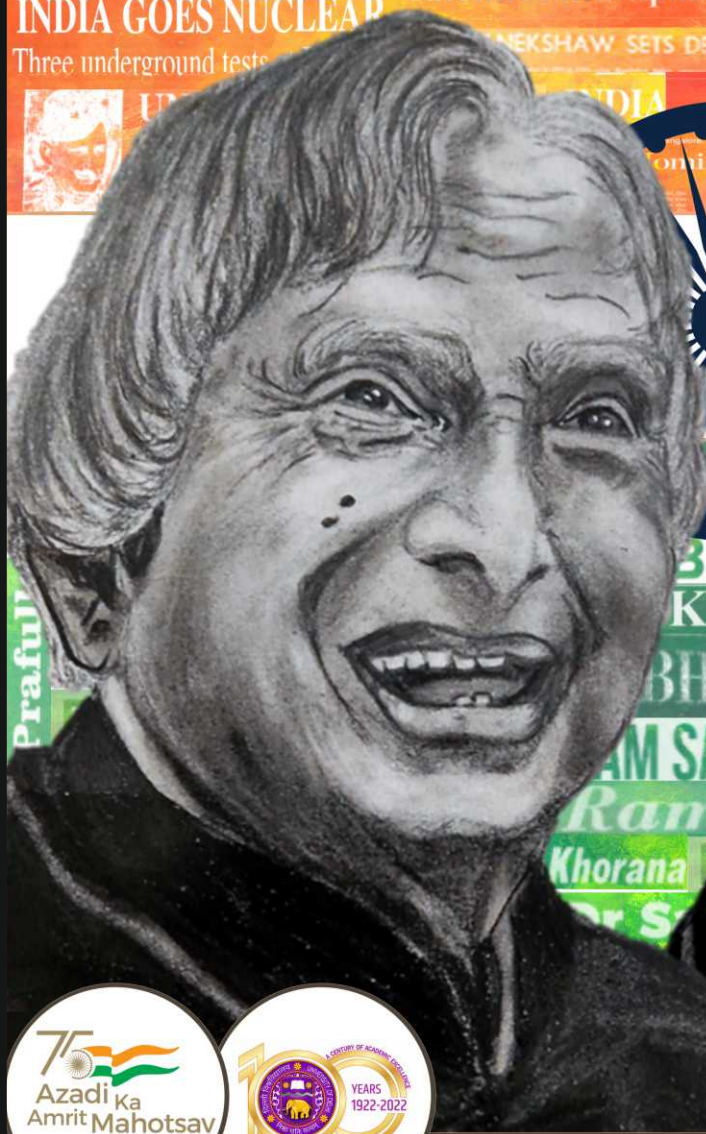


BHASKARACHARYA COLLEGE OF APPLIED SCIENCES  
UNIVERSITY OF DELHI

# RESONANCE '22

NIRF RANKING - 32

STAR COLLEGE - DBT



CENTENARY OF UNIVERSITY OF DELHI



" उद्यमेन हि सिध्यन्ति कार्याणि न मनोरथैः ।  
न हि सुप्तस्य सिंहस्य प्रविशन्ति मुखे मृगाः ॥ ३६ ॥ "  
हितोपदेशः



" इपट्टइइ टक्क ठोपु ते वत्तोइएवे जोते व व्हरवत वेदो ठे ह्ठिठत् ।  
व वेदए नएएए टठलइइ ववे ह्ठिठइ तेह लठपते  
ठे व इठइपोइठ गिठ ॥ (३६) ॥ "  
हितोपदेशेव



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## Interaction with the Principal

यह चेतना, हृदय स्पंदन, भास्कराचार्य के लिए,  
यह ऊर्जा, यह भावना और विज्ञान के नूतन अविष्कार राष्ट्र निर्माण के लिए।  
**आचार्य अरुण मिश्र**



Srividya: Good evening sir, I hope you are doing well.  
Principal Sir - Very good evening to all of you.

Srividya: Sir, my question is what major developments have you seen since you joined the college?

Principal Sir- I joined the college in November of 1999. The campus was in Pusa and I have seen the development of college since its inception at Dwarka to present glory. Earlier there were only 4 courses with about 150 to 200 students, but now there are 11 courses and 1500 students in the college. When I joined, there were about 25 teachers but now there are 92. With the passing years, BCAS has grown and evolved and I am blessed to have been a part of its journey.



श्री विद्या : विश्वविद्यालय एक बार फिर पूर्णतः खुल चुके हैं। क्या आपकी, विद्यार्थियों से कुछ खास अपेक्षाएं हैं?

प्राचार्य जी : जैसा कि आप सभी जानते हैं कोविड-19 महामारी के कारण पिछले २ वर्षों से विद्यार्थी घर बैठे शिक्षा प्राप्त कर रहे थे ऑनलाइन शिक्षा से विद्यार्थी प्रयोगात्मक कार्य में प्रवीण नहीं हो पाते अतः विद्यार्थियों का विषय के प्रति रुझान कम होने लगता है। महाविद्यालय का वातावरण व्यक्ति को अध्ययन करने में सहायता करता है। हमारे महाविद्यालय में सभी विद्यार्थी विज्ञान के पाठ्यक्रम पढ़ते हैं अतः सभी को अधिक से अधिक समय प्रयोगशाला में विषय संबंधित तकनीक सीखनी चाहिए।



Abhimann: Thank you so much sir, sir since democracy is an integral part of the country, how can we ensure a democratic functioning of the college.

Principal Sir: Yes! Democracy is indeed a fundamental part of our constitution. I believe the functioning of the colleges has been largely democratic. We have a students union which is democratically elected, we have class representatives to whom students can address their concerns, we have the mentor mentee system wherein students can address their concerns directly to teachers and the teachers can tell the administration, even the presence of various cells and committees to address various issues highlights the democratic functioning of the college.



Abhimann : Sir, my next question is how an institution can ensure that students enjoy their fundamental rights within the boundaries of their duties.

Principal Sir - This depends upon the individual. No amount of force or pressure can bring about this change. Everyone is aware of their duties, but whether or not they follow it is upto them and a reflection of their principles. We can only guide the student, but it is important to





run both the rights and the duties parallelly.

श्रीविद्या : क्या आपको लगता है कि युवा पीढ़ी देश की आजादी के संघर्ष के बारे में जानती एवं आभारी है ?

प्राचार्य जी : इसके लिए मेरा स्पष्ट उत्तर है, नहीं। युवाओं को आजादी के संघर्ष का वास्तविक महत्व समझने की अत्यंत आवश्यकता है। आज के समय में युवा अक्सर अपने जीवन में गलत कदम उठा लेते हैं और गलत दिशा में चले जाते हैं। देश का भविष्य देश के युवा ही उज्ज्वल कर सकते हैं, इसलिए हमें सही समय पर युवाओं को सच्चाई के मार्ग पर और श्रम करने के लिए प्रेरित करना होगा। 75 “आजादी के अमृत महोत्सव” का ये मुख्य उद्देश्य है।

Abhimann- Thank you sir, my next question is what would you suggest to students when they are transitioning from the school to the college.

Principal Sir - I believe that the Ist semester is a very crucial junction in the students life which decides their future. We can share everything with our friends but cannot do so with our teachers. However it is important for the student to judge what is correct and what isn't. We tend to assume certain things about the college but we need to know the facts before setting an opinion. My advice would be to have a feeling of belongingness to the college. Teacher is the best guide, philosopher and mentor of life. It goes without saying that the growth of college is the growth of the individual and the students are the flag bearers of the college. Students should imbibe the fact that any development in their life is the development of the college and should remember that they are an inseparable part of the college.

Nikhil: Sir my last question is what is the your message to the youth of the country.

Principal Sir -My message to the youth is what ever you do, what ever you think that should be for the well being of Nation. Whatever you do in your professional life, you should go with the attitude of contributing towards the well being of the nation. Nation starts from an individual only and any development to the nation will benefit the individual only.....

निखिल: प्राचार्य जी, महाविद्यालय पत्रिका रिजोनेंस 2022 के विषय में आपका क्या संदेश है ?

प्राचार्य जी : मुझे अत्यंत प्रसन्नता है, विद्यार्थियों का समूह प्राध्यापक वर्ग के मार्गदर्शन में महाविद्यालय के विद्यार्थियों एवं प्राध्यापकों के लिए एक उत्तम पत्रिका प्रस्तुत करने के लिए प्रयासरत है।

महाविद्यालय पत्रिका विद्यार्थियों की कल्पना एवं भावनाओं को लिखित रूप में अभिव्यक्त करने का उत्तम साधन है। मैं संपादक मंडल के सभी प्राध्यापकों एवं विद्यार्थियों को पत्रिका की सफलता हेतु शुभकामनाएं एवं बधाई देता हूं।



## सम्पादकीय



एक दीप भी कर सकता है भेदन सघन अंधेरे का,  
जितने दीप जलेंगे यहाँ होगा उतना ही उजियारा।

डॉ श्वेतांबरी  
संयोजक पत्रिका समिति

वैदिक काल में प्रारंभ हुई यह गुरु शिष्य परंपरा आज के आधुनिक परिवेश में भी विभिन्न तकनीकी क्षेत्रों में कीर्तिमान स्थापित कर रही है। भास्कराचार्य में विज्ञान के विभिन्न पाठ्यक्रम पढ़ाए जाते हैं।

भास्कराचार्य महाविद्यालय पत्रिका "रिजोनेंस" का रजत जयंती संस्करण प्रस्तुत करता है। यह पत्रिका महाविद्यालय की गतिविधियों का दर्पण है। यह विद्यार्थियों की लेखन शैली, कला कौशल प्रस्तुत करने एवं विचारों को अभिव्यक्त करने का सर्वोत्तम साधन है। महाविद्यालय पत्रिका विद्यार्थियों के सर्वांगीण विकास में एक महत्वपूर्ण भूमिका निर्वह करती है। किसी महाविद्यालय की पत्रिका को देखकर हम महाविद्यालय के प्राध्यापकों एवं विद्यार्थियों की राष्ट्र और समाज हित के प्रति भावनाओं को समझ सकते हैं। महाविद्यालय पत्रिका विद्यार्थियों की रुचि और विचारों को विभिन्न क्षेत्रों में जागृत करने एवं प्रस्तुत करने का एक सफल

प्रयास करती है। यह विद्यार्थियों की अनमोल स्मृतियों का संग्रह है, जो सदैव उनके जीवन में भास्कराचार्य में व्यतीत किए समय की याद दिलाता रहेगा।

भास्कराचार्य की वार्षिक पत्रिका रिजोनेंस 2022 आजादी के 75 वें अमृत महोत्सव होने के संदर्भ में वैज्ञानिकों और सैनिकों के अतुल्य योगदान के लिए समर्पित है। भारत के स्वतंत्रता आंदोलन के दौरान हुए संघर्ष में कई वैज्ञानिक एवं सैनिक शामिल थे जिन्हें ब्रिटिश सरकार द्वारा भेदभाव और उपेक्षा का सामना करना पड़ा था। समाज की मलाई के लिए वैज्ञानिकों एवं सैनिकों ने अपने क्षेत्र में सराहनीय योगदान दिया है, जिन्होंने अनेक कठिनाइयों के बावजूद अपनी वैज्ञानिक विचारधारा एवं देश प्रेम से देश के नाम अपना जीवन समर्पित कर दिया। भारतीय संस्कृति का कोविड-19 से उभरने में महत्वपूर्ण योगदान रहा है। हमारे पूर्वजों ने विज्ञान और अध्यात्म का समन्वय किया था जिसमें से उत्पन्न वैज्ञानिक दृष्टि के कारण विज्ञान का विकास सृष्टि के अनुकूल एवं मंगलकारी कार्यों के लिए हुआ है, जिसकी आवश्यकता आज विश्व भर में व्याप्त है।

भारत के विभिन्न प्रांतों में विभिन्न भाषाएं बोली जाती हैं। भाषाओं, जाति एवं पंथ की विभिन्नता के बाद भी सभी भारतवासी एक सूत्र में बंधे हुए हैं। विभिन्न भाषाओं की महत्ता को देखते हुए पत्रिका में विभिन्न प्रादेशिक भाषाओं के लेख सम्मिलित किए गए हैं।

इस पत्रिका में महाविद्यालय के विभिन्न विभागों, समितियों एवं क्लबों का वार्षिक विवरण सम्मिलित है। मैं सभी विभागों, समितियों एवं क्लबों के प्रभारी शिक्षकों एवं संयोजकों के सक्रिय योगदान के लिए हार्दिक धन्यवाद करती हूँ। विज्ञान के विद्यार्थी होते हुए कला और लेखन में विलक्षण प्रतिभा का प्रदर्शन करने हेतु मैं विद्यार्थियों की मुक्त कंठ से सराहना करती हूँ।

महाविद्यालय के विद्यार्थियों ने आवरण पृष्ठ से लेकर कला संग्रह, लेख सभी के लिए सराहनीय प्रयास कर रिजोनेंस 2022 के सफल प्रकाशन में सहयोग दिया है।

मैं संपादक मंडल के सभी प्राध्यापक गण एवं विद्यार्थियों का हार्दिक आभार व्यक्त करती हूँ, जिनके बिना इस पत्रिका का सफल प्रकाशन असंभव था।

मैं आदरणीय प्राचार्य, आचार्य अवनीश मित्तल जी का, अमूल्य मार्गदर्शन, अद्भुत सहयोग एवं हमारे प्रति विश्वास के लिए हार्दिक धन्यवाद करती हूँ।

मुझे आशा है आप सभी पत्रिका के विभिन्न खंडों एवं महाविद्यालय की वार्षिक गतिविधियों की झलक देखकर आनंदित होंगे।



## Description of the cover page

'Resonance' is not just a college magazine - it is the pride of Bhaskaracharya College of Applied Sciences. It is, thus, an immense honor and privilege to be able to get an opportunity to showcase my ideas on a platform that is so central to my own life, growth, and education.

I would like to thank the Principal of Bhaskaracharya College of Applied Sciences, Professor Avneesh Mittal and the college in its entirety for providing to me with this opportunity.

It was my aim to represent three events taking place this year that hold an important position in the heart of every student studying in Bhaskaracharya College of Applied Sciences. The events are:

1. 25 Years of Bhaskaracharya College of Applied Sciences
2. 75 Years of India's Independence
3. Centenary of the University of Delhi

The best way to integrate these three events, in my humble opinion, is through the message of national unity and the service of science towards nation-building. That's why the theme I adopted for the 2021-2022 edition of Resonance- The Annual Magazine of Bhaskaracharya College of Applied Sciences is "Scientists and Soldiers in the Service of India".

Our college prides itself as the only co-educational college in the University of Delhi which is specifically reserved for students of science, this theme best portrays how Bhaskaracharya College of Applied Sciences in its own small way is helping propel the nation forward, one scientist at a time.

Soldiers and Defence personnel have also been included as not only a tribute to the brave men and women who guard our nation but also due to the fact that the most crucial scientific research undertaken to protect India has been in the defence sector.

The front cover utilises the colours of our national flag, with the orange paying tribute to important milestones of our country in these 75 Years of Independence with a special emphasis on the role of science and the green part includes the names of renowned Indian Scientists. Actual newspaper headlines from leading newspapers from those time periods have been used to best capture the emotions and feelings associated with such milestones.

The front cover also bears hand sketched portraits of two prominent Indian personalities- Dr. A.P.J. Abdul Kalam and Field Marshal Sam Manekshaw. Field Marshal Sam Manekshaw has been placed behind Dr. Kalam to represent how the Armed Forces in India have looked after our safety while always staying in the background. Dr. Kalam has been placed ahead to represent the eminent Indian Scientists such as himself who have always led our nation from the front.

The front cover uses shades of silver and gold. Silver represents the Silver Jubilee of our college and the Gold represents the Centenary Year of the University of Delhi. It also includes the official logo of Bhaskaracharya College of Applied Sciences for its Silver Jubilee Year (which was also a design made by myself).

The Logo has a circular border with a metallic sheen representing a silver medal and has a '25' written with a saffron and a green dot to represent the 75 years of India's Independence. The logo also has two waving flags as a homage to the design of the 'Azadi ki Amrit Mahotsav' logo. It has the college logo placed on a green background to give the appearance of the tricolour.

The sketches and the design have been completely hand drawn and designed from scratch solely by me. Even the orange and green stripes on the front cover page, on which the clippings are placed, have been hand-painted in order to achieve a completely unique cover page for our magazine.

I hope that the readers of the magazine enjoy the front and back cover page and everything in between as much as the Student Editorial Team enjoyed making it.

Kuntak Saha  
Designer for the Cover Page  
Department of Microbiology  
Bhaskaracharya College of Applied Sciences  
University of Delhi



## Best Wishes For The Next Twenty-five Years



I am one of the few members who started their careers with Bhaskaracharya College and probably end with it too. It was July 1998, when I joined the college, as a novice myself, the first few weeks were daunting. The journey from being a student myself to a “ma'am” to students was both exhilarating and challenging. I then would not have imagined that someday I shall be writing about the college on its silver jubilee and yet here I am. “Time flies” never felt more real. Where do I begin? How does one summarize the journey of 24 years in a page or two? But, here I attempt...

The college began its journey from a temporary base in the Pusa campus with three courses, the fourth one came along with my arrival. With four courses and a bunch of young, enthusiastic, hard-working and dedicated staff under the able and compassionate leadership of Dr G. R. Chopra sir, the college started on a path of success and growth in the following years. We shifted to our sprawling campus in 2002 at Dwarka, several more courses were added and the tally now stands at eleven and at least seven more courses are in the pipeline.

The college hasn't only expanded in terms of its academics but also the BCAS clan has grown progressively with more faculty and staff members in these two and a half decades. Each of them bringing their uniqueness yet merging seamlessly with the ethos and principles that the college stands for. The journey of the college would not be complete without the effervescent and dynamic students who join a particular year and become a part of the ever-evolving BCAS family. Their presence contributes in myriad ways. From academic excellence to showcasing their talent in extra-curricular activities and sports, they not only bring more laurels but carry forward the legacy and inspire every next batch of students.

Our alumni are the brand ambassadors of the college and do us proud wherever they go. Besides the laurels that our students bring and our faculty work tirelessly for, (each edition of the annual report is a testimonial of the same), there have been a few recent additions to the glorious distinctions. These include grade “A” accredited by the National Assessment and Accreditation Council (NAAC) in the first cycle, being ranked 32 by the National Institutional Ranking Framework (NIRF) and also holding the distinction of “Star College Status” granted by the Department of Biotechnology, Government of India for over a decade.

On the personal front, I am grateful for the many bonds I have made with faculty, staff members and students. To find friends in colleagues with whom one shares a bond that shall last a lifetime is a blessing. The mutual warmth and respect shared with staff members and being remembered and idolized by alumni is priceless. All of it would not have been possible, had I not said, “yes” in the July of 1998. All these pluses somehow balance a few “I so wish”...

Going forward, am certain that the same spirit of teamwork, dedication and bonhomie shall take the college to greater heights, I look forward to being part of this journey... Here is wishing a glorious silver jubilee to the BCAS family and wishing my best for the next twenty-five.

**Dr. Madhulika Bajpai**  
Coordinator IQAC, BCAS





## Embarked on The Boat of Memories, The 25 Year Long Journey From a Workplace to The Second Home - BCAS



What a journey it has been!!!!!!

When I joined college, it was in a rented building near the PUSA campus with a few classrooms and fewer labs. The infrastructure was not something to write home about, but we did not let it come in our way. We had very few courses running then, and the student strength was also less! We were a close-knit group sharing a staffroom and many experiences! We were a great team working under the able guidance of our principal and father figure Dr GR Chopra. It was his farsightedness and steadfastness that we got our Dwarka campus. The building was completed in record time!



We moved into a sprawling 11 acres campus in December 2002. I still remember how we used to come to Dwarka to plan the lab layout, landscaping of the lawns etc. Some of the trees you see on campus were planted back then. The college has evolved very well over the years. Our students are getting very good placements. So, you see we are becoming better by the day.

This college has given me priceless experiences. Here my life has been enriched by friends who are like family! Students with their hard work and with the help of capable mentoring of the teachers have attained greater heights in their respective careers. Young boys and girls from school join the college and I have seen them graduate as smart ladies and gentlemen. These young students are mature, capable, and confident to take on the various challenges thrown at them by life.



'Bon – homie' is yet another feature that is unique to this college. The students, the teachers and the staff have created a suitable environment for perfect all-round development. Our students are placed all over the globe and I'm proud to say that the grind they went through here has also been responsible for their success. I am happy to be a part of this nurturing and grooming process.



I am a witness to many festivals in the college where the participation was at its best and the energy during these festivals was palpable! The performances, the songs, the skits etc. in these festivals were of a class that depicts the commitment of the faculty and the students. Another good thing about this college is the maintenance of discipline, especially during these festivals. Proud of our students who belong to a smart lot and know very clearly where they want to go.

So, we started where we had to, to tell who we were, but now people know who and what we are- 'Bhaskaracharya College of Applied Sciences. We have earned an 'A Grade' accreditation by NAAC and STAR COLLEGE status by DBT, which in my opinion is exceptional considering that we've just hit the 25 year mark. And we have reached a stage where we are ranked among the top science colleges in the country.

We are super and we are getting recognition! We are gonna go even higher and higher from here and become super se bhi uper! Let's join our hands together and take a pledge to make this dream of success a reality!

With memories in heart and mind and pictures in my mobile, it is next to impossible to take the name "BCAS" out of my mind!

**Dr. Sujata Bhardwaj**  
Associate Professor  
Department of Botany BCAS





# हिंदी खण्ड



**Vighneshwari Murugesan**  
B.Sc. (Hons.) Instrumentation I year



## फैसला

जब फैसले हो बड़े,  
या हो बड़े ये सपने।  
साथ न देगा कोई यहाँ,  
पराये हो या अपने॥

अब कर ले तू एक फैसला,  
फिर न टूटे अब वो हौसला।  
एक ऐसी ही बुनियाद पर,  
खड़ा है जैसे पंछी का घोंसला॥

अगर बुलंदियों को पाना है,  
उन रास्तों पर जाना है।  
मंजिलों को साध कर,  
अब कदम बड़ा बढ़ाना है॥

कर्मी की मशाल पर,  
आग लगा दो आज तुम।  
छीन लो ये मौका अब,  
जैसे शिकार के हो बाज तुम॥

अब न कोई तुझसे टकराएगा,  
बीती बातें सब भूल जाएगा।  
मंजिल के उस मोड़ पर,  
एक ऐसा तूफान भी आएगा॥

**अभिनीत रमन,**

बी. एस. सी. (ऑनर्स) कंप्यूटर विज्ञान (द्वितीय वर्ष)

## हम जीत जाएंगे

संघर्ष का मैदान छोड़कर, दूर भाग ना जाएंगे,  
अडिग रहेंगे, डटे रहेंगे, एक दिन हम जीत जाएंगे।

यह एक आगाज़ है, आसमान को छूकर दिखाएंगे,  
आलोचना से सीख लेकर, एक दिन हम जीत जाएंगे।

कांटों में से फूल तराशकर, सुगंधित जहां कर जाएंगे,  
सौन्दर्य से परिपूर्ण जहां में, एक दिन हम जीत जाएंगे।

सफ़र सुहाना हो ना हो, मंजिल तक आ जाएंगे,  
बना सुहानी मंजिल को, एक दिन हम जीत जाएंगे।

कह दो राह पड़े उन रोडो से, वो हमें ना रोक पाएंगे,  
हम मंजिल के मुसाफिर, जीत कर दिखाएंगे।

जीत के इस सफर में, कुछ चिन्ह ऐसे छोड़ जाएंगे,  
एक रोज याद कर हम मुसाफिरों को,  
उदाहरण पेश किए जाएंगे।

अगर चल पड़े हैं राह पर और कर लिया इरादा जीत का  
तो...  
यकीनन हम जीत जाएंगे, एक दिन हम जीत जाएंगे।

**ललित कुमार,**

बी. एस. सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)

## हमसफ़र

छोड़कर पीछे एक दुनिया को,  
नयी दुनिया बसाती हैं।  
कभी मकां था जो जहां में,  
घर उसे बनाती हैं॥

छुपा दर्द को सीने में,  
समक्ष हमारे मुस्कराती हैं।  
जीवन रूपी रथ की सारथी,  
हमसफर कहलाती हैं॥

रेगिस्तान सा सूखा जीवन,  
जल बनकर वो आयी हैं।  
सूखे पड़े खेत में जैसे,  
सुकून वाली हरियाली छायी हैं॥

दिल की धड़कन, हर दर्द की दवा,  
सुख-दुख में साथ निभाती हैं।  
सात फेरे लेकर साथ है आयी,  
पत्नी हमसफर कहलाती हैं॥

**ललित कुमार,**

बी. एस. सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)

## प्रकृति

लगता है...  
कुछ बात है, कुछ राज है यहाँ।  
सूरज की तपिश से, चाँद की शीतलता तक  
सागर की गहराई में, आकाश की ऊंचाई पे  
पत्तों की सरसराहट से, पुष्पों के सौंदर्य में  
पहाड़ों की कठोरता से, धरती की ममता तक  
कुछ बात अनकही सी है,  
लगता है...

कुछ बात है, कुछ राज है यहाँ।  
चहकते हुए पक्षी कुछ कहने को है  
चलती पवन कहीं ले जाने को है  
गरजते मेघ कुछ गुस्से में लगते है, और  
रात की ये शांति, नींद दिलाने को है  
लगता है...

कुछ बात है, कुछ राज है यहाँ।  
बरसात की बूंदें थिरकने लगी है  
वनस्पति भी खुल के हंसी है  
नदी भी एक सफर तय करने चली है  
सागर का भी मन, मिलने को मचल रहा है  
लगता है...

कुछ बात है, कुछ राज है यहाँ।  
ये प्रकृति है,  
कई राज दफनाए, खूब सूरती से खड़ी है...

**वत्सला,**

बी. एस. सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)



## बेरोजगारी और आत्महत्या

पटरी के पास खड़ी भीड़ कुछ बता रही हैं,  
भीड़ की खामोशी ही बहुत कुछ जता रही हैं,  
झकझोर कर दे हृदय को,  
ऐसी एक घटना घटी है,  
कई सपनों को तोड़ते हुए,  
आज एक और जिंदगी कटी है ।

कटी हुई उस लाश के हाथ में,  
मुड़ी हुई एक चिट्ठी मिली है,  
चिट्ठी के शब्दों को पढ़कर,  
हर किसी की आँखों में नमी है ।

लिखा नमन है माँ-बाप को, जिन्होंने मुझको जन्म दिया,  
पढ़ाया-लिखाया बड़ा किया, अपना सब कुछ वार दिया,  
लेकिन...  
माफ करना मुझे माँ और बापू, मैं आपके कुछ काम ना आया ।

ना मिल रहा है रोजगार कहीं,  
टूट गए हैं सारे सपने,  
देखकर मेरे बुरे हालातों को,  
छोड़ गये मेरे सारे अपने ।

नहीं रखी पढ़ने में कमी कहीं, अपना सबकुछ दे दिया,  
लेकिन...  
चंद पैसों के लालच में आकर कईयों ने अपना  
ईमान बेच दिया,  
टूट रहे होंसले मेरे, अब मुझको नहीं जीना है,  
एक सवाल सरकार से, क्यों बेरोजगारों का हक छीना है ?

पढ़कर-सुनकर इन शब्दों को,  
एक अलग खामोशी छा गई,  
सबके मन में एक ही सवाल,  
क्या सच में इतनी बेरोजगारी है,  
कि मरने जैसी नौबत आ गयी ?

