITO REPELLENT FORMULATIONS"** का पेटेंट प्रदान किया गया है, जो आवेदन सं. 749/DEL/2009 दिनांक 15/04/2009 के अंतर्गत दाखल किया गया था।  
 It is hereby certified that a patent has been granted to the patentee for an invention entitled **"PROLONGED RELEASE MOSQUITO REPELLENT FORMULATIONS"** as disclosed in the above mentioned application for the term of 20 years from the 15th day of April 2009 in accordance with the provisions of the Patents Act, 1970.

**INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

आइ.पी.ए. / Patent No. : 337957  
 दिनांक / Date of Grant : 15/04/2009  
 आइ.पी.ओ. / Controller of Patents

नोट - इस पेटेंट का शुल्क, जो कि 15/04/2009 के दिन प्रदाय किया गया था, 15/04/2009 के दिन प्रदाय किया गया था।  
 Note - The fee for renewal of this patent, if it is to be maintained will fall due later than on 15th day of April 2011 and on the same day in every year thereafter.

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**GOVERNMENT OF INDIA**  
 THE PATENT OFFICE  
 PATENT CERTIFICATE  
(Rule 14 of The Patents Rules)

आइ.पी.ए. / Patent No. : 304833  
 आवेदन सं. / Application No. : 821/DEL/2009  
 दाखल की तिथि / Date of Filing : 04/05/2009  
 आवेदक / Patentee : Army University

इस प्रकार घोषित किया जाता है कि आवेदक को निम्नलिखित **"A HIGHLY FUNCTIONAL SEMICONDUCTOR INTEGRATED CIRCUIT DEVICE"** का पेटेंट प्रदान किया गया है, जो आवेदन सं. 821/DEL/2009 दिनांक 04/05/2009 के अंतर्गत दाखल किया गया था।  
 It is hereby certified that a patent has been granted to the patentee for an invention entitled **"A HIGHLY FUNCTIONAL SEMICONDUCTOR INTEGRATED CIRCUIT DEVICE"** as disclosed in the above mentioned application for the term of 20 years from the 5th day of May 2009 in accordance with the provisions of the Patents Act, 1970.

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आइ.पी.ए. / Patent No. : 304833  
 दिनांक / Date of Grant : 04/05/2009  
 आइ.पी.ओ. / Controller of Patents

नोट - इस पेटेंट का शुल्क, जो कि 04/05/2009 के दिन प्रदाय किया गया था, 04/05/2009 के दिन प्रदाय किया गया था।  
 Note - The fee for renewal of this patent, if it is to be maintained will fall due later than on 04/05/2011 and on the same day in every year thereafter.

**INTELLECTUAL PROPERTY INDIA**  
INTELLECTUAL PROPERTY RIGHTS  
भारत सरकार  
**GOVERNMENT OF INDIA**  
 THE PATENT OFFICE  
 PATENT CERTIFICATE  
(Rule 14 of The Patents Rules)

आइ.पी.ए. / Patent No. : 304833  
 आवेदन सं. / Application No. : 821/DEL/2009  
 दाखल की तिथि / Date of Filing : 04/05/2009  
 आवेदक / Patentee : Army University

इस प्रकार घोषित किया जाता है कि आवेदक को निम्नलिखित **"A HIGHLY FUNCTIONAL SEMICONDUCTOR INTEGRATED CIRCUIT DEVICE"** का पेटेंट प्रदान किया गया है, जो आवेदन सं. 821/DEL/2009 दिनांक 04/05/2009 के अंतर्गत दाखल किया गया था।  
 It is hereby certified that a patent has been granted to the patentee for an invention entitled **"A HIGHLY FUNCTIONAL SEMICONDUCTOR INTEGRATED CIRCUIT DEVICE"** as disclosed in the above mentioned application for the term of 20 years from the 5th day of May 2009 in accordance with the provisions of the Patents Act, 1970.

**INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

आइ.पी.ए. / Patent No. : 304833  
 दिनांक / Date of Grant : 04/05/2009  
 आइ.पी.ओ. / Controller of Patents

नोट - इस पेटेंट का शुल्क, जो कि 04/05/2009 के दिन प्रदाय किया गया था, 04/05/2009 के दिन प्रदाय किया गया था।  
 Note - The fee for renewal of this patent, if it is to be maintained will fall due later than on 04/05/2011 and on the same day in every year thereafter.

# PATENTS...


**PATENT CERTIFICATE**  
(Rule 74 of The Patents Rules)

पेटेंट नं. / Patent No. : 322875  
 आवेदन नं. / Application No. : 806/DEL/2012  
 पट्टन करने की तारीख / Date of Filing : 20/03/2012  
 पेटेण्टी / Patentee : AMITY UNIVERSITY

प्रमाणित किया जाता है कि पेटेण्टी को उपरोक्त आवेदन में बयानबद्ध "DEVELOPMENT OF NOVEL NANOCOMPOSITES AS CHEMICAL SENSORS USING FUNCTIONALIZED GRAPHITE NANOPARTICLES AND GRAFTED POLYMERS THROUGH CHEMICAL LIGATION" नामक आवेदनार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख 20th day of March 2012 से बीस वर्ष की अवधि के लिए पेटेंट अनुदान किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled "DEVELOPMENT OF NOVEL NANOCOMPOSITES AS CHEMICAL SENSORS USING FUNCTIONALIZED GRAPHITE NANOPARTICLES AND GRAFTED POLYMERS THROUGH CHEMICAL LIGATION" as disclosed in the above mentioned application for the term of 20 years from the 20th day of March 2012 in accordance with the provisions of the Patents Act,1970.

**INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

 *OKSankla*  
 Mr. Pooja  
 Controller of Patent

अवकाश की तारीख : 15/10/2019  
 Date of Grant :

ध्यान दें - इस पेटेंट की रक्षणा के लिए शुल्क, जो इसे बनाए रखने के लिए, 20th day of March 2014 और उसके समान दिनों पर लेना होगा।  
 Note - The fees for renewal of this patent, if it is to be maintained will fall / has taken due on 20th day of March 2014 and on the same day in every year thereafter.


**PATENT CERTIFICATE**  
(Rule 74 of The Patents Rules)

पेटेंट नं. / Patent No. : 322875  
 आवेदन नं. / Application No. : 806/DEL/2012  
 पट्टन करने की तारीख / Date of Filing : 20/03/2012  
 पेटेण्टी / Patentee : AMITY UNIVERSITY

प्रमाणित किया जाता है कि पेटेण्टी को उपरोक्त आवेदन में बयानबद्ध "DEVELOPMENT OF NOVEL NANOCOMPOSITES AS CHEMICAL SENSORS USING FUNCTIONALIZED GRAPHITE NANOPARTICLES AND GRAFTED POLYMERS THROUGH CHEMICAL LIGATION" नामक आवेदनार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख 20th day of March 2012 से बीस वर्ष की अवधि के लिए पेटेंट अनुदान किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled "DEVELOPMENT OF NOVEL NANOCOMPOSITES AS CHEMICAL SENSORS USING FUNCTIONALIZED GRAPHITE NANOPARTICLES AND GRAFTED POLYMERS THROUGH CHEMICAL LIGATION" as disclosed in the above mentioned application for the term of 20 years from the 20th day of March 2012 in accordance with the provisions of the Patents Act,1970.

**INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

 *OKSankla*  
 Mr. Pooja  
 Controller of Patent

अवकाश की तारीख : 15/10/2019  
 Date of Grant :

ध्यान दें - इस पेटेंट की रक्षणा के लिए शुल्क, जो इसे बनाए रखने के लिए, 20th day of March 2014 और उसके समान दिनों पर लेना होगा।  
 Note - The fees for renewal of this patent, if it is to be maintained will fall / has taken due on 20th day of March 2014 and on the same day in every year thereafter.

 **INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

  
 भारत सरकार  
 GOVERNMENT OF INDIA  
 पेटेंट कार्यालय  
 THE PATENT OFFICE  
 पेटेंट प्रमाणपत्र  
 PATENT CERTIFICATE  
 (Rule 74 of The Patents Rules)

अवकाश : 011118417  
 SL No :



पेटेंट नं. / Patent No. : 325568  
 आवेदन नं. / Application No. : 2475DEL/2013  
 पट्टन करने की तारीख / Date of Filing : 22/08/2013  
 पेटेण्टी / Patentee : AMITY UNIVERSITY

प्रमाणित किया जाता है कि पेटेण्टी को उपरोक्त आवेदन में बयानबद्ध A NOVEL FLY ASH BASED ZEOLITIC EXTENDER PIGMENT FOR USE AS ANTI-CORROSIVE ADDITIVE IN PAINTS नामक आवेदनार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख 22nd day of August 2013 से बीस वर्ष की अवधि के लिए पेटेंट अनुदान किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled A NOVEL FLY ASH BASED ZEOLITIC EXTENDER PIGMENT FOR USE AS ANTI-CORROSIVE ADDITIVE IN PAINTS as disclosed in the above mentioned application for the term of 20 years from the 22nd day of August 2013 in accordance with the provisions of the Patents Act,1970.

**INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

 *OKSankla*  
 Mr. Pooja  
 Controller of Patent

अवकाश की तारीख : 22/11/2019  
 Date of Grant :

ध्यान दें - इस पेटेंट की रक्षणा के लिए शुल्क, जो इसे बनाए रखने के लिए, 22nd day of August 2014 और उसके समान दिनों पर लेना होगा।  
 Note - The fees for renewal of this patent, if it is to be maintained will fall / has taken due on 22nd day of August 2014 and on the same day in every year thereafter.

 **INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

  
 भारत सरकार  
 GOVERNMENT OF INDIA  
 पेटेंट कार्यालय  
 THE PATENT OFFICE  
 पेटेंट प्रमाणपत्र  
 PATENT CERTIFICATE  
 (Rule 74 of The Patents Rules)

अवकाश : 011132313  
 SL No :



पेटेंट नं. / Patent No. : 361509  
 आवेदन नं. / Application No. : 2236DEL/2012  
 पट्टन करने की तारीख / Date of Filing : 19/07/2012  
 पेटेण्टी / Patentee : AMITY UNIVERSITY

प्रमाणित किया जाता है कि पेटेण्टी को उपरोक्त आवेदन में बयानबद्ध "MODIFICATION OF NANOCOMPOSITES OF POLY (3,4-ETHYLENEDIOXYTHIOPHENE)/POLY (4-STYRENE SULPHONATE) (PEDOT:PSS) / NANO GRAPHITE THROUGH ION IMPLANTATION TECHNIQUE" नामक आवेदनार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख 19th day of July 2012 से बीस वर्ष की अवधि के लिए पेटेंट अनुदान किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled "MODIFICATION OF NANOCOMPOSITES OF POLY (3,4-ETHYLENEDIOXYTHIOPHENE)/POLY (4-STYRENE SULPHONATE) (PEDOT:PSS) / NANO GRAPHITE THROUGH ION IMPLANTATION TECHNIQUE" as disclosed in the above mentioned application for the term of 20 years from the 19th day of July 2012 in accordance with the provisions of the Patents Act,1970.

**INTELLECTUAL PROPERTY INDIA**  
 PATENTS | DESIGNS | TRADE MARKS  
 GEOGRAPHICAL INDICATION

 *OKSankla*  
 Mr. Pooja  
 Controller of Patent

अवकाश की तारीख : 17/03/2021  
 Date of Grant :

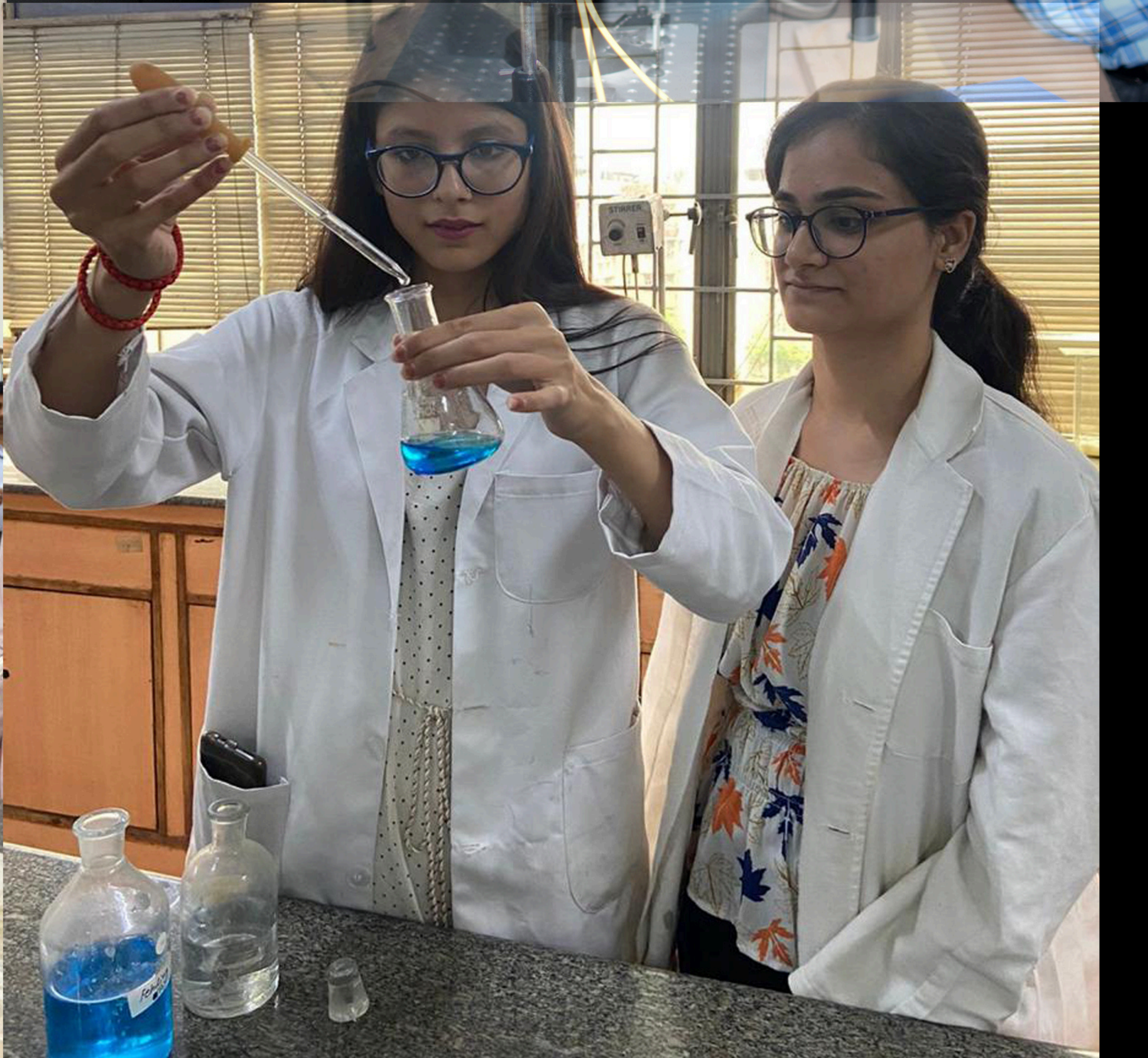
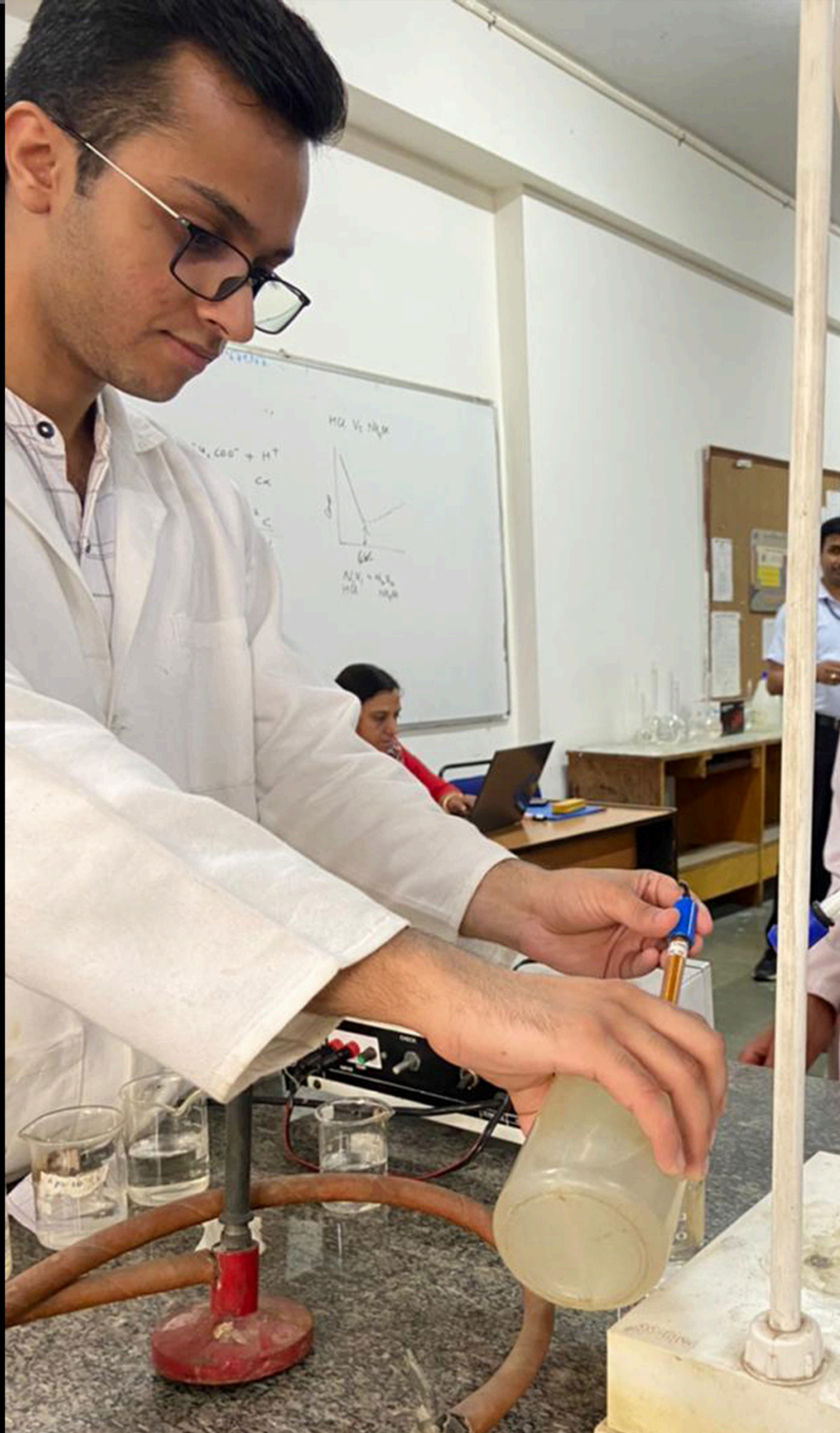
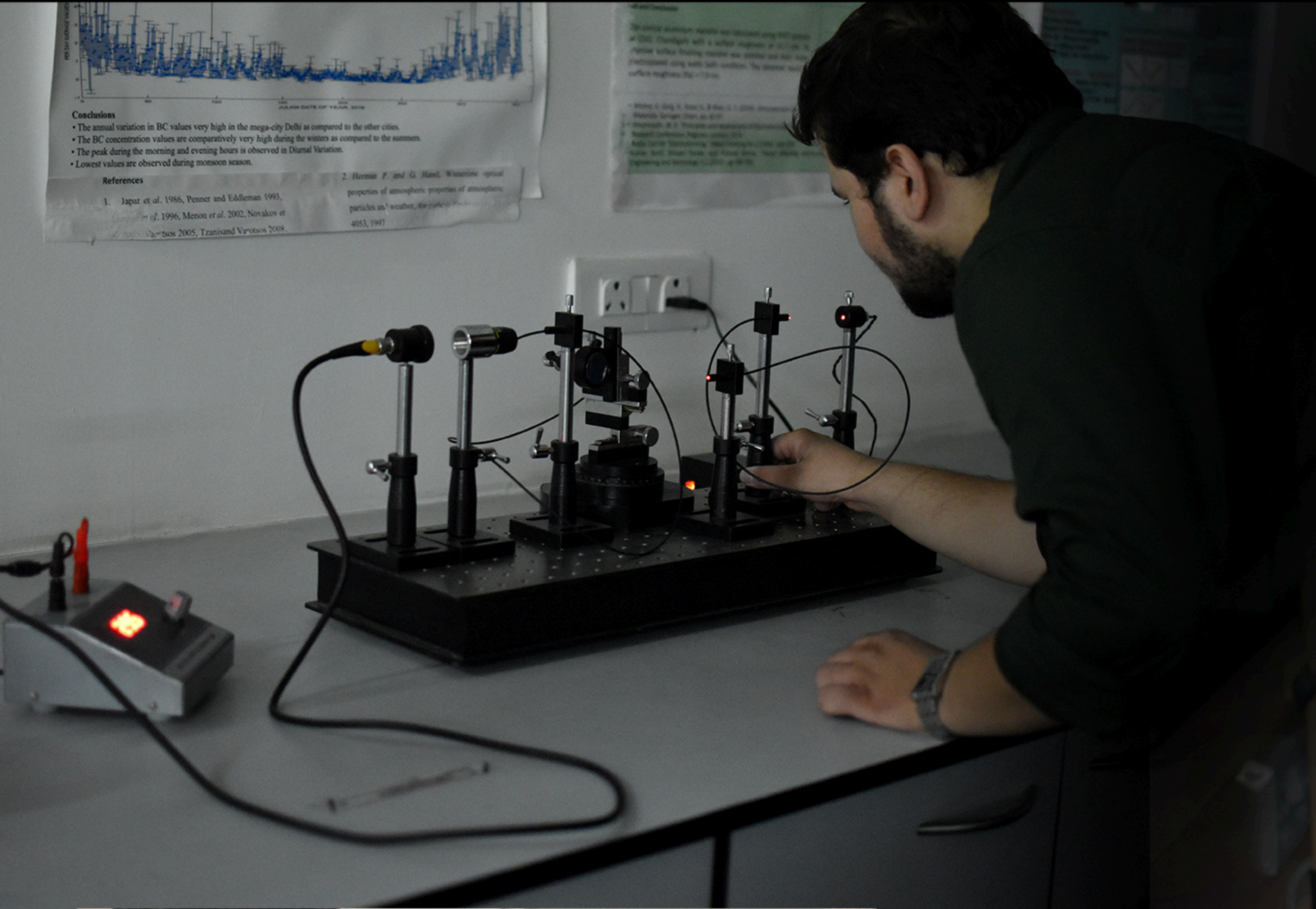
ध्यान दें - इस पेटेंट की रक्षणा के लिए शुल्क, जो इसे बनाए रखने के लिए, 19th day of July 2014 और उसके समान दिनों पर लेना होगा।  
 Note - The fees for renewal of this patent, if it is to be maintained will fall / has taken due on 19th day of July 2014 and on the same day in every year thereafter.

# LABORATORIES

## at AIAS

Performing experiments and testing out theoretical models is a crucial part of the scientific method and the labs at AIAS provide the students at AIAS the resources to discover the excitement of experimental science





# ACTIVITIES at AIAS



# Alumni Around the World



UNIVERSITÀ  
DEGLI STUDI  
DI BRESCIA



European Commission  
**ERASMUS  
MUNDUS**



UNIVERSITY OF  
**HOUSTON**



ÉCOLE POLYTECHNIQUE  
FÉDÉRALE DE LAUSANNE



University  
of Glasgow



**MACQUARIE**  
University  
SYDNEY · AUSTRALIA



université  
PARIS-SACLAY



**KING'S**  
College  
LONDON



**UCD**  
DUBLIN  
University College Dublin  
Ireland's Global University



**UH**  
Universität Hamburg  
DER FORSCHUNG | DER LEHRE | DER BILDUNG



**SZTE**  
UNIVERSITY OF SZEGED



# Alumni Around the World



**Monika (M.Sc. (AC))**  
*Brescia University, Italy*



**Aman (M.Sc. (AC))**  
*Pusan National University,  
South Korea*



**Nikita Shara (M.Sc. (AC))**  
*University of Szeged, Hungary*



**Ayushi Arora (M.Sc. (AC))**  
*The University of Edinburgh*



**Bhoomika (M.Sc. (AC))**  
*Rutgers University, USA*



**Dr Ashutosh Shandiliya**  
*Georgia State University*



**Shilpa Ramesh (M.Sc. (AC))**  
*Maastricht University, Netherlands*



**Deepa Choudhary (M.Sc. (AC))**  
*University of Nebraska*



**Dr Pradeep Sambyal**  
*Korea Institute of Science and  
Technology*



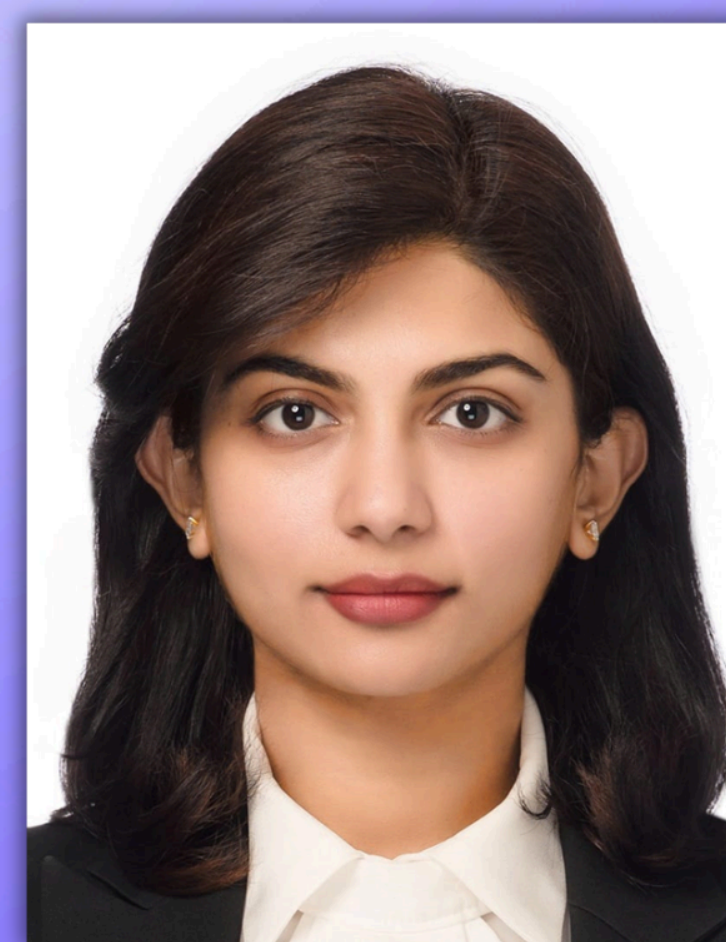
**Dr Sonal**  
*Chemical Engineering, IIT Delhi*



**Ms. Ipsita Garg (M. Stat.)**  
*University of Houston*



**Shivangi (M.Sc)**  
*Kaohsiung Medical University, Taiwan*



**Barkha Tyagi (M.Sc. (AP))**  
*University of Oxford, United Kingdom*



**Deeya**  
*Virginia Tech, United States*



**Priyanka (M.Sc. (AC))**  
*Deakin University, Australia*



**Arshi (M.Sc. (AC))**  
*Deakin University, Australia*



**Prakhar Mathur (B.Sc. (H)  
Chemistry)**  
*The University of Sheffield, United Kingdom*



**Avi Jakhmola (B.Sc.(H) Physics)**  
*Chalmers University of Technology, Sweden*

# Alumni Around the World



THE STUDENTS SELECTED IN UNIVERSITY  
OF SZEGED, HUNGARY FOR THEIR  
INTERNSHIPS



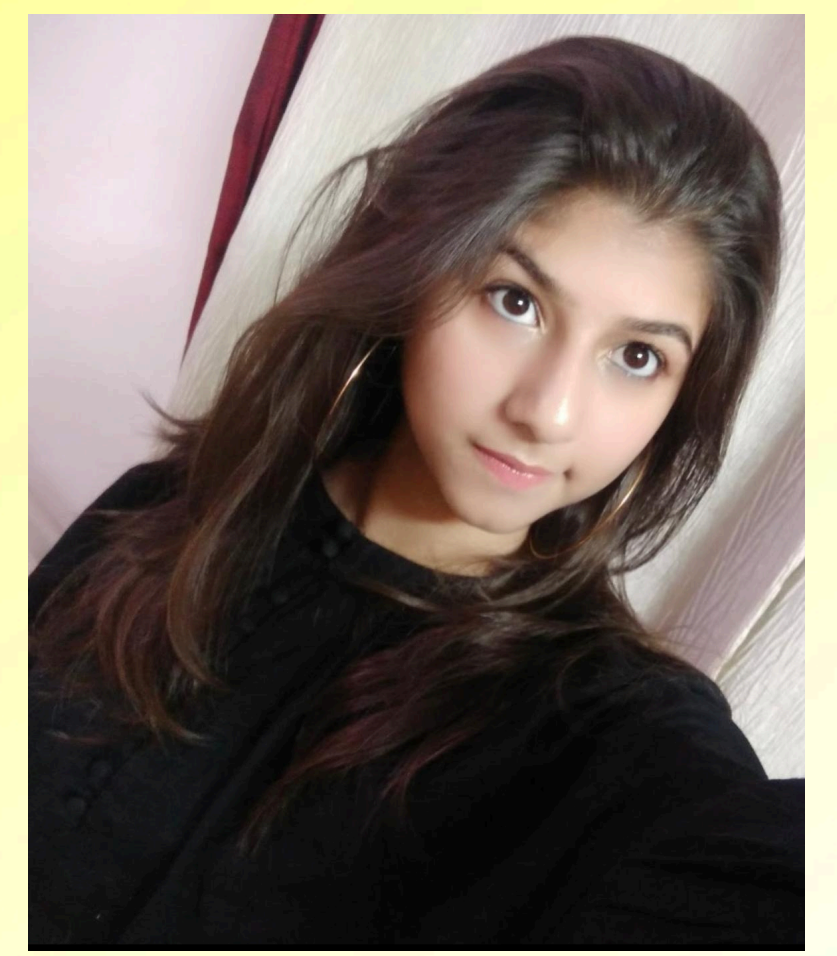
**Shivangi Bhatia (B.Sc.  
(H) Physics)**  
*Madhya Pradesh Flying Club Ltd,  
Indore, MP*



**Utkarsh Bhatnagar  
(B.Sc. (H) Physics)**  
*University of Hamburg*



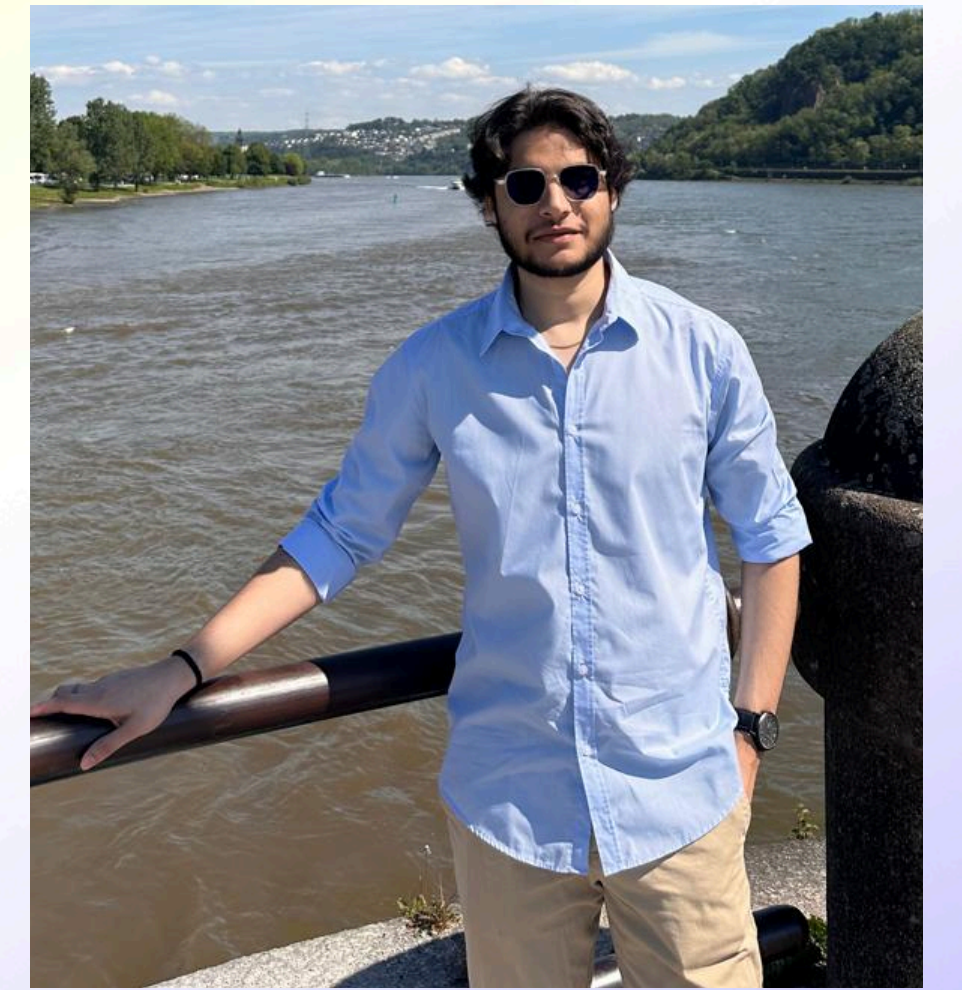
**Viveka Gautam (M.Sc.(AP))**  
*Institute for High Energy Physics, Spain*



**Sara Chopra (B.Sc. (H)  
Physics)**  
*University of Hamburg*



**Dr. Tulika Sharma (M.Sc. (AP))**  
*Jülich Centre for Neutron Science  
(JCNS), Forschungszentrum Jülich,  
Germany*



**Alpish Srivastav (B.Sc. (H)  
Physics)**  
*University of Bonn, Germany*

**Ms. Khushi Vats (Kings College London)**  
**Mr. Sachchidanand Soham (University of Pittsburg)**  
**Mr. Utkarsh Bhatnagar (University of Hamburg)**  
**Mr. Irith Rode (University of Glasgow)**  
**Ms. Aditi Bhatnagar (University of Berlin)**  
**Mr. Uday S (Kaoshiung Medical University)**  
**Mr. Bhupender Singh (Georgian Collage)**  
**Ms. Ipsita Garg (University of Houston)**  
**Ms. Prachi Garella (University of Houston)**  
**Mr. Mohit Yadav (University of Missouri Columbia)**  
**Ms. Tanya Garain (Middle Tennessee, State  
University)**  
**Ms. Deepika Thakur (University of West Bohemia,  
Pilsen)**  
**Ms. Sukhmani Arora (Macquarie University)**  
**Mr. V Naren Kumar (University of Alberta)**  
**Mr. Nishat Khan (University of szeged)**  
**Mr. Sobhagyam Sharma (Ulsan National Institute of  
Science & Technology)**  
**Ms. Perna Rana, University of Glasgow, UK**  
**Ms. Vartika Pandey, University of Graz, Austria**  
**Ms. Harpreet Kaur, University of Innsbruck, Austria**  
**Mr. Deepak Dagur, IFAE in University UAB, Spain**  
**Ms. Samiksha Bajaj, National Tsing Hua University,  
Taiwan**  
**Mr. Love Bansal, IIT Ropar**