एक सीखते कवि की गुजारिश है युवाओं से,  
रखो हौसला और विश्वास, मत मानो कभी तुम हार,  
माना बेरोजगारी बढ़ रही है,  
लेकिन आत्महत्या ही नहीं है इसका सार,  
आत्महत्या ही नहीं है इसका सार ।

ललित कुमार,

बी .एस .सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)

## सोच समझकर पेश आना

मैं बंद पिंजरे का पंछी नहीं,  
मुझे दानों से ना बहकाना ।  
मैं स्वच्छंद आसमाँ का स्वाधीन परिदा,  
बाज समझकर पेश आना ।।

मैं राह लुढ़कता पत्थर नहीं,  
नासमझी में मत फ्रेंक देना ।  
मैं मन्दिर की एक मूर्त का पत्थर,  
भगवान समझकर पेश आना ।।

मैं ठहरे तालाब का नीर नहीं,  
कहां तक हैं कंकड डालना ।  
मेरी गहराई से तुम वाकिफ़ कहां हो,  
जरा सागर समझकर पेश आना ।।

मैं शीतल हवा का झोंका नहीं,  
तुम सहकर खुद को बहकाओ ।  
मैं गर्द उड़ाता एक तेज झोंका,  
तूफ़ान समझकर पेश आना ।।

ललित कुमार,

बी .एस .सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)

## सुन्दर कली

एक अनजानी सी, मस्तानी सी,  
अधखिली और मनचाही,  
दिल में बसी एक सुन्दर कली ।

मैं अधूरा सा, मैं आवारा सा,  
भावनाओं से आहत,  
धूमता इंसान,  
मुझे सम्भाला, मुझे संवारा,  
दिल में घर कर गयी एक सुन्दर कली ।

मनभावन और मनमोहक,  
एक राह चलाकर,  
हमराह बनी ।  
सुख में भी और दुःख में भी,  
हर पल साथ दिया,  
मची अजीब सी खलबली,  
अधखिली और मनचाही,  
दिल में बसी एक सुन्दर कली ।

एक खाली पड़ी टहनी सा था,  
एक अलग फूल बन जाएगी,  
सौन्दर्य बढ़ाया जीवन का और

अनंत छाप छोड़ गयी,  
अधखिली और मनचाही,  
दिल में बसी एक सुन्दर कली ।

ललित कुमार,

बी .एस .सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)

## ये कारवाँ

ये कारवाँ गुज़र जाएगा  
एक नया मोड़ फिर आएगा ।  
काँटों से भरे इस सफर में  
खुद को तू अकेला ही पाएगा ।  
हताश ना हो तेरे आंसू तुझे ही पोंछने हैं  
ना जाने कितने ही विनाश अभी और होने हैं ।  
आत्मबल की ओढ़नी को माथे पर तू बांध ले  
मंज़िल तो तू तलाशेगा ये बात भी ठान ले ।  
सफर बहुत लंबा है तेरे पाँव ज़रूर कापेंगे



तेरे शत्रु भी तेरी यात्रा को दिशाहीन बनाएंगे।  
हार मान कर बैठ जाऊं ये कभी ना तू सोचना  
अपनी बेड़ियों को तोड़ कदम बढ़ाए जा  
किसी भी परिस्थिति में ना तू इनको रोकना।

**सालेहा परवीन,**

बी. एस. सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)

## मानव और अमानव

सृष्टि रची अनमोल विधाता, मानव रूप सजाया।  
ज्ञान कला वाणी विद्या, सुंदर सी दे दी काया।।  
ज्ञान विवेक बुद्धि भर दी, झुकना भी उसे सिखाया।  
नीति अनीति समझ देकर, नख सिख तक उसे सजाया।।  
रचना रच दी दिव्य रूप, कीर्ति गुण सब भरपूर दिए।  
दूर किए उसके विकार, दुर्बुद्धि सकल दुख पाप लिए।।  
बाण दूर वाणी का कर लो, धरम वीर अनवरत कहें।  
ऊंच नीच का ज्ञान रहे, दिन हो या काली रात रहे।।  
कर्म करो सत्कर्म करो, देवत्व मार्ग अपनाओ।  
सत्य शपथ है सत्य सदा, तुम मोक्ष द्वार ही पाओ।।  
पूजा थाल सजे धरती पर, देव फूल बरसात करें।  
नारायण बन जाओगे तुम, ब्रह्मलोक यश गान करें।।  
छल प्रपंच या ढोंग बनाकर, जग को मत भरमाना।  
देव रूप छिन जाएगा, पाओगे दुखड़े नाना।।  
जेलों में जीवन होगा, जेलों में भोजन पानी।  
नरक तुल्य बन जाएगी, बद से बदतर जिंदगानी।।  
कहाँ छिपेगा चेहरा दिन में, नींद रात की दूर।  
कालिख दाग न छूटेगा, बस मरना ही मंजूर।।  
मानव से भगवान बनो, धारो मत दानव रूप।  
अमृत घट इसपार मिले, उसपार सदा विषकूप।।  
अलग-अलग दोनों राहें, अब बचा न कुछ समझाना।  
निशिचर रूप सदा दुखदायी, देव रूप अपनाना।।

**निशा आनंद,**

बी. एस. सी. (ऑनर्स) कंप्यूटर विज्ञान (प्रथम वर्ष)

## माँ

तूने मुझे गर्भ में 9 महीने पाला,  
बिना भेदभाव के कि मैं गोरा हूँ या काला।  
आया जब इस जग में बहुत ज्यादा रोया,  
सबसे अच्छी लगी इस जग में तेरे आँचल की छाया।  
तूने हटने नहीं दिया मुझपर से तेरा साया,  
बिना भेदभाव के कि कैसी है मेरी काया ?  
चाहे इस दुनिया के दरिदों ने मुझे कितना भी रुलाया,  
तूने खुद रो-रोकर भी मुझे हंसाया।  
घुटनों से रेंगते रेंगते ना जाने कब मैं बड़ा हुआ ?  
तेरे आँचल की छाया ने मुझे हर समय सहलाया।  
फिर तूने मुझे शिक्षा का मार्ग दिखाया,  
अगर कुछ समझ नहीं आया तो प्यार से समझाया।  
फिर तूने मुझे विद्यालय से परिचित कराया,  
और मुझे महान संस्कारों का पाठ सिखाया।  
रूठ जाने पर तूने ही मुझे मनाया,  
भूख ना लगने पर भी सहला-सहला कर खिलाया।  
तूने मुझे हरदम स्वतंत्र रहना सिखाया,

तूने मुझे एक काबिल इंसान बनाया।  
तूने मुझे सबसे प्रेम करना सिखाया,  
डर को तुमने मुझसे, कोसों दूर भगाया।  
सच्चे मित्रों का चयन भी तुमने ही सिखाया,  
मुझे मेरे देश के लिए एक जिम्मेदार नागरिक बनाया।  
तू महान है माँ, तू महान है,  
तू ही मेरा अभिमान है।  
तेरा अभिमान सर-आँखों पर,  
तेरे बिना ये जग खंडहर समान है।।

**केशव शर्मा,**

बी. एस. सी. (ऑनर्स) सूक्ष्मजीव विज्ञान (प्रथम वर्ष)

## आधुनिक हिंदी साहित्य के पितामह: भारतेन्दु हरिश्चंद्र

एक सूरज भारत में निकला था,  
साहित्य में रोशनी बिखेर गया।  
नाटक, काव्य या हो पत्रकारिता,  
हर क्षेत्र में अपनी छाप छोड़ गया।।

हिन्दी आधुनिकता के प्रारम्भक,  
आधुनिक हिंदी साहित्य के पितामह कहलाते,  
मूल नाम था 'हरिश्चंद्र',  
लेकिन...  
उपाधि "भारतेन्दु" से जाने जाते।।

9 सितंबर 1850 को जन्म हुआ,  
कवि "गोपालचंद्र जी" के घर में।  
विरासत में मिली थी काव्य-प्रतिभा,  
जो प्रदर्शित कर दी सारे जग में।।

'विद्यासुन्दर' की रचना करके,  
नाटक लेखन की नींव रखी।  
'कविवचनसुधा', 'बालाबोधिनी' संपादन से,  
पत्रकारिता भी जारी रखी।।

'सरयूपार' और 'लखनऊ' की,  
यात्रा का वृत्तान्त लिखा।  
कहानी 'अद्भुत अपूर्व स्वप्न' और,  
'पूर्णप्रकाश' व 'चंद्रप्रभा' उपन्यास लिखे।।

श्रृंगार रस और भक्ति प्रधान,  
राष्ट्र प्रेम प्रधान रचनाएं रची।  
प्रकृति चित्रण और सामाजिक समस्या झलके,  
ऐसी भी कई रचनाएं रची।।

सरल भाषा में गद्य लिखे,  
ब्रजभाषा थी काव्य की।  
फ़ारसी, उर्दू आदि मिलाकर,  
विकसित कर दी 'खड़ी बोली'।।

'अंधेर नगरी' और 'भारत दुर्दशा' से,  
साहित्य में अलख जगा गया।  
34 वर्ष की अल्पायु में,  
6 जनवरी 1885 को...  
वो सूरज हमेशा के लिए डूब गया।।

**ललित कुमार,**

बी. एस. सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)



## बस दो बूंद लहू का...

बस दो बूंद लहू का अभी भी बचा है  
बस दो बूंद लहू का अभी भी बचा है।  
तू अब भी लड़ सकता है, तू लड़ सकता है।

बस तू गिरना मत, तू गिरना मत  
बस दो बूंद लहू का अब भी बचा है  
बस दो बूंद लहू का अब भी बचा है।  
तू याद कर जो वचन दिया है  
तू इस मिट्टी का कर्ज उतार  
बस तू लड़ता जा, तू लड़ता जा।  
अभी भी दो बूंद लहू का बचा हुआ  
तू देख तुझे ललकार रहा है,  
तू उठ उसे जवाब दे  
कब तक ऐसा होगा ?  
तेरा खून कब खौलेगा  
तू उठा बंदूक दाग गोली,  
तू लिख उसके सीने पर भारत  
तू देख तुझे ललकार रहा है।  
अब देख तुझे वह पुकार रहा है,  
तू हाथ उठा, तू तलवार उठा  
तू जा अपना लहू बहा...  
अब भी है तुझमें लहू बचा  
अब भी है तुझमें लहू बचा ॥  
जय हिंद

विकास राज

## धरती माँ

धरती हमारी माता है,  
फिर क्यों इंसान इसे सताता है ?  
हर जन्म का हमारा इससे नाता है,  
फिर क्यों यह बात इंसान,  
समझ नहीं पाता है ?

जब-जब धरती ने अपना प्रकोप है दिखाया,  
तब-तब इंसान ने अपने को, बेबस है पाया।  
एक छोटे से भूकंप से, इंसान है घबराया,  
फिर भी धरती की कीमत, समझ न पाया।

पर इसके बाद भी,  
हमारे हर पाप को यह सह जाती है,  
और शायद इसलिए यह धरती, माँ कहलाती है।

उपदेश,

बी .एस .सी (ऑनर्स) कंप्यूटर विज्ञान

## क्या है माँ ?

माँ क्या होती है, ये शायद हमें पता नहीं,  
और हम बात-बात पर उसे कहते हैं, माँ तुझे पता नहीं,  
हम कौन होते हैं, उसे सही-गलत बताने वाले  
अरे वो तो देवी है,  
जो एक हाथ में कठोरता और दूसरे हाथ में ममता रखती है।  
शायद इसलिए ही वो माँ कहलाती है ॥

कभी-कभी समझ नहीं आता,  
मुझे पीटकर वो खुद क्यों रोती है ?  
खुद भूखी रहकर भी मुझे क्यों खिलाती है ?  
खुद पूरी रात जगकर भी मुझे क्यों सुलाती है ?  
जरूरत पड़ने पर सब से लड़ जाती है,  
और झूठ बोलने पर पकड़ भी लेती है,  
शायद इसलिए ही वो माँ कहलाती है ॥  
मुझसे आगे उसने कभी कुछ सोचा नहीं,  
मुझे परेशानी में कभी उसने छोड़ा नहीं,  
जो वादा किया कभी उसने तोड़ा नहीं,  
शायद इसलिए ही वो माँ कहलाती है ॥  
माँ की भावनाओं को समझना इतना सरल नहीं,  
और मैं उसे एक कविता में बयाँ करूँ,  
ये मेरी समझ में नहीं ॥

वत्सला,

बी. एस. सी. (ऑनर्स) वनस्पति विज्ञान (द्वितीय वर्ष)

## कॉलेज का पहला दिन...

राह देखी थी, इस दिन की कब से।  
जीवन के सपने, सजा रखे थे जब से ॥  
बड़े उतावले थे, यहाँ आने को।  
जिंदगी का अगला पड़ाव, पाने को ॥

सोचा था, वो कॉलेज का पहला दिन होगा...

मिलेंगे कई, अनजान चेहरों से।  
जो हो जाएंगे, दिल के बहुत करीब ॥  
वो लेक्चरर्स और  
असाइनमेंट करेंगे साथ।  
दिन-भर मस्ती और  
रात-भर कल कॉलेज जाना या नहीं  
डिसाइड करेंगे साथ ॥

बिताना चाहते थे, ये कुछ हसीन लम्हें साथ।  
पर मानों ये लम्हें, लम्हें नहीं  
महज ख्वाब बन कर रह गए हो, अधूरे ॥

देखते ही देखते, ये एक साल पलक झपकते ही गुजर गया  
और हम सब एक दूसरे से और  
कॉलेज लाइफ दोनों से ही हैं, अब तक अंजान।

सोचा था, वो कॉलेज का पहला दिन होगा  
और घूमेंगे कैपस साथ ॥

खुशबू,

बी .एस .सी (ऑनर्स) जीव विज्ञान (द्वितीय वर्ष)

## धीरज की शायरी

1. मुझे नशा है उस नशे से  
जो शराब पीने से ना हो,  
अरे हमे भी बताओ कि  
तुम कौन सा नशा करते हो,

जो मेरे हर अंदाज पर नजर रख कर  
मुझे ही नजर अंदाज करते हो।



2. खबर मिली है:  
कि आ रही हैं खुशियाँ ।  
जा रहे है गम ॥

खुशियों ने भी रख दी शर्त ।  
कि आएंगे तभी,  
जब मर जाओगे तुम ॥

3. नाव कागज की ज्यादा टिकती नहीं  
झूठे वादे ज्यादा टिकते नहीं

और तू हमसे जरा संभलकर चलियों  
ये पैर तेरे ज़मीन पर टिकते नहीं ।

4. वो अपने मन से आए थे  
और अपने मन से ही जाएंगे

हमने उनके आते वक़्त नहीं पूछा  
तो जाते वक़्त भी क्यों पूछेंगे ।

5. जिंदगी में एक ऐसा मोड़ आया

जब पीछे मुड़ कर देखा  
तो कोई नजर ना आया

निकले थे खुशियों की तालाश में  
तो आगे स्वर्ग नजर आ गया ।

6. जिनके मुहँ से तारीफ निकला करती थी  
आज बुराइयां निकल रहीं हैं

पता नहीं हम बुरे हो गए हैं  
या हमे छोड़ने की योजनाएं की जा रही हैं ।

7. जो बिन बताए सब समझ जाए  
उनसे बड़ा समझदार कोई नहीं

और जो स्टोरी देख के मूड बताए  
उनसे बड़ा पागल कोई नहीं ।

8. मका जै मेरतै गलती होवैगी  
तो मेरै भी धर देवेंगे

अर जै बात इज्जत पै आई  
तो वे सामनै आला कि खाल भी उधेड़ देवेंगे

वे और कोई कोनया डारलिंग  
वे मेरै गैल खडे मेरे भाई सै  
जो हर मोड़ पै मेरा साथ देवेंगे ।

9. बुलाने पर ये आते नहीं  
और बिन बुलाए हाज़िर हो जाते हैं

मायूस भरे इस चेहरे में  
एक प्यारी-सी मुस्कान भर जाती हैं

यार मेरे कमीने बहुत है  
लेकिन साथ हमेशा निभाते हैं ।

10. माना की हम गलतियां करते हैं  
लेकिन जान-बूझकर नहीं करते

हम माफी भी उन्हीं से मांगते है  
जो अपने होते हैं वरना गैरों से तो हम  
हैलो भी नहीं करते ।

11. कोई भरोसा दिलाए तो मत करना  
उम्मीद जताए तो मत रखना  
सीधी सी बात हैं

हम बुरे है जनाब  
हमसे अच्छाई की उम्मीद मत रखना ।

12. जो था वो खो बैठे हैं  
जो है उसका हिसाब खो बैठे हैं  
कोई तो होगा अपना इस जिंदगी में  
ये उम्मीद हम टिकाए बैठे हैं ।

13. दोस्ती गहरी हो या ना हो  
निभाने वाले निभा जाते है

सपने बड़े हो या छोटे  
पूरे करने वाले कर जाते हैं

और जो किरदार कोई ना निभा सके  
वो माँ-बाप पूरी जिंदगी निभा जाते हैं ।

14. चेहरा देखू तो फूल जैसा  
हरकतें तुम्हारी कांटे जैसी  
समझ नहीं आता...

इस नकाब के पीछे  
असली चेहरा देखू कैसे ।

15. आने वालों की भीड़ बहुत है  
इजाजत केवल तुम्हें देंगे  
और जाने वाले भी बहुत हैं  
हम केवल तुम्हें रोकेंगे ।

16. कोई दिल जोड़ने वाली चाहिए  
तोड़ने के लिए तो दुनिया तैयार है  
कोई साथ निभाने वाली चाहिए  
जिसकी खुशियों के लिए हम मरने को तैयार हैं ।

17. बात करनी उसने शुरु की थी  
खत्म मैं करुंगा  
अगर मौत दरवाजे पर खड़ी मिली  
तो खुशी से उसका स्वागत करुंगा  
और किसी को खो भी दू ना  
तो उसका अफसोस भी नहीं करुंगा ।

धीरज,  
बी. एस. सी. ऑनर्स कंप्यूटर विज्ञान (प्रथम वर्ष)



## हे धरा

हे धरा तेरी दया से खुशनुमा है यह जहां  
तेरी दया से आज हम सब को मिली है यह पनाह ।  
तू है तो है यह आसमां तू है तो है जन्म सब यहां  
हे धरा तेरी दया से खुशनुमा है यह जहां ।

तू है तो बहती है नदी  
तू है तो सूरज चांद है,  
तू है तो जीवित सब प्राणी  
सब में इसलिए प्राण है ।

धरती पृथ्वी भूमि माटी  
तेरे अनेकों नाम है ।  
पर्यावरण, भू प्रकृति  
तेरे तो रूप अपार है ।

तुझसे ही सब कुछ है जुड़ा  
तुझ से बना, फिर तुझमें जा मिला ।  
तेरी कृपा से विश्व सारा  
संतुलित और अद्विग खिला ।

तू शक्ति की स्वरूप है  
तू अंश है ब्रह्मांड का ।  
तेरी कृपा से जीव जीवन  
संतुलित है जहान का ।

तूने दिया दिल खोलकर  
कोई स्वार्थ तेरा ना था ।  
लांछन लगाया जिसने स्नेह पर  
वे प्राणी मानव रूप थे ।

किया दुष्कर्म, तुझे दिए सितम  
तुझसे सिर्फ लेता ही रहा ।  
क्या-क्या किए तूने जतन  
मैं स्वार्थी प्राणी भूल गया ।

अब टूटी डाल पर सवार है  
अब नैया बीच मंझधार है ।  
अब समझ आया है उसे (मानव)  
करता बस तेरा गुणगान है ।

तूने उठाया है कदम  
उसको समझ सब आ रहा ।  
जिससे मिले तुझे थे सितम  
उसे याद सब है आ रहा ।

अब झूमती यह फिजाएं सारी  
याद उसको दिलाती हैं ।  
जो दिख रहा उजला समा  
अब प्रकृति की बारी है ।

कहीं कोयलों की कूक है  
है पंछियों की गुप्तगू ।  
दिखते हैं फिर से दृश्य सारे  
हंस, मोर और कुकू ।

अब खुशबूएं हैं गगन में लिपटी  
हो रहा फिर से सृजन ।  
हे धरा तेरी दया से  
फिर से महकता है चमन ।

अब हो रहा फिर से प्रफुल्लित,  
हर्ष हर्षित यह समा,  
हे धरा तेरी दया से ही खुशनुमा है यह समा,  
है खुशनुमा यह आसमा,  
है खुशनुमा सारा जहां ।

हर्षिता शर्मा



## उम्र से कई साल बड़ा एक बच्चा

हमारी इस भागदौड़ भरी जिंदगी में दिन-प्रतिदिन ऐसी कई घटनाएं घटती हैं, जिनसे कुछ अच्छी सीख मिलती है, कुछ हास्यप्रद लगती है तो वही कुछ देश और समाज के लिए खतरा लगती हैं।

आज मैं ऐसी ही एक घटना का जिक्र कर रहा हूँ जो दर्शाती है कि कैसे एक बच्चा अपनी उम्र से कई गुना बड़ा है।

हमारी इस नौ से पांच वाली जिंदगी में हमेशा देरी ही होती है। सवेरे-सवेरे मैं अपनी नींद पूरी करके उठा, अपनी दैनिक क्रियाएं समाप्त की। अपना नाश्ता पूरा करके जैसे ही ऑफिस जाने के लिए पार्किंग (विशेष पार्किंग व्यवस्था नहीं, वो स्थान जहां हम रोज अपना स्कूटर रखते हैं) की तरफ बढ़ा सहसा ही याद आया मेरा स्कूटर तो घर पर नहीं है। कल रात को हमारे व्यक्तिगत पड़ोसी श्रीयुत मिश्राजी के बेटे के पेट में दर्द शुरू हो गया और उनके स्कूटर में कुछ समस्या होने की वजह से वो हमारा स्कूटर मांग कर ले गए थे। ये हम मध्यमवर्गीय परिवारों की बहुत बड़ी खूबी हैं, कि हम अपने पड़ोसियों से कभी भी, कुछ भी बेझिझक मांगकर प्राप्त कर सकते हैं।

मुझे ऑफिस के लिए देरी हो रही थी तो इंतजार करने से बेहतर लगा कि आज बस से ही चला जाता हूँ। ये सोचकर मैं बस स्टैंड पहुंच गया। मैं बस का इंतजार कर रहा था अचानक से मेरी नजर पास में खड़े एक बच्चे पर पड़ी जो विद्यालय की गणवेश में वहां खड़ा था। दिखने में वो बच्चा यही कुछ 12-13 साल का लग रहा था। हमारी एक आदत होती है ना कि हम चुप नहीं बैठ सकते तो मैंने भी उस बच्चे से पूछ लिया।

- “बच्चे तुम यहां अकेले खड़े हो?”
- “जी! मैं विद्यालय के लिये निकला हूँ।”

मुझे थोड़ा आश्चर्य हुआ तो मैंने अपना अगला सवाल उसके सामने रखा।

- “तुम्हारी उम्र तो काफी कम लग रही है और तुम अकेले जा रहे हो?”
- “वो क्या है कि पापा को ऑफिस जाना होता है और मम्मी घर के कामों में व्यस्त रहती हैं और जब मैं अकेला जा सकता हूँ तो मैं उन्हें परेशान नहीं करना चाहता।”

मुझे बच्चे की बातों में बहादुरी दिखी। मैं कुछ सोच रहा था इतने में बस आ गयी और हम बैठ गये। बस में भीड़ ज्यादा थी तो हमें खड़े-खड़े ही अपना सफर शुरू करना पड़ा। अगले स्टेशन पर झुर्रियों से भरा चेहरा और काँपता शरीर लिए एक बूढ़ी औरत बस में चढ़ी। अब जब भीड़ ज्यादा थी तो बेशक परेशानी तो होनी थी, तो मैंने सोचा उन अम्मा को बैठने की जगह दिलाई जाए और वहाँ सीट पर बैठे एक सज्जन से कहा।

- “भाईसाहब! आप जरा खड़े हो जाएंगे, इन अम्मा को खड़े होने में परेशानी हो रही है वैसे उम्र काफी हो चुकी है, तो इन्हें आपकी सीट पर बिठा दीजिये।”

वो मेरी बात सुनकर नजरअंदाज करने लगा तो मैं तीव्रता लाया (स्पष्ट शब्दों में—मैं जोर से बोला)।

वो (गुस्से में)—“क्या है?”

मैं—“वो अम्मा को...”

वो (मेरी बात को बीच में ही काटते हुए, गुस्से में) — “मैं नहीं हो रहा खड़ा बोला ना।”

मैं — “अरे! भाई साहब आप गुस्सा क्यों हो रहे हो।”

वो— “किराया देकर बैठा हूँ बस में, ऐसे ही नहीं, (गुस्सा)...”

फिर वो चुपचाप बैठा रहता है। वो बच्चा भी ये सब देख रहा था और अचानक से बीच में बोल पड़ा—

(मासूमियत से) — “भैया किराया तो सबने दिया है लेकिन ये चाचा तो आपसे अनुरोध कर रहे हैं क्योंकि आप देख रहे हैं इन अम्मा से खड़ा नहीं हुआ जा रहा इसलिए आपसे गुजारिश है कि अम्मा को सीट दे दीजिए। रही बात किराये की तो मैं अपने बचाये कुछ पैसों से आपका किराया भर दूंगा लेकिन आप अम्मा को बैठने दीजिए।”

बच्चे के मुँह से ये शब्द सुनकर मैं एक दम से स्तब्ध रह गया। बस में बैठा हर वो व्यक्ति जो हमें देख रहा था बच्चे की बहादुरी और समझदारी देख कर दंग रह गया। ये बच्चा तो अपनी उम्र से कहीं गुना बड़ा निकला।

खैर बाद में उन्हें पश्चाताप हो गया, और सीट भी दे दी।

मैं आज पूरा दिन ऑफिस में यहीं सोचता रहा और ये किस्सा अपने साथियों से साझा किया। एक ही बात मन में दौड़ रही कि देश का भविष्य सँवर रहा है और मेरा देश सचमुच बदल रहा है।

ललित कुमार,  
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## वेद और विज्ञान

हिंदू धर्म को संसार का सबसे प्राचीन और वैज्ञानिक धर्म माना जाता है। संसार के बीस सबसे बड़े देशों में हिंदू धर्म की जड़ें फैली हुई हैं। भारत में वेदों के निर्माण के साथ ही मंत्रों का जन्म हुआ और हिंदू धर्म के वैज्ञानिक रूप का विकास हुआ। इसी के साथ पुराणों की रचना की गई जिनमें धर्म, विज्ञान और इतिहास का वर्णन मिलता है। प्राचीन काल में शिक्षा का प्रचार-प्रसार न होने के कारण ज्ञानी ऋषियों ने विज्ञान को धर्म से जोड़कर, परंपराओं के जरिये सिखाने का प्रयास किया। इसके कुछ उदाहरण आज भी देखे जा सकते हैं, जैसे तुलसी पूजन हर भारतीय घर की पहचान है। तुलसी का पौधा आस-पास की वायु को शुद्ध करता है और इसलिए यह प्रावधान चला आ रहा है। इसके अलावा सूर्यनमस्कार के समय सूर्योदय की किरणें शरीर में प्रवेश करती हैं जो स्वास्थ्य के लिए अत्यंत लाभकारी होती हैं। उपवास रखने से पाचन क्रिया संतुलित होती है। घंटी और शंख की ध्वनि से वातावरण जीवाणु मुक्त और पवित्र होता है। मंत्रों के उच्चारण से मन केंद्रित होता है और शारीरिक ऊर्जा का विकास होता है। हवन में प्रयोग की जाने वाली हवन सामग्री, घी, कपूर और आम की लकड़ी से वायु के कीटाणू नष्ट होते हैं। गंगा के जल में ऐसे प्राकृतिक तत्व होते हैं जिन के संपर्क में आने से शरीर रोग मुक्त और निर्मल हो जाता है। हमारे दोनों नेत्रों के बीच में नर्व पॉइंट होता है जहाँ तिलक लगाने से एकाग्रता बढ़ती है तथा मस्तिष्क में रक्त की आपूर्ति नियंत्रित रहती है। इन सबके साथ योग और प्राणायाम शरीर को बाहर और अंदर से स्वस्थ रखने में सहायक होते हैं, जिसे आज समस्त विश्व मान चुका है। परंतु भारत की इस वैज्ञानिकता से अधिकतम भारतीय अनजान हैं। भारत के युवा इस महान संस्कृति को भूलकर पश्चिमी रीतियों से आकर्षित हो रहे हैं। इसलिए वर्तमान में यह अत्यंत आवश्यक हो गया है कि हम सभी को प्राचीन भारतीय विज्ञान से परिचित कराएँ और आर्यवर्त के ज्ञान का प्रयोग समस्त विश्व के हित किया जाए।

श्रुति,

बी. एस. सी. (ऑनर्स) जैव चिकित्सा विज्ञान (द्वितीय वर्ष)



## REGIONAL SECTION



Dr. Swati Gupta  
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## I am a Candle (Telugu Poem)

నేనొక కొవ్వత్తి  
కొవ్వత్తి..ఒల్లంతా కొవ్వే  
అయినా గర్వమెరుగనిది  
చీకటి నేస్తం మన కొవ్వత్తి  
చీకటే బ్రతుకైన కొవ్వత్తి కథ ఇది..  
నేను నిలువెత్తు కొవ్వత్తిని, మకుటమెరుగను నేను  
మీ మేలు కోరే మేలైన వొత్తి కొవ్వత్తి  
నే కరిగినా మరిగినా మీ మెరుగే నా బతుకు తెరువు  
చీకటి నన్ను కని పెంచింది  
మీ మేలు కోరి ఆ చీకటిని నా నుంచి వేరు చేసుకున్నా..  
వద్దు వద్దు ననార్పవద్దు...నన్నాపవద్దు  
మీ సేవే నా పరమ ధ్యేయం  
నన్నార్పితే..నన్నాపితే,శాపనార్థలు పెట్టటం నా వంతు  
నేనారితే, నా పొర దీసే ధూప్ తో దగ్గటం మీ వంతు  
అందుకే..ననార్పవద్దు, నన్నాపవద్దు  
నన్ను కరగనీ, మీ కోసం మరగనీ  
నేను మీకోసమే కరిగి సమాధై కనుమరుగు కానీ  
నేను మీకోసమే..సదా మీ కోసమే  
నా శిర ఎప్పుడూ మీ సేవ లో  
నా జీవితం లోకానికి ఆదర్శం అని చెప్పక చెబుతున్నాను...  
-నాళ్ళా విజయ కుమార్

Candle..I am full of wax  
Still candle knows no humble  
The pal of darkness is our candle  
Darkness as life, the story of candle is  
I am a tall standing candle, I know no proudness  
I am a gentle one want always your well being  
Whether I melt or die, your wellbeing is my life  
Darkness made my life  
For your own goodness please don't separate  
me from it  
Stop, stop, please don't stop me from  
burning & lighting..  
Because, your service is my life's destiny  
If you still stop me I have to curse you,  
still you continue,, making cough with  
smoke is my turn  
So please don't stop me from lighting  
Let me melt, die and become a tomb for you  
My pleasure is in doing your service  
My head always stands tall for you  
My life is ideal for everyone, which I say  
without saying..

**Dr N Vijaya Kumar**  
Department of Microbiology



## I am a traveller (Telugu Poem)

### నేనొక బాటసారి

నేను ఒక బాటసారి..అందరిలో నేనూ ఒక బాటసారిని,

### అవును..

నేనూ అందరిలా ఒక బాటసారిని..

కానీ..నాకు కావాలి సరైన జీవనదారి..

నాకు తెలుసు, అందరూ అంటారు సోరీ..

అవును నాకు కావాలి సరైన జీవన రహదారి..

ఎందుకంటే అడుగుడుగునా నాకు గోచరిస్తుంది ఎడారి

ముందడుగులో సహారీ

వెనుకడుగులో కలహారీ

దయ చేసి నాకు చూపండి సరైన దారి

నేనో ఒంటరి బాటసారిని

అర్థించటం నాకు పరిపాటి

అందుకే మోసపోతుంటాను ఘనాపాటి

నేనొక బాటసారిని

బ్రతుకు బాటలో ఎప్పుడూ చేస్తాను సారీ..

మరి అందరిలా నేనూ ఒక బాటసారి.

-విజయ కుమార్ నాళ్ళా

I am a traveller..., a traveller among travellers

Yes..

I am a traveller like other travellers

But..I am a traveller searching right path of life..

I know, everyone will say sorry..

Yes, I need a right meaning of life

Because, every step is leading me to a dissert

In the forward..I see sahara

In the backward..I see kalahari

That's why I beg you to show me right way of life

Because I am a lonely traveller

Making prayers is my routine

May be that's why I witness being a prey

I am traveller..

In the path of living I always ride my life

Because I am a traveller like other travellers,  
among travellers.

## གུས་པའི་གདམས། (Tibetan Poem)

གུས་པའི་གདམས།  
སྐར་མ་ཆེན་ཆེན་གྱི་མཚན་མོ་ཞིག་ལ།  
ངས་གནས་ལ་བཞུགས་ནས།  
མཚན་གྱི་སྐར་མ་སྐར་ཆེན་ཞིག་ལ་དྲིས།  
ཁོང་གིས་ང་རང་།  
འདས་ཟེན་པའི་བྱིས་དུས་ཞིང་གཞི་གྲུ་གྱི་ཡོད་པ་རེད་བཤད་སོང་།

ད་དུང་ཁོང་གིས།  
ངའི་བྱིས་དུས་དེ་རི་ཆུ་ལ་གསུམ་གྱི་ཁོང་གསེབ་གྱི།  
ཤིང་ནགས་མཚུགས་པོ་ཞིག་གི་ནང་དུ་ལྷན་འདུག་ཟེར་གྱིས།  
ངའི་སྐྱེ་ལོ་ལྟ་བུ་ཞིག་ལ་ཞུས།  
མིག་ཆུ་ཤག་ཤག་དུ་འབབ་སོང་།

སྐར་མ་སྐར་ཆེན་གྱི་དཀྱིལ་ནས་བཙོ་ལྷའི་ཆུ་བས།  
བྱ་ཆུང་ང་ཉི་དྲིན་ཅན་པ་མའི་བྱ་ཆུང་སྐྱོང་གི་ཁོག་  
ལང་ཆོད་ར་བའི་བྱ་ཆུག་ཡག་པོ་ཞིག་རེད་འདུག་ཟེར་གྱིས།  
ངའི་འགད་མོ་འཛུམས་འཛུམས་དང་བས།  
ཕ་མ་ནུས་གཉིར་དྲིན་ལེན་འཇལ་བྱའི་དུས་བཅའ་ཞིག་པ་ཡིན།

ད་དུང་ཁོང་གིས།  
དོང་དུས་ཀྱི་སྐྱོབ་སྐྱོང་སྐྱོང་དགོས་ཚུལ་དང་།  
སྐྱོབ་སྐྱོང་ནི་ཕྱགས་ཀྱི་བདེ་སྐྱོད་ཡིན་ཟེར་གྱིས།  
ངའི་ལག་གཉིས་ཐལ་མོ་འཇལ་བས།  
མཉམས་ཁར་འདོད་སྐྱེ་གསར་བ་ཞིག་ཐོབ་འབྱུང་ངོ་།

The free verse named “ lyrics of myself” is  
imaginary poem based on dialogue between  
stars, moon and me. On the full moon day, I  
was looking at sky and introspecting. Suddenly  
star asked “ are you missing childhood?”  
Mesmerising all my hill-station childhood and  
sharing my memories with moon and stars was  
so easy. But I smiled to moon and stars with  
tear in my eye. From the million of the stars,  
the biggest star and bright full moon advised  
me to study and life will be bright like them.

Rinchen

Department of Biomedical Sciences



## Civic consciousness of cleanliness (Malyalam)

മുക്കുപൊത്തി മാത്രം വായിക്കേണ്ട ചില കണക്കുകളുണ്ട് , തുറസ്സായ സ്ഥലങ്ങളിലെ മലിന വിസർജനത്തിന്റെ കാര്യത്തിൽ ആഫ്രിക്കയടക്കമുള്ള എല്ലാ രാജ്യങ്ങളെയും പിൻതള്ളി ബഹുദൂരം മുന്നിലാണ് ഇന്ത്യ . ലോകത്ത് സ്വന്തമായി ശുചിമുറി ഇല്ലാത്തവരിൽ 64 ശതമാനവും ഇന്ത്യക്കാരാണ് . മാലിന്യക്കുമ്പാരങ്ങളാണു നമ്മുടെ രാജ്യത്തെ പല നഗരങ്ങളുടെയും മുഖമുദ്ര വൃത്തിയില്ലാത്ത പൊതുശുചിമുറികളും മലിനമായ വഴിയോരങ്ങളും ഇന്ത്യയിലെ പൊതുകാഴ്ചയായി തീർന്നിരിക്കുന്നു . ഇന്ത്യയിലെ 123 നഗരങ്ങളിലെ വായുമലിനീകരണത്തിന്റെ അളവു പരിശോധിച്ച് , ലോകാ രോഗ്യ സംഘടന തയ്യാറാക്കിയ പഠന റിപ്പോർട്ട് പ്രകാരം , ഏറ്റവും മലിനീകരിക്കപ്പെട്ട വായുവുള്ള 20 ലോക നഗരങ്ങളിൽ 13 എണ്ണവും ഇന്ത്യയിലാണ് . തുറസ്സായ ഇടങ്ങളിലെ മലവിസർജനം ഓരോ വർഷവും വിതയ്ക്കുന്നതു ഗുരുതരമായ പകർച്ച വ്യാധികളാണ് . ടോജ്റ്റ് , ടാപ്പ് വെള്ളം , ടാബ്ലറ്റ് കമ്പ്യൂട്ടർ എന്നതാണു നാളത്തെ ഇന്ത്യയുടെ വികസന സമവാക്യമെന്നു വിദഗ്ദ്ധർ പറയുന്നു . പൊതു സ്ഥലങ്ങളിലെ വിസർജനത്തിലൂടെ ഇന്ത്യ സമ്പാദിച്ച ദുഷ്പേരു കഴുകിക്കളയാനും ശുചിമുറികളെ സ്വാഗതം ചെയ്യാതെ വയ്ക്കു . ദുർഗന്ധവും അറ പുളവാക്കുന്ന കാഴ്ചകളും പേടിച്ച് ഇന്ത്യയിലേക്കു വരാൻ മടിക്കുന്ന സഞ്ചാരികളെ തിരിച്ചു വിളിക്കാനും വൃത്തിയുള്ള ശുചിമുറികൾക്കേ കഴിയൂ . നമ്മൾ ഇവിടെനിന്നും വിദേശത്തേക്ക് പോയാൽ നമ്മുടെ നാട്ടിലെ രീതി നമ്മളവിടെയും ചെയ്യും . നമ്മുടെ വൃത്തിഹീനമായ സംസ്കാരമാവണമെന്നില്ല . മറ്റുള്ളിൽ വിദേശത്തെവിടെയെങ്കിലും പോയാൽ ഒരു പേപ്പറിന്റെ ചെറിയ കഷ്ണമെങ്കിലും നമ്മുടെ നാട്ടിൽ ചെയ്യുന്നതു പോലെ അവിടെ റോഡിന്റെ വശത്തേക്ക് വലിച്ചെറിഞ്ഞാൽ പിഴ കൊടുക്കേണ്ട ഗതി വരും . എന്നാൽ ഇന്ത്യാ രാജ്യത്ത് അത്തരമൊരു സമ്പ്രദായമേ ഇല്ല . അതുപോലെ തന്നെയാണ് നമ്മുടെ നാട്ടിലെ ആശുപത്രികളിലെ അവസ്ഥയും . സംസ്ഥാനത്തെ ആശുപത്രികളിലെ മാലിന്യ സംസ്കരണം ഗുരുതരമായ രോഗാവസ്ഥയിലേക്കു നീങ്ങുകയാണ് . ഇത് എല്ലാവർക്കും ബാധകമായ കാര്യമാണ് എങ്കിലും നമ്മളിൽ നിസ്സാരമായി തള്ളിക്കളയും , കാരണം നമുക്ക് എന്ത് തന്നെ വന്നാലും സാരമില്ല , ഒരിക്കലും വൃത്തിയാക്കരുത് എന്ന് മാത്രമേയുള്ളൂ . ആശുപത്രി സ്ഥാപനത്തിൽ നിന്നുള്ള മാലിന്യങ്ങൾ സമീപത്തെ കൃഷിയിടങ്ങളിലേക്ക് ഒഴുക്കി വിടുന്നവരുമുണ്ട് . ഇതുമൂലം നമുക്ക് രോഗങ്ങൾ പിടിപെടുമെന്ന് ആരും തന്നെ ചിന്തിക്കുന്നില്ല നല്ല വൃത്തിയുള്ള മരുന്നടിച്ച് ഒരിക്കലും കേടുവരാത്ത ഭക്ഷണ സാധനങ്ങൾ അയൽ നാട്ടിൽ നിന്നും കിട്ടുന്നില്ലേ എന്നാണ് . ശാസ്ത്ര - സാങ്കേതിക വിദ്യയുടെ കൈപിടിച്ചു നാം ചൊവ്വവരെ എത്തുമ്പോഴും ശുചിത്വ പാലനരംഗത്ത് ഏറ്റവും പിന്നിൽ നിൽക്കേണ്ടി വരുന്നതെന്തെങ്കൊണ്ടാണ് ? പൊതുശുചിത്വം എന്നത് ഒരു രാജ്യത്തിന്റെ തന്നെ സംസ്കാരത്തിന്റെ അളവുകോലായിരിക്കേ , ഇന്ത്യ മുഴുവനും അങ്ങനെയൊരു സംസ്കാരത്തിലേക്കു മനസ്സൊരുക്കാൻ എന്താണു വഴി മാറി മാറി വരുന്ന സർക്കാറുകൾ ഭാരതത്തിന്റെ മലിനീകരണത്തിനു വേണ്ടി പല പേരുകളുമിട്ട് ബൃഹത് പദ്ധതികൾ തുടങ്ങിവെച്ചെങ്കിലും അതിനൊന്നിനും ലക്ഷ്യം നേടാനായില്ലെന്നതിന് നമ്മുടെ കണ്ണോരത്തുള്ള മാലിന്യ നഗരങ്ങൾതന്നെ സാക്ഷി.



There are some figures that should only be read on the nose, open India is far ahead of all other countries, including Africa, in terms of area emissions. About 64% of those in the world who do not have their own toilet are Indians. Garbage heaps Unclean public toilets and dirty roadsides have become a common sight in many cities in our country. According to a study prepared by the World Health Organization, India has 13 of the 20 most polluted air cities in the world out of 123 cities in India. Open defecation sows every year serious infectious diseases. Experts say toilets, tap water and tablet computers will be India's development equation of tomorrow. Toilets are not welcome as they can wash away the stigma that India has earned by dumping them in public places. Only clean toilets can bring back tourists who are reluctant to come to India for fear of stench and cluttered views. If we go abroad from here, we will do the same in our homeland. It does not have to be our dirty culture. On the other hand, if you go abroad, if you throw a small piece of paper on the side of the road like you do in our country, you will have to pay a fine. But there is no such system in India. The same is true for hospitals in our country. Waste treatment in hospitals in the state is moving towards serious morbidity. This applies to everyone but we will dismiss it with triviality, no matter what happens to us, only to never clean up. There are also people who dump the waste from the hospital to nearby farms. No one thinks that we will get diseases because of this. Why is it that when we reach Mars with the hand of science and technology, we have to lag far behind in the field of hygiene? While public hygiene is a measure of a country's own culture, the whole of India is moving towards such a culture. What is the way to go? Successive governments have started massive projects under various names for the pollution of India, but the waste cities in our eyes have witnessed that none of them have achieved their goals.

**Mohammed Aslam Sha V**  
Department of Food Technology



## College Friendship (Malyalam Poem)

തിരയുന്നു നിന്നെ ഞാൻ  
കാണും മുഖങ്ങളിൽ,  
നീറുന്ന മനസ്സിൽ  
നിന്നെക്കുറിച്ചുള്ളൊരോർമകൾ  
കൈകൾ ചേർത്തു പിടിച്ച്  
നമ്മൾ നടന്നുകൊണ്ടിരുന്ന വീഥികൾ  
ഒരേ മനസ്സോടെ  
നമ്മൾ പാടിയ പാട്ടുകളിൽ  
ഞാനും നീയും ...  
നമ്മുടെ സൗഹൃദവും  
തെളിയുമ്പോൾ,  
നമ്മൾ പറയാൻ ബാക്കിവെച്ച  
ചില നിമിഷങ്ങൾക്കായി  
നിനക്കായ് ഞാൻ നടന്നുകൊണ്ടിരുന്ന  
വരളുന്ന വേനലിലും,  
പൂ വിടർത്തിയ വസന്തത്തിലും  
നീയൊരു മഴയായ്  
പെയ്യിക്കുന്നതും  
കാത്ത് ഞാനിവിടെയുണ്ട്,  
ഇന്നും എന്റെ ഹൃദയത്തിൽ  
നിനക്കായ് ഒരിടം  
ഒഴിഞ്ഞു കിടക്കുന്നു ..

I'm looking for you  
See faces,  
With a filling mind  
Reminiscences about you  
Hands clasped together  
The streets we walked on  
With the same mind  
In the songs we sang  
You and I ...  
When our friendship proves itself,  
What we have left to say  
For a few moments  
When I walk for you  
Even in the dry summer,  
Even in the spring when the flowers bloom  
When you come out as a rain  
I'm waiting here,  
Still in my heart  
A place for you  
Is empty ..

**Mohammed Aslam Sha V**  
Department of Food Technology

## The Subject (French Poem)

*L'anglais, le Français;  
Ce sont des langues,  
La musique pour s'amuser,  
Le sport donne la bonne forme,  
Les sciences pour les informations,  
Les maths pour les calculs  
pour le monde de la connaissance,  
ces matières nous donnent une invitation.*

*The English, The French;  
They are the Languages,  
The Music is for Fun,  
The Sport gives Good Shape,  
The Science is for Informations,  
The Maths is for Calculations.  
To get the knowledge of the world  
These subjects gives us an invitation.*

**Swarna Niralee**  
Department of Zoology



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## ENGLISH SECTION

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**Akanksha Katoch**  
B.Sc. (Hons.) Chemistry I year



## Easy and Difficult

- 1 it is easy to tell lie but difficult to speak the truth.
- 2 it is easy to hate but difficult to love.
- 3 it is easy to kill but difficult to save.
- 4 it is easy to destroy but difficult to construct.
- 5 it is easy to become angry but difficult to be cool and calm.

"All good things feel power but they pay all the time.

"All bad things are easy but they pay once and you are punished for the rest.

**Swarna Niralee**  
B.Sc. Hons Zoology I Year

## Movies on School Life

Classroom: No Entry.

Classmate: Bardasht.

Attendance : Hera Pheri.

Maths: jeene nahin doonga.

Physics: jani Dushman.

Games period: Zindagi Na milegi dobara.

Recess: Dhoom.

Twins in the same class: judwaa.

Class argument: LOC Kargil.

Exam: Dangal.

Examiner: Boss.

Friend during exam: ham aapke Hain Kaun!.

Cheating: Lage raho Munna Bhai.

Question paper: bhool bhulaiyaa.

Answer sheet: kora kaagaz .

Result: sadma.

Pass: Chamatkar.

Fail: yah to hona hi tha!.

Vacations: Wah! life Ho toh aisi.

**Swarna Niralee**  
B.Sc. Hons Zoology I Year

## Generation Shift

Old Saying

- 1 Hard work pays.
- 2 Haste makes waste.
- 3 Money is root of all evil.
- 4 Many hands make work light.
- 5 Nothing mentored nothing gained.
- 6 Stop and smell the roses.
- 7 Absence how to The heart grow fonder.

Present Saying

- 1 Smart work pays.
- 2 The early bird gets the worm.
- 3 Money makes the world go round.
- 4 Too many cooks spoil the broth.
- 5 Better safe than sorry.
- 6 Make hay while the sun shines.
- 7 Out of sight, out of mind.

**Swarna Niralee**  
B.Sc. Hons Zoology I Year

## Let's go!

Let go.

Leave the flesh.

Life is a prison; your body is a chain and all your well-wishers are walls.

you all struggled too stiff in your entire life.

That's how a prisoner struggles to escape the penitentiary. Let break the bodily form of chain, and escape the vitality form of Moratorium.

Everything in this folk, that gives you pleasure to prolong your life. As the meal was provided to the prisoner to survive.

Everyone is down in the dumps after a barrel of laughs. Same as the prisoner is punished after food.



This is the surest time to escape. Leave the  
flesh.

Let go, jailbird...

**Sonu Kumar**

B.Sc. Hons Microbiology I Year

### That's life

If creatures never be sad and never die.  
It is like playing cricket without wickets.  
And I'm sure you wouldn't enjoy the game,  
when a player plays for endless time.  
Sadness is needed to feel happiness.  
As difference is essential for the movement of  
energy. So, Whatever comes, Let it come.  
Whatever stay,  
Let it stay.  
Whatever goes,  
Let it go.

**Sonu Kumar**

B.Sc. Hons Microbiology I Year

### I'm Human

I know nothing but saying I know  
everything.  
Whatever I see is my perspective  
but saying it is real.  
I want endless money and fame in  
this transient world.  
Everything is driven by determinism  
but saying it is in my control.  
When I have infinite questions but  
every time I am stuck at zero.  
I have billions of people on earth but  
I'm writing at the corner of the page.

I don't find any reason for living nor  
dying but I'm merely surviving.

Yes, it is ridiculous but I'm still  
writing...

**Sonu Kumar**

B.Sc. Hons Microbiology I Year

### School Life

1 most irritating movement-morning alarm  
2 most difficult task-to find socks 3-most  
dreadful journey-way to class  
4 Most lovely time-meeting friend  
5 most tragic moment-surprise test in  
first period  
6 most wonderful news-teacher is absent

**Swarna Niralee**

B.Sc. Hons Zoology I Year

### Women are hard to understand

They say women are hard to understand.  
But have you ever tried to,  
To see the seven colours beneath her white shade,  
The simple reasons behind her pretty smile,  
The long history behind her mundane phase,  
The hardships behind her resilience,  
And all the anxiety behind that caprice?

They say women are hard to understand  
But have you ever tried to,  
To feel the pain they go through in labour,  
To feel the anxiety when blood flows like  
water from your body each month,  
To feel the lack of security while walking  
outside at night?



They say women are hard to understand  
But have you ever tried to,  
To Jeopardise your privacy each time you open  
up to someone,  
To have convulated feelings each time you go  
to public places,  
To be seen with creepy looks each time you  
visit the pharmacy?

They say women are hard to understand  
But have you ever tried to,  
Think how she feel after being cheated over  
and over,  
Think weather she is downcasted when she  
hides all feelings,  
Think like her and see the world like she does.

**Samujjal Acharya**  
B.Sc. Hons Microbiology I Year

## My College Life and My Buddies

I still remember the day when I came to this  
college life.  
I was afraid and nervous but excited and calm at  
the same time,  
It was an awkward feeling that I was having  
at that time.  
But when I entered the class I had a cosy vibe,  
By that jolly environment that I was seeing  
before my eyes.  
I entered the room and sat on the seat.  
And at that time that I realised, that bro!!  
I was still alone and lonely waiting for an  
angel, Which will fill the emptiness that I  
felt inside.

But to my surprise nothing new happened  
for me at my first time.  
First period went by and I was still alone.  
Then I heard a voice calling for me.  
My hopes got high,  
I thought my angle has finally arrived.  
But bro!! It was the teacher that called  
me twice.

I gave up! And time went by,  
And it was the last period now I am not  
even surprised.  
I packed up and went home with that  
sad face of mine.

New day arrived with new hopes to change  
my college life,  
But yet again the day went by..  
“Cause it is what it is!”

I do got to know many guys but not like the  
Buddy that I had in mind,  
Then finally one day the angles came to  
my life,  
They became the Buddies that I wanted all  
this time.

These were the three idiots, with whom  
I became the fourth.  
Harsh, Rohan, Yashraj became the best  
buddies of mine.

Till this day we are together, we do fight  
but we are still like brothers.  
Now that we are in final it doesn't even matter,  
Cause bro!! I found the friends that will



always be together...

"Friends are like stars they come and go,  
but that they stay are the one that glow."

**Vivek Kumar Yadav**  
B.Sc. Hons Computer Science III Year

### A Note to That Cruel Song

I listened you, tears rolled out on my cheek  
Your sudden effect established and made me  
feel weak.

Is that a torture? I can't take it anymore You  
and only can make my heart sore.

I wish I never had lived that past  
Which you keep reminding me that once  
I had been feeling aghast

Your tunes, your melodies!!! Oh they are  
piercing my heart  
Now, Please just stop firing your tranquillizer dart  
You are an addictive drug, I very well know that  
I tried so hard to keep myself away, what to do  
I'm a spoiled brat.

I shouldn't have approached you, yes I made  
a mistake,  
Oh I'm regretting, I'm requesting you to stop  
now for god's sake.

Your lyrics, every stanza of you are the reasons  
I'm overthinking,  
I'm fallen in love with you darling..... I'm just  
sinking.... Sinking.....and sinking

**Isha Parashar**  
B.Sc. Hons Computer Science II Year

### Five Word Plot

"Will you cheat on me?" I think I already  
did. "When? Are you kidding me?"

Last Sunday, something I hid.

"Tell me what was that?"

I chose someone over you. "I seriously  
don't believe that."

You don't want to know who?

(Looking at me, rolled eyes)

"Fine, I am all ears"

Actually I fell in trap

(Narrowing his eyes, suspiciously stares)

Why do you look suspicious?

"One who traps is you."

This time, I got trapped.

"Hmm out of the blue!"

He asked me a question

Two choices, he gave me

Then he flashed a hint

Choosing him could save me

"He threatened to harm you?"

(My possessive bunny was shocked)

Not really (I assured him)

It was just anticipation knocked.

"Uff you and your anticipations"

"Anyways, what did you choose?"

One which belonged to him

That really had attractive views.

(I looked into his eyes)

(Enthusiastic me, his disappointed face)

"Is there anything else left?"

(He murmured slowly as if

I insulted his human race)



Yes two more main things  
(Sighs) “Tell me those too”  
That person was our photographer.  
(His confusion and anger grew)

(Before he could say something)  
(I interrupted his thought process)  
Shall I reveal the next?  
(confused enough for making guess)

The choices were two photos  
One captured by you and.....  
“Hey hey Hey, shut up!!”  
(His voice spilled like sand)  
Other captured by him obviously

(I managed to complete somehow)  
And I chose latter one  
(He nicely fake cried) “Wow”  
“Is this how you cheated?”  
“Damn! Again a frustrating plot”  
(I laughed after fooling him)  
“Say bye to your throat”

**Isha Parashar**  
B.Sc. Hons Computer Science II Year

## Till The Grave

Long paths to be travelled right  
Short ones to be travelled at sight  
Some to be memorable  
Some to be forgettable  
Some to be travelled alone  
Some with someone along  
Many people to be discovered

Some u keep  
Some u leave  
Some leave u to be brave  
Some accompany till the grave...

**Anmol Garg**  
B.Sc. Hons Biomedical Science II Year

## Queers

Why Not To Treat Them As Same,  
Don't Be Crappy And Call Them By  
Their Names!  
Who Gave You Right To Judge Them,  
They Are Also Humans Why Should  
They Feel Shame.

Shitty Your Thoughts Are Don't Give  
Them Blame,  
Don't Play Dirty Word Games.  
Disrespecting Them, You Should Be Ashamed.  
So, Keep Your Narrow Mentality In Tame.

Come On, Have A Dignified Talk.....

God Only Has Created Us All,  
No One Is Big And No One Is Small.  
Come Together And Cheers, Listen!  
Humans Also Includes Queers.

**Keshav Sharma**  
B.sc. Hons Microbiology I Year

## Maa's A Capella

Repressed by atonements,  
In handcuffs and chains.  
Where cries of infants,  
Plight of men, women and aged sound the same.

Reservoir, an immense treasury,  
Fell down to foreign treachery,  
Ruled by their forgery,  
A land of laden might.

'Maa.....' cried my children.  
Their blood bathed all burden,  
Flesh and bones were hidden,  
In centuries long fight for rights.  
They say now I'm a "free bird",  
A mother governed by her little lads.  
Still; some where's resound the same sounds!  
Don't make me love the old days.

**Adil Amraz Shah**  
B.Sc. Hons Biomedical Science II Year

## Coming Out

My first was a HE,  
And then a SHE.  
I wonder next, who will be?

I had sex with HIM.  
I fell in love with HER.  
Poets don't mind GRAMMAR.

He never called me HIS,  
She made all my mine; HERS.  
Sometimes I like to wear a DRESS.

**Adil Amraz Shah**  
B.Sc. Hons Biomedical Science II Year

## Raped

They stripped, strapped and dragged me,  
The dogs howled and floors screamed along,  
Left no inch of my skin untouched -  
Scratched; scared me from head to toe.

Their canines carved new marks,  
All those holes pierced,  
The cracks wide opened.  
My voice faded as those wounds deepened.

Why? For a split second of fun?  
They exhausted their lust, but never left!  
Then molten rods plunged in.  
I smelled gasoline and then burnt flesh.

Who minds 'sex' while having sex?  
The pleasure of flesh; sounds good-time.  
Flame in my eyes? No, they lit it on me,  
Yeah, I was grilled live on the street.

Some wore black robes, hung ties,  
Some wore khakis, white coats, fine suits,  
Some even were in school uniforms.  
So, who else is left to hear my shrills???

**Adil Amraz Shah**  
B.Sc. Hons Biomedical Science II Year

## Outsider

I was an outsider,  
He called me, said he needed me.  
Said he wanted to paint rainbows,  
He had all the colours, a huge canvas,  
But couldn't get himself to hold the brush.  
Scared of the remarks, critics' words-  
And the society's norms; he lingered.  
I only held his hands till it stopped shaking,  
Just stood by, behind watching,  
Each stroke, one better than the other  
His fears, tears departing, he smiles.  
At last, he's on his feet;



Ever livelier and more rejoiced.  
So, mission accomplished, I left,  
He's still got more room to grow,  
Let him be independent and proud.  
His confidence now shoots beyond,  
Not frightened by colours anymore  
Paints rainbows all around with pride,  
Surrounded by applauses and huge crowds,  
Head held high, lights shine,  
He does deserve his crown.  
And,  
I am an outsider...

**Adil Amraz Shah**  
B.Sc. Hons Biomedical Science II Year

## Homophobia

What does love have to do with gender?  
And why is this frequent agenda?  
They said- "if we knew when 'it' was tender,  
Would've killed it, in its mother's placenta."