# Achievers: Batch 2020

## Master of Science

### *Flavors and Citations*

#### **Best All-round student trophy**

**NIDHI KAUSHIK**

*M. Sc. (Applied Chemistry)*

#### **Shri Baljit Shastri Award**

**RIYA JAIN**

*M. Sc. (Applied Mathematics)*

**SHASHIKALA BHATT**

*M. Sc. (Applied Chemistry)*

#### **Best Organizing Abilities**

**ASHISH KUMAR MANDAL**

*M. Sc. (Applied Chemistry)*

#### **Best in Leadership Qualities**

**VARTIKA PANDEY**

*M. Sc. (Applied Physics)*

**MEENAKSHI**

*M. Stat.*

#### **Best in Interpersonal Skills and team spirit**

**SHASHANK KINRA**

*M. Sc. (Applied Physics)*

#### **Best in Technical Innovation**

**AAKRITI GARG**

*M. Sc. (Applied Physics)*

**ARUN BABU**

*M. Stat.*

#### **Excellent in knowledge creation**

**KRITIKA KOHLI**

*M. Sc. (Applied Mathematics)*

**NEHA MEHLAWAT**

*M. Sc. (Applied Chemistry)*

### *Awards and Certificated*

#### **For performance in sports activities**

**IDA MISHRA**

**VISHAL**

*M. Sc. (Applied Physics)*

**RIDDHI JANGID**

*M. Sc. (Applied Mathematics)*

**DEEPANK BHARDWAJ**

*M. Sc. (Applied Chemistry)*

**DIVYANSHU PAREEK**

*M. Stat*

#### **For organizing cultural activities**

**MEETIKA**

**SURBHI AGARWAL**

*M. Sc. (Applied Physics)*

**ZAINAB TASNEEM**

*M. Sc. (Applied Mathematics)*

**KAMESH DEWANGAN**

*M. Sc. (Applied Chemistry)*

#### **For representing institution and University in events**

**HARPREET KAUR**

*M. Sc. (Applied Physics)*

**MEHAK SHARMA**

**SOUMYA BISHT**

*M. Sc. (Applied Mathematics)*

**CHANDAN SAHU**

*M. Sc. (Applied Chemistry)*

### **Performance in placement and industry related activity**

**LOVE BANSAL**

**YASHIKA**

*M. Sc. (Applied Physics)*

**SONAM YADAV**

*M. Sc. (Applied Mathematics)*

**SAHIL DHIMAN**

*M. Sc. (Applied Chemistry)*

**ANUSHKA KHATTAR**

**KOUSTUBH SAXENA**

*M. Stat*

#### **For performance in club activities**

**ANUSHKA BHATT**

**SONAL REWRI**

*M. Sc. (Applied Physics)*

**AMRITA KUMAR**

**KAJAL MALHOTRA**

*M. Sc. (Applied Mathematics)*

**ONDRILA DEB**

*M. Sc. (Applied Chemistry)*

#### **Performance in Academic committee**

**MEETIKA**

**GARGI TYAGI**

*M. Sc. (Applied Physics)*

**KRITIKA KOHLI**

**KAJAL MALHOTRA**

*M. Sc. (Applied Mathematics)*

**NIHARIKA SHARMA**

*M. Sc. (Applied Chemistry)*

**ANUSHKA KHATTAR**

**KARUNA NIDHI CHHIBBER**

*M. Stat*

**SHIVANI SHARMA**

*M. Sc. Med Phy*

# Achievers: Batch 2020

## Bachelor of Science

### *Flowers and Citation*

#### **Best All-round student trophy**

**EKSHA GULIANI**

*B. Sc. (H) Chemistry*

#### **Shri Baljit Shastri Award**

**ADITYA SENGUPTA**

*B. Sc. (H) Physics*

**HIMADRI JOSHI**

*B. Sc. (H) Mathematics*

**RIYA JINDAL**

*B. Sc. (H) Chemistry*

**MS. SAKSHI AWASTHI**

*B. Stat.*

#### **Best in Leadership Qualities**

**DIVYANSHI NAGPAL**

*B. Sc. (H) Physics*

**ANIKET SHARMA**

*B. Sc. (H) Chemistry*

#### **Best organizing abilities**

**SAURABH SINGH BAJELI**

*B. Sc. (H) Physics*

**ABHINAV JADON**

*B. Sc. (H) Mathematics*

**DINESH RATHI**

*B. Sc. (H) Chemistry*

**MR. ARJUN SHARMA**

*B. Stat.*

#### **Best in personality enhancement**

**SURBHI CHANDRA**

*B. Sc. (H) Mathematics*

### *Awards and Certifications*

#### **For performance in sports activities**

**DEEPANKAR SHARMA**

**SHASHI MOHAN**

*B. Sc. (H) Physics*

**ANANDU A PILLAI**

**MANPREET SINGH**

*B. Sc. (H) Chemistry*

**BIKASH SUBBA**

**PRERNA BHANDARI**

*B. Stat.*

#### **For organizing cultural activities**

**KHWAISH NAGAR**

**SHIVANI KULASARI**

*B. Sc. (H) Physics*

**MUSKAN JAIN**

**VAISHNAVI CHOUDHARY**

*B. Sc. (H) Chemistry*

**SAKSHI AWASTHI**

*B. Stat.*

#### **For representing institution and University in events**

**MUSKAAN KANDOI**

**ABHINAV JADON**

*B. Sc. (H) Mathematics*

**DEEYA SOIN**

**ARNAB CHAKRABORTY**

*B. Sc. (H) Chemistry*

#### **For performance in club activities**

**SAURABH SINGH BAJELI**

**SPANDAN PATTNAIK**

*B. Sc. (H) Physics*

**KASTURI KHYATI**

*B. Sc. (H) Mathematics*

**EKSHA GULIANI**

*B. Sc. (H) Chemistry*

#### **Performance in placement and industry related activity**

**ADITYA SENGUPTA**

**DIVYANSHI NAGPAL**

*B. Sc. (H) Physics*

**VIJAY SINGH BOHRA**

*B. Sc. (H) Chemistry*

#### **Performance in Academic committee**

**ADITYA SENGUPTA**

**MILAN KUMAR**

*B. Sc. (H) Physics*

**MS SURBHI CHANDRA**

**KRITIKA SAINI**

*B. Sc. (H) Mathematics*

**ANUSHA CHAUDHARY**

**CHETNA CHOUDHARY**

*B. Sc. (H) Chemistry*

**MR. PEMA DENDUP**

**MS. PRERNA BHANDARI**

*B. Stat.*

# Achievers: Batch 2021

## Master of Science

### *Flavors and Citations*

#### **Best All-Round Trophy**

SACHCHIDANAND SOAHAM GUPTA

*M.Sc. (Applied Chemistry)*

#### **Shri Baljit Shastri Award**

AISHWARYA ARVIND

*M.Sc. (Applied Chemistry)*

MAHAK NISHAL

*M.Sc. (Applied Physics)*

AANCHAL MITTAL

*M.Sc. (Applied Mathematics)*

SAKSHAM GUPTA

*M. Stat*

#### **Best in Leadership Quality**

HARDEEP SINGH CHAWLA

*M.Sc. (Applied Chemistry)*

MAHAK NISHAL

*M.Sc. (Applied Physics)*

#### **Best in Organizing Abilities**

AISHWARYA ARVIND

*M.Sc. (Applied Chemistry)*

SHIVANGI PANT

*M. Stat*

#### **Excellence in Knowledge**

##### **Creation**

HIMANI

*M. Stat*

### *Awards and Certification*

#### **Academic performance**

PRIYA RAWAT

DAMYANTI YADAV

*M.Sc. (Applied Chemistry)*

MAHAK NISCHAL

RESHMA R NAIR

*M.Sc. (Applied Physics)*

AANCHAL MITTAL

RIDHI CHUTANI

*M.Sc. (Applied Mathematics)*

HIMANI

SAKSHI GUPTA

*M. Stat*

#### **Sports Activities**

HARDEEP SINGH CHAWLA

*M.Sc. (Applied Chemistry)*

ADITI SAXENA

*M.Sc. (Applied Physics)*

SHIVANGI PANT

*M. Stat*

#### **Club and Cultural activities**

SHIVANI CHAUDHARY

GUNJAN VARSHNEY

*M.Sc. (Applied Chemistry)*

SILCHI SHREYA KASHYAP

SOMSHUBHRO MUKERJEE

*M.Sc. (Applied Physics)*

SHALINI SOMAN

RESHMA R NAIR

*M.Sc. (Applied Physics)*

AASTHA CHAUDHARY

ANKITA BANSAL

*M.Sc. (Applied Mathematics)*

SAKSHAM GUPTA

DEEPTI MALIK

*M. Stat*

#### **Inter Institutional Competition**

KRIPA JOSEPH

SHIVAM BARTHWAL

*M.Sc. (Applied Chemistry)*

SURABHI SURESH NAIR

*M.Sc. (Applied Physics)*

CHAHAT SINGH TALAN

HARSHIT GREWAL

*M.Sc. (Applied Mathematics)*

#### **Placement Activities**

DEVESH

PRIYANSHI

*M.Sc. (Applied Chemistry)*

DHANANJAY KUMAR

ANUJ JAKHWAL

*M.Sc. (Applied Physics)*

KARUNA KHURANA

*M.Sc. (Applied Mathematics)*

HIMANSHI GOYAL

*M. Stat*

#### **Research & Innovation**

ANKITA THAKURIA

*M.Sc. (Applied Chemistry)*

YASHIKA BAHRI

TEBY TOM

*M.Sc. (Applied Mathematics)*

RIA SADHU

*M. Stat*

#### **Best Activity HVCO/SRCE**

##### **Certificate**

PRIYA KUMARI

SAHIL

*M.Sc. (Applied Chemistry)*

AASTHA CHAUDHARY

*M.Sc. (Applied Mathematics)*

# Achievers: Batch 2021

## Bachelor of Science

### *Flavors and Citations*

#### **Shri Baljit Shastri Award**

AASHI SRIVASTAVA

*B.Sc. (H) Physics*

PRATEEK RAI

*B.Sc. (H) Chemistry*

NISHCHAL AGARWAL

*B.Sc. (H) Mathematics*

MOHIT TOKAS

*B.Stat*

#### **Best Organizing Abilities**

PALLAVI PUNJ

JHANVI KUMAR

*B.Sc. (H) Physics*

TANYA GARAIN

*B.Sc. (H) Chemistry*

NIKITA TYAGI

*B.Sc. (H) Mathematics*

SHAGUN RASTOGI

*B.Stat*

#### **Best in Leadership Quality**

AASHI SRIVASTAVA

AHUJA PARTHSARTHI PANKAJ

SARVAGYA BHARDWAJ

*B.Sc. (H) Physics*

SATYAM GUPTA

*B.Sc. (H) Chemistry*

#### **Excellence in knowledge creation**

PRAVEEN SHAHANI

*B.Sc. (H) Mathematics*

### *Awards and Certifications*

#### **Sports Activities**

ASHUTOSH CHAUHAN

SNEHASIS SARKAR

*B.Sc. (H) Physics*

MANISH RANA

YASH RAWAT

*B.Sc. (H) Chemistry*

VAISHALI MAHAR

*B.Sc. (H) Mathematics*

SHAGUN RASTOGI

*B.Stat*

#### **Club and Cultural activities**

MANSI CHANDWANI

ADITYA BANERJEE

RAVI PRAKASH

*B.Sc. (H) Physics*

MANISH SHOKEEN

*B.Sc. (H) Chemistry*

PRIYAL BHARGAVA

*B.Sc. (H) Mathematics*

#### **Placement Committee**

KHUSHBOO SHARMA

ARPITA

*B.Sc. (H) Physics*

PRATEEK RAI

*B.Sc. (H) Chemistry*

PRAVEEN SHAHANI

AYUSHI ARORA

*B.Sc. (H) Mathematics*

### **Academic achievements**

AASHI SRIVASTAVA

PALLAVI PUNJ

*B.Sc. (H) Physics*

PRATEEK RAI

PRIYANSH JAIN

*B.Sc. (H) Chemistry*

JAISON THOMAS

TANMAY TRIPATHI

*B.Sc. (H) Mathematics*

MOHIT TOKAS

UJJAWAL WADHWA

*B.Stat*

#### **Inter-Institutional Competitions**

ISHITA BANSAL

PRIYANSH JAIN

*B.Sc. (H) Chemistry*

#### **Best Activity HVCO Certificate**

RASHIKA CHUGH

ROHIT SARKHEL

*B.Sc. (H) Chemistry*

JAISON THOMAS

TANMAY TRIPATHI

*B.Sc. (H) Mathematics*

#### **Research and innovation**

RASHI JAIN

*B.Sc. (H) Mathematics*

# Achievers: Batch 2022

## Master of Science

### *Flavors and Citations*

#### **Shri Baljit Shastri Award**

MR UDAY S

*M.Sc. (Applied Chemistry)*

MS. RITIKA GUPTA

*M.Sc. (Applied Physics)*

HARSHINI RAJESH

*M.Sc. (Applied Mathematics)*

MS EKSHA GULIANI

*M.Sc. Chemistry O+I+P*

#### **Best in Leadership Quality**

MS APEKSHA JAIN

*M.Sc. (Applied Chemistry)*

#### **Best in Organizing Abilities**

AISHWARYA ARVIND

*M.Sc. (Applied Chemistry)*

#### **Excellence in Knowledge Creation**

MS NISHA KUMARI

*M. Stat*

### *Awards and Certification*

#### **Academic performance**

MR UDAY S

*M.Sc. (Applied Chemistry)*

MR UMANG WALIA

*M. Stat*

MS MANPREET KAUR

*M.Sc. Chemistry O+I+P*

MS. PALLAVI KHANNA

MS. AAKANKSHA

*M.Sc. (Applied Mathematics)*

#### **Sports Activities**

MS EKSHA GULIANI

*M.Sc. Chemistry O+I+P*

#### **Club and Cultural activities**

MS MUSKAN JAIN

*M.Sc. Chemistry O+I+P*

MR. KUMAR ADITYA

*M.Sc. (Applied Physics)*

HARSHINI RAJESH

*M.Sc. (Applied Mathematics)*

#### **Inter Institutional Competition**

MS ASTHA SARMA

*M.Sc. (Applied Chemistry)*

SURABHI SURESH NAIR

*M.Sc. (Applied Physics)*

CHAHAT SINGH TALAN

HARSHIT GREWAL

*M.Sc. (Applied Mathematics)*

#### **Placement Activities**

MS CAROLYN RAI

*M.Sc. (Applied Chemistry)*

DHANANJAY KUMAR

ANUJ JAKHWAL

*M.Sc. (Applied Physics)*

KARUNA KHURANA

*M.Sc. (Applied Mathematics)*

HIMANSHI GOYAL

*M. Stat*

#### **Research & Innovation**

ANKITA THAKURIA

*M.Sc. (Applied Chemistry)*

YASHIKA BAHRI

TEBY TOM

*M.Sc. (Applied Mathematics)*

RIA SADHU

*M. Stat*

#### **Best Activity HVCO/SRCE Certificate**

MS KAJAL GOYAL

*M.Sc. (Applied Chemistry)*

AASTHA CHAUDHARY

*M.Sc. (Applied Mathematics)*

# Achievers: Batch 2022

## Bachelor of Science

### *Flavors and Citations*

#### **Shri Baljit Shastri Award**

MR. NITYA SONI  
*B.Sc. (H) Physics*

#### **Best Organizing Abilities**

MR. UTKARSH BHATNAGAR  
MS. BARBIE  
*B.Sc. (H) Physics*  
MS SAMRIDDI MISHRA  
*B.Sc. (H) Mathematics*

#### **Best in Leadership Quality**

MS. NAVELI PRATAP  
MR. LABHANSH CHAURASIA  
MR. ALPISH SRIVASTAVA  
*B.Sc. (H) Physics*  
NISHANT SHARMA  
*B.Sc. (H) Chemistry*

#### **Best in interpersonal skills and team spirit**

ABDUL AHAD SHEIKH  
*B.Sc. (H) Chemistry*  
MR VINAYAK KATHURIA  
*B.Stat*

### *Awards and Certifications*

#### **Club and Cultural activities**

MR. ANIKET CHANGMAI  
MR. UJJWAL MISHRA  
*B.Sc. (H) Physics*  
MR VINAYAK KATHURIA  
MR YAGYAM BATRA  
*B.Stat*

#### **Placement Committee**

MR. UTKARSH BHATNAGAR  
MS. BARBIE  
*B.Sc. (H) Physics*  
NISHANT SHARMA  
*B.Sc. (H) Chemistry*  
MS DIKSHA JAIN  
*B.Sc. (H) Mathematics*

#### **Best Summer Project**

MR MANAN TOMAR  
*B.Stat*

#### **For Quality Enhancement Initiatives**

MS RASHIKA GUPTA  
*B.Sc. (H) Mathematics + B.ed*

### **Academic achievements**

MR. ALPISH SRIVASTAVA  
MR. NITYA SONI  
*B.Sc. (H) Physics*

MS. SHRIPRIYA AGARWAL  
*B.Sc. (H) Physics + B.Ed*

SOMI JOSHI  
CHITHRA A  
*B.Sc. (H) Chemistry*

BITHIKA GHORAI  
*B.Sc. (H) Chemistry + B.Ed*

MS KASHISH WADHWA  
MR DINKAR JHA  
*B.Sc. (H) Mathematics*

MR YAGYAM BATRA  
MR NISCHAY GAUTAM  
*B.Stat*

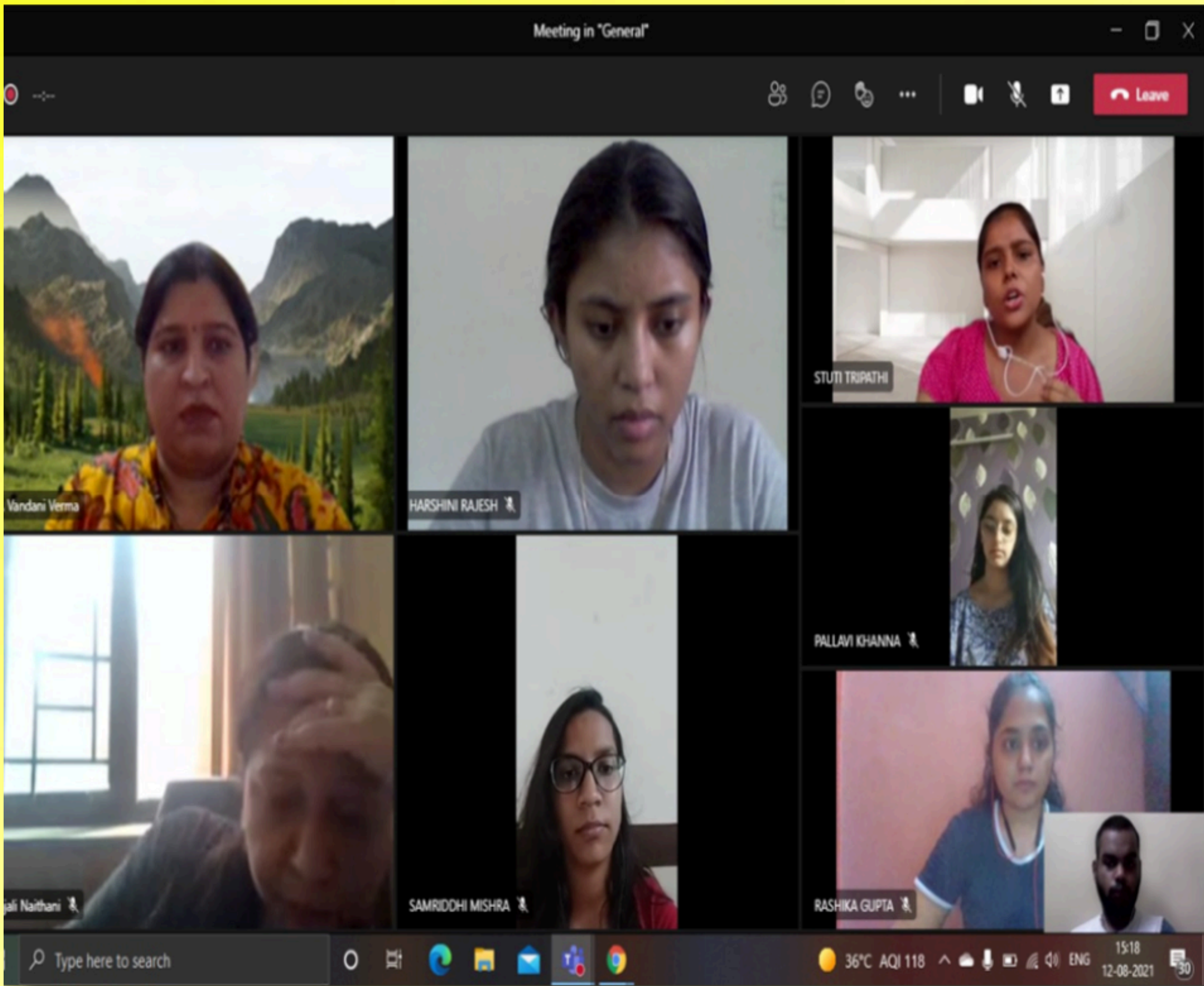
#### **Best Activity HVCO Certificate**

KALASH SHARMA  
*B.Sc. (H) Chemistry*

#### **Research and innovation**

MR DINKAR JHA  
*B.Sc. (H) Mathematics*

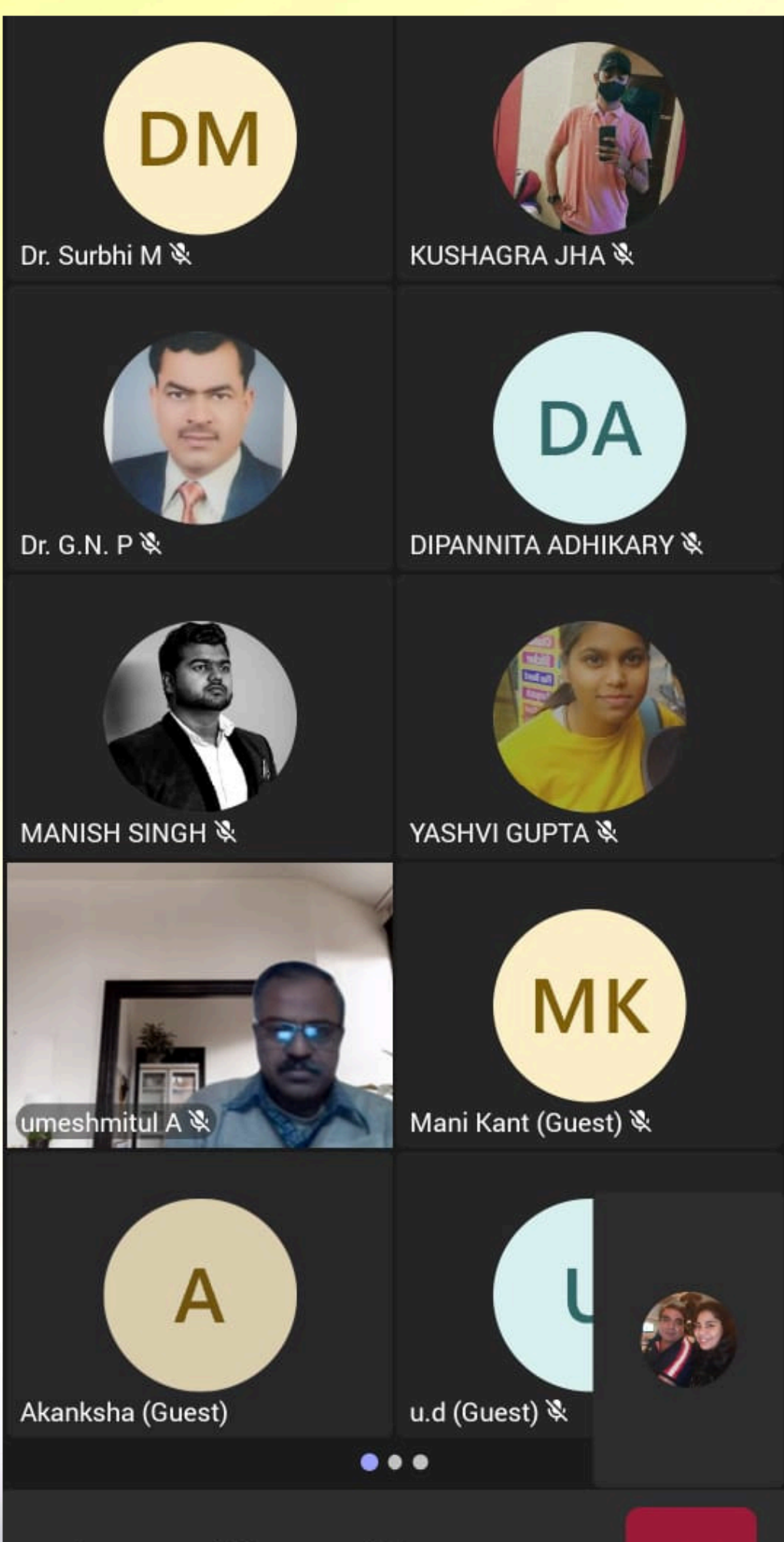
# Events & Activities



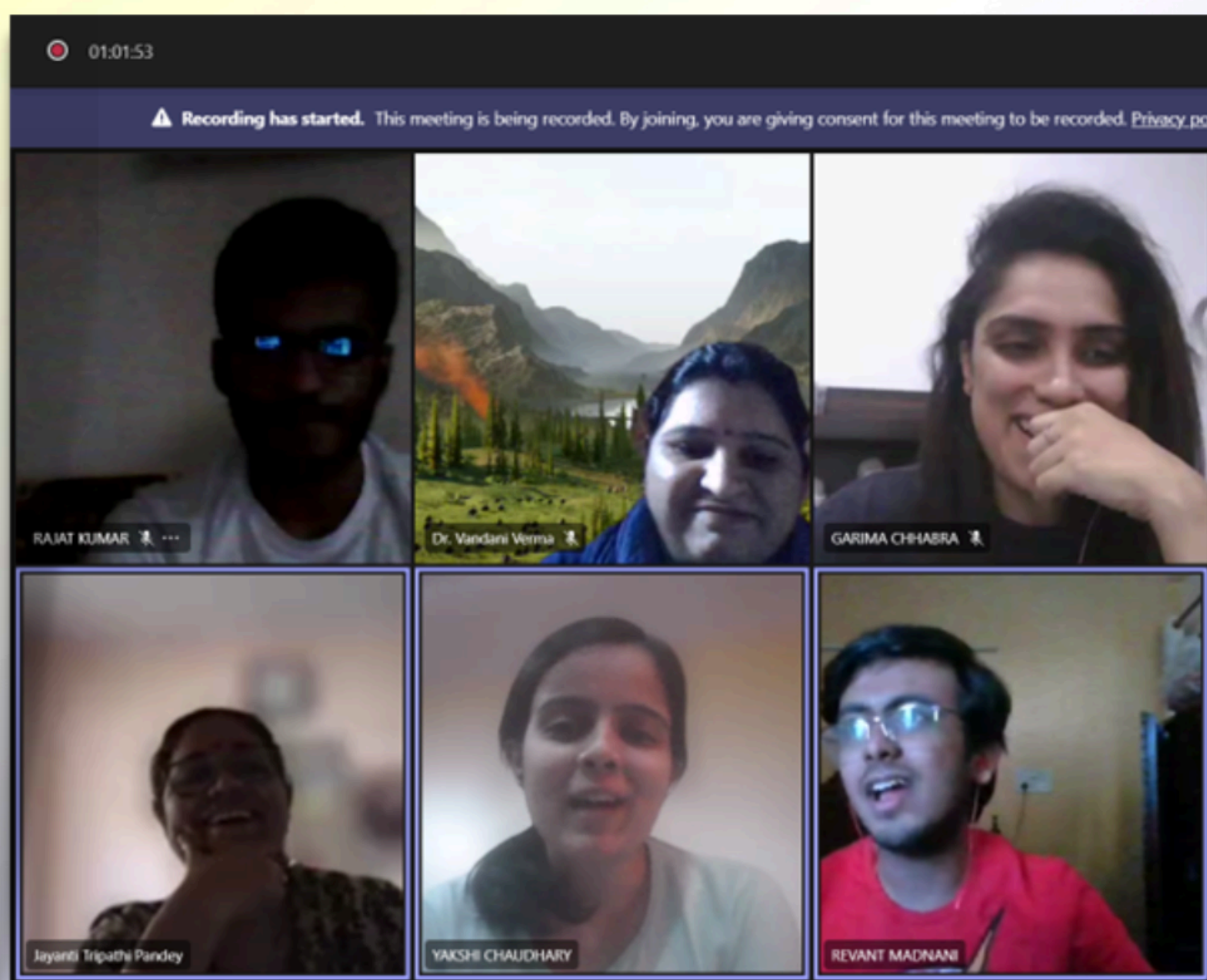
**INS- $\pi$ -RE, Debate Competition (Millennial Youth Icon Swami Vivekanand Or?), 12 August 2021**



**INS- $\pi$ -RE, Quizlympics, 9 September, 2021**



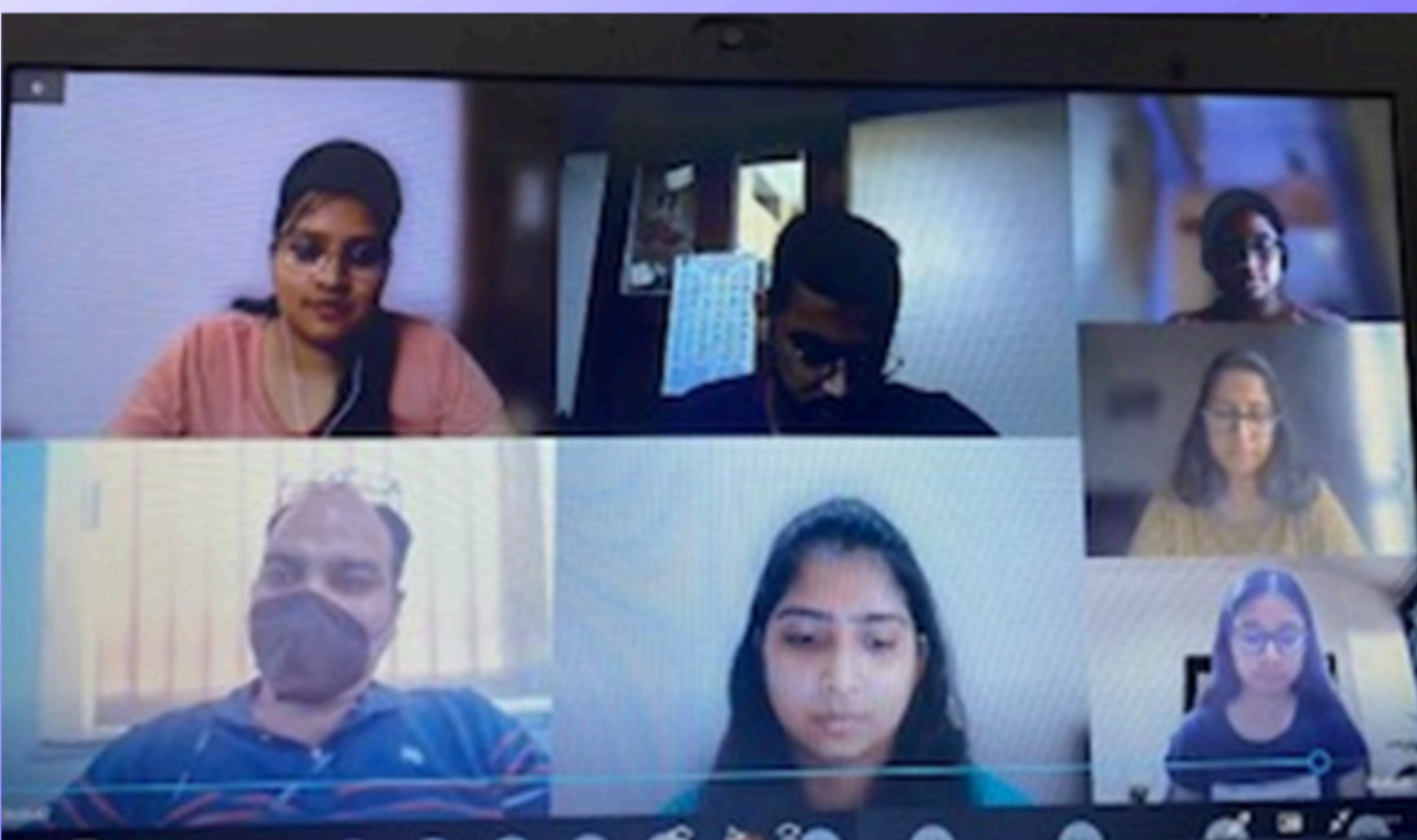
**KUGELBLITZ, Explo-Nomia, 21 September, 2021**