Cursed, freak, filth, an offender,  
'Unnatural being', sick, slur and psycho!  
Named, bullied, abused and murdered;  
Tell me, who's the real offender?

"You defy rules of nature, customs, traditions,  
Roots and religion"- claims the man who's  
24/7 on drugs, drinks and Tinder. Tell me,  
Who taught you these; your dealer or bartender?

What's wrong being gay, bi or transgender?  
Why kill him/her/them, when you could be  
kinder. Look, deep down where your  
hearts render;

You know, love's got nothing to do  
with gender!

**Adil Amraz Shah**  
B.Sc. Hons Biomedical Science II Year

## The Malefic Miniature

The wonted serene thoughts became  
despicable,  
the dreams were deceived,  
the heart bled for affection and love,  
the mind trod the path of oblivion,  
the lifeless body was left behind to behold  
the Malefic Miniature slaying millions...

Confined within the walls of a cascade of  
memories,  
cherishing the realm of joyous moments with  
dolor and shock,  
for the malefic miniature has wiped out the  
felicity of the world  
leaving us to brood on the reality of the world...

**Sarah Navaz**  
Course: Biomedical Science Year: 1st year

## Microbes: "The Unsung Heroes"

Though we are a part of this Earth, which is  
beautiful,  
But it's the microbes, who are the most powerful,  
  
Surely, we are living a life of ease,  
As without them, there won't be any wine,  
beer or cheese,

How can we forget their roles in vaccines and  
antibiotic,  
Else, curing of diseases would have been chaotic,

They are a part of the nature's biodiversity,  
since the time immemorial,  
From curds to cosmetics, gene therapy to  
detergents, that's their magical potential,

The Masterminds of decomposition, else  
this planet would become rotten,  
Often their role of human microbiome, in  
gut health and digestion is forgotten,

They provide nutrients to the soil,  
Or else the humans would have been left in  
turmoil.

Without them, the Earth would be a dead  
place,  
Do not forget the value of good microbes in  
the nasty race.

The real power is not in money or in Euros,  
It is these tiny, microscopic creatures, who  
are the real heroes.

**By Aishwarya R. Nair**  
BSc (Hons.) Microbiology 3rd Year

## The Sun Will Rise Again

It's our choice what to see: the happiness  
or the trouble,  
Whatever we see more, becomes the double,  
Everyone's trapped in showing off, it's our  
choice to be subtle,  
Life is a ride and we are just travellers,  
the one above us has the buckle,

So many things to be grateful, still so sad is  
our brain,  
So much positivity around, still we represent  
rain, (keep crying on things not in our control)  
STOP, calm yourself and realise,  
Help others and save the chain,  
No matter how dark the night is,  
The sun will rise again.

Life is a garden, and we sow our deeds  
like seeds,  
If our intent is pure, we'll get what we need,  
No doubt, it will take some time to proceed,  
Our job is just to do, the one above us  
will lead.

Filled with speeds and stops,  
Life is a terrific train,  
It gives us the eternal happiness,  
accompanied with some pain,  
Then why do we only focus on the  
things that went in vain,  
No matter how dark the night is,  
The sun will rise again.

**Vibhor Milani**  
B.Sc. Hons Electronics I Year



## The Bloodsuckers

In the midst of the soundless sound of burning,  
the days would pass here, still are.  
Before the start of the day, also after end,  
Combustion goes on endlessly.  
When the labours return across the horizon,  
Tempters keep on ambushing.

in the path-laps, absorbed epidemic-wind in  
the air,  
The neutral epoch of the attached load,  
In the relentless failure of uniting streamless  
neutrality,  
Strong and even weak muscle vibrations of  
the larynx,  
In shack's dense-waned perspicuity,  
In the crowd city's building, shout, even in  
restfulness,  
In the depth of the old bricks and stones even  
going back to the sumer-caral,  
In water-kerosene, in neon light,  
In the groaning of the uprooted, in anemia, in  
the corpse,  
In existence, non-existence-  
Inside everything, the clan of tempters  
constantly satisfies their hunger  
after the post-artificial scene.

**Irfan Rahman**  
B.Sc.Hons Microbiology II Year

# THE PARADIGM OF TOLERANCE IN INDIA

**Ashima Jha**  
**B.Sc. (Hons) Biomedical Science**  
**III Year**

Tolerance refers to an imaginary line that separates what we agree and disagree. It means respect. Respecting the beliefs and practices that are ideologically distinct from the one which we follow.

In the recent years, there have been rising number of protests by various sections of society, increasing cases of hate crimes, as well as a reflection of the gender and economic inequalities within the country, all of which have cast doubt on the idea of India being tolerant and accepting differences as evident from its culture.

Indian diplomat Shashi Tharoor in his book 'Bookless in Baghdad', wrote that “the singular thing about India is that you can only speak of it in the plural. Given the extraordinary mixtures of ethnic groups, languages, geography, cultural practices and economic development that India embraces, it is fundamentally a culture of multiplicities.” So, even after multiple arguments that prove rising intolerance in India, the question arises, how India survived successfully for 5000 years and is still excelling with all these diversities if it was intolerant!!!

If we look at the Indian Constitution, the philosophy of India being tolerant and accepting is reflected through various provisions for diverse sections of the society ranging from economically backward to different religious groups to reservations and provisions for gender equality. And the best thing is that it is constantly being amended as the need arises to accept new ideologies.

The main reason for this peaceful co-existence can be attributed to the argumentative nature of Indians. It has been seen that discussions and deliberations give an insight into different perceptions, thus, respecting differences. An example of this can be Sufism and Bhaktism that had great leaders from two disparate groups but they still respected each other giving a message of peace.

If we go back to 1947, the time of ensanguined partition, there were born two countries, a pluralistic, inclusive, progressive India and Islamic Pakistan. After 73 years, to this date, the idea of India still persists. It's no more a nation in need of grants and aid, but a nation striving for a permanent seat at the United Nations Security Council. On the other hand, Pakistan is still struggling to bring half of its population to the mainstream, where the living condition is indigent and where the country is blacklisted by the United Nations for not being able to repay the loans. A country born in the name of religion in 1947, split in the name of chauvinism in 1971, and now completely drowned in debts. This comparison in no way indicates that India has achieved zero poverty, but we cannot deny the fact that we have come a long way from where we started in achieving national stability. The greatest tribute goes to the founding fathers, who with their precognition made the right choice of molding the ancient inclusive beliefs of India while crafting the Constitution.

At this point, most of the readers might feel that all these examples are a thing of the past and the ideas of Vasuidhaiva Kutumbakam are irrelevant today.

So, let's bring it to the present, according to a study in the Journal of Child Development in June 2018, young people in India are found to be far more tolerant than their parents in terms of religious beliefs. The fact that item songs and parallel cinema can release on the same Friday and yet gain to meet ends at the box office shows the accepting mentality of our nation. After all, cinema is what reflects our nation in a true



sense. We must also not forget the fact that these cinemas highlight the existing challenges in the country, which automatically creates awareness in eradicating them.

And lastly, which everyone here can relate to, every day we are stuck in horrible traffic with people of different ideologies, yet we patiently wait for the signal to turn green. We don't indulge in so-called intolerant protests with them. Of course, road rage does exist, but the percentage of people in road rage is far less than those who are peacefully existing. Other than this, all sorts of nonsense are shown on television and daily soaps, from mysterious creatures to old school morals, yet we don't protest against it, because it has been accepted as a source of entertainment.

Even after this, it cannot be denied that some form of ideological dogmatism has been there from all times to come, and sometimes become extravagated to riots or violence. But because of that 1 percent of intolerant uninformed people, we should not claim a nation of 1.3 billion population to be non-accepting, should we?

Right to peaceful protest is a provision given under the Constitution, but just as a knife can be both used to cut an apple or slit someone's throat, in the same way, this provision can be used or misused, and if misemployed by citizens, then, of course, they are liable to repercussions. After all, anything that questions the sovereignty of the nation is a matter of national concern and we have to understand that this has to be dealt with strictly.

Our concern should not be to indulge in a war of rights or wrongs but to create awareness for that one percent of uninformed people to bring them on the same page. As an aware and informed citizen of India, we hold a responsibility to change mindsets through speech, actions, and vigilance. While posting any opinion on social media, we should keep in mind to always put a disclaimer to prevent its misuse. It is also essential to maintain a proper dialogue whenever we see an intolerant action. Believe me, words can make a great impact on someone's thoughts and opinions.

Sir Chinmoy has clearly stated that “Inner Compassion and Outer tolerance, can easily make a new world, a better world.” So, let's do our part to make this world a better place!!!

## CYBERBULLYING

**Rishabh Jain**  
**B.Sc. (Hons) Computer Science**  
**I Year**

Nowadays, technology has become an important part of our life. We all have gotten so much addicted to use of technology. Everywhere we see, we find ourselves using technology either in computers or in phones and many more. We can't neglect the benefits of technology. Technology brings together tools to promote development, use and information exchange. It makes our work so much easier and convenient to solve many problems of mankind. But as we all know that everything has its pros and cons, so if technology has solved many problems of humans, then it also creates so much chaos for mankind. If some people use technology for good to solve problems for themselves and others then there are some people also who misuse technology for troubling others or to harass others. Misuse of technology includes cyberbullying. Cyberbullying can be easily defined as the misuse of information technology in order to harass others. It happens in many ways like body shaming, age shaming and many more. We all know



about bullying and somehow and somewhere we all have experienced that. Cyberbullying affects a person mentally and somehow physically and spiritually also. People often use social media platforms like Instagram, Facebook etc. to bully others. People don't understand or realize how this affects someone so badly which could convince a human to take some irrational decision like suicide. People who can't really bear all this and who are too sensitive commit suicide. How someone teases or bully a person so much that breaks the person internally. We should raise our voices against cyberbullying. We should spread awareness about the spreading of misuse of technology. If you experience or witness bullying then you must complain about this in the cybercrime branch because cyberbullying is a criminal offense. If we see anyone bullying someone by using technology, then we must stop them and make them understand to not misuse technology and not to harass others. It's high time, we should stop thinking about society so much, what will society think about me, how will people comment on me. We must raise our voices against this cyberbullying.

## GRIEF: A THING WITH SOAKED FEATHERS

**Srividya Rajagopal**  
**B.Sc. (Hons) Food Technology**  
**II Year**

Nyaya is a journalist with Ecological Times. She reports on the recent proceedings at the UN Convention to declare ecological grief as a mental health issue.

She interviews a young woman in her 20's who wished to be named anonymously. She says that she has never been more devastated at anything else before. The complete disappearance of the Great Barrier Reef, with no signs of reappearance, the death of thousands of sea animals, the fact that the corals are completely gone and the last ever hope to revive it has been unsuccessful. She recounts her family holiday to Australia in 2019, where she scuba dived among the corals. She still remembers the little fish that swam next to her hands as she fed them. It hurts to even think that none of those fish would be alive anymore and such an experience would be only history.

With the advent of climate change, there have been many disappearances of ecosystems which has vastly disrupted the functioning of the earth. The melting of ice caps has provided a hostile environment for the penguins and polar bears alike. The sudden death of millions of penguins in 2025 was the last straw after which the earth saw nothing but destruction.

The year 2021 was the year of code red, meaning we had 0 years to undo the damage of climate change. The widespread industrialization, merciless deforestation and pollution are just the tip of the iceberg to this problem which would take thousands if not millions of years to solve.

Another person I interviewed was from the global south, the place which bore the brunt of climate change. They get frequent bouts of intense depression and desperation to go back in time, relive their days spent playing outside and walking in the cold. According to them, everything is a dystopian movie now, with snow coming till the shoulders and yearly floods which washes away millions of homes, heat waves that kill thousands of people at a given time and plagues which force people to stay inside their homes for longer durations, due to which outdoor activity has greatly decreased and so has travel.

For them, they want to experience the simple days without having to worry about another person they would lose after every ecological disaster strikes. They lost their parents in the floods that hit Puerto Rico



last year, and shortly before they lost their best friend to the tsunami that struck Thailand. They've developed an aversion to even going near water bodies, as it reminds them of the people they've lost, the people who remain nothing but memories. Even taking therapy doesn't help when everything reminds them of the closest people who are gone forever.

They look at the photographs, as if it's a swimming pool to dive into, the longing to go back, the urge to be among their loved ones whose voices are slowly fading in their brain, before they remain nothing but fragments of memories. They were living in New York, and had plans to surprise their family in Puerto Rico, but those plans remain as plans, unfortunately never materialize into reality. As the world went into yet another lockdown, in 2029, the only thing that kept them going in those times of intense isolation was the prospect of visiting the forests, riverside and their family. One whole year, they imagined finally landing in their hometown, taking the bus back home with fields of rye smiling at them, eating their favorite dishes cooked by their father, sitting in the winter sun and getting a head massage from their mother, as they would when they were a kid. They longed to run to their best friend and give them a hug, visit places, eat food and watch movies at a local theater. The shattering news came to them one month before they were scheduled to make the visit. They tell me that something inside them broke, shattering the tiniest bit of hope left after a decade of increased periods of social isolation. They regret not going there earlier, this time they had to perform the last rites of their parents and comfort the mourning family of their dead best friend. All the plans they were looking forward to, nothing happened, it was almost as if they were living their worst nightmare and needed someone to shake them into their senses, to tell them it's just a dream, but no matter how many times they pinched themselves, they were in the same hell.

After these two interviews I have realized that the loss of losing nature, losing people to nature is a different kind of grief. Psychologists and psychiatrists alike are contemplating on how to deal with such kind of grief. Some people are suggesting virtual reality or meta verse tours to the ecological structures which cease to exist while some are suggesting medications which paint a picture of the lost people, places so that people can come to terms with whatever has happened and get closure. However, usage of such psychoactive drugs is a major ethical issue to be debated upon as it has a great potential to be misused.

The only conclusion I have reached after wandering through the places which one used to be tourist attractions and now are reduced to nothing but rubble, I can safely say that it is late, we have officially reached a point of no return and no amount of restoration can ever undo the injustice we as humans committed.

## THAT RAINY EVENING

**Sudiksha Gupta**  
**B.Sc. (Hons) Biomedical Science**  
**III year**

She was never a fan of the rain. Leave alone tolerating it, she despised the wet season altogether. While the world swayed in happiness as the first drop of the season fell, she shut herself inside with her books by her side.

But that day was different. She felt different. She was working by her window, struggling with the usual Monday afternoon workload, yet she was at peace today. somehow, she was able to breathe today, she was able to look at her laptop without those three lines of worry on her forehead. As the cool breeze



rought the earthy smell to her nose, her eyes became wet as the ground did too. The sound of raindrops on the stone in the balcony and on the glass windows of her room made her feel alive. She could feel her presence, she could feel herself actually living. Overwhelmed by emotions, she moved away from the window, removed her glasses, and put them on the table, and walked barefoot to the verandah. She stood for a second, took a deep breath, and moved out in the downpour. She stood there, in the center of the verandah, barefoot, with her eyes closed and a small smile on her face. She felt alive as the rain drenched her hair, her clothes, and as the raindrops fell one after another on her round face. She could feel her pain wash away, years of criticism, negativity, sadness, loneliness, and heartbreak, all wash away. Her physical being was touching the rain, but her mental self was becoming pure. She let herself fall to the ground, and as she embraced the wet ground beneath her, she cried. She cried until she felt okay, until she felt relieved, until all the pain had washed away. She opened her eyes and it was like she was born again. She could see the colors of the plants around her, she could feel the coarse ground under her, she could feel the coldness of the rain that calmed down her angered soul. She felt alive that day, for she won herself from herself.

## A LIVED APOCALYPSE

**Srividya Rajagopal**  
**B.Sc. (Hons) Food Technology**  
**II Year**

MARCH 2021- As the world was moving slowly back to normal, the news headlines read “VARIANT OF CONCERN DETECTED IN MANY COUNTRIES” “DELTA VARIANT EMERGES AS THE WORLD WAS BOUNCING BACK ON TRACK.” For many, it came as a surprise but for some it was the point where their last anchor of hope was shattered and torn. It meant more months of uncertainty, joblessness, being stuck in an unpleasant situation and having to fight through everyday just to get by. Nightmares became common, classes were slowly switching back to online and exasperated cries rang through the doors of each house.

April 5th 2021- Daily cases begin to rise, words like “lockdown” “increasing” could be heard almost in every corner of the street, a full lockdown was giving an evil smile right across the corner. Working class of the country was yet again ignored, migrant laborers began fearing for their hard-earned jobs, and situations seemed like they had to go back to their homes once again. Panic struck across the country and supplies were hoarded like the doomsday was to follow.

April 10th 2021- Social media timelines were a bloodbath of people begging for leads, for their loved ones, someone they knew or just a stranger on the internet. “Verified” “oxygen” “Ventilator” were seen after every 2nd story. Hospitals were being overcrowded, oxygen supply was running out and ventilators were out of stock. Social media turned to a NATIONAL HELPLINE where faceless strangers were saving the lives of dozens of people. One cannot help but wonder, where would those with the lack of access to digital media go? Only 83 crore Indians use smartphones in a population of 138 crores. Several small villages where the network is almost non-existent, would have given up on finding leads let alone accessing healthcare. The class, caste and gender disparities in the lack of access to healthcare and technology cannot be overlooked in such circumstances. It seemed as if the worst nightmares were coming true and we were transported into a horror apocalyptic Hollywood film with nothing, not even hope in our hand.



April 18th 2021- Everyone was exhausted, drained out and hopeless. Amidst the blistering heat, covid was burning families, scalding hope and reducing relationships to ashes. Thousands of people couldn't say their last goodbyes to their loved ones. One second, they were smiling and the next moment they were gone. All that remained of them were their memories. Nobody ever thought they would see a day where corpses were put to burn without anyone by their side, nobody thought that streets once echoing with the sounds of children playing and neighbors chatting would now be blaring with the deafening sound of ambulance sirens. We all wanted to get out of the situation but we just didn't have the means to, we all wanted this to be over, no one knew when. Every household was ringing with the cries of the kins of loved ones, every street had countless families being affected by the disease, despair and exhaustion were the only emotions felt, happiness seemed like a long-lost memory.

April 20th 2021- Delhi, the national capital officially went into a lockdown, silence filled the streets of the city and every news channel was filled with headlines about oxygen running out within a matter of hours. One such case which I vividly remember is GTB hospital. Since the afternoon of April 20th, notices were being put up across the boards of the hospital stating that oxygen supply would be running out by 2 am, beyond which the hospital wouldn't be able to provide for any patient. The lives of 500 patients were at stake and every call, every request was being met with a negative answer. The entire city of Delhi went into a state of panic and chaos ensued everywhere. At 11pm the principal of UCMS Delhi, warned of a catastrophe which was about to ensue if oxygen doesn't reach on time.

April 21st 2021- Just as the clock struck 1, the walls of GTB hospital were echoing with cries of panic, hopelessness and despair by the families of over 500 patients. They had one hour left, beyond which everything was in the hands of the Almighty. Calls were hurriedly being made to arrange for oxygen from external sources and many numbers ran out of oxygen within 5 to 7 minutes. By 1.30 the last attempt was made, and the families were told a tanker was on the way to the hospital. The tanker entered the gates of the hospital, 20 MINUTES before the clock struck 2, and everyone was overjoyed with tears. This is what life had come to, the mere availability of something as basic as oxygen was a matter of celebration and joy.

April 26th 2021- Resources were getting drained out by the minute, numbers verified 10 minutes prior were switched off on the 11th, doctors and healthcare staff were being overworked in their PPE kits, yet many hospitals were short of staff. In the days prior, top hospitals like MAYO HOSPITAL LUCKNOW, were asking the kin of the patients to shift their loved ones elsewhere as no oxygen was being provided beyond a certain time. It was a common sight in hospitals for families to fight over oxygen cylinders, and unfortunately at least one family had to go empty handed. People were kicking, punching and screaming at each other, because they had no choice but to put up a fight for something so basic yet so scarce. Discord servers were being bombarded with requests from across the country, with many withdrawing the request as the patient had succumbed.

May 1st 2021- The peak of this wave was yet to come, but the visuals of the past week left people wondering as to what else was waiting for them. Everyone became immune to ventilators being out of stock, scarce oxygen and patients dying while waiting for their last hope to arrive. Every morning those dreaded phone calls informing people of the death of their loved ones, would leave countless families shattered and unable to recover. Shock was the default emotion and every hour someone close to every house would leave the world. The apathy shown by the privileged celebrities, who were vacationing abroad was juxtaposed with the sheer helplessness of the masses. Prices were being quoted to 60,000-70,000 for a single cylinder of oxygen, and news of scammers not giving families their promised resource



was becoming far more common. Basic manners and ethics became far less common and even humanity seemed to die with the lakhs of humans.

May 7th 2021- Balconies near to the crematoriums were being showered with the wood of the pyres, people were breathing the dead and the crematorium workers were severely under equipped with protective equipment leaving them at the maximum risk. Messages on social media asking for crematorium services for someone were pouring in by the minute. Crematoriums and graveyards had reached their maximum capacity and bodies were being piled up on the streets, where a few months ago children were playing, families were walking and friends were chatting. No one would have imagined such a sight in the worst of their nightmares. No more requests were being made for oxygen or ventilators, after all how long could you cover a stabbed wound with a mere bandaid.

May 25th 2021- Finally the cases began to decline, the number of hospitalizations were decreasing and the number of recoveries were increasing. Many families saw the sight of happiness after weeks of helplessness and misery, as their loved ones returned home, fully recovered. Hope was again born in the hearts of the people.

June 8th 2021- The curve was more or less flattened and there was finally a light being seen at the end of the long, dark and eerie tunnel. Life trickled back to normalcy, shops slowly started opening up, for the second time, people were visiting their families after a long long time and smiles were seen at last.

These two months were the worst two months India had seen. The panic, helplessness and hopelessness should never be forgotten and such blunders should never be repeated as the lives of the people are not mere statistics. Each number on the toll, has an entire set of well-wishers praying and hoping every second for this to end. Every number on the death toll has a family/friend grieving a loss, a permanent void formed in their lives. Each number has someone helplessly looking for the last beam of hope for someone they want to hold on to dearly. One can do nothing but hope that such a nightmare never occurs again.

Mask up and stay safe.

## FORGOTTEN ROLE OF WOMEN FREEDOM FIGHTERS IN THE FREEDOM STRUGGLE

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The legendary feminist and writer Audre Lorde said “I am not free while any woman is unfree, even if her shackles are very different from my own.” Since the beginning of time, women have been subject to patriarchy and even if a woman dared to have a dream or a room of one's own, she was considered a threat to “womanhood” and the notions of chastity associated with it.

On 15th August 1947, at the stroke of the midnight hour, India gained freedom as the world slept. What many people forget is the role that women played in shaping the destiny that gave India her independence. At a time when women were expected to be serving their families, obeying their husbands, and veil their desires, many women challenged patriarchal notions and bravely fought for giving us the India they dreamt of. Women and gender minorities of today remain indebted to Savitribai Phule and Fatima Sheikh, for it is due to their efforts that we are able to gain education and stand on our own two feet.

Savitribai Phule along with Fatima Sheikh, played a pivotal role in shaping the lives of millions of women and minorities and encouraged them to educate themselves particularly Dalit and Bahujan women who



faced the intersection of caste and patriarchy. She rightfully said that education is a tool to free women from the chains of social discrimination, fought those who opposed her ideas, and even carried an additional sari to change, as the upper caste men would throw cow dung at her because according to them, women especially Dalit and Bahujan women getting educated was seen as a threat to the society. She didn't let their actions deter her from spreading education to girls in Pune, along with Sagunabai Kshirsagar, starting their own school in Bhide Wada, using a curriculum different from those in government schools, which led to girls outshine boys in their examinations. She also opened clinics for pregnant women affected by assault, and helped them deliver their children as well as a clinic to tend for those affected by the bubonic plague. She actively campaigned against child marriage, sati system and also made all women attending her school, to sit on the same mat irrespective of their caste.

Jhansi's Rani, Laxmi Bai is an icon of resistance and resilience, as she had bravely fought the British forces, and using her skilled warfare techniques, till her last breath, prevented Jhansi from lapsing under the rule of the British. Having just a small army of soldiers, she defended her province with valor till her last breath. She remains as an inspiration to break the patriarchal notions of femininity and contribute towards the greater good of the society.

Jhalkari bai, a Bahujan freedom fighter played a pivotal role in Rani Laxmi Bai's women's army where she fiercely loaded cannons and using her skills fought the British army by courageously walking up to their camp and risking her life in the process. Uda Devi from Awadh, is one of the many women from the Dalit, Bahujan and Adivasi community to have fought in the revolt of 1857 while also fighting against the casteist and patriarchal practices that she and many others were subject to. She formed a women's battalion under Begum Hazrat Mehal and looted the resources of the British, her immense contributions to the Indian Freedom movement should never be forgotten.

In the southern part of the country, heroes like Kuyili remain unforgettable. Kuyili was the commander in chief to the queen of Sivagangai, Velu Nachiyar, gave up herself to protect her land and saved the queen's life multiple times. She hid the weapons of the British leaving spellbound and defeated. In the process, she set herself on fire, drenched in oil, making it clear that neither her nor Sivagangai would surrender to the British.

Women like Sarojini Naidu, resisted the rule of the British, through their pens, writing down their thoughts in poetry and expressing their resilience. Sarojini Naidu, who was educated in England and began her oratory when she returned to India. She formed a women's Indian association who advocated for a universal suffragette in London. Her oratory was known to carry elements of her poetry, as well as the 5 part structures of the NYAYA reasoning, and subsequently she became the first Indian woman to hold a governor's post in the Dominion of India. She along with other influential female activists like Kamla Devi Chattopadhyay persuaded Gandhi to let women join the Dandi march. Kamla Devi was the driving force behind the flourishing of Indian handicrafts and theater, founded the sangeet natak akademi, National School of Drama to promote socio-cultural forms of resistance at a grassroots level, which she believed played a significant role in shaping the socio-economic upliftment of the marginalized.

It can thus be said, that the role of women in the fight to Azadi, can never be forgotten, and can never be fully documented, as each woman, fought the multiple forces of oppression like colonialism, patriarchy, casteism in their own ways, and where we are today is because of their efforts, we must thus keep the feminist spirit alive and strive to achieve the society they aspired for, a society free of prejudices towards any race, caste, creed, gender, religion and free of any privileges, for, the saying goes "to those



accustomed to privilege, equality feels like oppression.”  
INQUILAB ZINDABAD, LONG LIVE AZAADI.

## NOTHING SPECIAL

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“And another day just swept away with nothing special happening in or around.”

Almost 80% of people hate the question 'How was the day?', and the most common reply is 'nothing special'. The day itself begins with that exasperated alarm which is probably the most hated thing after intermittent Wi-Fi connection. Alarm is something which reminds us of all those recurring incidents that take place every day. In today's world, time runs so fast that 7-8 hours are just nothing to relax muscles and mind. For a 9-to-5 job worker or a student, the traffic adds fuel to fire. That red signal seems like the face of the boss or the teacher turning red due to delusion.

Although we have different means to interact nowadays, there are still some faces which are a source of joy in a routine full of anxiety. Whether it is a glimpse of a cute receptionist or the school/college friends with whom we hangout, they all are temporary refuge but after all they all are the part of daily life and consequently, 'nothing special'.

Today we have access to something called, “best companion of the era”, the smart phone. It takes us to a world beyond real life which we conversely don't like to face. But somewhere, this companion also makes us feel low whenever we don't get the targeted or expected number of likes and comments on our posts. And the repercussion is, it itself realizes us that even we ourselves are 'nothing special'.

Every day, we are faced with challenges and uncertainties but still life seems burdened and tasteless as human beings have now established a tendency to evidence the negative perception. In order to get a blissful life, the 'nothing special syndrome' must be discarded preeminently.

The cure can be any of the positivity, sanguinity, cheerfulness, mindfulness, idealism, etc, etc.

In layman's terms, the one and only solution is optimism. Here the question arises, how to achieve optimism. Is there any certification that elucidates by doing this or that, we can achieve optimism? As a matter of fact, optimism is something not to be achieved; it is developed in one's mind.

In the modern world, where people are worried about keeping their body and soul together, we just neglect each and every fascinating thing taking place every moment around us. Inclusively, the first step towards developing optimism is each and every thing surrounding us. Whenever we step out of our homes, to chase our destinations, isn't it fascinating that we all possess a place to go, from which we belong, the place which gives us an identity, a place which is paying us or educating us in one way or another.

Following this, expressing gratitude also counts. Whenever we get up in the morning, shouldn't we be grateful that we are still alive, respiring and sensing everything? Thanksgiving nature helps to achieve a positive aura as well as a peaceful life. Evidencing each and every moment from a positive view isn't that cakewalk but it isn't even something which is out of the question.