**INS- $\pi$ -RE, Poster Mania, SUDOKU competition, 14 October, 2021**



**OUTLIERS, Essay Writing Competition on "Statistics: The Career of the Future", 29 March, 2021**

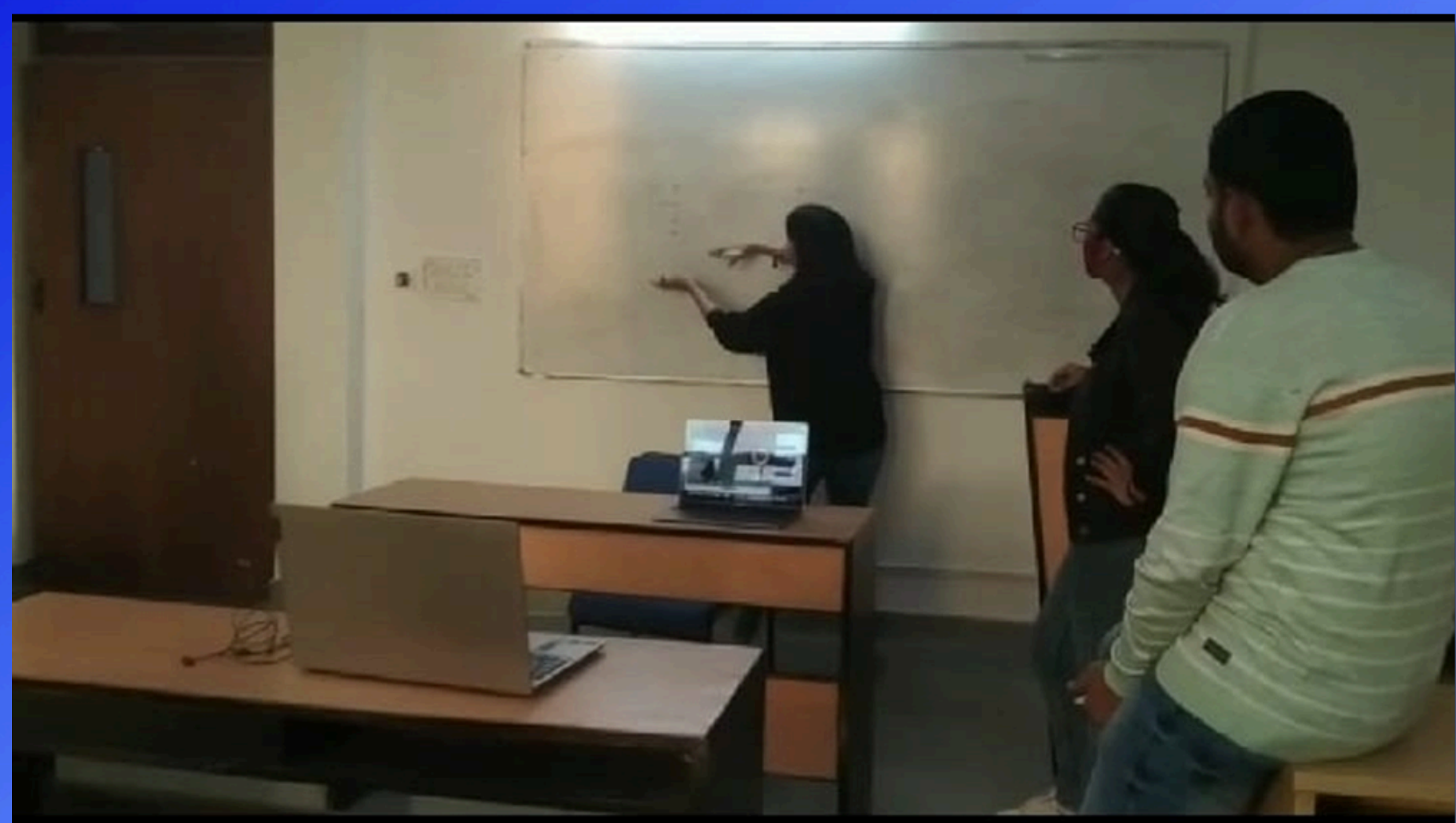


**RASAYAN, Nature's Day with young Chemists, 19 July, 2021**

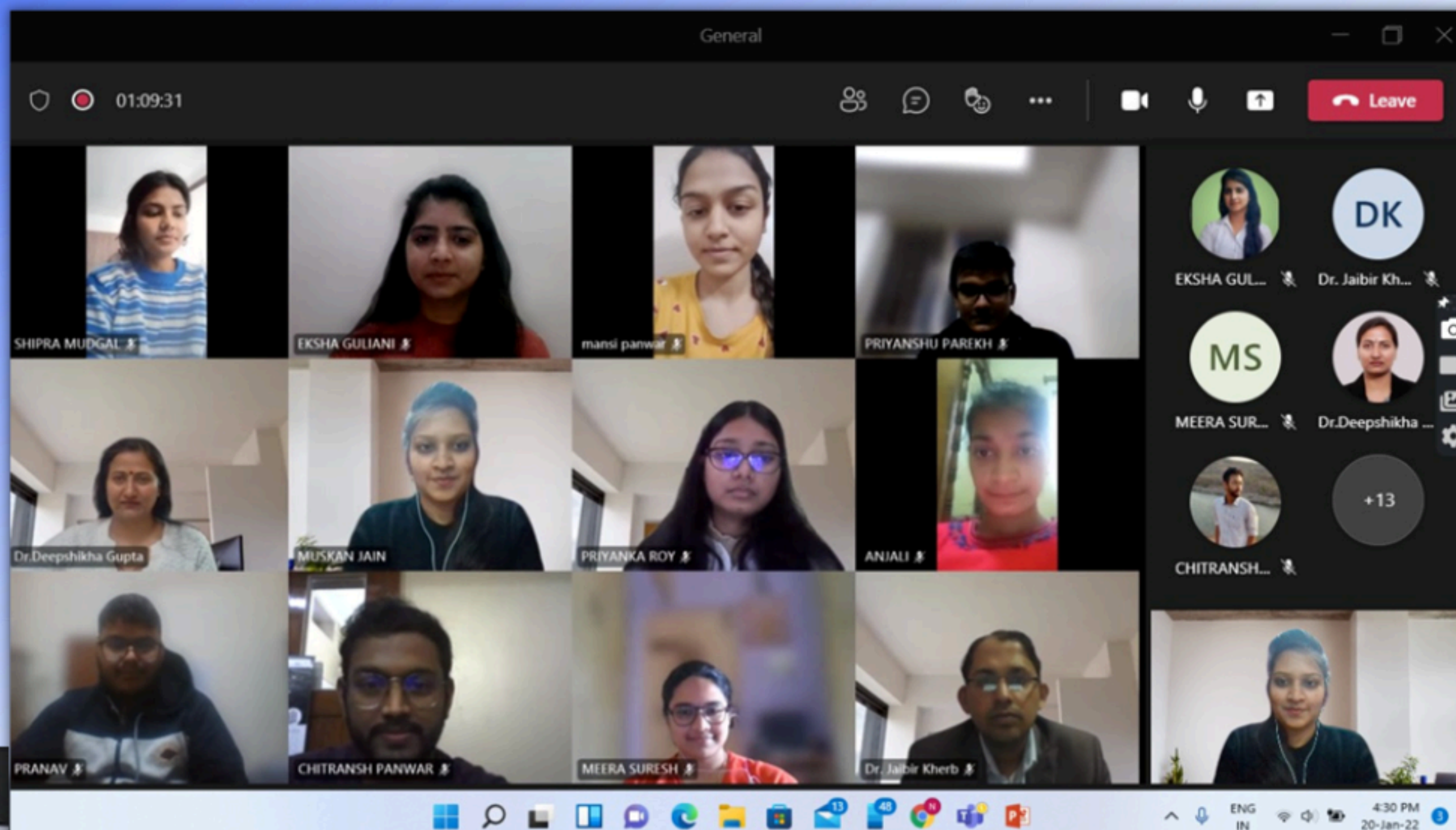


**INS- $\pi$ -RE, Find X (A mathematical treasure hunt), 19 December, 2021**

# Events & Activities



INS- $\pi$ -RE, Artistic – charades, 23 November, 2021



RASAYAN, Yuvaah – Utsaah Naye Bharat Ka, 19 August, 2021



RASAYAN, The world's view with chemist camera, 19 August, 2021



OUTLIERS, Poster making on Janamastami, 31 August, 2021



RASAYAN, Chemidness, 03 March, 2022



KUGELBLITZ, Psy-Pher, 15 April, 2022

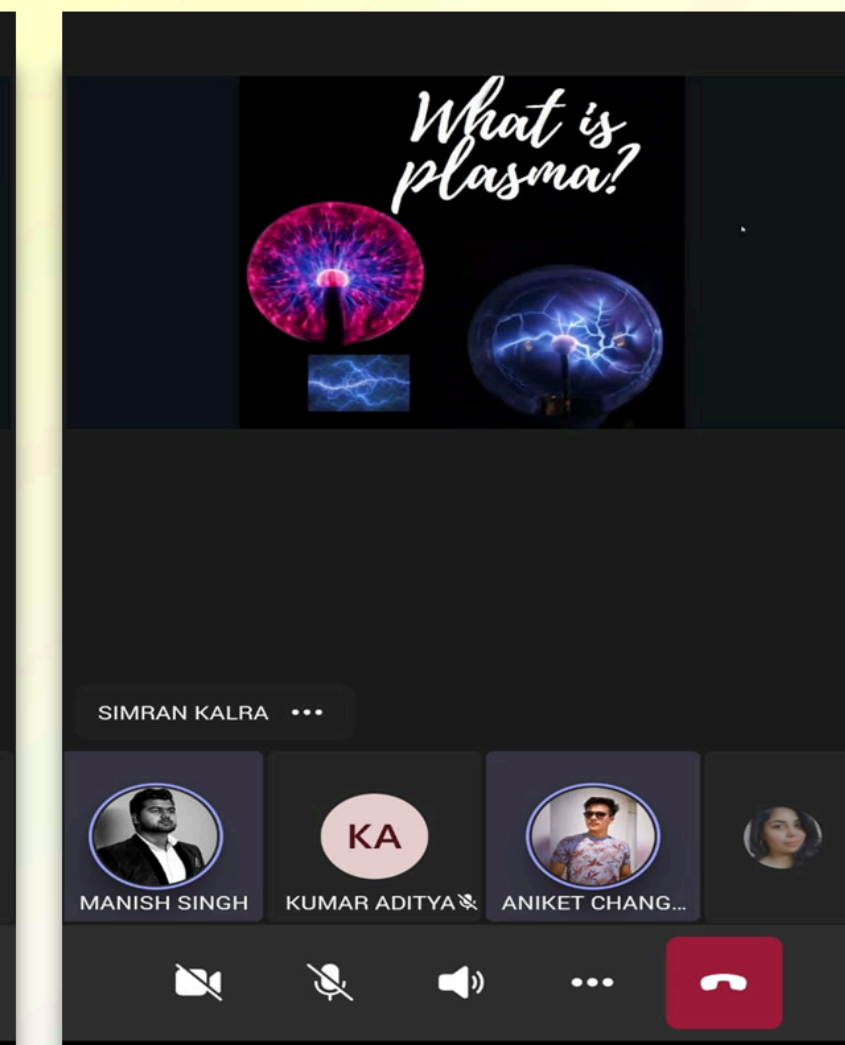
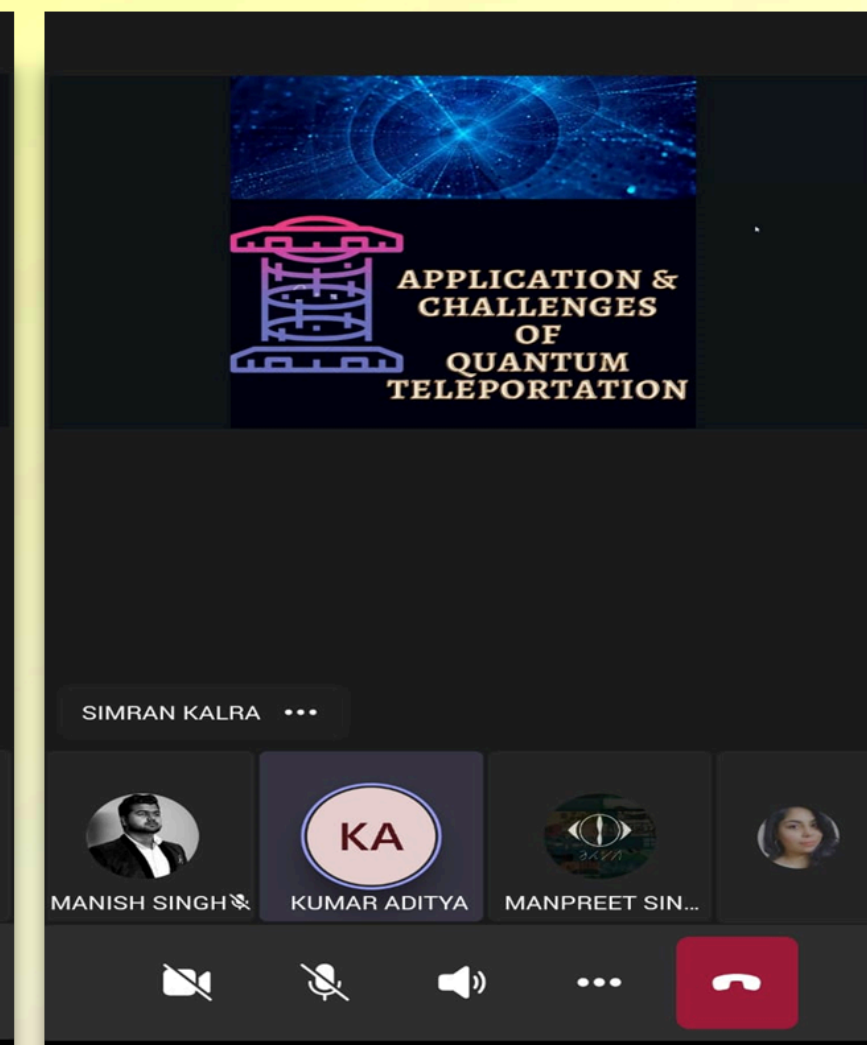
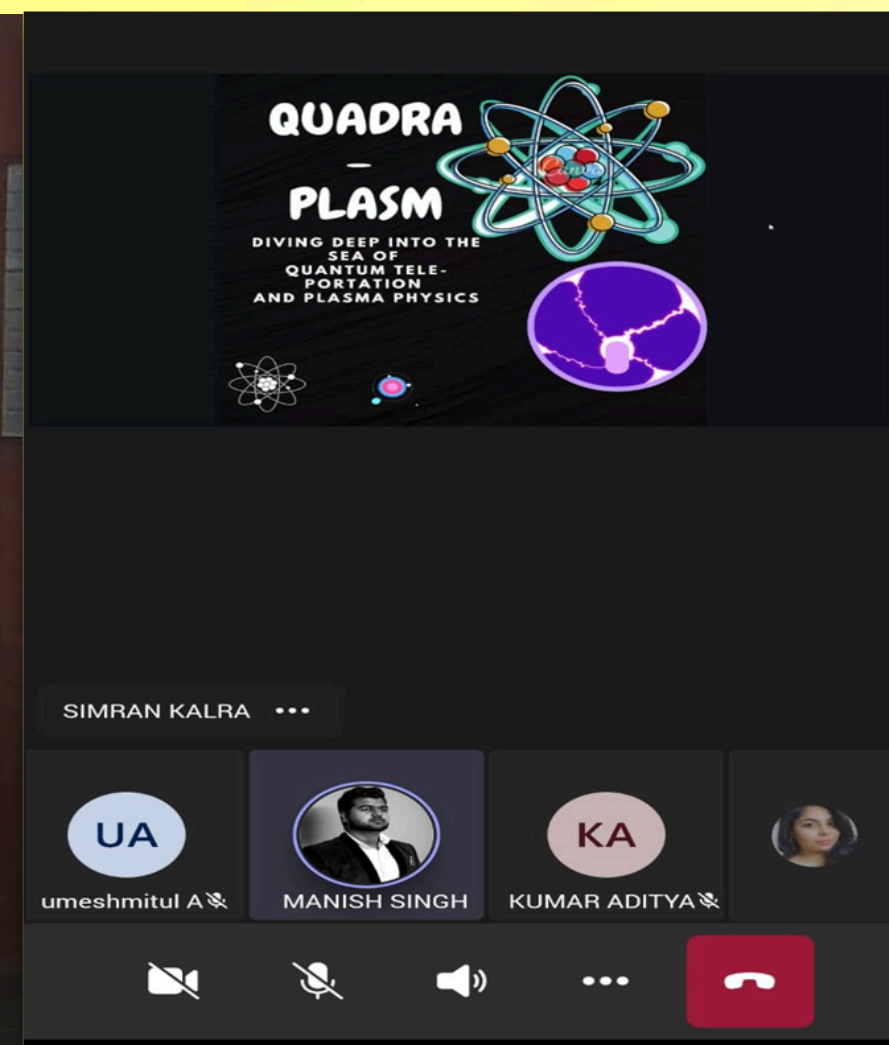


KUGELBLITZ, Sci-Why 2.0, 15 April, 2022

# Events & Activities



**KUGELBLITZ, seek n snap, 15 March, 2022**



**KUGELBLITZ, Quadra plasma, 29 July, 2021**



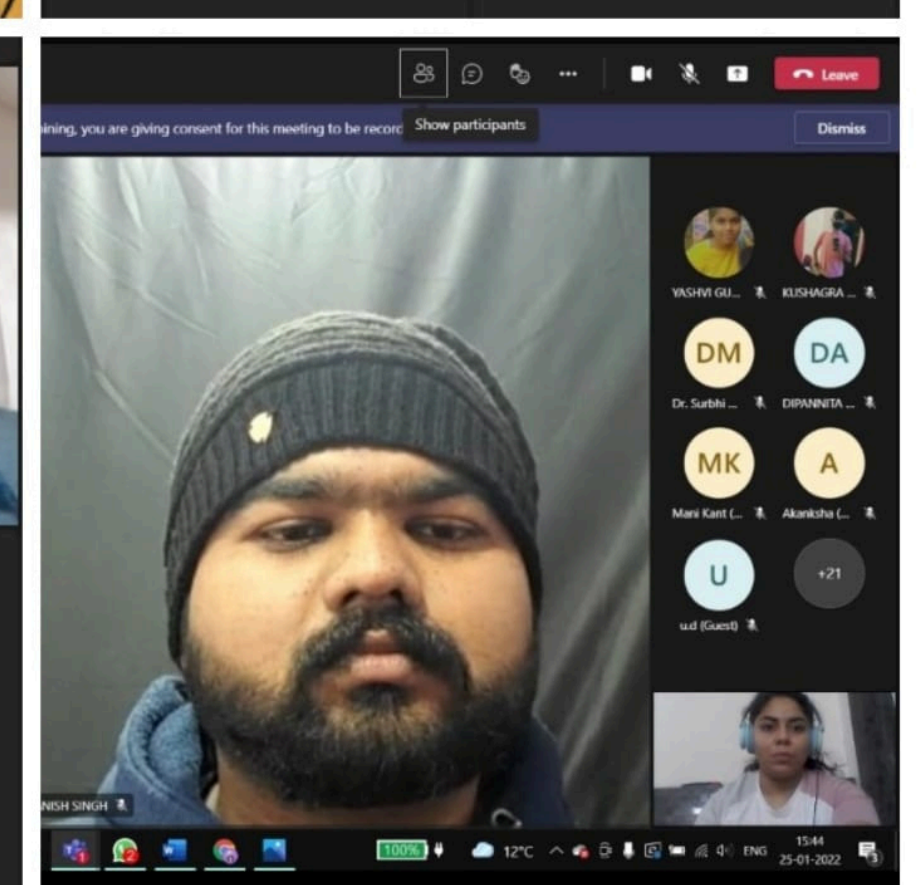
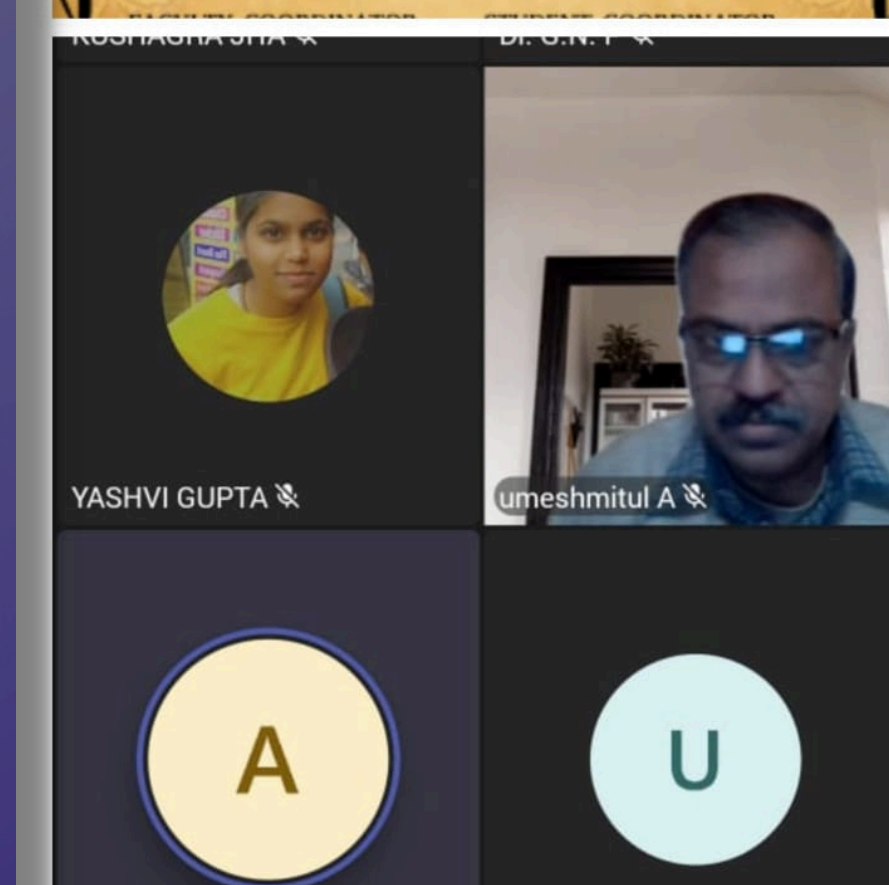
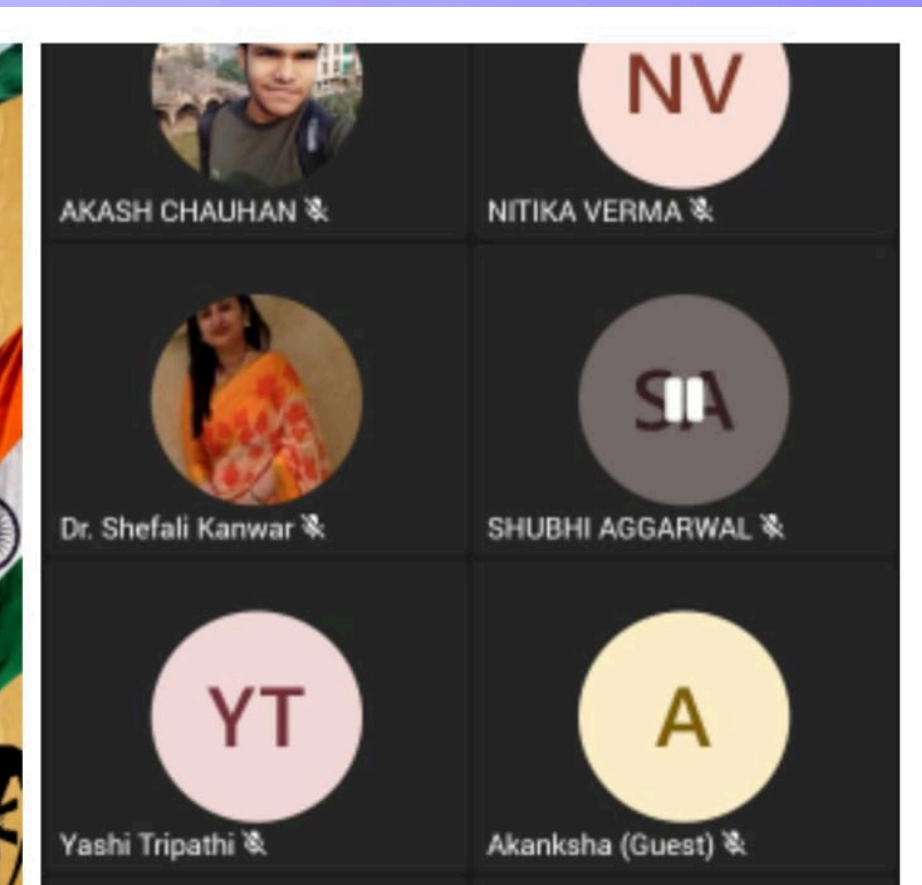
**OUTLIERS, Elocution Competition On occasion of National Statistics Day, 29 June, 2022**



**OUTLIERS, Guess the Word competition, 15 March, 2022**



**Amity Sangathan 2021**



**KUGELBLITZ, Azadi Ka amrit Mahotsav, 23 January, 2022**

# Events & Activities



36x36 inches , Oil on Canvas by NITYA SONI

## "Luptpraya"

## Toycathon Physical Edition-2022

Winner :- Nitya Soni

Team Name:-N-Braille

Winning Prize:- 25000

## एमिटी विश्वविद्यालय के छात्रों ने टॉयकैथन 2022 जीता, बनाया था एन-बेल प्रॉजेक्ट

■ एनबीटी न्यू नोएडा

एमिटी विश्वविद्यालय के छात्र नित्या सोनी और शुभंकर सुभाकर की टीम ने टॉयकैथन 2022 जीत लिया है। इसे भारत सरकार के शिक्षा मंत्रालय के इनोवेशन सेल द्वारा अखिल भारतीय तकनीकी शिक्षा परिषद के सहयोग से करवाया गया था। एमिटी शिक्षण समूह के संस्थापक अध्यक्ष डॉ. अशोक कुमार चौहान, एमिटी विश्वविद्यालय उत्तरप्रदेश के चांसलर डॉ. अतुल चौहान और वाइस चांसलर डॉ. बलविंदर शुक्ला ने छात्रों को बधाई दी।

विजेता टीम को 25 हजार नगद, ट्राफी और सर्टिफिकेट प्रदान किया गया है। इस टॉयकैथन 2022 में प्रथम राउंड में देशभर से आए लगभग 1 लाख आवेदन में 17,770 का चयन किया गया और फेजल 7 अडवेंचर को राउंड फाइनल में पुरस्कृत किया गया। इसमें



एमिटी विश्वविद्यालय के डिस्टिक्ट ऑफ एन्वर्ड साइंस के वीएससी के तृतीय वर्ष के छात्र नित्या सोनी और एमिटी स्कूल ऑफ इंजीनियरिंग एंड टेक्नोलॉजी के एमटेक एआई प्रथम वर्ष के शुभंकर सुभाकर के 'एन-बेल' को भी पुरस्कृत किया गया।

इस प्रॉजेक्ट के लिए मिला सम्मान नित्या सोनी ने अपने टीम सदस्य

शुभंकर सुभाकर के साथ मिलकर टीम संस्थापक संजीव और डॉ. सुजाता पांडेय के मार्गदर्शन में दुष्टिबोधित लोगों की शिक्षा में तकनीकी प्रगति लाने के लिए एक उपकरण बनाने का दुष्टिकोण का विचार विकसित किया। एन बेल कम लागत का प्रभावी उपकरण है जो सीखने के इच्छुक नेत्रहीनों को शिक्षा प्रदान करने में सक्षम है।

कलाकार पाटंग से मोची, लोहार, बुनकर, हुक्का बनाने आदि के कारीगरों और उनकी कारीगरी को बचाने का संदेश दे रहे हैं। 12वीं कक्षा पास करने के बाद वह भौतिक विज्ञान आदि विषयों से स्नातक की पढ़ाई कर रहे हैं। वह बताते हैं कि लॉकडाउन में उन्होंने देखा कि दिहाड़ी पर निर्भर रहने वाले लोहार, मोची, बुनकर, हुक्का बनाने वाले कारीगर सबसे ज्यादा परेशान रहे। इस दौरान काम बंद रहने से दो वक्त की रोटी का जुगाड़ करने के लाले पड़ गए मुहिम में लग गए। इसके अलावा पुरानी हेरिटेज इमारतों और अन्य चीजों को भी उन्होंने अपनी पेंटिंग के माध्यम से दर्शाया। वर्ष 2020 में उनकी हुक्का बनाते कारीगर की पेंटिंग को मोजारटो ओरा-2020 अवार्ड के लिए देशभर से आई दस पेंटिंग में स्थान मिला था। उन्होंने

नित्या सोनी की पेंटिंग। माई सिटी



### विविध गतिविधियां प्रतियोगिता में एमिटी के छात्र विजेता

पुरस्कार प्राप्त करते दोनों छात्र ● सी. एमिटी विश्वविद्यालय  
जासं, नोएडा: सेक्टर-125 स्थित एमिटी विश्वविद्यालय के दो छात्रों ने केंद्रीय शिक्षा मंत्रालय द्वारा टॉयकैथन में जीत दर्ज की है। इसमें देशभर से सात छात्रों को पुरस्कृत किया गया। बीएससी तृतीय वर्ष के छात्र नित्या सोनी और एमटेक प्रथम वर्ष के शुभांकित सुभाकर के आइडिया एन-ब्रेल को पुरस्कृत किया गया। यह दुष्टिबोधित लोगों की शिक्षा में तकनीकी प्रगति लाने के लिए एक उपकरण बनाने का आइडिया है। एन-ब्रेल कम लागत का प्रभावी उपकरण है, जो सीखने के इच्छुक नेत्रहीनों को शिक्षा प्रदान करने में सक्षम होगा। विजेता टीम

को 25 हजार रुपये नगद, ट्राफी और प्रमाणपत्र प्रदान किया गया। प्रतियोगिता में एक लाख लोगों ने हिस्सा लिया। इसमें से 17,770 का चयन किया गया और फाइनल में सात आइडिया पुरस्कृत किया गया। प्रतियोगिता का आयोजन शिक्षा मंत्रालय के इनोवेशन सेल द्वारा अखिल भारतीय तकनीकी शिक्षा परिषद के सहयोग से किया गया था। एमिटी शिक्षण समूह के संस्थापक अध्यक्ष डॉ. अशोक कुमार चौहान, एमिटी विश्वविद्यालय उत्तरप्रदेश के चांसलर डॉ. अतुल चौहान, वाइस चांसलर डॉ. बलविंदर शुक्ला ने दोनों छात्रों को बधाई देते हुए उज्ज्वल भविष्य की कामना की।



SANGATHAN 2021



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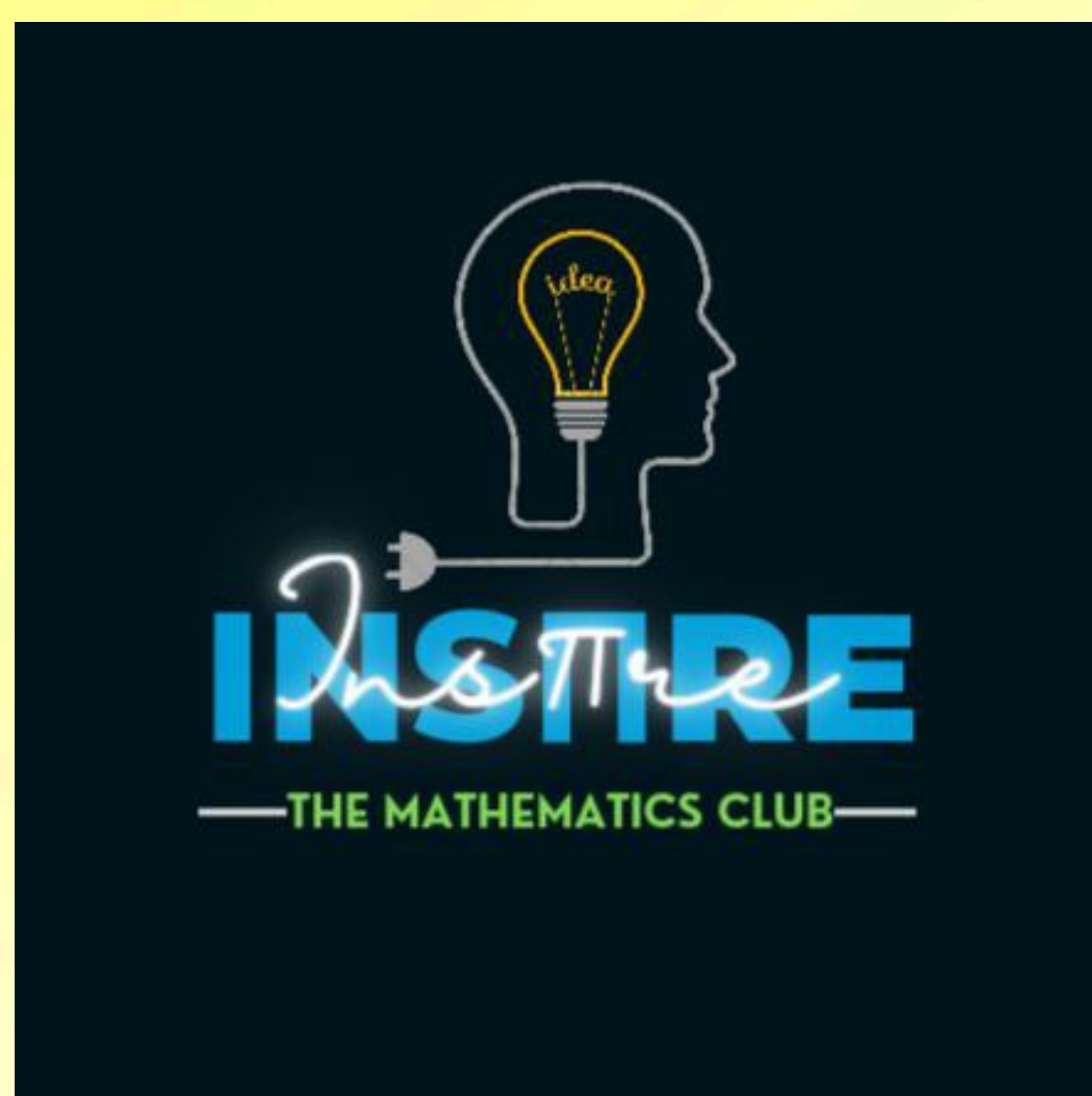
SANGATHAN 2021  
22<sup>nd</sup> INTER AMITY INSTITUTIONS SPORTS MEET  
IN CELEBRATION OF FOUNDERS DAY - 24<sup>th</sup> OCTOBER  
MERT CERTIFICATE  
This is to certify that  
Ms. MANPREET THAKUR (Cognate)  
of B.Sc. (H) - Mathematics  
program  
AIAS  
Second  
Athletics (100 m)  
has been awarded for the best overall performance in the sports.

# AIAS CLUBS

## KUGELBLITZ

*The AIAS Physics Club*

THE CLUB 'KUGELBLITZ' ALWAYS ASPIRES TO MAKE PHYSICS FUN AND FIND NEW WAYS TO LEARN OUTSIDE THE CLASS.



## INS- $\pi$ -re

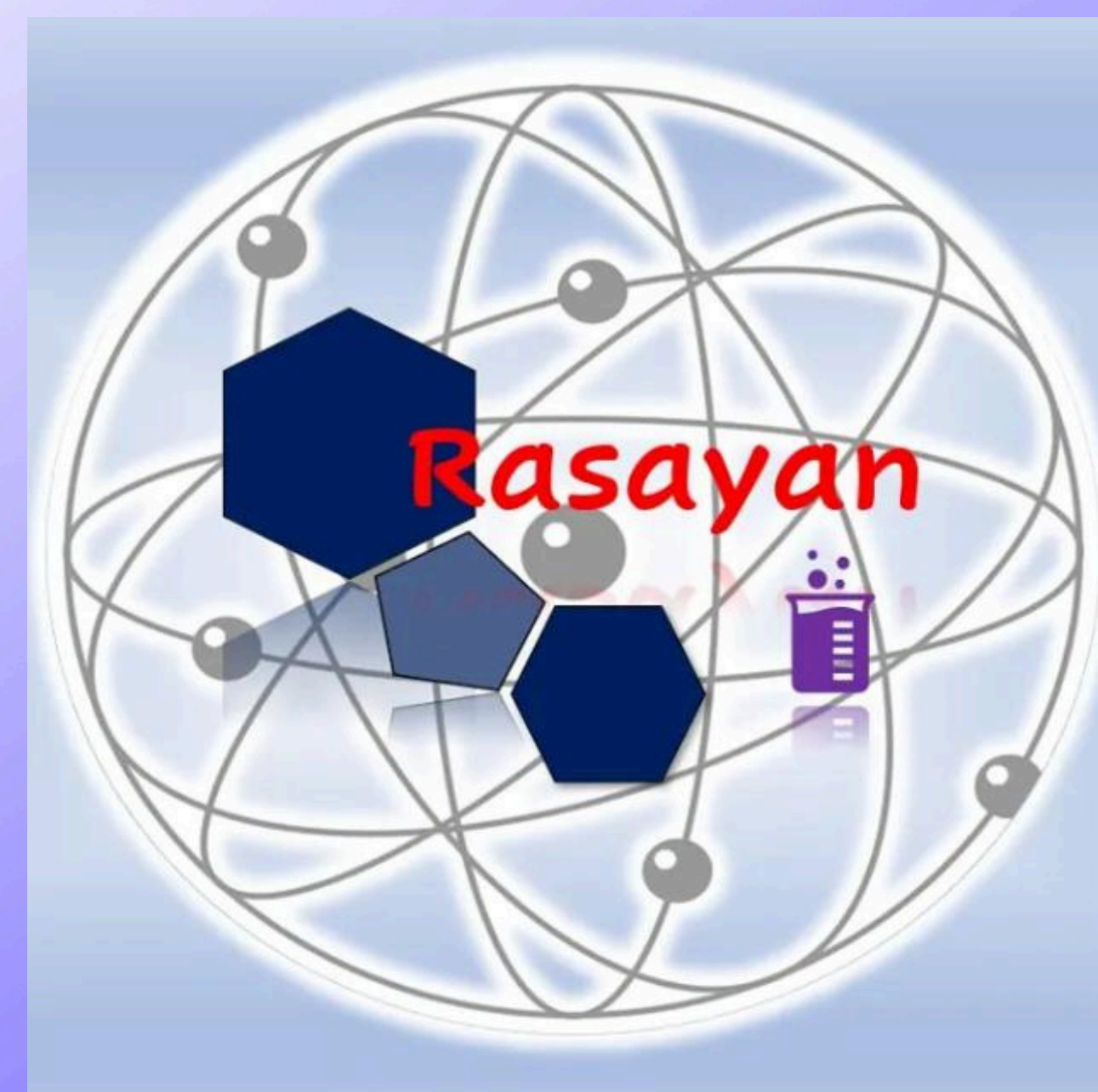
*The AIAS Mathematics Club*

THE CLUB INS- $\pi$ -RE IS CONSTANTLY LOOKING TO INNOVATE AND FIND NEW WAYS TO ENCOURAGE STUDENTS TO LEARN MATHS.

## RASAYAN

*The AIAS Chemistry Club*

THE CLUB 'RASAYAN' AIMS TO GENERATE A SENSE OF CURIOSITY AND THE ZEAL TO ASK QUESTIONS AMONG STUDENTS.



**The Outliers**  
Department of Statistics

## THE OUTLIERS

*The AIAS Statistics Club*

THE CLUB 'THE OUTLIERS' LIKE THE NAME SUGGESTS IS A GROUP OF UNIQUE INDIVIDUALS THAT HAVE A DESIRE TO LEARN AND SUCCEED AND THINK OUT OF THE BOX.

# Amity Human Values Quarter

## Donation Drive



**“Money is not the only commodity that is fun to give. We can give time, we can give our expertise, we can give our love, or simply give a smile. What does that cost? The point is, none of us can ever run out of something worthwhile to give.”**

**-Steve Goodier**



*To inculcate  
and Nurture,  
Human Value  
and Passion  
for  
Humanity*

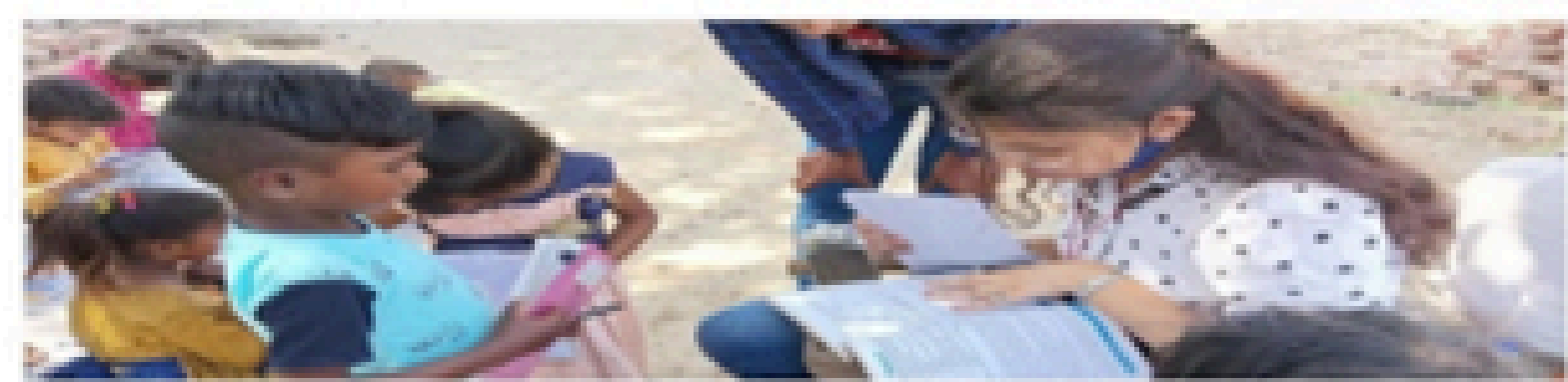
More than 80 students from the department of AIAS participated in the donation drive associated with various NGO around the nation as part of Amity University's human value quarter. This majorly focused on donating and spreading awareness among the needy. Unfortunately, there hasn't been enough focus on the societal problem of menstruation hygiene awareness. Because sanitary pads are either too expensive or not available, women in certain regions of the world are denied access to them (especially in rural areas).

We offered them with health counselling and mentorship in addition to providing them with affordable sanitary pads, such as explaining the health benefits of using sanitary napkins and informing them about the necessity of menstruation cleanliness, among other things and Also provided some stationery, notebooks, snacks etc to people living in slums.

The biggest problem we found was that they didn't want to attend to school because they could not really afford it, but we told them about public schools and all the government services available, including midday meals. We also spoke about the benefits of education and how going to school can help them mould and better their life and accomplish their objectives.

The students described it as a heartwarming event and expressed their happiness at having given a small amount of their time, love, and awareness to the community in with other materialistic contributions. Charity starts with a commitment to helping those who are most in need. We can't afford to assist people in need in a world where we are battling diseases, businesses are failing, and commodity prices are rising, But these are small steps we can take towards a better world.

## Child Education Drive



As a part of Amity university's human value quarter more than 40 students of AIAS department volunteered in child education drive wherein students in association with the NGO organised fun filled interactive sessions to educate underprivileged kids. The session were imparted in both online and offline mode. The objective of drive was to make them aware of the importance of education and providing them with a first hand classroom experience. Sessions were focused on mentoring those kids , instilling in them the idea of a better life. Children as we know have a very limited worldview and more so for children coming from an unprivileged section of society wherein they have no one to look up to or guide them through life. We perceived how important it is for them to be imbibed with a value system ,a sense of direction for there better futures which can be brought by walking the paths of education , knowledge and skill bulding. Even our smallest of efforts or advices can be transformative for them.

It all started with the NGO president and the treasurer introducing us to the kids we bought them chocolates and candies and had a fun maths session with them. More such amusing sessions continued not just academic but value instilling as well. we even organised drawing competitions for them, providing them with colours and sketch books.

In the course of these beautiful interactive sessions each of us realized how fortunate we were. All of our seemingly big problems turned into nothingness. We experienced a sense of accomplishment and increased self esteem. Also helped us built an insight into nuances of childhood and young adulthood. we eagerly anticipate continuing to assist.

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*Students  
Creative Section*

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# भारत की शान तिरंगा

आन देश की शान देश की, देश की हम संतान है।  
तीन रंगो से रंगा तिरंगा, ये हमारी पहचान है।  
ना पूछो कहानी हमारी, हम है सिर्फ हिंदुस्तानी।  
सीने मे जूनून और आंखें मे तूफान रखते है।  
थम जाए सांसे दुश्मनो की, तिरंगे में वो दम रखते हैं।  
इतनी सी बात हवाओ को बताये रखना।  
रोशनी होगी चिरागो को जलाए रखना।  
लहू देकर की है जिसकी हिफाजत हमने  
ऐसे तिरंगे को हमेशा दिल में बसाए रखना।  
लिख रही हूं मैं अंजाम, जिसका कल आगाज आएगा।  
मेरे लहू का हर एक कतरा इंकलाब लायेगा ।  
मैं रहु या न राहु पर ये एक दिन जरूर आयेगा  
मेरे बाद वतन पर मरने वालो का सैलब आएगा।

*By- Tisha Raghav, B. Sc. (H) Mathematics*

# The Role of Communal Harmony for Sustainable Development of the Indian Society

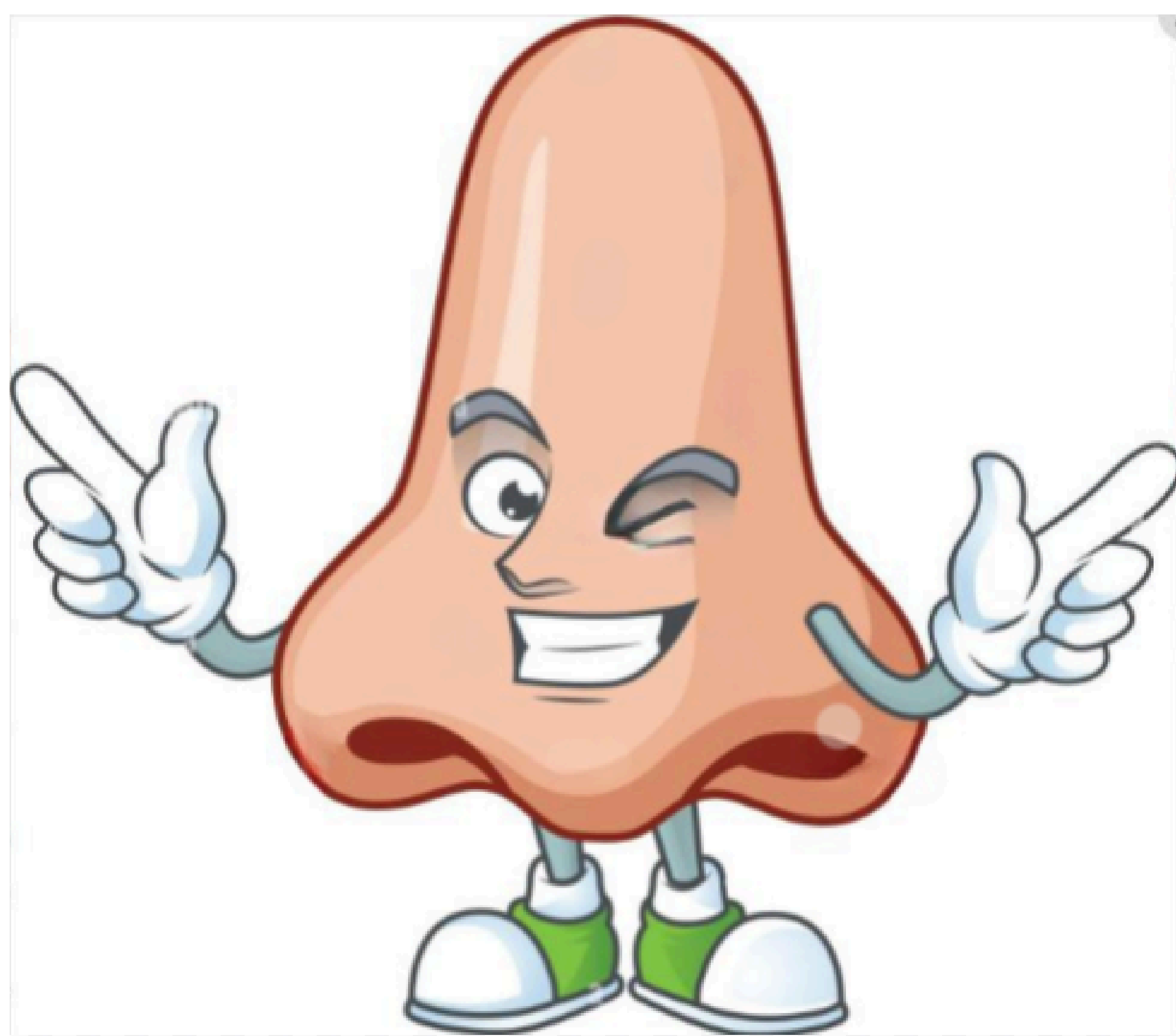
Harmonious living is vital to every individual, community, country, and the world. Communal Harmony means that individuals from all communities should live peacefully together. India is a Secular Country and every community / religion in India is treated equally. No community / religion is given precedence over the other. The Indian Republic is also called the "DEMOCRATIC REPUBLIC OF INDIA" and that means everyone should live together and be treated equally irrespective of caste, creed, and gender. Communal harmony is important to ensure peace, progress, growth of the nation and to prevent negativity / violence. It also acts as a strong building force for unity amongst every citizen. Citizens of such a nation can see themselves beyond their individual biases as a united force. India is the 2nd largest country in the world in terms of population, and thus we have people from different background, cultures, and choices. Building Harmony ensures that each individual practice their choices/ preferences not at the cost of the others or by hurting / harming the others. As we live with our family and friends, we should live free of hatred in the society as well, respecting each other's point of view and choices. Also, MAN IS A SOCIAL ANIMAL, so in outside world we need friends, mentors, guide, and joint effort of each individual acts like a catalyst in a country's growth and progress. Such a work force has the power to catapult the country to greater heights and thereby become a force to reckon with on the world platform.