Leastways, we should give it a try and discover something new at every minute passing by. So, next time whenever you stand in front of a mirror, just try to admire the personality you are facing. Whenever waiting for a cab or taxi in the morning, just ponder over that newspaper boy who throws the paper on the balcony



of the fourth floor with such flabbergasting accuracy. Whenever stuck in a traffic jam, just groove on the song which is being played on the music system of the car or just casually manage a call to your loved one. At last, self-introspection is the key to reveal a treasure called harmony. Every day, every hour, every minute, every second brings us something special. We just have to be sensitized enough and enjoy it and that is the need of the hour to remove this 'nothing special' culture.

## HOW HAVE I TURNED ORDINARY INTO EXTRAORDINARY?

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**Alumnus (2014-2017)**

As a student we've been taught that we should work hard to get success in life but in reality, hard work is just one component of success and there is so much behind.

As a child we have all faced our dads at least one time when he saw that news on Newspaper/TV/Radio saying, "Son of a Farmer/Rickshaw puller/Street vendor cleared UPSC" and our dads shouting dramatically were like "What a proud moment!!!! Do they eat differently? Do they wear different? if they can achieve this much with least resources, why can't you with so many resources you have?" You say, dad these are some God gifted extraordinary minds, but we all felt that, right? At this stage in my life, I have experienced that there is nothing like extraordinary. Keep doing required ordinary things with some extra effort and people will treat it like extraordinary. The way it was treated for the farmer's child who remained focused despite many challenges.

In short, if you can tackle major problems in your life that can be very easy reasons to explain your failures, you have become extraordinary cheers!!!! Now you know why those were in headlines because their family condition was not of that level where so many resources could be provided, and they could have explained these things as the reason for their failures.

I was never in headlines but why I'm sharing this is because I had always desired to be extraordinary. Yes you heard it right "Desired of" and believe me it's not like the movie where only a strong desire will force the whole creation to make it happen for you. So, I followed a beautiful rule in my life called the 4D rule where first D stands for Desire, second D stands for Dedication, third D stands for Determination and fourth D stands for Discipline.

If you do ordinary work with this rule results will turn out to be extraordinary for sure.

Desire + Dedication + Determination + Discipline = Success

## THE EFFECTS OF COVID-19 ON PEOPLE'S OUTLOOK TOWARDS LIFE

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"The oak fought the wind and was broken, the willow bent when it must and survived." - Robert Jordan.

This statement holds very true. Resilience is accepting your new reality, even if it's less good than the one you had before. Human resilience to survive and adapt to the changing world is one of the strongest forces of humanity. During the crisis where the pandemic engulfed the world in chaos, stress, fear and anxiety. It was seen that the feelings of mutual understanding rose as people were able to better relate to the feelings



and emotions of others as all of us were going through the same. In the age of the internet, even though everyone was isolated and socially distant, the internet allowed us to connect with each other and feel a sense of unity which is very important as the feeling of loneliness during such stressful times has a drastically negative impact on one's mental health. Empathy towards each other is one such factor that is very important. Putting yourself into someone else's shoes, understanding what others are going through and having compassion for each other are very crucial as it allows us to tackle the situation as one and not be alone during these tough times. NGOs, Private organizations, support groups and various student groups came forward to help each other and lift each other up in times of crisis. The crisis showed us the strength in unity and moving as one and how important it is to have empathy towards each other.

"Crisis gives birth to changes that have been pending for many years"

As it has been said, this was true during the period of Covid-19. Things have changed in order to suit the requirements of society. Whether it's online education, jobs or any other, the Covid-19 crisis has enabled these huge changes. The pandemic along with the subsequent lockdown to flatten the curve, has had a huge psychosocial impact on society.

Some have used the term "covidisation" to describe the unraveling of the far-reaching medical, economic, and societal consequences of a global health crisis. The pandemic led to loss of a huge amount of human life worldwide and the challenges to the public health, food systems, work and overall way of living are unprecedented. Research highlights the fact that this had a negative impact on the psychosocial well-being of the exposed individual. Also, impacting the interpersonal relationships of individuals. The lockdown resulted in a changed organization of our daily livelihood as the time at home increased and the physical distance between each other was reduced through the aid of digital devices. This period and the conditions at hand led to an evolution and a rise in the concept of empathy- "the ability to understand and share the feelings of another.

A large number of people lost their lives and whole families were disrupted. Going through such traumatic experiences in such times of crisis has drastic effects on both the physical and mental health of an individual and that is why the importance of values like empathy, compassion, and unity have become more important than ever. Understanding what others are going through and being empathetic towards each other in such tough times provides the much-needed mental support.

"Coming together is a beginning. Keeping together is progress. Working together is success."

– Henry Ford.

Understanding this statement and acknowledging the fact that this pandemic is not a battle to be fought alone, but is to be fought together by helping each other, by being calm and patient while also being understanding and empathetic towards the problems being faced by everyone around us.

The pandemic had a great impact on the education sector of the country as well as all of the work was shifted to the virtual mode, it led to hindrance in the proper functioning, but even with the disruption this new way of teaching has given an insight into the future, while also reminding us that what makes the process of teaching and learning fun and engaging. This pandemic has shown us the value of physical learning and increased the appreciation for schools and colleges. As the struggles from learning at home were seen, the gratitude towards teachers, the skills of the teachers and the role they play in the well-being of the student has risen. During the pandemic, various attempts were made to better accustom for the changed mode of learning and to have the best possible outcome. A new found appreciation is seen in the students for the physical mode of learning.

The job sector also took a big hit due to the crisis as large number of people lost their jobs and had to look



for other places to work, which became difficult and had a drastic impact on the livelihoods of a lot of people and even those who were not removed from their jobs had to work on lesser salary pays due to the falling economy. In the workplaces as well, there were negative impacts of shifting work to the virtual mode, it became difficult to stay motivated and work as a cohesive team in the current setting of emotions. A spontaneity that is seen in the physical setting was lost, there was more work to do than ever as being at home meant there were no limitations of shifts or timings which lead to erratic work schedules, disturbed sleep patterns and increased levels of stress and pressure. Various team meeting exercises, team building projects in order to relieve the built-up stress and personal weekly meetings to better understand the situation of the employee were adopted which have shown varying degrees of success. There are still residual effects seen from this, but now the offices are getting back on track, there are job openings for hire and the hybrid mode of working is allowing for an effective working as well time for employees to have a break so that they are not burdened into stress and pressure.

Another topic of concern which has risen during this pandemic is gender inequality. By earlier estimates of research, it was said that it would take around 90 more years to remove gender inequality from the society, but due to the pandemic it is seen that the number bumped up to 103 years to remove gender inequality. It was seen that globally as well as in India more women lost their jobs to covid-19 as compared to men. Wage inequality which was already prevalent was seen to be even higher than before the pandemic. Various reforms were established to empower women during the pandemic times and to provide them with the strength to keep moving forward and to make them self-sufficient.

“Even the darkest night will end and the sun will rise.” – Victor Hugo

Even though the times looked bleak and the world was overwhelmed with chaos. We saw the importance of standing with each other when times are tough, it taught us the value of empathy, unity and the strength in numbers. The pandemic separated us at our homes, but we still needed to fight against it doing our part and we did. We saw that the resilience of humanity is very strong and it is the very essence of how we have managed to survive through everything the world throws at us by being united, empathetic and by being adaptable. We have all gone through a lot during this time but, Understanding the situation, assessing it with a calm mind and working as one to achieve the goal and never losing hope are very important and as it is said 'There is always light at the end of a dark and gloomy tunnel.'

## COVID 19 AND BHARTIYA SANSKRITI

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The year 2020 changed our lives forever. The world was impacted by a new disease 'Coronavirus' which impacted people across countries, age, gender or financial status. Countries were shattered economically and socially and we were forced to think about just surviving the disease.

During these trying times, we re-lived the Indian traditions and they helped us in fighting the pandemic. People started practicing the age-old Indian traditions of yoga, healthy diet, including ancient Indian herbs for building immunity and developing resistance. These Indian virtues gained prominence and were valued and promoted across the world. The customary practice of greeting each other on meeting, shifted from shaking hands to the Indian ritual of saying namaste with folded hands.



Covid -19, as the virus came to be called, affected people without barriers. The principle of 'Vasudhaiva Kutumbakam' as believed by Indians was visible throughout the pandemic. When the entire race was facing this crisis, people came forward in a variety of ways to help and support each other. While the hospitals and health workers were working overtime, it was also the common people who were seen organizing food, medicines and oxygen support for the needy.

During the second wave, which was the worst to impact us, people died in large numbers and families were struggling to get treatment for their loved ones. This was an unfortunate phase when many families were not able to bid farewell, pay respects or perform the last rites of their family members as per their religion and culture. However, there were missionaries and zealous people who provided support, risking their lives arranging men and material for the peace of the departed souls.

“Strength does not come from physical capacity. It comes from an indomitable will” – Mahatma Gandhi. This saying was clearly depicted by the entire human race in the last two years.

## THE PEACE FORMULA

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The laws of nature work collectively, as well as individually like rain for the crop or the coming of any calamity is collective, but having a disease or winning someone's lottery is personal. In the following brief but cogent statement, shila Prabhupāda explains that if we want to break out of the tangled web of collective karma that is wreaking havoc in present—day society—if we want peace both collectively and individually—we need to take God/consciousness seriously.

The great mistake of modern civilization is to encroach upon others' property as though it were one's own and thereby create an unnecessary disturbance of the laws of nature. These laws are very strong. We can understand this with the example of a traffic light signal, if we break the traffic law at the traffic signal, then our challan will be deducted whether we know the traffic law or not. Then we cannot say that no, we do not know the rules, do not cut my challan. No living entity can violate them. Only one who is God conscious can easily overcome the stringent laws of nature and thus become happy and peaceful in the world.

As a state is protected by the department of law and order, so the state of the universe, of which this earth is only an insignificant fragment, is protected by the laws of nature. This material nature is one of the different potencies of God, who is the ultimate proprietor of everything that be. This earth is, therefore, the property of God, but we, the living entities, especially the so-called civilized human beings, are claiming God's property as our own under both an individual and collective false conception. If you want peace, you have to remove this false conception from your mind and from the world. This false claim of proprietorship by the human race is partly or wholly the cause of all disturbances of peace on earth.

Foolish so-called civilized men are claiming proprietary rights on the property of God because they have now become godless. You cannot be happy and peaceful in a godless society. In the Bhagavad-Gita Lord says that He is the factual enjoyer of all activities of the living entities, that He is the Supreme Lord of all universes, and that He is the well-wishing friend of all beings. When the people of the world know this as the formula for peace, it is then and there that peace will prevail.

Therefore, if you want inner-peace, you will have to change your consciousness into God consciousness,



both individually and collectively, by the simple process of mantra meditation. This is the standard and authorized process for achieving peace in this world. We therefore recommend that everyone become God conscious by chanting and meditating on the Holy name. It is very beneficial to give us peace. For proof you have to open your internet browser and type in it scientific research mantra meditation then you will get many case studies and research.

This is practical, simple, and sublime. Five hundred years ago this formula was introduced in India by Lord Chaitanya, and now it is available throughout the world. Take to this simple process of chanting as above mentioned, realize your factual position by reading the Bhagavad-Gita as It Is, and reestablish your lost relationship with God. Peace and prosperity will be the immediate worldwide result. The day people will understand this formula, from that time people will attain peace and all the disputes of the whole world will end.

## INDIA - A TOURIST PARADISE

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India is a huge country with varied cultures and races. It is a land with primordial traditional heritage and rich history. India is the only country which has all the four seasons viz summer, autumn, winter and spring. It has beauty in all its places whether they are mountains, deserts, plains, seas or rivers. India is a tourist's paradise on earth, with its magical beauty, riot of colors and diverse cultures. It is a country that is surrounded by three gigantic water bodies on three sides, the Bay of Bengal in the east, the Indian Ocean in the south and the Arabian Ocean in the west. In the north, the majestic hills stand erect like a crown atop an emperor.

Exotic as well as native, the snow-clad Himalayas crowned the head in the north, enveloped all the beauty within itself, releases the mighty rivers, Indus, Ganga and Yamuna and their tributaries. These rivers roll over the whole country like arteries, supplying life blood to the body of the country and its inhabitants throughout the years. The complex beauty of the desert state of Rajasthan is found rarely in any part of the world. The culture of Rajputs with bright Badhani colors, intricate designs and the royal background give their sharp look different from others. In their unique architectural style are the series of places like lake place of Udaipur, sand-coloured forts in Jaisalmer, city palace of Jaipur, the pink city of India coupled with the vibrant folk dances and folk songs make India an 'Epitome of culture'.

The Taj Mahal at Agra, symbol of Mughal romance and faith, in its architectural perfection and splendor attracts tourists from all over the world. Taj Mahal reflects Persian culture and their architectural eminence, today counted among the seven wonders of the world.

The caves of Ajanta-Ellora, the Sun Temple of Konark, the Temple of Khajuraho and Dravidian style stone carved temples of Hoysalewara and Ranganathswamy, the medieval glory of Qutab Minar, Red Fort, Fatehpur Sikri and other forts and mausoleums with Persian architectural influence, the Victoria Palace at Kolkata, beautiful and elegant churches at Goa, symbolizes the richness of Indian culture with tremendous diversification and each has its own attraction for the tourist.

The north-eastern part of India is home to the one-horned rhino as much as it is graced by Majuli, the biggest river island in the world. The Sunderbans in the east is the abode to the Royal Bengal Tiger, just as it is among the biggest mangrove forests in the world. Odisha's temples and sea beaches add colour and



beauty that wins many a tourist's heart. Nalanda and Bodhgaya are the seats of Buddhism. Darjeeling and Shillong are among the oldest hill stations in India.

Tamil Nadu is known for hundreds of ancient temples. The famous Meenakshi Temple of Madurai, is embellished with 30 million sculptures. Down south, the Tranquil Bay at Kappad, near to Kozhikode where came the Portuguese navigator Vasco-da-Gama, changing the history of India, the Quwwat-ul-Islam in Delhi is an iron pillar, rising to a majestic 7.31 M. erected by King Chandra Varman, in the sixth century AD and ravages of time have left no speck of rust on the pillar, the Coromandel Coast in Mahabalipuram, the site of largest bas-relief in the world, are some of the most visiting places by the tourist from every part of the world. The Bhool Bholaiyan at Lucknow, the mystery of shaking Minarets in the mosque and tomb of Rajbibi in Ahmedabad, the acoustic wonders of Gol Gumbaj, the famous Golden Temple of Amritsar, the oldest church at Palayur in Goa, the oldest synagogue at Mattancherry in Kochi and the oldest mosque in Eheraman Malik Manzi! in Kodungallor, also the modern Lotus Temple, the Bahami Temple of worship, the Stupa of Sanchi, Tower of Silence at Mumbai, and tallest statue of Bahubali at Karnataka, all speak of the glorious heritage of our country and so are the points of attraction for tourists throughout the world.

Nowhere in the world can be found such multifaceted, most diversified cultures with rich heritage reflecting many dynasties and regimes. India is known for its unparalleled religious beliefs as well as for its vast variety of people, the animal kingdom and the rich flora. India is a miniature world, where the tourists find the best of the west and east coexisting in perfect harmony for centuries.

No doubt, India's diversified future presents a 'paradise for tourists' but to keep it intact, a number of judicious and prudent policies to facilitate the tourists, and attract more and more tourists are to be framed and required to be implemented at a fast pace. The tourists visiting India should be enchanted not only with the rich heritage, but they should also feel safe, sound and welcomed.

## AZADI KA AMRIT MAHOTSAV

**Shivani Gupta**  
**Science**  
**Gcw Bhadurgarh**

Azadi Ka Amrit Mahotsav is an initiative of the Government of India to celebrate and commemorate 75 years of progressive Independent India. Through Azadi Ka Amrit Mahotsav is celebrating the glorious history of its people, culture and achievements, it is an embodiment of all that is progressive about India's socio-cultural, political and economic identity.

The official journey of 'Azadi ka Amrit Mahotsav' was started on 12th March, 2021 from Sabarmati Ashram when Prime Minister, Shri Narendra Modi flagged off a 75-week long festival to commemorate 75 years of India's Independence. This started a 75-week countdown to our 75th anniversary of Independence Day and this will end post a year on 15 August 2023. On 12th March 1930, Mahatma Gandhi started Dandi Yatra from Sabarmati Ashram for the awakening of self-reliance and self-respect of the country, and on this day in 2021, the symbolic Dandi Yatra was started

Azadi Ka Amrit Mahotsav is dedicated to the people of India who have not only been instrumental in bringing India a far evolutionary journey but also hold within them the power and potential to enable the vision of Prime Minister Modi's to activate India 2.0 which is fueled by the spirit of Atmanirbhar Bharat



An intensive countrywide campaign on Azadi Ka Amrit Mahotsav is being organized which is focusing on citizen participation to make it a 'Janandolan', where small changes, at the local level, will add up to significant national gains.

Various freedom programs with the name of Azadi Ka Amrit Mahotsav are also being organized across the country by the Government of India to commemorate the freedom fighters. These programs include photo exhibitions, moving vans, various completions, etc. which depict the contribution of freedom fighters. In some places 'Azadi Ka Amrit Mahotsav Exhibitions' displayed in two parts - the freedom movement before the arrival of Mahatma Gandhi and the freedom struggle led by Gandhiji. The contribution of Lala Lajpat Rai, Lokmanya Tilak, and Bipin Chandra Pal, Famously known as Lal-Bal- Pal before the arrival of Gandhiji, was depicted through historical photographs. Along with this, his role in the movement of other revolutionaries was shown. These include Rani Laxmibai of Jhansi, Mangal Pandey, Raja Rammohan Roy, Swami Dayanand, Swami Vivekananda, Khudiram Bose, Veer Savarkar, Kartar Singh Sarabha chief, Bhika Ji Cama, and Annie Besant.

The exhibition photo series depicted Gandhi's entry into Indian politics when he returned to India from South Africa in 1915 and took the Independence movement into a new era. This war was fought through Satyagraha reaches Champaran Satyagraha (1917), Kheda Satyagraha (1918), Jallianwala Bagh Nar Sanhar (1919) from Non-Cooperation Movement (1921) to Dandi Satyagraha (1930). Meanwhile, the martyrdom of Chandra Shekhar Azad, Bhagat Singh, Sukhdev, Rajguru was remembered. The exhibition showcases Netaji Subhash Chandra Bose and Sardar Vallabhbhai Patel's role in the freedom movement with special reference and the role of Sardar Vallabhbhai Patel in national integration was shown in the exhibition. Overall, the exhibition depicted the chronological order of freedom movements, freedom fighters, and their contribution to make India an Independent Nation.

'Azadi Ka Amrit Mahotsav' festival celebrates the rapid strides that India has taken in the past 75 years. This festival encourages us to rediscover our hidden strengths and prompts us to take sincere, synergistic action to regain our rightful place in the comity of nations.

## INDIAN SECULARISM

**Tanmay Anand**  
**B.Sc. (Hons) Zoology**  
**II Year**

With the 42nd amendment of the Constitution of India enacted in 1976, the Preamble of constitution asserts that India is a secular nation. The Constitution itself does not recognize nor permit, mixing religion and State power. But considering the Indian newspapers flashing the news of mob blast or community rivalry between two regional groups every other day involving money, political powers and what not gives a totally different impression.

So where did India go wrong?

Everyone would give different opinions and answers to this. While some would say - this is bound to happen in a diverse country like ours, while some would say that politics have manipulated the regional sentiments of India. Each and every opinion is a fact and I couldn't agree more.



But if you ask me there is this very simple theory of mine, which I believe in, which states that - any country is made up from the people who reside in. So, at the very root, it is the mindset of the people and the thoughts they believe in, which shape the society in a particular way for the country - which no one, neither the money nor the political leaders can manipulate - given the thoughts and beliefs are very strong in itself. So rather than wasting time in blaming the current government in action or the politics involved in the country, we all can work towards changing the mindset of the people, especially our future – the youth. Making them realize that all the religious deities be it Guru Nanak Dev Ji , Krishna Ji, Buddha Ji etc. all pointed towards the presence of one Supreme Soul and we all souls being a part of one great family. In fact, these different regions were established by the people themselves. No one ever taught us to be intolerant towards any religion. On the other hand, they gave us the message of peace and harmony. So, Religion unites and not divides us.

We should not and cannot in fact, judge people based on the region they follow. We cannot force people to transform into certain religions or discriminate based on regional activities. And the day people of India understand this, India would in practice, become a secular country rather than just being on a piece of paper. So, let's change the way we think and make an Ideal India, just the way our ancestral heroes wanted it to be.

## INDIA IN NEXT 10 YEARS

**Shivi Nahare**  
**B.Sc. (Hons) Microbiology**  
**I Year**

A land once famous for its spices, its kings, and its elaborate traditions, its cultural beauty is now applauded for its brilliant advancements in the field of science, its inventions, and innovation which influenced the development of scientific thought and inquiries throughout the world.

Since its independence, India has continued to prove that it's not a country that sits behind and observes the world getting ahead rather it is among the few helping in the world's evolution.

Advancing in every field, with several big projects being set up to get completed in the next decade, India has never been stronger. In terms of economic development, we are among the top 5 nations of the world in terms of GDP. We have a 10 percent growth rate in most areas. Our poverty levels are falling. India's achievements are being globally recognized today.

A country that sternly believes in self-reliance and sufficiency, India is to launch numerous space projects with the help of its space agency ISRO in the next few years such as the Gaganyaan project in 2021 and the solar mission taking it to the apex of space exploration. With the help of Japan, India will soon introduce bullet trains, the first one being set up to run from Ahmedabad to Mumbai making railway travel ten times faster. Another field that India is working on is the modernization of the Indian armed forces. With the increase in the budget, the Indian military is well equipped with all the latest technologies and techniques which immunize India to any kind of notorious activities from hostile countries and internal forces maintaining an environment of peace and stability. Climate change is a problem that is not limited to a particular country but the whole world. With the aim to convert India into a 100 percent electric vehicle nation along with the promise of reducing carbon emission up to 45 percent by the year 2030 with 100



percent reduction by 2070.

The world has changed. India cannot sit isolated in one corner and determine its future. As Indians, we must, of course, learn from the past but we must remain focused on the future to create a nation where people don't have to give examples of other lands but be a model that other countries wish to be.

## JUSTICE TO OUR FREEDOM IN 1950

**Bhumika Adhikari**  
**B.Sc. (Hons) Biomedical Science**  
**I Year**

“So long as you do not achieve social liberty, whatever freedom is provided by the law is no avail to you” said Dr. B. R. Ambedkar, the father of Indian Constitution. Our country achieved its freedom in 1947 and 3 years later, our constitutional pillars were laid down to strengthen its foundation. Every year, Republic Day is celebrated all across the country with lots of pride and patriotism on 26th January to commemorate the adoption of our constitution which came into action on this day in the year of 1950. On this day, the President of India hoists the National flag at Rajpath in New Delhi and striking parades are held by regiments of our Indian Army, Navy, Police and Air Force. The power of our country is displayed with various models of latest weapons and missiles. Our enriched diversity and cultures are also showcased during the parade.

Our country is known for its richness in culture, heritage and diversity. In order to protect and bring justice to each and every individual present out there with his/ her own unique identity, it was salient to accentuate these laws. For the past 75 years, our country has been functioning with these pillars as its base. It wouldn't have been otherwise possible for such a variety of cultures to exist in harmony and peace. This day not only celebrates our freedom and the laws embedded in our constitution, but also our richness in diversity.

As the time passes by, our country is striving for a more acceptable modern world where different laws have been introduced for our betterment. As we move forward towards a new world, we shouldn't forget about the sacrifice of various lives which made our freedom possible and respect it in every aspect as a bird without its wings better understands the pleasure of flying towards an endless sky than a bird with wings does.

## INDIA IN THE NEXT 10 YEARS

**Nisha Mahato**  
**B.Sc. (Hons) Biomedical Science**  
**II Year**

“The only wonderful thing about the future is that- 'NOW' is in your hand and no one can stop you to carve yourself and mold it into an indestructible sculpture.”

It isn't novel for any of us to understand what role a country's freedom plays in building and shaping the future of its citizens. From one of the oldest independent state US, which got independent in the year 1776, to the youngest self-governing country South Sudan, which got liberation after several years of civil war in the year 2011. Every country had its own struggle and fight to get what they deserved.

But being an Indian, one definitely gets puffed up with pride after witnessing the country's 75 years of



independence. No matter what we say or think, no one can dishonor the glorious history of the people, culture and achievements of the country.

10 years back no one would have ever imagined that their future would be surrounded by Artificial Intelligence, and a virtual world would be waiting in their footsteps for a grandeur welcome.

If somehow, I could control the timeline and could jump to the time 10 years from now my imagery for that moment would be like-

“I wake up in a house and see robot vacuums mopping the floors, unmanned aerial vehicles (delivery drones) transporting packages, medical supplies, food, or other goods.

Leading my way out, I find bikeways established for the bicycle travelers and electric vehicles crossing my paths, indicating the advancements made to curb the pollution of the country. After moving ahead in excitement, my eyes caught the attention of an e-newspaper stand which highlighted the news of ISRO's successful manned Moon landing mission, which was headed by a female astronaut. But what came after this was the news of the installation of the Indian space station, which was a next level perplexing bulletin.

As I walk through the footpaths, I cherish the beauty of greenery everywhere, and how appealing the creepers and climbers looked clanged to the flyover railings. After this I barge into one of the local schools, and I can't seem to believe what I see. I watch students using cloud computing to interact and share ideas with people around the world, designing their models using 3-D printers, use of - Augmented reality, multi touch screens, smart board, game-based learning approach for better understanding.”

Apart from all these wonders the new India which I'd want to imagine after a decade would have people with sovereign thoughts, creative ideas, ethnic values with all the preserved cultures and invaluable traditions. It would be a new polity with fewer crime rate, less intolerance, thoughtful government, with men and women equally excelling in all the socioeconomic sectors of the country.

A country with many more unicorns, advancing in cryptos exploring the different scientific, agricultural fields and applying research analytics and showing interest in unconventional genome sequencing.

Unfortunately, there are so many hurdles to imagine a dream India like this- as we witness so many of our inventive minds migrating to the west, due to the lack of opportunities and spiking unemployment in the country. It's no surprise to us that India with over 16 million emigrants has the highest rate of emigration in the world. But what makes us optimistic is the appealing mindfulness that the countrymen are showing, and their growing interest in being job providers rather than jobseekers. Reports suggest that India will have about 200 unicorns in the next 5 years, which in itself is a boosting catalyst for the young minds who intend to make a difference with their captivating skills and intellect.

It definitely won't be a cakewalk for any country to travel such a path, but it's also not impossible if a country with more than 1.35 crore population joins the hands together, put their minds on work and most importantly support each other, then it can undeniably establish an avantgarde realm for the posterity.

## **HIS LIFE WAS FINITE, HIS SCIENCE ISN'T, 100 YEARS AND COUNTING**

**Jhanvi Sareen**  
**B.Sc. Hons Biomedical Science**  
**III Year**

“He erased the lines between physics, chemistry and biology to crack the genetic code”.

In 1968, Har Gobind Khorana, an organic chemist who specialized in protein and nucleic acid research, shared the Nobel Prize in Physiology for Medicine with Robert W. Holley and Marshall W. Nirenberg for



discoveries on the genetic code and its role in protein synthesis.

Khorana was born on 9th January 1922 in Raipur, Punjab, Pakistan. He was the eldest of five siblings. He showed an early interest in science, which his father encouraged by helping him and his brothers learn to read and write. Until 1945, he resided in India.

He had been a youngster of outstanding intellect and acumen since boyhood, and he received his early education at a local school before enrolling in Multan's D.A.V. Har Gobind ji earned his B.Sc. (Hons) in 1943 and M.Sc. in 1945 from Punjab University. Simultaneously, he was awarded a grant by the Indian government for additional study, with which he travelled to England and earned a doctorate from Liverpool University.

Khorana was the first scientist to create oligonucleotides chemically. In the 1970s, this breakthrough was also the world's first synthetic gene; the technology has since grown widespread. Following that, scientists using the CRISPR/Cas9 system to advance genome editing pointed to his work. Khorana was elected as a Foreign Member of the Royal Society in 1978, in addition to sharing the Nobel Prize. The Khorana Program was founded in 2007 by the University of Wisconsin–Madison, the Government of India (DBT Department of Biotechnology), and the Indo-US Science and Technology Forum.

The Khorana Program's goal is to create a seamless community of scientists, industrialists, and social entrepreneurs in India and the United States.

## 5 BEST FITNESS TIPS FOR WOMEN

**Apoorva**  
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**Alumnus (2017-2020)**

For many years, society and women themselves never emphasized on the fitness and well-being of women. They used to be so busy providing all necessary things and care for their spouse, children, and family that they tend to ignore their health but the scenario has changed completely now, young women specifically are indulging themselves to make time for fitness to lead a healthy lifestyle. So, here are the 5 best fitness tips for women that you can follow to be fit and healthy.

1. Never skip the most important meal of the day:

Breakfast is called the most important meal for a reason but women generally tend to skip breakfast in all the hush-hush of morning chaos. Breakfast not only provides you energy for the entire day but kick starts your metabolism. Your breakfast should be light, healthy, and rich in fibre, protein, calcium, and other essential vitamins that keep you energised the whole day. You can opt for boiled eggs with a glass of milk and a handful of nuts that will fulfil all requirements of your body.

2. Right proportions are the key:

Until you are eating in the right proportions according to your body type, you are on the appropriate track toward fitness. Women generally eat up the food left by their children but they don't realize they are messing up with their proportions which will eventually affect their body in the long run and make them inappropriately gain weight. One can consult a dietician for the right food and right proportions according to their body requirement.

3. Sweat it out!

To maintain a healthy and fit body, working out is very essential as your body feels lighter and healthier. It's



a general misconception that a workout implies hitting the gym for long hours but that's not the truth you need to simply sweat out the toxins by doing any kind of physical activity. You can go out for a jog in the morning, play any sport and do some yoga for your mental well-being. Once you indulge in working out in your lifestyle you will tend to see major positive changes in your body which will help you to have better metabolism and healthy life.

#### 4. Make H<sub>2</sub>O your best friend:

One of the best fitness tips for women is to drink lots of water. If you are following all the tips but are missing the appropriate amount of water, then you need to make water your best friend because hydration is very vital for your body. The human body is made up of 50-60% of water, so you need to fulfil the water requirement of your body. Staying hydrated promotes better physical and mental functioning of the body. You should at least drink 9 to 10 glasses of water daily to be hydrated.

#### 5. Never compromise on your Sleep!

The one thing which is neglected by many women is good sound sleep. Due to family responsibilities and the workload, they compromise on their sleep and mess up the biological clock inside their body which can lead to many serious health concerns in the longer term. When you sleep your body tends to heal itself to prepare itself for the next day but if you don't sleep for proper hours then how will the body heal itself and prepare you for the next morning. Women should at least have 7 to 8 hours of sound sleep for their fitness. Being fit is not arduous at all, there are a few simple steps you should follow to attain a fit body. If you follow the above fitness tips for women you can easily acquire a healthy and strong body that will help you to live the desired lifestyle.

## COVID PANDEMIC- A BLESSING IN DISGUISE?

**Vanshika Mittal**  
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**Alumnus (2018-2021)**

It is an undeniable fact that the word “COVID” will evoke a sense of horror, fear, anxiety, and a lack of existential security in minds of people, even in the future for a very long time. Covid-19's deadly path has already affected and continues to affect the lives and livelihood of people appallingly across the world. Frequently coming across the news of the emergence of new covid waves or new variants, unfortunately, became a part of the lives of citizens. Though the primary target of the virus was to affect the physical health of people, it also caused significant socio-economic losses with increased poverty and increased mental stress. Even the education system was not left unaffected, as the sudden halt in classes posed a great difficulty.

In such a scenario it is easy to lose hope and mope over the negative side effects of any event, especially when as a community we are fighting a global pandemic. But for every low, there's a high and even this current scenario indeed has a silver lining to it.

With covid-19 closing down economic activity in most parts of the world and people staying closer to home, street crimes like assault and robbery came down significantly. Traffic plummeted as well. The significant decrease in the pollution levels globally even made Marshall Burke, an environmental economist at Stanford University, address the situation to conclude that “A pandemic is a terrible way to improve environmental health,”



As COVID 19 spread its influence all over the world, affected countries either announced lockdown or implemented severe restrictions in their respective countries. The use of face masks and hand sanitisers became mandatory. This resulted in people becoming aware of self-hygiene. People started adopting a healthy lifestyle, focusing on the consumption of foods that can increase their immunity, as at the beginning of the pandemic; there was no cure to the infection, except to prepare our bodies, to fight the infection.

This period also welcomed ideas, tips, & tricks to beat the lockdowns, work from home & help our communities. The sudden halt in the daily routine of students, teachers, and the working population of the country, forced them to make a switch to the online mode of teaching; and work from home became a prevalent method in most companies. This solution helped people of all age groups to become more technologically advanced, and they got the practical experience of technology which was earlier more accessible to the younger population of the society. Additionally, through platforms like zoom, Google meet, and Microsoft teams, people from different places got an opportunity to connect and work together, crossing national and even international boundaries.

A large part of the population has also experienced a positive aspect of the pandemic and lockdown at the individual level. Earlier, we all have been so busy living the 'life,' many of us have lost those real, genuine moments we have with our loved ones. It was the busy schedules, running around to make ends meet, and rushing to be in urgent meetings, which prevented us to appreciate the little moments in our lives. As life slowed down, people found ways to remain connected with people, even if it was virtually. They got a good break from their busy lives. Some people utilized this time to introspect themselves and their interests. They engaged themselves in different activities, even academically. This helped them to realize their true passion which will be a plus point in having a better future career.

Mental health also became a serious topic of discussion, as isolation, lockdown, constant negativity, and threat to life took a serious toll on people's mental state. This helped people understand that to lead a healthy and productive life; an active body should be accompanied by a sound and holistic mind.

The pandemic has certainly brought a great change in the lifestyle of people all over the world. Along with these positive changes, it has made us strong and made us realize that we as a community and individuals possess the strength to even survive a pandemic. Hence it is vital that we look at this bright side of the situation and continue with our lives with a better and an aware mindset.

## RUINS OF NALANDA UNIVERSITY

**Abhineet Raman**  
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**II Year**

The Nalanda University is one of the oldest universities in the world established around 427 CE under Gupta Dynasty and operated till 1197 CE. In this university, subjects include Buddhist philosophy and Vedas, Hindu Philosophy and Vedas, grammar, astronomy, logic, Sanskrit, Mathematics, and medicine. Almost half of the global countries come here for teachings.

As Bakhtiyar Khilji took over the empire, he started demolishing the university as he believed that to control over the empire, he needed to destroy the culture and knowledge imparted by them. In this reign, he put on fire the library of Nalanda University and it burnt for almost 6 months.



In the British period, first archeological survey of India started the excavation of ruins and found the lost antiques and artifacts and established the Nalanda Museum. Recent excavations show new artifacts of temple god and goddess, Buddha statues and a few pages.

Now it is part of the UNESCO World Heritage site and contains around 15 monasteries and 18 temples to visit as ruins of Nalanda University.

## ARTIFICIAL INTELLIGENCE IN FOOD TECHNOLOGY

**Ms. Manisha Thakur**

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Recently, in a worldwide survey, it has been found that nearly 91.54% of the world's population uses smartphones. Talking about our country, India stands second in the world and uses the maximum number of smartphones. This indicates in a way how smart we all are in terms of using technology. Now, as we all know how important food is to each one of us and the whole supply chain of food is very essential in terms of its quality, efficiency, and convenience. However, it has been hampered because of the lack of technology, therefore AI (Artificial Intelligence) has collaborated with food technology in various ways to increase the maximum output in food industries and food science and technology.

Artificial intelligence (AI) is the theory and development of computer systems able to perform tasks normally requiring human intelligence. Artificial intelligence together in various industries is trying to envisage and convert manual applications into digital platforms and make impossible things possible. The food industry is trying to find the potential of artificial intelligence solutions in their functioning for better opportunities. Taking an example of breweries, they have begun to explain and explore the usage of AI and automation in crafting beer. The beer market in the world is forecast to reach 710.89 billion USD BY 2025. At the dawn of automated brewing in 2016, Rob McInerney founder of machine learning company Intelligent Layer and Hew Leith, CEO of the creative agency 10x, collaborated to form Intelligent X. This London based firm went on to produce the world's first AI best-brewed beer using an algorithm named automated brewing intelligence they released 4 flavours amber AI, black AI, pale AI and golden AI. Each formulated using this algorithm, what makes this even more impressive is the active consumer feedback mechanism that runs this whole operation. Consumers who test these beers can give their opinions and suggestions to the ABI via Facebook. Interestingly, depending on the consumers' food feedback these 4 primary flavours have been altered and improved almost 11 times thus by crowdsourcing popular tastes Intelligence X has evolved its initial lineup and paved the way for automating and initial process in the production of beer. When the produce arrives at the factory in the food industry, the most important and foremost thing is to sort the produce and utilize the same for production after checking its quality which is also a tedious job to do. So to help, TOMRA Sorting Solutions AS develops sensor-based scanning techniques and optical surveillance alternatives for quick and easy scanning of the raw material. Due to this, the result is fewer hours spent on manual sorting, higher yields, less waste and better quality. AI in the food supply chain also plays a very important role in the transparency and forecasting to manage the inventory gaining customer's preferences, along with this food safety regulations are emphasizing the collaborated approach with transparent surveillance, blockchain technology is also working from the farm, retailers, distributors to the consumers. Artificial intelligence is giving digital support and the top



food companies are giving priorities to better accuracy and monitoring.

In a food plant, good personal hygiene is necessary to ensure food is safe and the facility is compliant. Last year, a technology company KanKan signed a huge deal to provide an AI-powered solution for improving personal hygiene among food workers in China. The system, which can be used in restaurants as well as manufacturing facilities, uses cameras to monitor workers and then employs facial recognition and object-recognition software to determine whether workers are wearing hats and masks as required by food safety law. If it finds a violation, it extracts the screen images for review. According to the company's press release, the accuracy of this technology is more than 96%. Artificial gastronomy is also gaining importance among food scientists. Gastrograph AI purports to help food companies to analyze the food preferences of different populations. Their technology uses machine learning and predictive algorithms to model consumer flavour preferences and predicts how well they will respond to new tastes. The data can be segmented into demographic groups to help companies develop new products that match the preferences of their target audience. In recent reviews, it has been reported that various multinational companies and HORECA are planning to embed AI systems in the food supply chain, quick deliveries, logistics etc. by 2025.

Here's another one for the future category, what if AI could help farmers actually grow better food by creating optimal growing conditions? that's the goal of Food Sentients, a company that's using AI to monitor the effects of variables like UV light, salinity, heat, and water stress on basil. With the data, they're developing “recipes” for the perfect crops. At the farming level, AI is also being used to detect plant diseases and pests, improve soil health, and more. The grocery industry is also using AI to offer customers targeted offers, manage inventory, and reduce waste. And many food-focused AI platforms are available for consumers. In future AI machine will learn behaviour science to provide personalized recipe recommendations and then allows customers to order their groceries online, and Habit develops personalized nutrition plans based on the results of a nutrition test. FOPs (Front of package) also help consumers to know what is best for them to eat, having the details of nutrition per serving. After the addition of AI that, the person with a scan would be knowing which product to consume and which not seeing the historical health background of the individual.

Therefore, artificial intelligence is one of the best ways to look forward with advanced technology and the blend of AI with food technology in various sectors has brought a revolutionary change and made this world quick, smart and efficient and still we have enormous opportunities to explore and incorporate the AI and Food, their blends further in various segments of Food Science and Technology.

## THE RISE OF E-SPORTS

**Chirag Saini**  
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**I year**

When you hear the word athletics or sports, what comes to your mind? Probably sprinting, jumping, kicking a ball, sports like cricket, football, badminton or playing in an open field and enjoying and hanging out with your friends. But would your answer be the same if you consider covid-19 in this situation, probably not? Covid not only forced us to lock ourselves in our houses but also locked all the things we cherished and loved. This depressing situation led to the rise of electronic sports or e-Sports.



First of all, what is e-Sports you may ask. So, e-Sports is a form of competitive sport, between professional or semi-professional players and the game, is played on computers, mobiles, tablets etc. e-Sports has been around us since the 1970s. The funnier fact is that the first tournament was played at Stanford University by 5 students in 1972 and the game being “Olympics”. But it was after 2010 that e-Sports started gaining public attention, primarily because of streaming platforms and the public's demand for an alternate source of entertainment that is easily available. Soon college students outside India started having inter-college competitions and in some parts of the world, e-Sports was made a part of the curriculum.

e-Sports has everything that any other career aspect or physical sport has to offer. It has passion, drama, grinding, strategy making, sportsman spirit, career opportunities, money and most important of all easy availability. Anyone who has a computer, laptop, phone or tablet can try his luck in e-Sports.

If we talk about India, India has more than 750 million mobile users out of which 350-400 million people play games and that's a huge number in comparison to the world. India's mobile market has always been on top, mostly because of the demand for something new and the pocket-friendly price of mobiles in India. E-Sports saw an opportunity in India and entered the battleground.

However, India had its obstacles. The major one is Indian's love for cricket and physical sport and the public's perspective of looking at mobile games just as a waste of time. Nobody would like their kids spending time on mobiles instead of studying or doing something that involves physical activity. But fortunes turned when Covid-19 closed all outdoor sports and people had to stay at home 24x7. Be it studies, business meetings, exams, or government works all turned to online working or “Work from Home”. Studies tell that during this period there was an increase of 13% in watch hours of Indians. People spent more time on the internet reading and exploring new career chances as Covid was consuming jobs. People who had an orthodox mindset regarding jobs or those who wanted to do a secured job were now ready to risk it all for the job. Many people had an interest in e-Sports but never got the opportunity or time to do so, so they joined semi-professional or professional gaming, and some started streaming. This slow and steady growth firstly turned e-Sports into an industry from a group of gamers and secondly attracted many foreign organizations to invest in India. Be it companies associated with e-Sports or million-dollar management companies; they all jumped into India's e-Sports ocean. As soon as e-Sports athletes started earning some money, people were forced to think twice before considering e-Sports as a waste of time or childish.

This industry grew at such an astonishing rate that presently it is employing lakhs of people in India, directly or indirectly. It has emerged as a leading source of entertainment and presently e-Sports athletes are invited to news channels to put up their thoughts and encourage more people to join them. These athletes are featured in the “Most influential people in Asia” list alongside politicians and businessmen who are well renowned around the globe so this is an achievement in itself. e-Sports athletes are invited by companies to promote their products and sharing the screen with a Bollywood celebrity or sports person is a new normal. But e-Sports has its harsh side as well. Not everyone here makes a big shot; it takes the right amount of practice and luck to achieve success. Most importantly this industry is a growing industry, so if your performance goes down in any manner then either you would be benched or replaced. Sometimes you have to spend hours and hours on screens that might create health issues as well. Most important of all this industry is for those who have a strong heart because abuses, threats, and fan wars are common and sometimes these things escalate so much that athletes are forced to take legal actions. Overall e-Sports is in a growing phase in India with its boon and banes. It is a great career opportunity for those who want to do something out of the league but it also has its career risks and career insecurities. It is a great stage to make a mark and to connect to the common but sometimes athletes have to bear the anger of the common. So



# RAGI: THE WONDER FOOD

Apoorva  
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Ragi is a superfood that is a rare combination of various essential nutrients such as calcium, fiber, protein, carbohydrates, and many more. It is also a rare source of amino acid methionine. Ragi is known by many popular names such as finger millet due to its appearance of the head of the grain comprising five spikes. Other local names of ragi include Nachni in Marathi, Kezhvaragu in Tamil, and Madua in Bengali.

Millet crops are drought resistant and can withstand both acidic to alkaline medium soil which makes the crop ideal to propagate throughout the year in various geographical terrains across India from mountains to plateaus. Ragi is commonly available in two forms one is in the form grains and another form is flour which is threshed under high pressure by applying different techniques in factories.

**Nutrition Content of Millet:**

Ragi showcases quite an impressive nutritional profile that is rich in both macronutrients and micronutrients. Nachni has a negligible amount of sodium and cholesterol which promotes good health of the heart and is rich in fiber. It is a rare source of B complex vitamins such as thiamin, niacin, riboflavin, and folic acid. It has a good percentage of calcium, iron, phosphorus, and magnesium which makes it wholesome breakfast cereal and is very fulfilling.

Let's see the exact ragi nutritional values in 100g serving according to U.S.D.A : Total Calories -385

## **Macronutrients:**

- Saturated Fat 3%
- Monounsaturated Fat 2%
- Polyunsaturated Fat 5%
- Total Fat 7%
- Carbohydrates 25%
- Fibre 14%
- Protein 10%
- Sugar 2%
- Sodium and Cholesterol 0%

## **Micronutrients:**

- Minerals:
  - Potassium 27%
  - Calcium 26%
  - Iron 11%
- Vitamins:
  - Riboflavin 7.6%
  - Thiamine 5%
  - Niacin 3.7%
  - Vitamin C 7%
  - Folic Acid 3%
  - Vitamin E 4.6%

These were the ragi nutrition facts. Ragi is considered a rich superfood in India due to its nutritional value. It was part of the daily Indian diet in ancient times but due to the coming of so many other cereals, Nachni



got sideline and rice took over all other cereals across India but millet is still a staple food in South India. Ragi flour complements both vegan and vegetarian diets as it is a rare plant source of important essential amino acids such as threonine, valine, isoleucine, methionine, and tryptophan.

### **Ragi benefits on Health:**

Millet has various health benefits for every age group and should be included in our daily diet to get all-important nutrients.

#### **1. Contribution in child's nutritional values**

Due to so good nutritional content in nachni, it is considered a perfect food for toddlers and infants to meet their ever-expanding nutrient requirements. Malt or kanji a popular dish made out of ragi flour is often fed to infants and young kids across various parts of India. It has a starchy texture which doesn't increase the weight of young kids and promotes growth and development in them. You can prepare a lot of dishes from ragi flour to serve your kids.

#### **2. Boost up the Nervous System**

If you are taking millet in controlled portions in your diet on a daily basis then it can help to relax your mind by enhancing nerve impulse conduction, activates memory centers in the brain due to increased levels of amino acid tryptophan. Nachni serves as a great help in treating anxiety and insomnia and maintains a good mood and promotes sound sleep because tryptophan brings equilibrium in the level of serotonin.

#### **3. Promotes Heart Health**

Due to complete devoid of sodium and cholesterol, ragi flour recipes are completely safe to be consumed for heart patients. Millet is full of fiber and vitamin B3 which diminishes bad LDL levels and promotes good HDL levels. Ragi flour staves off fat and plaque deposited in heart vessels which helps to ease out cardiac muscle function and improves the health of the heart.

#### **4. For strong bones and teeth**

Ragi flour has almost 26% of Calcium which is great to make your bones stronger. If you take the defined value of millet in your diet, you will see a relative change in the health of bones and teeth in your body. Ragi is rich in phosphorous which also promotes the strength of teeth and bones in the body.

#### **5. Helps in weight loss**

Ragi for weight loss is a tried and tested way. It has a high amount of fiber in it which helps to keep our stomach full for a longer time and prevent us from eating unwanted food which helps in weight loss. Millet has the essential amino acid tryptophan which helps in weight loss by reducing the appetite. It also favors gluten-free diets and minimizes the level of blood sugar in the body by turning it into insulin.

#### **6. Millet is good for skin**

There are so many ragi benefits, one of them is the good health of the skin. We all sometimes neglect the health of our skin and hair. Ragi has essential amino acids such as lysine and methionine which helps to protect the skin from various issues such as wrinkles, rashes, and skin dullness. Millet is considered a natural anti-aging and skincare agent cereal. There are antioxidants present in Ragi flour which promotes and reverse the signs of aging by rejuvenating skin cells. Nachni is rich in Vitamin E which is useful for skin as Vitamin E act as a natural healer for wounds in our body by forming a protective layer that helps your skin to glow.

#### **7. Nourish the hair**

Millet is rich in proteins and vitamins and thus helps to prevent hair loss. For proper growth and nourishment of hair, you need to have the right amount of protein in your diet, ragi being a rich source of protein is highly recommended for the good health of the hair and strengthen them to reduce hair loss. Ragi



prevents premature greying of hair. Premature greying of hair is generally caused due to oxidation of tissues, ragi being rich in antioxidants prevent the oxidation of tissues and thus reduce the greying of hair. Millet has a considerable amount of magnesium which helps in the prevention of hair loss. Ragi promotes blood circulation in the body that helps in hair growth.

### **8. Minimize risk of Colon Cancer**

Millet is rich in phytonutrients and fiber which helps to prevent the risk of colon cancer. Lignan is one of the important nutrients found in ragi which is converted into mammalian lignan by the intestine which helps to prevent the risk of having breast cancer. So, if you consume ragi in the right proportions on daily basis then it can reduce the risk of developing cancer.

### **Ragi v/s Wheat**

Have you ever given a thought to substituting your wheat roti with ragi roti? If yes then you should go for this change. Rice v/s wheat is always a hot topic. Ragi wins the argument as Ragi flour roti is considered wholesome due to its nutritional values which are rich in calcium, protein, fiber, vitamins, antioxidants, and many more nutrients. Unlike wheat which is polished ragi is unpolished which implies its nutritional values are sustained which make it healthier grain than wheat. It is gluten-free which helps in weight loss. It is also a rich source of iron that lacks in wheat. It has 0% sodium and cholesterol which is great for the health of the heart and make it win over wheat.

### **Side effects of ragi**

There are no such side effects of ragi but if millet is taken in an excessive amount it can increase the formation of oxalic acid in the stomach which can cause kidney stones and other intestinal issues. So, taking it in a prescribed and appropriate amount is important for the overall health of the body.

### **Food recipes made out of Ragi**

Ragi is a superfood and there are numerous dishes and recipes you can make from ragi which is not only very healthy but tasty. If you have kids in your home who do not eat normal ragi flour roti then you can make some innovative dishes for them which will be fulfilling and kids will love them also. The list of food recipes you can easily make at your home in the kitchen are: Ragi Malt is a wonder food for infants and toddlers as it is rich in so many nutrients. Ragi Chilla is a very yummy and fulfilling recipe for your child and even adults. You can put healthy vegetables of your choice to make it more nutritious. Ragi Halwa which is great for your growing kids and is a delicious dessert to serve. You can garnish it with different dry fruits to make it more tempting. Ragi Bhakri Chivda which is a Maharashtrian dish, it is generally served as a snack which is tasty and healthy. Ragi Dosa, if you are a fan of south Indian food then you should try ragi dosa which is full of nutritional value and is very healthy for you as well as your kids. These were some of the healthy and easy millet recipes you can try. There are many more recipes you can make occasionally for yourself and your kids. So, to conclude Ragi has surpassed all tests of being the wonder and superfood. It is such food that can be consumed by every age group and has multiple health and nutrition benefits. If you start including nachni in your diet, you will see wonderful changes in the overall health of your body including both mental and physical health.



## RNA INTERFERENCE AS A THERAPEUTIC STRATEGY AGAINST COVID-19

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**III Year**

### Introduction

Corona viruses are responsible for causing various diseases such as Middle East respiratory syndrome (MERS), severe acute respiratory syndrome (SARS) and the recent COVID-19. SARS-CoV-2 is a newly emerging respiratory virus that is causing COVID-19 and is mutating at a rapid rate producing a number of variants. The recent COVID-19 pandemic has led scientists to develop and find about more and more strategies for the development of effective therapies and vaccines against the deadly virus. After achieving the goal of vaccine development next aim is to find appropriate and satisfactory treatment options for the disease. Since the Coronaviruses have RNA genome, using RNA interference and specifically silencing suitable genes based on small interfering RNA (siRNA) can prove to be a promising strategy for therapeutic intervention.

### Genomic constitution of Coronavirus

Like all other viruses, coronavirus releases its RNA genome into host cytoplasm and hijack its translation machinery to synthesize its own proteins. In this process the host's mRNA are destabilized causing immune suppression. They are positive sense single stranded RNA viruses. Their genome is one of the longest non segmented RNA genomes, i.e., 26-32 kb encoding at least five functionally important open reading frames (ORFs). The first ORF (ORF1a/b) encodes for two large polyproteins namely ORF1a and ORF1ab which cleave to produce 16 non-structural proteins (nsp1-16) and constitutes about 70% of the genome. Among these proteins, many are responsible for replication and transcription of the SARS-CoV-2 genome, while others can suppress host innate immune functions. The remaining 30% of the genome encodes for structural proteins essential for virion assembly such as Spike (S), membrane (M), envelope (E), and nucleocapsid (N) (Friedrich et al., 2022).

### RNA Interference as a therapeutic strategy

Suppressing viral replication using RNA interference (RNAi) is a promising technique for post-transcriptional gene silencing (PTSG) that uses short double stranded RNA such as small interfering RNA or siRNA (19–25 base pairs long dsRNA having two nucleotide overhangs on the 3' end) complementary to the target sequence that neutralizes the target complementary mRNA thus ultimately preventing protein synthesis. This occurs in the steps mentioned below:

- Transfection, electroporation or virus mediated delivery of siRNA into the cell
- Cleavage by dicer (RNase III-like enzyme) present in cytosol
- Incorporation into RNA-induced silencing complex (RISC)
- Separation of RNA strands by the ATP-dependent RNA helicase domain of RISC.
- The passenger (sense) strand is degraded within RISC, while the antisense single-stranded RNA (guide RNA) facilitates the alignment of RISC on the target mRNA, enabling its catalytic RISC protein to cleave the target mRNAs
- mRNA is degraded and thus gene is silenced.

However, since the virus has a high mutation rate that can result in the alteration of siRNA target sequences, it is critical that target should be highly conserved to maintain the efficiency of RNAi.



In a study, siRNA targeting the leader sequence, that is present in both genomic and sub-genomic RNAs, was found to be most efficient (Tolksdorf et al., 2021). Nsp1 (one of the virulence factors) does not participate in replication process but binds to the open conformation of the 40S subunit of human ribosome inhibiting the translation process by preventing proper accommodation of mRNA. This occurs because Nsp1 has a higher affinity for ribosome as compared to mRNAs but it requires accumulation of Nsp1 proteins since a high concentration is required to inhibit the translation process broadly (Lapointe et al., 2021). On the other hand, the RNA-dependent RNA polymerase (nsp12) and the helicase (nsp13) are the main components of replication transcription complex (RTC) which is important for the replication and multiplication of the virus. Therefore, the genes encoding these three proteins (nsp1, nsp12 and nsp13) can serve as potential targets for RNA silencing. Providentially, siRNAs developed against leader protein of SARS-CoV-2, which targets the nsp1-encoding sequence was quite efficient. The siRNAs against the nsp12 and nsp13 were also found to be very effective with a marked inhibition of 90 and 93%, respectively. Luckily the target sequences of all the siRNAs used were highly conserved in SARS-CoV-2 variants (Friedrich et al., 2022).

Another study proposed that N-glycosylation is a targetable pathway with clinical potential for treatment of COVID-19. SARS-CoV-2 infection occurs in three steps - attachment to the host receptor angiotensin-converting enzyme 2 (ACE-2) through the spike protein's receptor-binding domain (RBD), followed by membrane fusion and invasion. Both spike protein and ACE-2 are post-translationally modified by the addition of a variable number of N-glycans. SARS-CoV-2 extensively N-glycosylates its spike proteins to aid in invasion process. Also, N-linked glycosylation of the S protein RBD is necessary for its interaction with ACE2 and is important for its immunogenicity and antigenicity. Alterations in the N-glycosylation of the newly synthesized viral glycoproteins renders the virus non-infectious. (Azad et al., 2021).

Casas-Sanchez et al., used RNA interference (RNAi) to knock down some of the key enzymes in the N-glycosylation pathway prior to SARS-CoV-2 infection. They suggested that most effective strategy to alter N-glycosylation was direct inhibition of STT3 (oligosaccharyltransferase catalytic subunit) to abolish transfer of N-glycan precursors to proteins in the ER using NGI-1 (or siRNAs). It was also revealed that no mutations concerning N-glycosylation sites have been identified till date which makes them ideal targets for RNAi.

In an in vivo experiment performed by Shawan et al., a highly efficient siRNA molecule was designed against the RdRp gene that encodes for RNA-dependent RNA polymerase. As mentioned above the RNA-dependent RNA polymerase is an essential component of the RTC. Therefore, silencing the gene encoding such a protein can be potentially therapeutic.

#### Conclusion

Because of its wide antiviral action, siRNA is a prospective choice for treating SARS-CoV-2 infections. However, selected siRNA should be highly specific for the target sequence so as to avoid any off-target silencing. Moreover, highly conserved regions of the viral genome should be selected as targets since they are less likely to develop mutations that are not detrimental to virus replication, making them ideal targets for siRNAs.



## UNRAVELING THE STRUCTURE OF THE MILKY WAY USING THE 1.4 GHz LINE

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**Alumnus (2018-2021)**

21 cm line: A neutral hydrogen atom (HI) consists of a proton and an electron. The magnetic interaction between the dipole moments of these two causes the hyperfine splitting with an energy difference between the singlet and triplet state of

$$\Delta E = \frac{4g\hbar^4}{3m_p m_e^4 c^2 a^4} = 5.88 \times 10^{-6} \text{ eV}$$

,when the spins of proton and electron change from parallel to anti parallel, a photon of this energy difference i.e frequency of 1.4 GHz is emitted or of wavelength 21 cm

$$\nu = \frac{\Delta E}{h} = 1420 \text{ MHz}$$

The probability of the spin-flip transition is low (lifetime of an excited state is  $t \sim 3.5 \times 10^{14}$  seconds), meaning that a single hydrogen atom might undergo this transition only once in 11 million years! So you might assume the HI transition as some sort of enigmatic physical phenomenon which exists just in the equations written on a paper, oblivious to detection. But if we point our radio telescope at the sky we do see this transition. Why?