Everyone is equal and different, and we should accept everyone as they are and try to learn from them. Communal Harmony Day also known as Sadbhavana Diwas in Hindi is celebrated on 20th August every year in India to celebrate and applaud the idea of Universal Brotherhood. Communal harmony shows a broad mindset, open to learning and changing with time. Also, it brings a mature understanding that there is a single energy which runs the entire earth and religion is just a way of worshiping that energy. Different religions like Hinduism, Islam, Sikhism and Christianity have different ways of practicing their beliefs but the underlying thought is goodwill, truth, and kindness towards the others. There are positives in everything and flaws too, a well well-grounded individual can gauge and absorb the best from everyone and everything. Harmony builds a sense of oneness and is important for the progress and prosperity of our nation. It is equally important for security and social justice. India will only be united if there is a sense of brotherhood amongst everyone. But there have been many cases of communal disharmony in India, For example, Gujarat riots 1969, Moradabad riots 1980, Danga 1984, Hyderabad riots 1990, anti-Karnataka violence 1991, Bombay riots 1992-93, anti-Urdu riots 1994, Gujarat riots 2002. We have to remember that we Indians are responsible for all the senseless bloodshed and losses. These have been learning lessons for all of us. Also, we must remember to learn from our mistakes and act like a source of inspiration for our younger generation and teach them the right things. Let us awaken and strengthen our spirit of Nationhood. Efforts to build communal harmony should be made by spreading awareness, organising campaigns, also giving special importance, and having a fair understanding of Articles 25 to 30 of the Indian constitution, which is the right to freedom of religion, freedom of conscience and the right freely to profess, practice and propagate religion, by conducting shows and rallies. This will help in strengthening the patriotic feelings towards our country. India is a spiritual country and has acted like a haven for people from other countries as well. The love and affection amongst people have also been exemplary as there is a case where people are able to rise above individual prejudices and stand for each other in times of difficulty. We have been proud witness to Sikhs and Hindus helping in repairing a mosque, a Muslim friend performing all the Hindu rituals at the death of his Hindu friend. Instances like these make our country stand apart.

So Communal Harmony is important for the growth of any nation, and we the citizens of India who are responsible and have the power for creating a safe and united India.

*By- Sneha Pandey, M. Sc. Applied Mathematics*

# नाक



भूल राक्षस रूप, हो चली सूर्पनखा मोहित मानव आम पर, लालसा जगी उसकी पुरुषोत्तम राजा राम पर। हो तुम परम् तेजस्वी सुंदर पुरुष इस भूलोक में, मैं अभिमानी सर्वसुन्दरी इस त्रिलोक में। दूँट आयी इस जगत में कोई सजीला, वीर सा, हो जिसमे दिव्यता और जैसे धार तीर सा।

हूँ शिव भक्त, सर्वशक्तिशाली राक्षसराज लंकेश की बहन मैं, इंद्रजीत भी पुत्र - समान, जिससे इंद्रलोक भी कांपता जहन में। देख राम को कामवल्ली बोली, मांगा परिचय राम का, हूँ मैं भगवान दशरथ का पुत्र, चिराग रघुवंश नाम का। आदेश पर अपने पिता के आया वनवास काटने, साथ आयी प्रणीता सीता, अनुज लक्ष्मण दुख बांटने।

तुम बोलो देवी किस काम, किसकी खोज तुम्हें, त्याग आया मैं राज-पाठ, न दे सकता कोई चीज़ तुम्हें। हो आकर्षित तुम्हारे रूप यौवन से खींची चली आयी मैं, चाहती गंधर्व विवाह रचाना, बस यही कामना लायी मैं। रघुवीर मैं विवाहित हूँ, धारण किया पत्नी व्रत धर्म है, अगर सोचा सीता की सौत का सोचना भी ये अधर्म है।

लगी निराशा जब हाथ में, कामवल्ली पहुंची लक्ष्मण के पास में, हे वीर...! मिलेगा मुझे सुख-आनंद आयी हूँ इसी आस में। हे गजकामिनी..! हूँ मैं सेवक भगवान का, और तुम लंका कुमारी.....मैं इतना भाग्यवान कहां। जगत स्वामी को छोड़ क्यूँ दास पास आयी हो, इस विवाह की गलत आस लायी हो।

उठा छोह, हुआ जब कामवल्ली का अपमान, ठाना सीता का मिटाना नामों-निशां। दिखा कामवल्ली का भयानक सूर्पनखा रूप, चली सीता को मारने, मिटाने अहं की भूख। अनहोनी की आशंका देख, लक्ष्मण ने वार किया।

दूरी पड़ी नाक कटकर, जैसे कोई टूटा पात, हो चली थी एक नए अध्याय की शुरुआत।

*By- Anuj Boora, M. Sc. Chemistry (O,I,P)*

## Some things are the way they are

Things are complicated, yes, 'complicated' is the world  
Several things are not understood-nature, number or word.  
Many people reasoned out with me, for a month, a day, an hour,  
But no one could justify to me that some things are just the way they are.

When the air passes swiftly with a murmur  
I wonder why doesn't it have any colour?

The iron rusts whereas the rest of the metals corrode.  
But what is so special with iron that the rest cannot afford?

Science says that everyone has the same mental ability.  
Then why making laws of physics was only in Newton's capability?

We can achieve anything if we make a vigorous try,  
So how can we say that a fish can never fly?

Why were different meanings given to the same word,  
Instead of making new words; it's rather absurd.

Why do we have to waste a letter when silent it is to be kept.

Like "h" in honest and "b" in debt.

Why do we have to face problems as difficult as finding a pin in a stack of  
hay.

Why can't every day be a good day?

We can't trust everyone this fact is to be understood,

But why can't every person be good?

It is said that team work is most essential in our life – a game

Then isn't saying that- 'too many cooks spoil the broth', a shame?

And everyone says the limit is the sky.

But is someone so tall that he keeps his feet on the ground yet touches the sky

These unanswerable questions are abundant and beyond any mark.

No one could tell me that why does even our shadow leave us alone in the  
dark

And why is there competition and greed of power resulting in war all around.

When everyone can stay satisfied in what they already have, got and found.

My questions won't finish neither will my curiosity,

Be they childish shallow or full of gravity.

So, I travel on the path of life to have these questions sought,

And leave you here to ponder upon what all my mind thought!

By- Srishtee Chauhan

## NOTHING IS DIFFICULT

There is nothing difficult, If we want to do.

There is nothing far, If we want to reach.

There is no problem, If we want to solve.

There is nothing strange, If we want to know.

There is nothing to hate, If we want to love.

There is no enemy, If we want to friendship.

There is no religious difference, If we have  
humanity...

By- Mohini Agrawal, M.Sc. (AM)

## Mathematics is like a cricket team of 11 players.

Every letter of the word conveys qualities of mathematics.

1) The first player 'M' stands for the mind is essential for a mathematician.

2) The second player's 'A' stands for accuracy and it is the captain of the team.

3) The third player's 'T' stands for talent which is used in providing and solving theorems.

4) The fourth player 'H' stands for hard work without which success in the subject cannot be achieved.

5) The fifth player 'E' stands for the enthusiasm which is tested while studying the subject.

6) The sixth player 'M' stands for memory.

7) The seventh player 'A' stands for art and attention to the subject.

8) The eighth player 'T' stands for technique.

9) The ninth player 'I' stands for interest which helps us to grow as mathematicians.

10) The tenth player 'C' stands for continuity of understanding the subject.

11) The last player 'S' stands for the smile which stays on the lips of mathematicians.

By- Mohini Agrawal, M.Sc. (AM)

## IT'S ALL RELATIVE!!!

From a minute scale to massive interest, from the microscopic level to a macroscopic perspective. Be it the cosmic outlook, or from a mortal point of view, we have always tried to find the bridge between the both. At first, we had the atom being the smallest in existence, and a planet or to an extension, the solar system being the largest. Ages after its discovery, we can now split an atom to its core components, so as we thought, were the electron, the proton and the neutron. Contrary to this, our macroscopic world started to become wider. We have stars, galaxies, and clusters of galaxies. Now, relative to this, is us, the humans. We too have a wide range of minute to massive scope. From our day-to-day life issues, and to a deeper understanding of the system, we too have come a long way.

Darwin's theory of evolution of species, is the process by which organisms change with time as a result of mutation of the first DNA, resulting in changes in heritable physical or behavioral traits. These changes better allow an organism to adapt to its environment to survive, and in the future, produce more offspring. These offspring inherit physical, intellectual, and psychological traits from their parent genes. Speaking of the process of evolution, the following aspects dominate.,

DNA---->mutation----->change in genotype----->adaptations or variability in population-----  
-> new offspring > extinction

Now, relating it further to the cosmic view, we comprehend the big bang theory. It's a cosmological model of the observable universe through its subsequent large-scale evolution.

The whole universe was thought to be in a hot dense state for nearly 13.7 billion years ago.

After the big bang, the universe began to cool down, to form celestial bodies, stars, and galaxies. Since then, it is in the notion of worldwide scientists, that the universe is expanding.

Expanding at a rate to which we can't even imagine. Summing up the process of cosmic evolution, the following aspects dominate..., Hot dense state--

--->the early universe----->dark ages----->universe as of today. The whole process took billions of years. The process being macroscopic as it involves the massive celestial bodies being formed after ages of the big bang.

Our planet, the Earth, or the life bearer, as we know it, was in years of darkness, when the first evidence of life showed up, being a single-celled organism.

Millions of years, from the first trace of life, we had evolution of species, to the point, where we are now. Now, here we are, desperately trying to find life in the vast universe. We have been trying from the past many decades to know about the vast horizons of the universe. We have set up telescopes in space, capturing every moment of the incredible infinity.

Human curiosity to discover the manifestation of the truth of existence goes back in the time of evolution itself. To this day, we are still looking for answers. Anyway, in every sense, have we tried to locate the far possibilities of our journey, here. This expedition is in no sense nearing the end. We still have a lot to discover, about ourselves, about our home, and the vast heavens. The connection between the minute to massive scale is in some sense, a reality, they are the same. We carry the vast cosmos within us. Inside and out, we are pieces of soul carrying stardust within. We are born of atoms, fulfilling our purpose, understanding as it may, carrying the cosmic power within, and then get reduced to atoms again. From minute to becoming massive, from birth, and demise and then to rebirth, this cycle goes on, and on... We will continue to evolve, we will continue to search, after the time is over, we will evolve again, we are the descendants of our own past!!

*By- Tanika Gupta, M.Sc. (AP)*

## In a parallel world

Nineteen o' five

When science took a big dive; Relativity was discovered  
With numerous concepts covered; All got different perception  
With own special facts and correction; Time waits for no one  
And the twin brothers got to know one; With greater mass comes greater  
energy So, humans could not break the synergy; All wish to travel time  
Infinite energy one has to climb; Things were simple for constant motion  
Speeding things were a left potion; Albert connected it with gravity  
And the general idea was accepted happily; Imagination lies deep within,  
Those fearless to express finally win!

*Meaning: In 1905, Albert Einstein proposed the special theory of relativity for uniform motion. The concepts of time dilation and length contraction were given along with the twin paradox. According to Einstein's famous mass-energy equivalency, in order to travel back in time, one has to provide infinite energy which is not possible. As these laws were for uniform motion, there were several drawbacks to the theory which were again corrected by Einstein in his General theory of relativity wherein he incorporated the concept of gravity. Sir Albert Einstein's vision has given us a whole new perception of our universe.*

*By- Tanika Gupta, M.Sc. (AP)*

## STUDENT TRAIT

The student life is hard But they  
must be glad They should have  
opinion.

Nothing is impossible Every  
dream should be pure,

Your Future is Secure Your  
thought must be right Everything  
will be bright Your sleep should  
be less, Nothing will be mess  
You have light food, Everyone  
must thought good, If your  
character is fine.

Nothing will be strike.

If Good qualities you must have  
Nothing will get you distract

*By- Himani Grover, B.Sc. (H) Mathematics*

## Into the unknown

Trying to hide and camouflage  
As the sun travels from east to west  
drowning in thoughts and inner voices  
Until the sun peeps back up The sky

Days were numb and nights were  
enervating  
Sad and broken was all I thought I am  
Until a dawn brightened my thought  
made me understand my potent  
And showed me what I am destined

For all this time I have been asking  
Where is my place and where do I  
belong  
To realize I'm air n belong everywhere  
Inside lungs and outside earth.

*By- Meera Suresh, B.Sc. (H) Chemistry*

Inner peace is all about the peace of mind. It has different meanings for different people. For some it's listening to music, for others it's spending time with their special ones. But, the sole way to get inner peace is to be cognizant of how to find it !!!

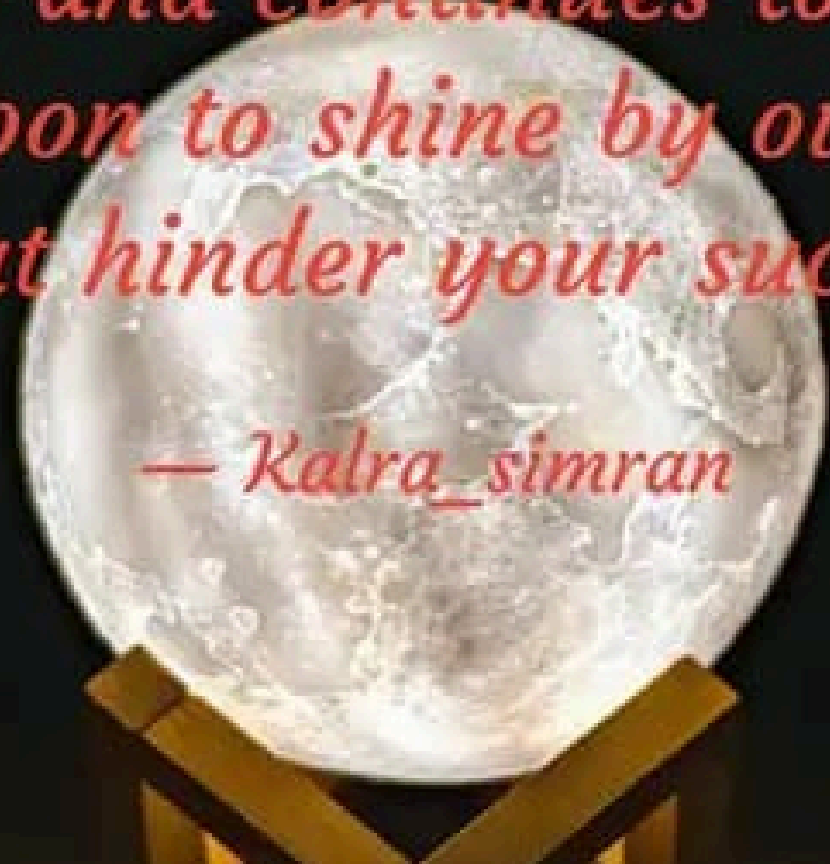


People have a belief that if you don't know how to tackle a situation, have faith in God. But what they forget is "God help those who help themselves". Change your belief, give your best shot everything and wait for success, don't stop until you achieve your goals !!!



The night is dark and quiet

*You're right the night is dark and quiet but not for everyone, for some it's peaceful and for other it is the silence from their hectic schedule. Opinions change for everyone has their own perspective but the "night" remains as it was dark with the Moon being the only one that overcomes this darkness and continues to shine. Learn from the Moon to shine by overcoming all obstacles that hinder your success 😊😊😊*



*Far away from here exists a road of life not many know of, it's full of fog and is a path undecided. It offers danger, thrill and surprises. Not many choose this path because of its uncertainty but success always involves taking risks.*

*- Kalra\_simran*

*Books are the keys to a door you didn't know existed. They give you the freedom to live through the lives of people despite your absence. They open the locks 🗝️ of a magic world which only exists in your imagination and gives you all the assurance you need to become whom you've always wanted to be*



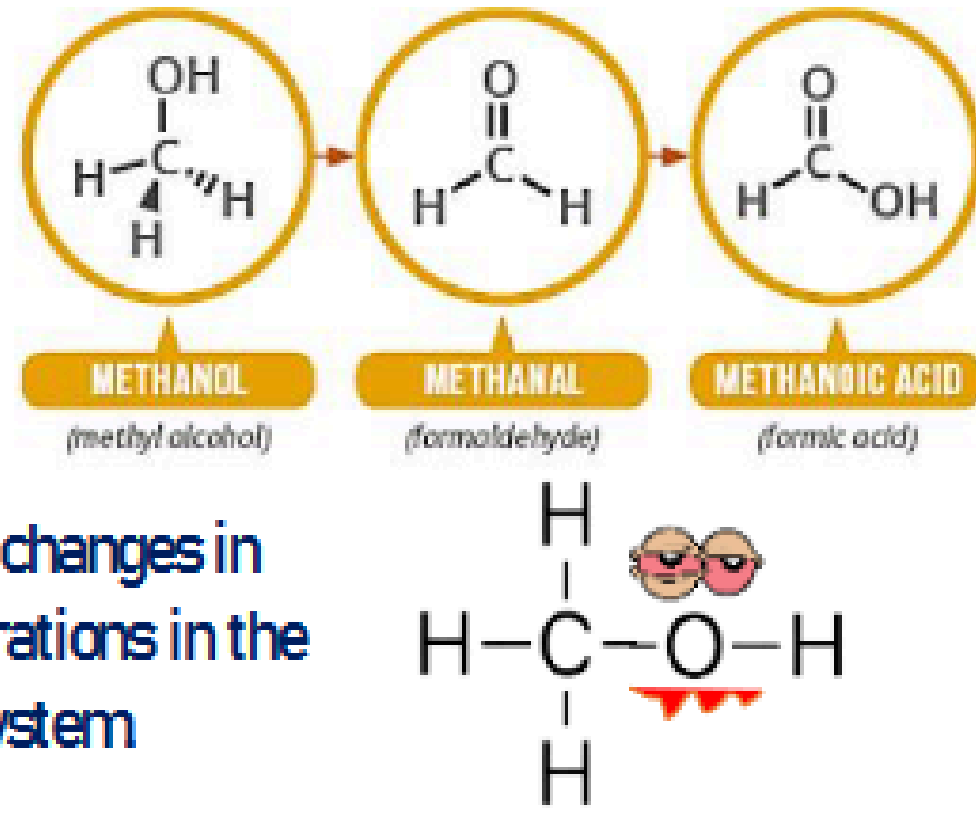
*When I talk to myself people who think that I am too lonely to have someone with whom I can talk are stupid as they never heard about the art of self introspection.*



*By- Simran Kalra, B. Sc. (H) Physics*

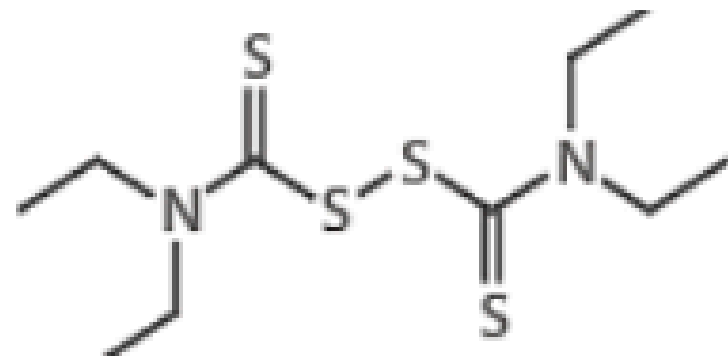
## THE CHEMISTRY OF HANGOVER

Formaldehyde, a metabolite of methanol (alcohol) is eventually excreted from the body as methanoic acid, and it contributes to the symptoms of a hangover.