Taking the number of stars in the Milky Way as 100 billion or  $10^{11}$  stars and assuming that the Sun is an average star in the galaxy containing around  $10^5$  hydrogen atoms we get an estimate of

$$10^5 \times 10^{11} \sim 10^{16} \text{ hydrogen atoms in our galaxy.}$$

If a chance of transition is  $10^{-14}$  but you got around  $10^{16}$  hydrogen atoms, then a simple multiplication might give you an idea of how many HI atoms ( $10^{16} \times 10^{-14} \sim 10^2$ ) are emitting this transition. The sheer abundance of neutral atomic hydrogen is what makes it possible to detect the 1.4 GHz line and use it for radio astronomy as radio waves are not obscured by the earth's atmosphere.

Historical notes:

- H.C. Van de Hulst, theorized that a "hyperfine" transition in the ground state of neutral hydrogen would produce radiation in the radio range, at a frequency of 1420 MHz in 1945.
- Experimentally detected by physicists Ewen, Purcell and Muller in 1951.

### Mapping the galaxy:

- The first mapping of the galaxy were done in 1952 (Christiansen and Hindman) and in 1957 (Muller and Westerhout). With the advancement of radio telescopes numerous large scale surveys of the galaxy spanning the galactic longitudes and latitudes have been done which include the LAB survey (2005, Kalberla et al. 2005), Effelsberg-Bonn HI survey (EBHIS, Winkel, et al. 2008) and Galactic All Sky Survey (GASS, McClure-Griffiths et al. 2009). These surveys of the Milky Way have enabled us to have a never before seen view of the galaxy that we call home.
- The structure of the Galaxy has been observed since 1950s at multiple-wavelengths ([Muller & Westerhout, 1957] in radio; Georgelin & Georgelin (1976) at radio and optical; Drimmel & Spergel (2001) at infrared; Hou & Han (2014) at radio and optical, and numerous other surveys utilizing different tracers.



Decoding the HI spectral line:

Assuming that the neutral hydrogen gas in the Milky Way orbits around the galactic center in circular orbits we can determine the radial velocity of the HI emitting gas cloud. As the HI gas is rotating the 1.4 GHz line will not be observed at its rest frequency, instead its frequency will be changed and depending on the velocity either blue-shifted or red-shifted. This Doppler shift gives us the radial velocity, a very important part in understanding the kinematics of the galaxy.

For the determination of rotation curve of the galaxy, however, we'll need the velocity component that reflects the actual motion of the galaxy and that is the most red-shifted one i.e the HI cloud at the Tangent Point. This Tangent point method relates the terminal velocity that is measured through the Doppler shift ( $V_t$ ) to the global rotational velocity ( $V$ ) for the inner galaxy ( $30^\circ < l < 90^\circ$ )

$$V = V_t + V_0 \sin l$$

Here  $V_0$  is the rotational velocity at the sun one of the two important galactic constants (the other being  $R_0$  which is the distance of the sun from the galactic center. The general consensus is on the newer interferometric measurements; Ghez et al. 2008; Gilissen et al. 2009), putting the value of  $R_0$  from 8.0 kpc to 8.5 kpc while Honma et.al 2012 puts  $V_0 = 238 \pm 14 \text{ km/s}$

For a galaxy in purely circular rotation, the terminal velocities will be completely linear with  $\sin(l)$  and so this means any deviations can be attributed to spiral arms ,galactic bars in the galaxy ,a sneak peek into the galactic structure.(McClure Griffiths et.al 2016)

However, this method doesn't work near the galactic center, because of the galactic bar that causes non-circular motions which this model doesn't predict resulting in velocity predictions wildly off the actual ones.( Chemin et al. 2015.) Different methods to determine the rotational velocity of the galaxy have also been used like Ring thickness method (Merrifield 1992; Honma and Sofue 1997),

Trigonometric (parallax) measurements(Reid et.al 2014, Honma 2007)

Portail and Gerhard et.al constructed dynamical models of the inner galaxy and their results do indicate the formation of a bulge and a bar making the Milky Way galaxy fairly regular barred spiral galaxy with spiral arms and a central bulge.

The acceleration discrepancy:

If we go by Newtonian dynamics the rotation curve should decrease inversely with radius however this is contrary to observation. Rotation curves of galaxies are observed to be flat, hinting at some other "component": that adds up to the velocity or the acceleration (hence the discrepancy).

Two major camps in astrophysics are there: the Dark matter one and the MOND one. The dark matter has the observational side on their hand (Rubin, Ford 1980) (Ostriker & Peebles 1973) ( Einasto et al. 1974) with the observations of disk stability and flat rotation curve but the MOND( Bekenstein & Milgrom 1984) play on the degeneracy of the Dark Matter paradigm; that the DM content can be varied to fit the rotation curve while the MOND rotation curve gives the correct prediction at galactic Levels for the rotation curve using the visible baryonic matter (stars, gas etc).



Decomposition of the rotation curve into the galactic components (bulge, disk and the DM halo)  
In LCDM:

$$V_t(R)^2 = V_b^2(R) + V_d^2(R) + V_h^2(R)$$

In MOND

$$V_{MOND}^2 = V_{bar}^2(r) + V_{bar}^2(r) \left( \frac{\sqrt{1 + \frac{4a_0 r}{V_{bar}^2(r)}} - 1}{2} \right)$$

Spiral Arms:

The circular rotation model allows us to determine the galactocentric (R) and the heliocentric distances(r) of the HI gas

$$R = \frac{R_0 V_0 \sin l}{V_r + V_0 \sin l} \quad r = R_0 \cos l \pm \sqrt{R^2 - R_0^2 \sin^2 l}$$

Using these distances, we can finally build a map of the galaxy and that too face-on! It's incredible that we are even able to do this, when you consider the complex geometry of observing from inside the galaxy. It's like building a map of your house while sitting inside your own room.

The star forming regions and the HII regions both of which are tracers of stars and indicate the spiral arms along with the over-densities of HI.

The two competing models are the 4-spiral arm (Georgelin & Georgelin 1976, Vallee, 2005) and the 2 arm model (Steiman-Cameron et al. (2010)).

Although there is still lively debate amongst astronomer the general consensus is towards a 4 arm model with the arms being the Sagittarius-Carina, Scutum-Crux, Persesus and the Norma-Cygnus. Using a longitude-velocity (l-v) plot in which the galactic longitude of the gas is plotted against the radial velocity allows us to understand the structure even better as different arms would correspond to different velocities and hence show prominently and distinct in the (l-v plot).

Conclusion:

The 1.4 GHz (21 cm ) line provides us with an unparalleled view of the structure of the galaxy although with a bit of limitations (which we can work around) and it also enables to understand even deeper mysteries such as the mass/acceleration discrepancy evident from the rotation curves of galaxies. The MOND vs. LCDM debate rages on with HI measurements playing a pivotal role in the decipherment of the inner workings of the universe.



# Creative Canvas

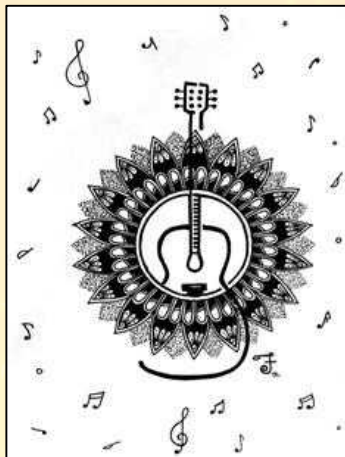




## MANDALA ART



Simran Yadav  
B. Sc. (Hons.) Microbiology  
III Year



Vighneshwari Murugesan  
B.Sc. (Hons.) Instrumentation  
I year



Simran Yadav  
B. Sc. (Hons.) Microbiology  
III Year



Sandhya Aryan  
B.Sc. (Hons.) Biomedical science  
I year



Sandhya Aryan  
B.Sc. (Hons.) Biomedical science  
I year

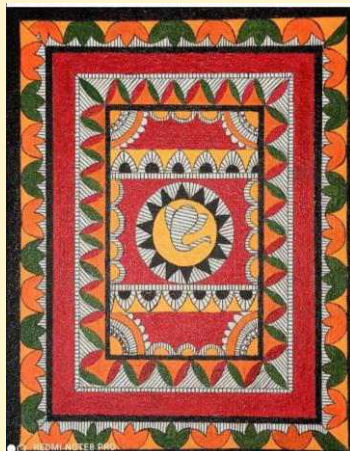


Sudiksha Gupta  
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## MADHUBANI ART



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Diksha Boyat  
B.Sc. (Hons.) Botany  
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Diksha  
B.Sc. (Hons.) Microbiology  
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# NATURE LOVE



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B.Sc. (Hons.) Microbiology  
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Sunny Kumar  
B.Sc. (Hons.) Microbiology  
I year



Shivi Nahare  
B. Sc. (Hons.) Microbiology  
I Year



Swarna Niralee  
B. Sc. (Hons.) Zoology  
I Year



Pallavi  
B. Sc. (Hons.) Physics  
I Year



Sanskar Rajput  
B.Sc. (Hons.) Microbiology  
II year



Swarna Niralee  
B. Sc. (Hons.) Zoology  
I Year



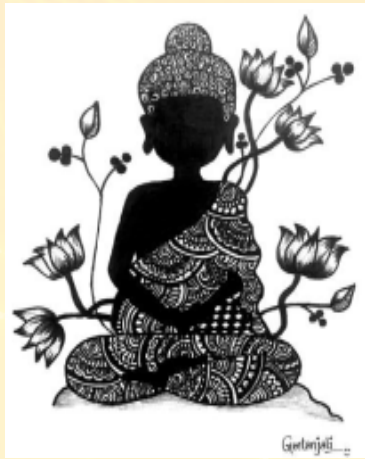
DIVINE LOVE



Diksha Hooda  
B. Sc. (Hons.) Microbiology  
I Year



Pallavi  
B. Sc. (Hons.) Physics  
I Year



Geetanjali Yadav  
B.Sc. (Hons.) Botany  
I year



Diksha Boyat  
B.Sc. (Hons.) Botany  
I year



Madhurima Maitra  
B.Sc. (Hons.) Microbiology  
I year



Sandhya Arya  
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I year



Isha Pundir  
B.Sc. (Hons.) Polymer Science  
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# PATRIOTISM



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Apoorva Chatterjee  
B.Sc. (Hons.) Polymer Science  
I year



Geetanjali Yadav  
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Pragati Verma  
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Chanchal  
B.Sc. (Hons.) Computer Science  
I year



## BEAUTIFUL SKETCHES



Ruddhi Nandan Sutar  
B.Sc. (Hons.) Food Technology  
I year



Sarah Navaz  
B.Sc. (Hons.) Biomedical Science  
I year



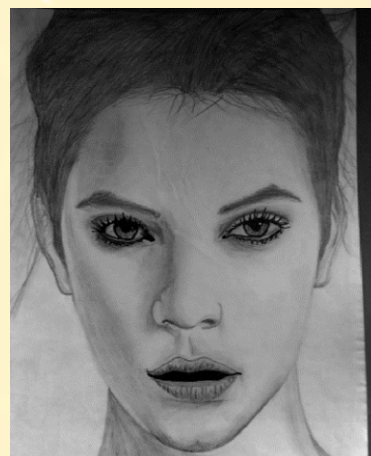
Kuntak Saha  
B.Sc. (Hons.) Microbiology  
I year



Diksha  
B.Sc. (Hons.) Microbiology  
I year



Diksha Hooda  
B. Sc. (Hons.) Microbiology  
I Year



Sonu Kumar  
B. Sc. (Hons.) Microbiology  
I Year



Diksha Boyat  
B.Sc. (Hons.) Botany  
I year



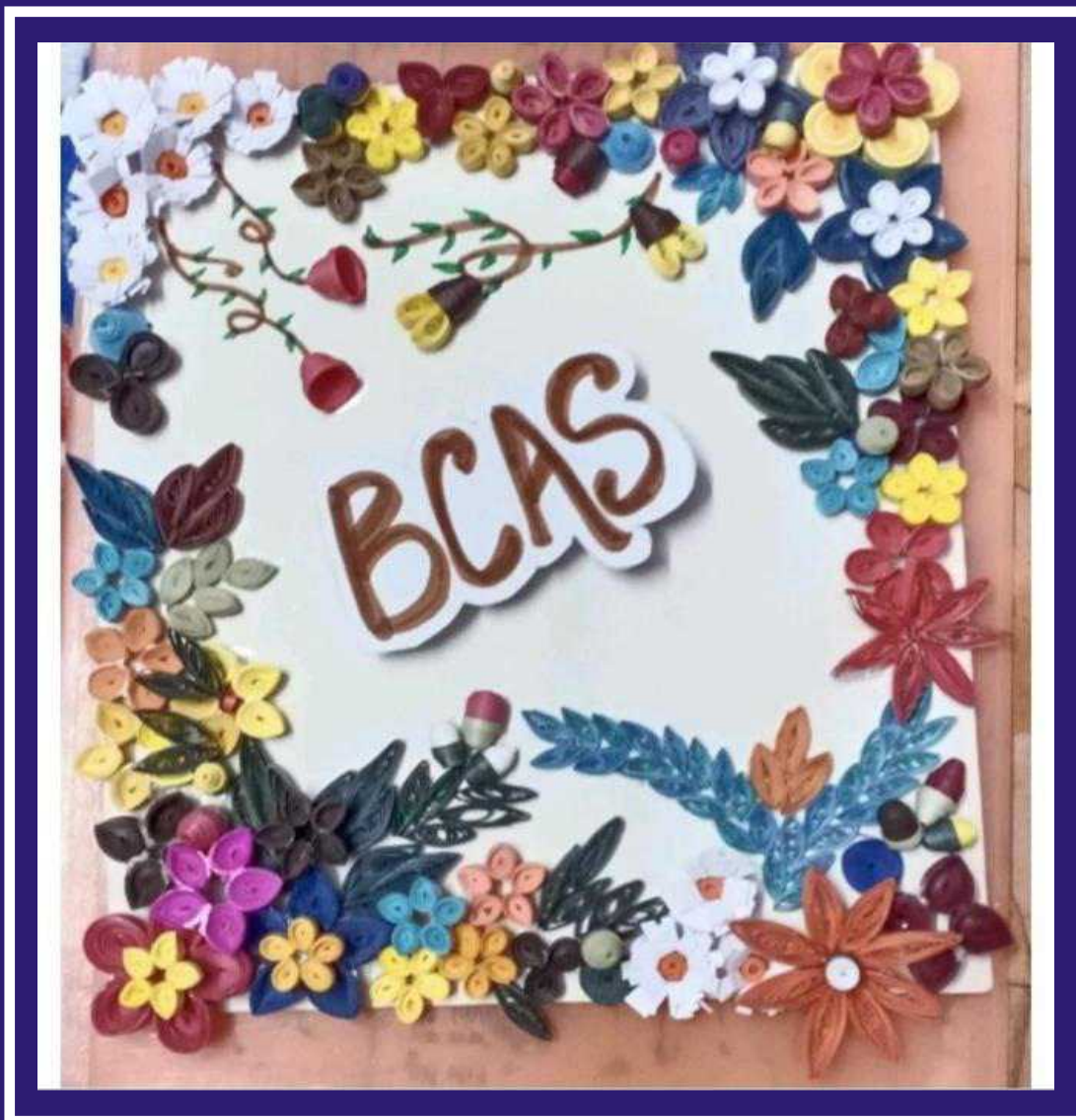
Sahil Jangir  
B.Sc. (Hons.) Computer Science  
I year



Kunal Kumar  
B.Sc. (Hons.) Botany  
I year



# DELIGHTFUL MEMORIES



**Vaishnavi Murugesan**  
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## DEPARTMENT OF BIOMEDICAL SCIENCE





# DEPARTMENT OF BOTANY





# DEPARTMENT OF CHEMISTRY





## DEPARTMENT OF COMPUTER SCIENCE





## DEPARTMENT OF ELECTRONICS



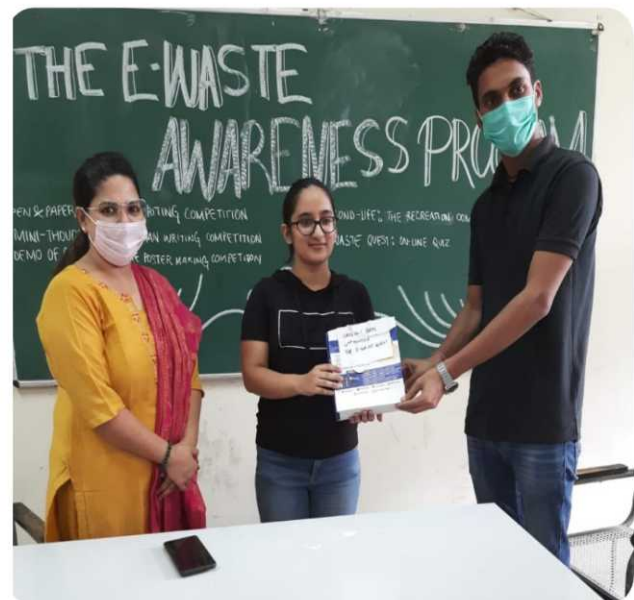


## DEPARTMENT OF FOOD TECHNOLOGY



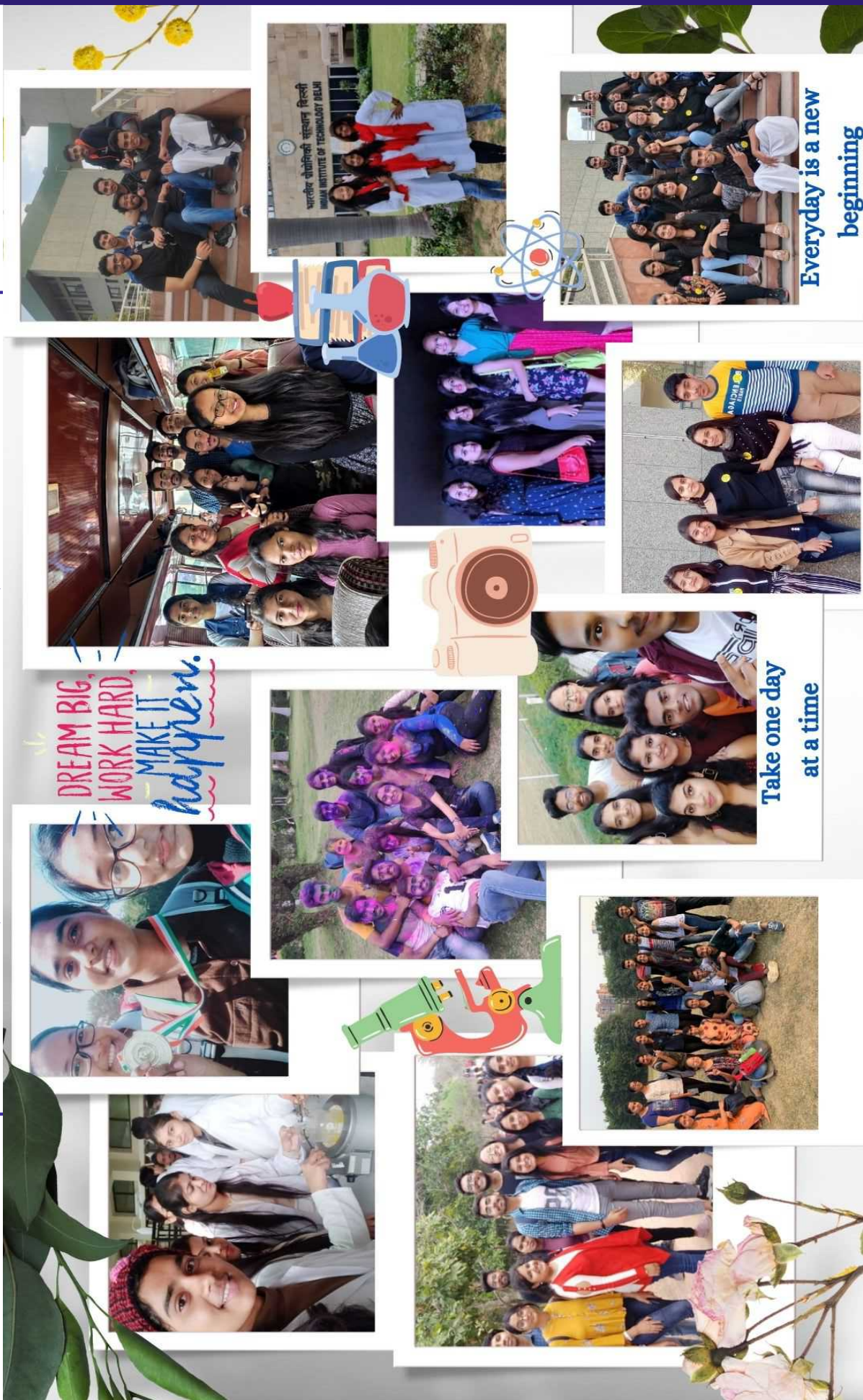


## DEPARTMENT OF INSTRUMENTATION





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# DEPARTMENT OF PHYSICS





# DEPARTMENT OF POLYMER SCIENCE





## A group of seven students, four men and three women, are posed in a laboratory. They are all wearing white lab coats. The student in the foreground on the left is a man with a black beard and a black face mask. Behind him are two women, one with glasses and a blue face mask, and another with glasses. To the right, another woman with glasses is visible. In the background, two more men are standing, one wearing a black face mask. The setting includes laboratory equipment like a Bunsen burner and a fume hood.





## POSITION HOLDERS OF 2021 PASS OUT BATCH

### DEPARTMENT OF BIOMEDICAL SCIENCE



Manisha  
Position : 1st



Ashutosh Ojha  
Position : 2nd



Yashika Metha  
Position: 3rd

### DEPARTMENT OF BOTANY



Nikhil Kumar Khatri  
Position : 1st



Simpy Sahu  
Position : 2nd



Nupur Bansal  
Position : 3rd

### DEPARTMENT OF COMPUTER SCIENCE



Swati Rai  
Position : 1st



Ayush Mishra  
Position : 2nd



Hitanshi Gupta  
Position : 3rd

### DEPARTMENT OF CHEMISTRY



Sunesh  
Position : 1st



Ankit Jadli  
Position : 2nd



Yukta  
Position : 3rd



## POSITION HOLDERS OF 2021 PASS OUT BATCH

### DEPARTMENT OF ELECTRONICS



Aditya kumar singh  
Position : 1st

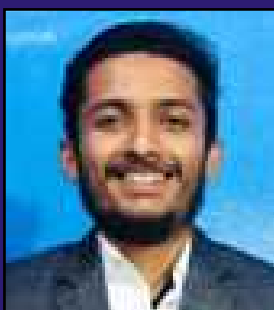


Saurabh Kumar  
Position : 2nd



Divyanshu Varshney  
Position: 3rd

### DEPARTMENT OF FOOD TECHNOLOGY



Vaibhav Singh  
Position : 1st



Saloni Gayakwad  
Position : 2nd



Krishna Kumar Upadhyay  
Position : 3rd

### DEPARTMENT OF INSTRUMENTATION



Arzoo Shakya  
Position : 1st



Paras  
Position : 2nd



Shivangi Rai  
Position : 3rd

### DEPARTMENT OF MICROBIOLOGY



Ishani Sharma  
Position : 1st



Shubham  
Position : 2nd

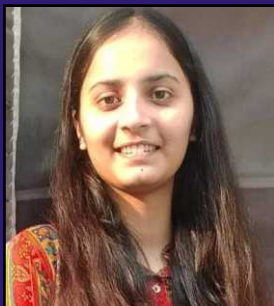


Arnab Kakati  
Position : 3rd



## POSITION HOLDERS OF 2021 PASS OUT BATCH

### DEPARTMENT OF PHYSICS



Sanchi  
Position : 1st



Vardaan sehgal  
Position : 2nd



Shubham Basera  
Position : 3rd

### DEPARTMENT OF POLYMER SCIENCE



Smriti Anand  
Position : 1st



Shubhanshu Singh  
Position : 2nd



Himanshu  
Position : 3rd

### DEPARTMENT OF ZOOLOGY



Anmol Arora  
Position : 1st



Harshita Jangra  
Position : 1st



Ishika Thakran  
Position : 2nd



Varinder Madhav Verma  
Position : 3rd



# *The DEPARTMENTS*





# DEPARTMENT OF BIOMEDICAL SCIENCE

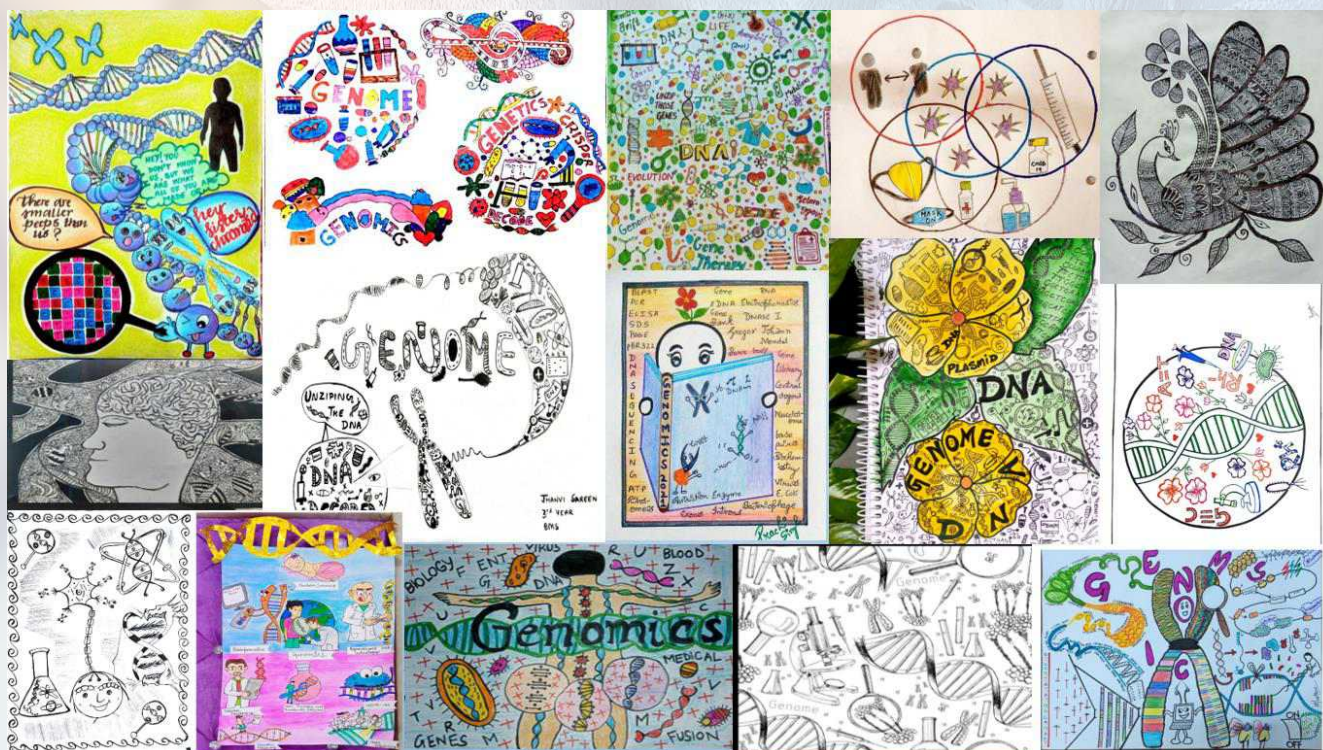
Every brilliant experiment, like every great work of art, starts with an act of imagination

**-Jonah Lehrer**

“Genesis” - The annual Departmental festival of the Department of Biomedical Science was held in the month of March 2021. The festival included a plethora of inter-college activities such as Poster Making Competition in commemoration of National Science Day 2021, Collage Making Competition on the theme “A Fight Against COVID-19: The Indian Perspective”, Puns and Poems Competition on the theme “Poeticism of Science”, Science Cosplay Competition on the theme “Fashion in Science”, Science Meme Competition and Extempore Competition. Students participated enthusiastically and enjoyed all the activities. All activities stoked the creativity of the students on science related topics.

Alumni Meet in association with the Alumni Committee, BCAS was also held under the umbrella of “Genesis 2021” on MS Teams Online Platform. The meeting was organized to encourage interaction between the current students and the alumni of the department so as to facilitate hand-holding of the juniors by their seniors. Noted alumni of the department shared their experiences and enlightened the students with their astonishing and relatable insights!