Alcohol causes changes in cytokine concentrations in the immune system

Over time, excessive alcohol use can lead to the development of chronic diseases and other serious problems including high blood pressure, heart disease, stroke, liver disease, and digestive problems.



The drug in left inhibits the formaldehyde breakdown that produces unpleasant and hangover symptoms.



## THE CHEMISTRY OF SMARTPHONE!

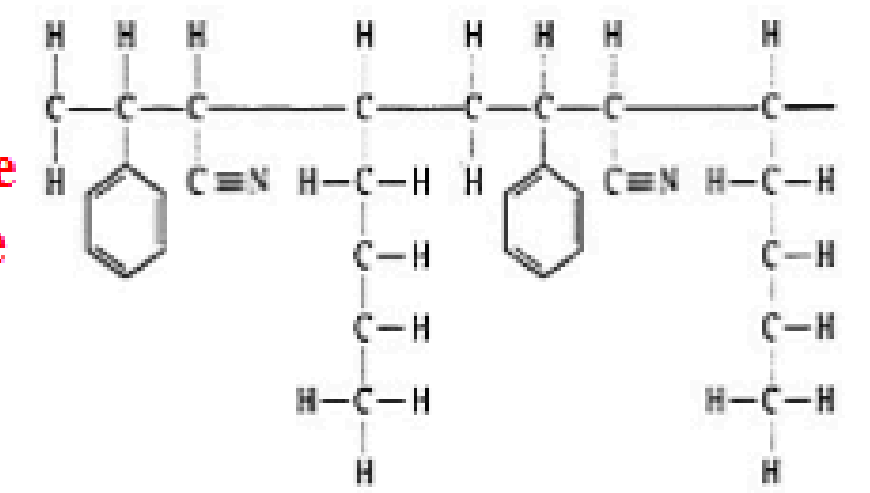
Of the 83 stable elements, at least 70 of them can be found in smartphones! That's 84% of all the stable elements.

The display screen is made from a specially toughened glass (silica glass strengthened by the addition of aluminum, sodium, and potassium) and coated with a material to make it conductive (such as indium tin oxide).

The circuit board uses a semiconductor material (usually silicon); commonly used metals like copper, tin, silver, and gold; and more unfamiliar elements such as yttrium, praseodymium, and gadolinium.



The case or body of phone consists of a combination of sturdy & durable polymers like acrylonitrile butadiene styrene (ABS) and polycarbonate thermoplastics with light & strong such as aluminum, magnesium, and iron.



Gorilla Glass is composed of an oxide of silicon and aluminum—also called aluminosilicate glass—along with sodium ions. It can withstand 100,000 pounds of pressure per square inch!

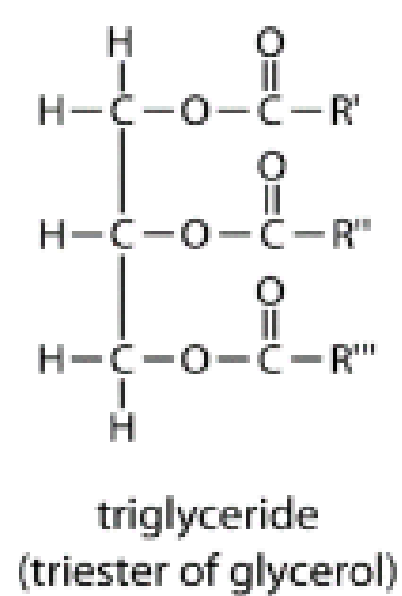
## THE CHEMISTRY OF ICE CREAM !

Ice cream is a combination of air, ice crystals, fat globules & liquid syrup.

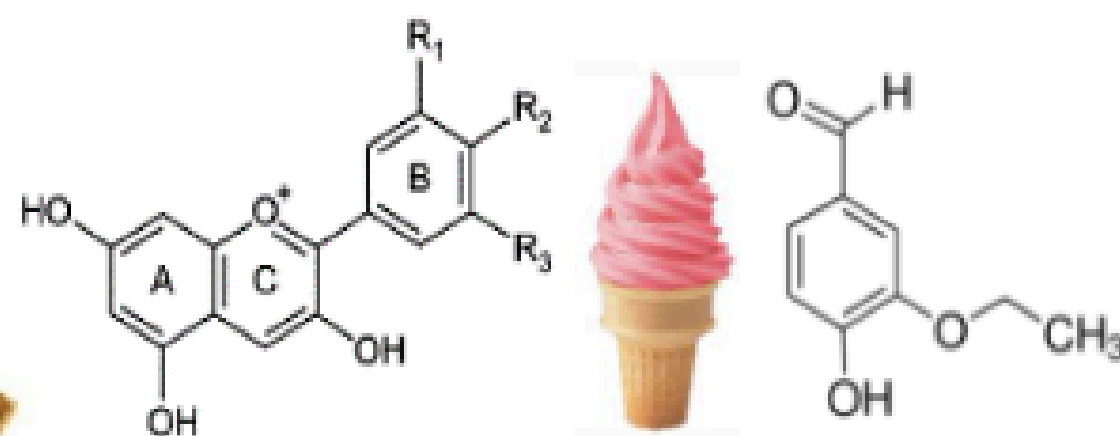
Ice cream is a type of emulsion, which is a combination of fat and water that wouldn't mix without separating. Instead, one of the liquids is dispersed throughout the other. When it comes down to physical chemistry, ice cream has a colloidal structure.



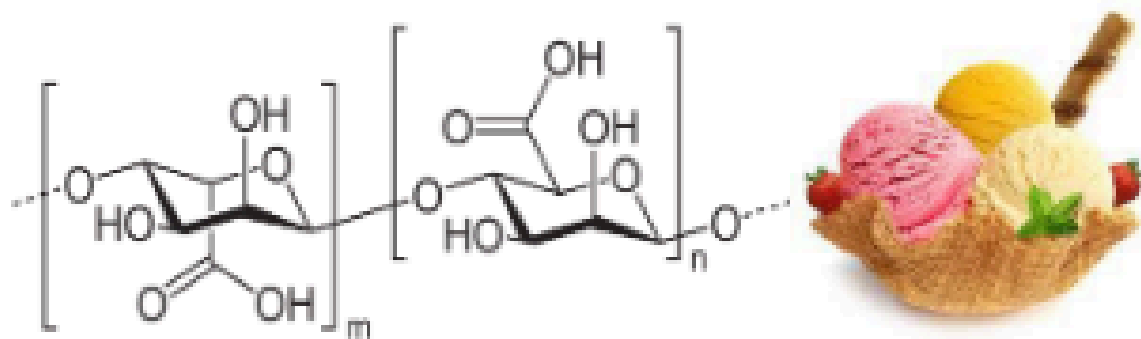
Fats are largely composed of a class of molecules called triglycerides, with very small amounts (less than 2%) of other molecules such as phospholipids and diglycerides.



Stabilizers are added to ice cream as they reduce the rate of melting of ice cream. Sodium alginate is the sodium salt of alginic acid extracted from brown seaweeds. It increases the viscosity of liquid phase and produces synergistic effects.



A frequently used artificial flavor is Vanillin for Vanilla ice cream. Anthocyanins, color pigments found in plants, is what gives strawberry ice cream it's iconic pink color.



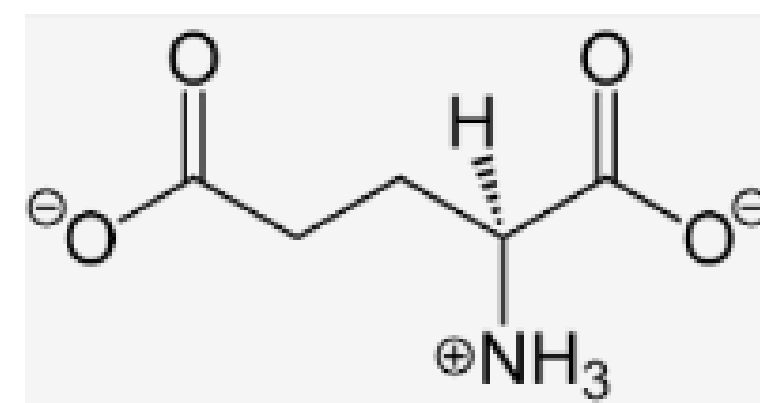
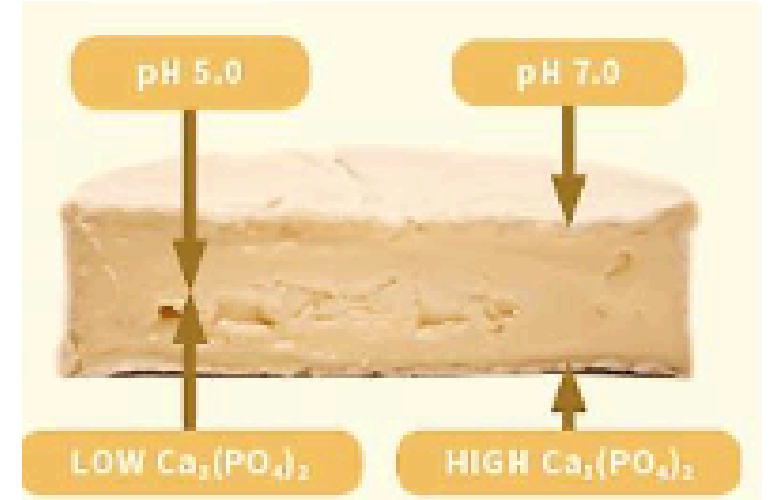
## THE CHEMISTRY OF PIZZA!

Calcium phosphate helps to hold casein protein micelles together in cheese. As lactic acid is broken down, pH increases that makes  $\text{Ca}_3(\text{PO}_4)_2$  less soluble and it precipitates on cheese's surface. It makes it even softer.



Ingredients of Pizza:

- Flour- $\text{C}_4\text{H}_8\text{O}_4$
- Water- $\text{H}_2\text{O}$
- Salt- $\text{NaCl}$
- Yeast- $\text{C}_{19}\text{H}_{14}\text{O}_2$
- Garlic- $\text{C}_{12}\text{H}_{21}\text{NO}_4\text{S}_3$
- Cheese- $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$
- Oregano- $\text{C}_6\text{H}_3\text{CH}_3(\text{OH})(\text{C}_3\text{H}_7)$
- Olive oil- $\text{CH}_3(\text{CH}_2)_7\text{CH}=\text{CH}(\text{CH}_2)_7\text{COOH}$

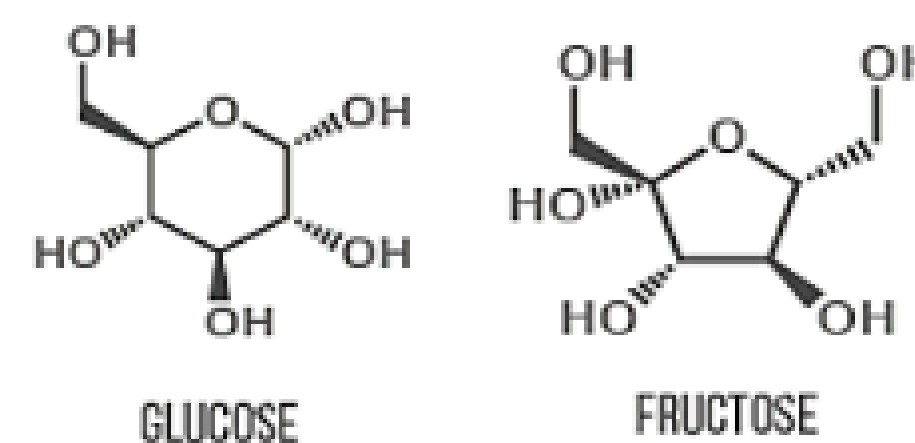


Pizza toppings are packed with a compound called glutamate, which can be found in tomatoes, cheese, pepperoni and sausage. When glutamate hits our tongue, it tells our brain to get excited and to crave more of it. This compound causes our mouth to water in anticipation of the next bite !!!!

## THE CHEMISTRY OF CANDIES

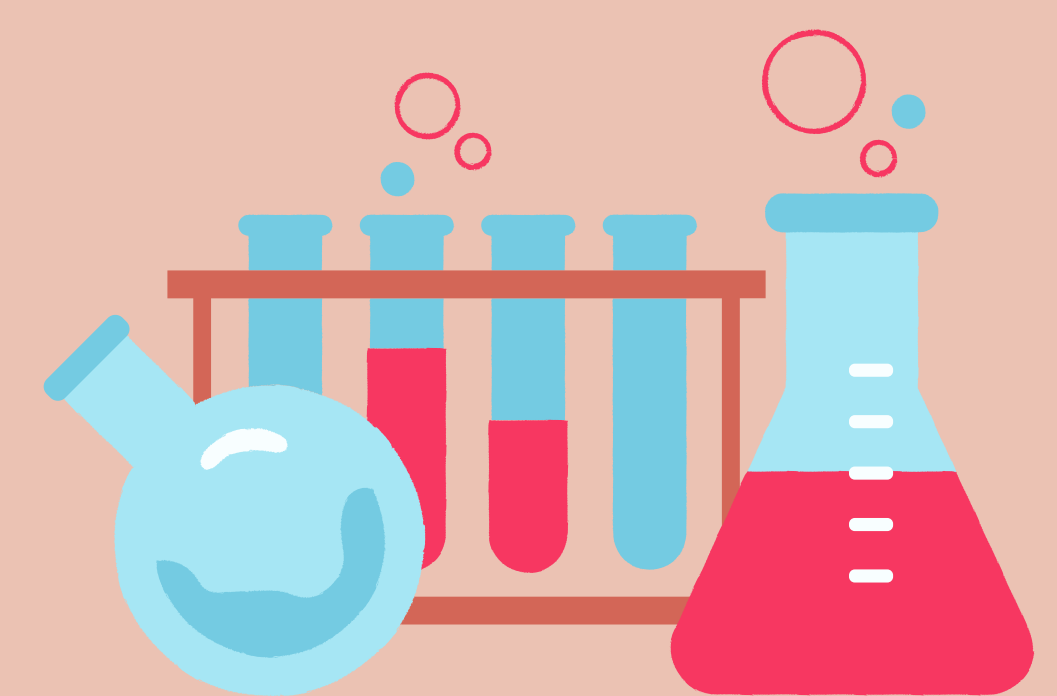
DID YOU KNOW THAT CANDY-MAKING IS A TASTY FORM OF CHEMISTRY?

Sucrose (Sugar) is a disaccharide made up of two monosaccharides; glucose and fructose. Because of the sucrose molecule structure, we can make all kinds of candy just using sugar and a liquid, and sometimes a bit of fat.

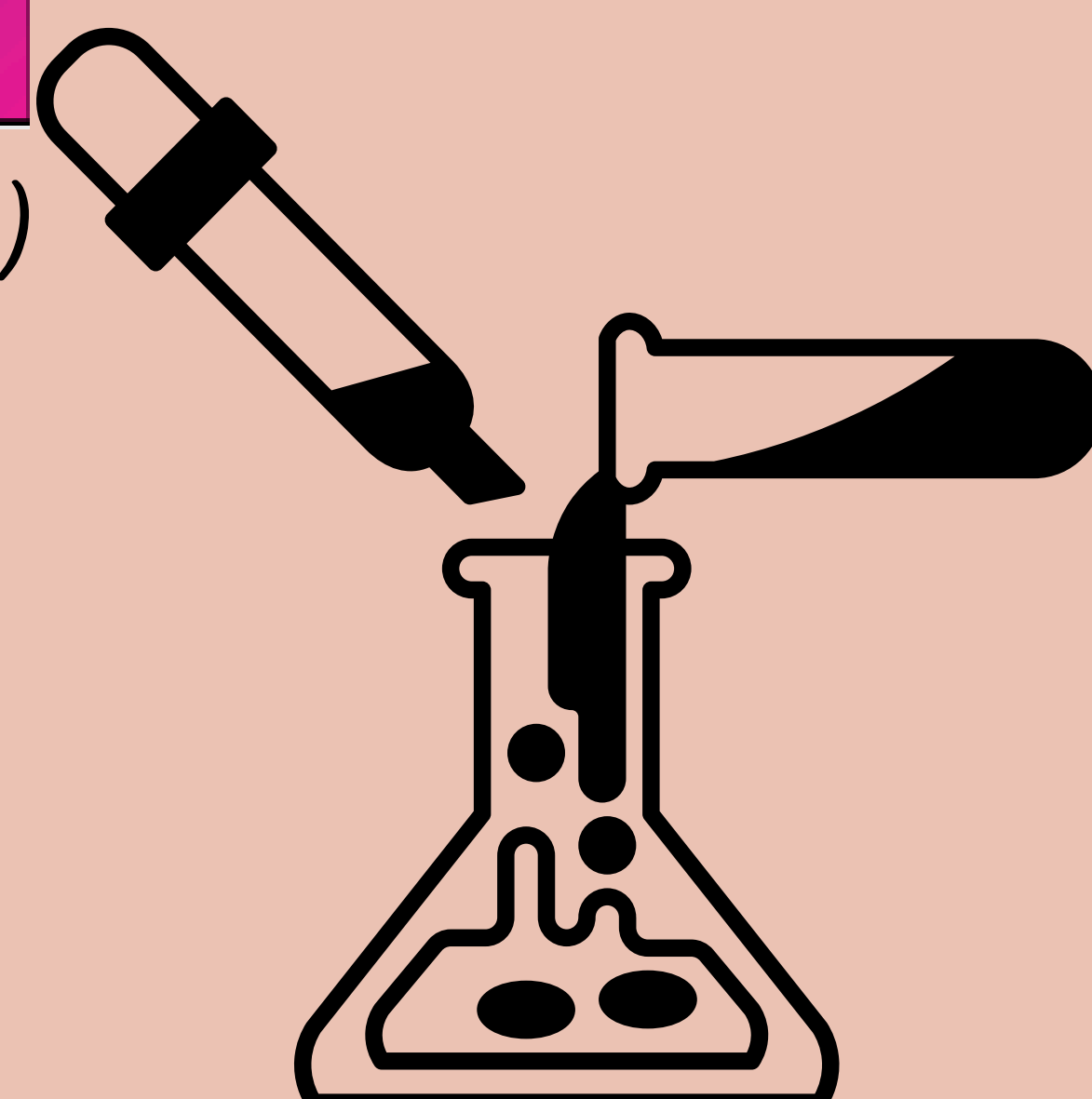


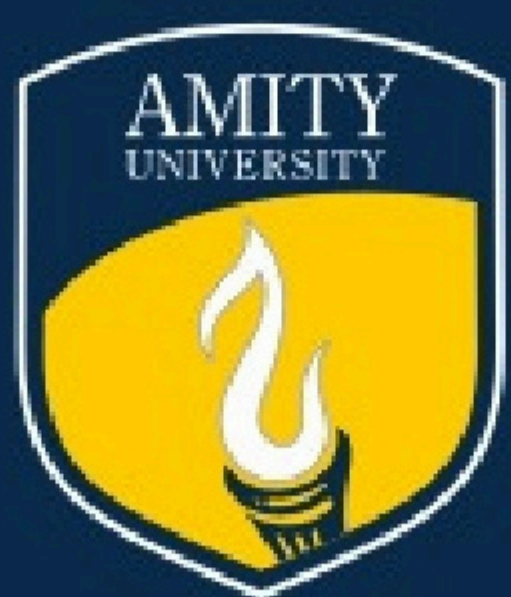
The crystallization process is explained by Le Châtelier's principle, which states that a system that is shifted away from equilibrium acts to restore equilibrium by reacting in opposition to the shift.

The natural flavors are obtained through Fischer esterification and distillation, while the colorants are hence, characterized by chromatography and spectroscopy.



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