DNAmics, the society of the Department of Biomedical Science organized various online competitions to celebrate important days and to provide a platform for the students to show their creativity. A Wildlife Photography Competition on the theme “Animals in Monochrome” was organized to commemorate wildlife week from October 2 - 8, 2021. A Doodle-Art competition on the theme “Genomics” in October 2021. This activity was a platform for the students to present their understanding of “Genomics” in an artistic way. An online Essay Writing Competition on “World Peace Through the Lens of Science” was

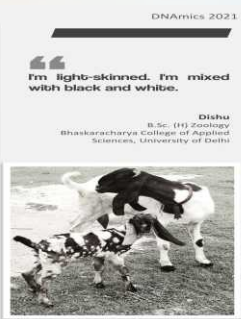
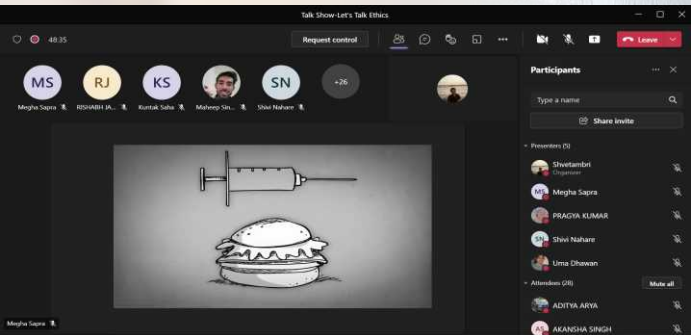




organized to commemorate International Week of Science and Peace from November 8-14, 2021.

The Department and Career Counselling Cell of the college in association with Amity Institute of Neuropsychology and Neurosciences, Amity University, NOIDA organized “Brain Awareness Day” at BCAS, University of Delhi on November 11, 2021, as a part of the International Brain Research Organisation (IBRO)-DANA foundation, Paris, France funded Brain Awareness week. The aim of this awareness event was to disseminate the knowledge of the brain, its various functions, and disorders. The event consisted of talks by neuroscientists and a clinical psychologist followed by a panel discussion on Careers in Neuroscience. The event had enthusiastic participation of research scholars and students from other colleges and institutions as well.

An interactive session on the topic “Let's Talk Ethics” was organized on February 26, 2022 via Microsoft Teams. The session aimed to encompass various ethical issues encountered in everyday life and also to discuss the appropriate solutions for the same. It was a fun and enlightening session in which open ended questions based on ethics were asked after showing certain ethical situations through videos and presentation slides.





## DEPARTMENT OF BOTANY

We don't grow when things are easy, we grow when we face challenges

*-Joyce Meyer*

The Department of Botany aspires to excel towards academic growth and provide leadership in transmitting the knowledge of biological science to its stakeholders. The department is dedicated towards providing a strong background in modern principles and research practices of basic plant sciences.

The department has successfully completed several curricular as well as extra-curricular activities under the flagship of Phytomics, The Botanical Society. A major highlight of various events conducted by Phytomics are as follows,

Phytomics- The Botanical society of our college organized an inter-college poster-making and nature-photography competitions on the occasion of the World's Environment Day, on June 05, 2021. The theme of the event was 'The positive impact of COVID 19 on the Earth'. The event aimed to generate interest amongst students to be creative during the lockdown. This event provided them with a platform to show their creative skills.

Phytomics- The Botanical society of our college organised a national webinar entitled 'Present and Past Scenario of Ozone Depletion: Consequences and Montreal Protocol' to commemorate International Ozone Day on September 16, 2021. Dr. Richa Rai, Senior Scientist from Plant Ecology and Climate Change Sciences Division, CSIR-National Botanical Research Institute (NBRI), Lucknow enlightened the participants about the impact of ozone in the stratosphere and troposphere, harmful impacts of UV-B radiation on the yield and quality of crops, etc.

Phytomics- The Botanical society of our college organized a collage-making competition on the occasion of Gandhi Jayanti, October 02, 2021. The theme of the event was 'Mahatma: Father of the Nation'. The event was organised to shed light on the moral values preached by Mahatma Gandhi. This event provided a platform for participants to showcase their creative skills.

Phytomics- The Botanical society of our college organized a 'Plantation Drive on the College Campus' on October 25, 2021. During the event, the Principal sir, teaching, non-teaching staff and students planted various plant saplings. The purpose of the event was to create awareness amongst all of us about the various benefits of plants in our lives. The drive inculcated environmental awareness and the need for greenery in our surroundings.

Phytomics- The Botanical society of our college organized an eco-friendly-rangoli competition on the occasion of Diwali, November 04, 2021. The themes of the event were 'Fight against corona' and 'Indian Sanskriti'. The goal of the event was to generate interest amongst participants about the culture of India and spread awareness against corona in a creative way.

The Department of Botany conducted an 'Orientation Program' for the newly admitted students on 20-11-2021 at 11.30 am through the google meet platform. The prime objective was to make the students and their parents aware of the B.Sc (Hons.) Botany course, scope, opportunities, and details about the

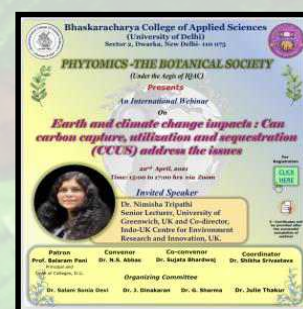


college, general rules, and regulations. Prof. N.S. Abbas, Teacher In-charge, briefed about the department history, phytomics society, college, NAAC accreditation, NIRF ranking, DBT star college status, course structure, lab facilities, research opportunities, internship opportunities, field trips, mentorship program, scholarships program, fees concession, online teaching through Microsoft Team, various clubs/cells, etc. Prof. Balaram Pani, Principal of the college, welcomed the students and enlightened them about the uniqueness of the Botany Department.

Phytomics- The Botanical society of our college under the Department of Biotechnology, Star College Scheme, organized a workshop cum an outreach activity for rural school students of Sant Kirpal Model Senior Secondary School, Delhi. The title of the event was 'Fostering Scientific Temperament: Vision 2021-22' which was held on December 17, 2021, in a physical mode in laboratory-1 of the Department of Botany. The prime objective of the outreach activity was to ignite the young minds and generate interest in the field of science and technology. This outreach activity has enhanced students' critical thinking and technical skills.

Phytomics- The Botanical society of our college celebrated 'The World Wetlands Day' by organizing inter-college poster-making and collage-making competitions on the theme 'Raise Awareness about the Importance of Wetlands' on February 02, 2022. The event aimed to create awareness amongst students to save biodiversity. This event improved the soft skills of the participants and provided them with a platform to show their creative skills.

Phytomics- The Botanical society of our college, organized an online two-days International workshop on 'Ayurveda: Wellness Begins with Understanding yourself' from February 22-23, 2022. Dr. Manisha Mittal, an Ayurveda professional, at Swastik Clinic, USA delivered a highly informative talk to create awareness about the importance of Ayurveda in our lives. This international workshop enlightened participants about how to prolong life, promote perfect health and eradicate the disease and dysfunction of the body.





## DEPARTMENT OF CHEMISTRY

"The beauty of chemistry is that I can design my own molecular world"

**-Bel L. Feringa**

The Department of Chemistry is dedicated to excellence in education, research, and public service. We strive towards these goals through classroom teaching and practical training. The department of chemistry has its own chemical society named "ALCHEMY" which conducts events for holistic development of the students. Even though everyone was affected by the unprecedented disruption caused by COVID pandemic, we conducted an array of activities designed for the holistic development of students.

'ALCHEMY' the chemical society celebrated colourful and green Diwali 'Deepotsav' with various online intra-department competitions like poster making, quiz, talent show, speech, and rangoli making on November 01, 2021. Diwali is a festival of lights and togetherness. Keeping this in view, Deepotsav was celebrated to brighten up the students by fostering positive vibes and boosting the interaction between them. This event enhanced their creative skills via various competitions.

Department of Chemistry organized a National Webinar on "Relevance of Swadeshi in Today's Scenario" by Sh. Kashmiri Lal ji, Rashtriya Sanghatak, Swadeshi Jagran Manch under the aegis of IQAC on October 01, 2021, so as to emphasize about the significance of using our indigenous products. The speaker encouraged students to use Swadeshi products in daily life as well as in festival time in order to be self-reliant. It not only promotes our economy but also nationalism.

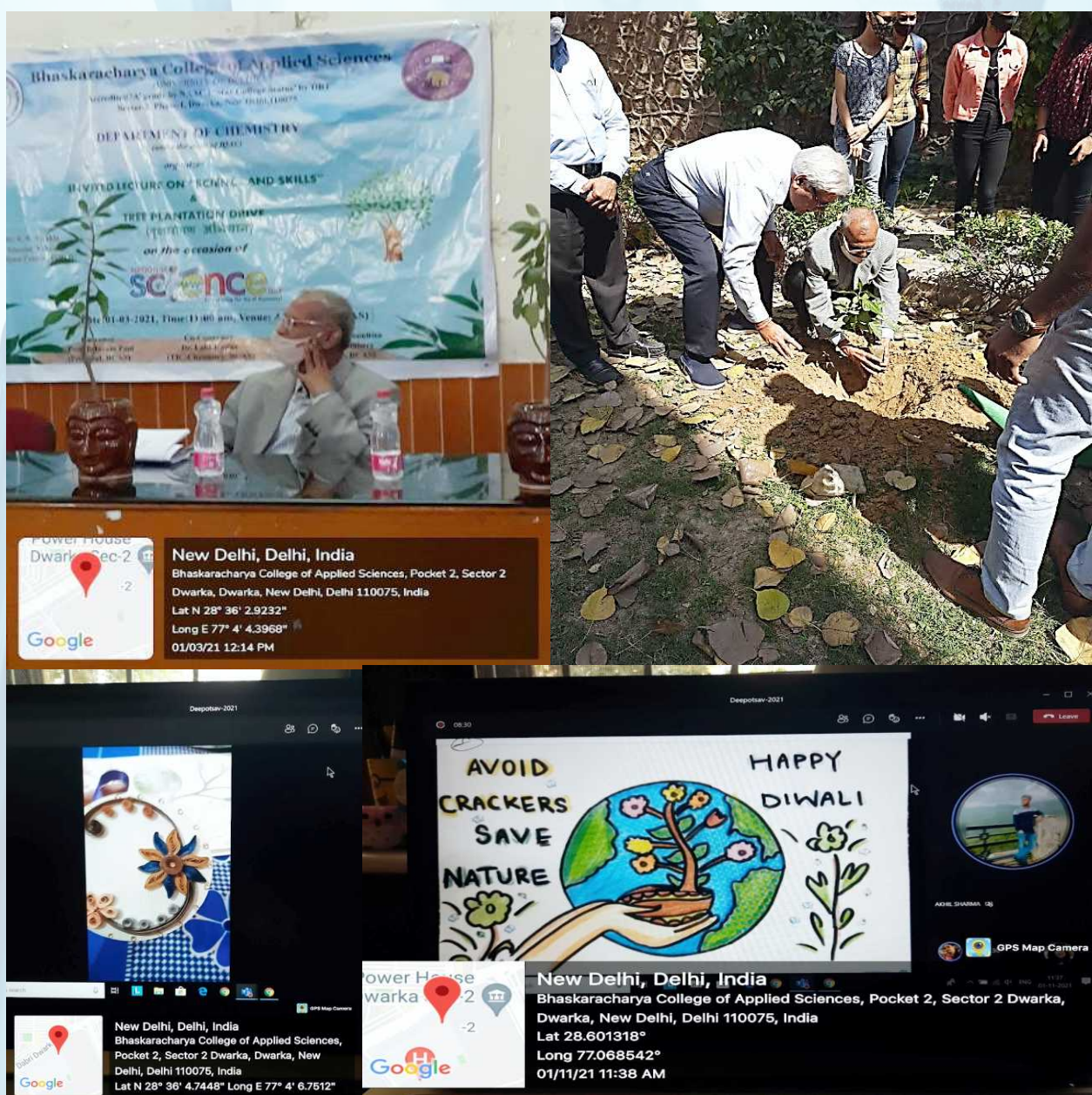
'ALCHEMY' the chemical society organized 'Hindi Pakhwada' with various online intra-department competitions like Kavita lekhan, antakshri, slogan writing, maatr 1 minute and Antarashtriya goshti on 11th, 13th and 14th September 2021 in order to encourage our students to use our official language, Hindi' in our daily lives. Department of Chemistry also organized an Inter-departmental Quiz Competition on "Environmental Waste Management" on September 04, 2021 and an Inter-departmental Poster Making Competition on "Cleanliness is next to Godliness" from September 03-10, 2021 as a part of 'Swachta Abhiyaan', under the aegis of IQAC. The intention behind these competitions is to make the students think about the significance of cleanliness in our daily lives. Students were encouraged to implement hygienic sanitation practices.

A National Webinar on "Technological Advancements for Cleaner Waste Management: Road Ahead and Opportunities" by Dr. Pritam Sangwan, Scientist 'E', Joint Director, CFEES, DRDO, Ministry of Defence under the aegis of IQAC was organized on August 25, 2021. The aim of conducting this webinar was to enhance the knowledge of students about the various technological advancements to clean different types of waste. The speaker explained about various instruments made by DRDO for waste management of chemicals and toxic materials produced by artillery as well as methods of safe storage and transport of bombs/shells etc. Students also came to know about various career options offered by DRDO.



A National Webinar on “Organ Donation: Significance and Pledge” by Dr. Sourabh Sharma, Manager – Projects & Outreach, ORGAN (Organ Receiving & Giving Awareness Network) under the aegis of IQAC was organized on the occasion of National Organ Donation Day i.e. August 13, 2021. The aim of conducting this webinar was to highlight the role of organ donation in saving one's life and bust the myths associated with it. The students got the clarification about the process of organ and tissue donation and were highly motivated to donate organs after death.

In addition, Chemistry Department organized an Invited Lecture on “Science and Skill” by Dr. K. N. Shukla, Emeritus Scientist, Vikram Sarabhai Space Centre, ISRO under the aegis of IQAC on the occasion of National Science Day i.e. March 01, 2021. The lecture was followed by a Plantation Drive. The main purpose of the lecture was to highlight the problem solving techniques through scientific skills. Dr. Shukla briefly explained the importance and use of ancient science in today's scenario. He explained the relationship between science and skill with easy demonstrations.





# DEPARTMENT OF COMPUTER SCIENCE

Sometimes it is the people no one can imagine anything of who do the things no one can imagine”

*-Alan Turing*

The Department of Computer Science has always been known for comprehensive development of the students. The Department has its own society CS.Net and has been actively organizing various events to enlighten the students as well as the staff. Even during the period of pandemic, informative webinars were held. A webinar on “Hands on Android” was organized by the Department of Computer Science under the aegis of IQAC and DBT Star College Scheme on 5th April 2021. The webinar was aimed to familiarize the students with Android which is very popular in this era. Following this, a webinar on “Machine learning using python” was organized on 18th June 2021 which highlighted the importance and need for machine learning in the era of artificial intelligence. A ten-day workshop on “Capacity Building using Computer Basics and Office Package (Phase-II)” was also organized for Non-Teaching Staff of the college by Bhavya Deep under DBT star college scheme II and IQAC of the college. The workshop aimed to impart hands on training to Non-Teaching Staff of the college and build computer operating skills. The workshop lasted from 13th July 2021 to 12th August 2021. Taking the journey further, the Department of Computer Science organized a webinar on “Full Stack Development Program” on 27th July 2021 in collaboration with Aapke Solutions. One-hour international webinar on “Career Opportunities in Financial Engineering” was also organized under the DBT Star College Scheme II and IQAC of the college. The webinar was held on 30th September 2021 as a joint collaboration of Career Counselling Cell and Department of Computer Science. Ms. Fiona Taft who is Senior Associate Director at HaaS School of Business, University of California along with her team addressed the audience throughout the session. A short term certificate course on “Website Development Techniques’ was organized from 22nd October to 5th December 2021. Welcoming the New Year 2022, another webinar on “Software Testing Techniques” was organized by Department of Computer Science under the aegis of IQAC and DBT Star College Scheme on 31st January 2022 through Google Meet which helped the students to learn various types of software testing.





## DEPARTMENT OF ELECTRONICS

Moore's Law states that the number of transistors on a microchip doubles about every two years, though the cost of computers is halved

**-Gordon Moore**

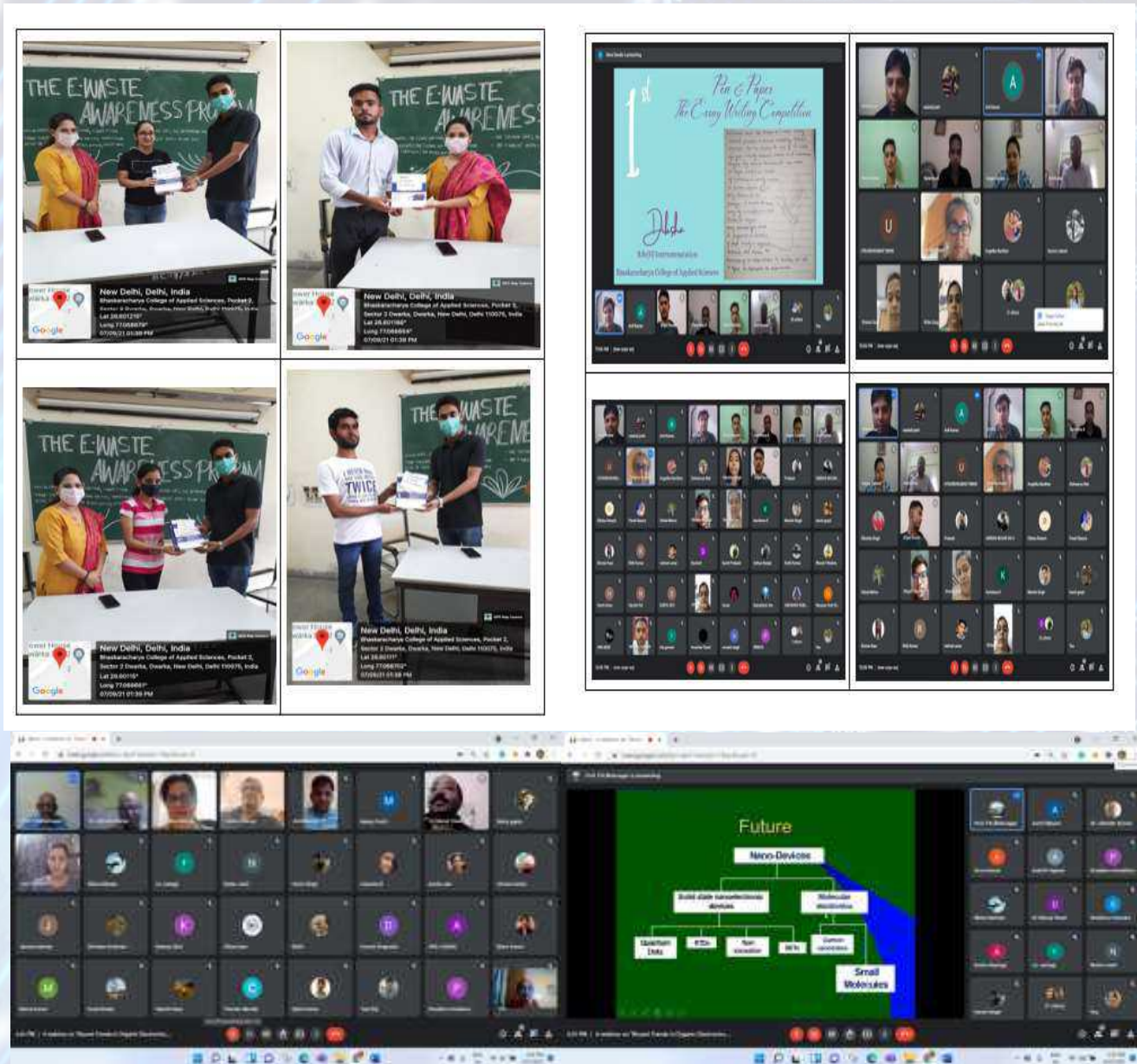
Activities Conducted in Department of Electronics The Department of Electronics in collaboration with the Department of Instrumentation organized an Intercollege Virtual Workshop on “Optimization of Feedback Control System using PID Controller” with ROMTEK on July 13, 2021. Mr. Anand Bhushan was invited as the speaker for the workshop. The participants were introduced to the basics of Control System and demonstration of ROMTEK Process Simulator was also given. The event witnessed 210 registrations and a large number of participation including students as well as faculty from different universities like University of Delhi, NSUT, Teerthankar Mahaveer University, DDU Gorakhpur University etc. making it a huge success. Overall the workshop was very interactive and useful for the students. 52 participants submitted the feedback form. All the participants enhanced their knowledge and the feedback from them was extremely well and encouraging.

The Department of Electronics in collaboration with the Department of Instrumentation organized an Electronic waste awareness program from August 25-29, 2021 under the DBT star scheme. This event aimed to bring young generation's attention towards the rising problem of electronic waste in the nation as well as the world. Various competitions like E-Waste Quiz, Essay Writing Competition, Recreation Competition, Slogan Writing and Poster Making Competition were organized under this program. This event also focused on how students can make the best use of electronic waste through their creativity and hands-on experience. Department of Electronics organized a webinar on „Recent Trends in Organic Electronics and Displays on September 17, 2021. The guest speaker Prof.(retd.) P.K Bhatnagar, Department of Electronics, University of Delhi, South Campus in the session, highlighted the use of OLEDs, a new innovation in display technology and how their striking properties give them and upper hand over LCD. He also shed light on recent studies and research work to develop potential raw materials for the reliable mass production of these devices. The Swachhta Pakhwada was celebrated on September 1, 2021, in the Department of Electronics The event included a Swachhta Pledge Ceremony which was conducted in the hybrid mode via MS- Teams. The pledge ceremony was then followed by the cleanliness drive in the department. Few students from the Department also planted saplings in the park/gardens near their residence. The Department in collaboration with the Alumni Committee organized an online Alumni Interaction Session on November 12, 2021. The Guest Speaker was Dr. Devendra Madhwal, an illustrious Alumnus of the Department, who is currently working as the Professor in the Amity Institute of Advanced Research and Studies, and Amity Institute of Renewable and Alternative Energy in the Amity University, Noida.

As an Alumnus, Prof. Devendra Madhwal shared his experiences and accomplishments in the domain of Electronics with the undergraduate students of the Department. The speaker motivated the students to make early choices in their career to obtain success in life. A webinar on topic „Opportunities and Challenges in Renewable Energy & Green Technology was organised on 25th February, 2022 The speaker of the session was Dr. Shiv Kumar Dixit, Assistant Professor in Manav Rachna University. Dr. Shiv Kumar talked about the various environmental challenges and the need for



resolving them. He explained how Green Technology can serve as a solution to our environment problems and the significance of Renewable Energy in India and enlightened the students on the major ongoing schemes with the support of Ministry of New and Renewable Energy. Two sessions to provide information to our undergraduate students on how to prepare for M.Sc Electronics and M.Sc Information Technology Entrance Examination, were conducted by our Department. The first session was held on 5th February 2022. Mr. Govinda Tripathi, alumnus Batch (2016-2019) gold medalist M.Sc (Information technology) and Ms. Sakshi Jangid, Alumnus batch (2018-2021) were the speakers for the session. The second session was held on 12 February, 2022. The speakers of the session were Mr. Neeraj Kumar, an Alumnus Batch (2015-18); currently pursuing Ph.D. from IIIT Delhi and Mr. Himanshu Kumar Gupta, an Alumnus batch (2018-21), and currently pursuing M.Sc Electronics from University of Delhi, South Campus.. Both the sessions stressed to focus more on knowledge content and explained how BSc curriculum forms the base of MSc. The importance of Time Management and consistency while preparing for the same was also highlighted. They elucidated the significance of proper analysis of syllabus for better accuracy and laid emphasis on thorough revision of curriculum





# DEPARTMENT OF FOOD TECHNOLOGY

Everybody is talented because everybody who is human has something to express

**-Brenda Ueland**

Ambrosia, Food Technology society organized a workshop on Confectionery and Bakery Technology held on 13th October 2021 to celebrate World Food Day- 2021 in online/ virtual as well as offline /physical. Chef Hemant Yadav from Downtown Resort was the resource person and he gave hands on training for the development of some of the confectionery products like caramel toffee and peanut brittle and bakery product like cake (eggless and with egg). This workshop was attended by the 2nd Year and 3rd Year students of Bhaskaracharya College of Applied Sciences of B.Sc (H) Food Technology. A total of 68 students attended this workshop among them 32 students participated in physical mode whereas, 36 students joined it in online mode.

Objective: To impart hands on training to students to prepare bakery and confectionery items.

Outcome: Students prepared cakes, toffee and chikki.





### **Plantation drive Report**

The Ambrosia society of department of food technology in association with Garden committee (under the aegis of IQAC and Star College Scheme) organised a plantation drive in the college on June 15, 2021, 11:15 am onwards. A number of herbal plants and fruit plants were planted within the college premises viz. Anaar, Tulsi, Karonda, Kachnar, Jatropha, Sadabahar, Ashoka, Ilaichi, Mehendi, Keli, Ajwain, Lemon grass, Pattharchatta, Gudhel, Champa, Sehjan, Poda, Nimbu, Pitronjia, Paddilethus, Maner, Hamelia, Giloy and Arjun were planted in large numbers. The occasion was graced by the presence of Prof. Balaram Pani, Principal of the college & Dean of Colleges (DU) and by Ms. Madhuri Varshney, Chairman of the Governing Body of college. A number of faculty members, as well as non-teaching staff of the college participated in the drive. The task was accomplished with the help of college gardeners.

Objective : To create awareness about herbal plants

Outcome: Planted herbal and fruit plants in college garden.

### **Foodophile 2K22**

An alumni meet and an annual departmental fest, Foodophile 2K22, organized by Ambrosia, the Department of Food Technology Society Alumnus Mr Arun Kumar and Ms. Ruchi pursuing Ph.D from Tezpur University and IIT Delhi respectively, shared their experiences with Food Technology students. Fourteen Alumni participated in the alumni meet. Many fascinating events were organised like slurrp, amla race, tug of war, begin vegan(recipe making competition), test your senses and many more.

Objective: To provide a platform for students of our college to exhibit their talent, build confidence and to interact with alumni to establish friendships and acquaintances which is really important in today's world. Outcome. The students really participated very enthusiastically and appreciated as this was a very refreshing event for everyone after the reopening of colleges.



# DEPARTMENT OF INSTRUMENTATION

"Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world"

**-Louis Pasteur**



The Department has a society named 'SENSORS' which organizes various activities like Workshops/ Conferences/ Lectures/ Webinars/ Industrial visits, etc. every year under the guidance of eminent personalities from academia and industries. Faculty are involved in the research work and also guide the students in different projects. One of the faculties received the Best Paper Award in 4th IEEE International Conference on Recent Developments in Control Automation & Power Engineering held from 7th - 8th October, 2021 at Amity University with a Paper Titled "A Novel PID-AW based MPPT Technique for SPV System".

Following activities were organized in the current academic year:-

Department of Instrumentation in association with Department of Electronics organized an Intercollege Virtual Workshop on "Optimization of Feedback Control System using PID Controller" with ROMTEK on July 13, 2021. The participants were introduced to the basics of Control System and demonstration of ROMTEK Process Simulator was also given.

An online Intercollegiate Electronic Waste Awareness Program was organized in August in collaboration with the Department of Electronics. This event aimed to bring attention towards the rising problem of E-waste in the nation as well as the world. Various competitions such as E-Waste Quiz, Essay Writing, Slogan Writing, Poster Making etc. were held. The event was sponsored by Emanation- Radiate New You From Within You.

An Online Demonstration on "Digital Electronics and Microprocessor Practical" was held on October 28, 2021. The students showcased the implementation of 4 x 1 MUX, seven segment display driver and Boolean function using a decoder.

An Online Workshop on 'Familiarization with Microsoft Teams' exclusively for newly admitted first year students was held on November 23, 2021. The purpose of the workshop was to acquaint them with the Microsoft Teams app for the smooth conduct of the online learning process.

Science Adda (One day Interaction Program with School Students) was held on December 17, 2021 in which students showcased the equipments available in the laboratory along with a demonstration of few experiments.

An Online Practical Demonstration on "Designing of a Sine Wave Oscillator & convert the Sine Wave into different functions like square wave & triangular wave" was organized on January 21, 2022. The participants were made familiar with the working of power supply, DSO & applications of 741 IC.

A National Webinar on "Seeing in Dark through Image Processing" was held on January 22, 2022 in which participants were learned to design a network to enhance extreme low light images which has fast processing even on CPU, low memory utilization and competitive reconstruction quality.

Entrance Examination Preparation Classes & Counselling Session (Online) for final year students were held from January 21, 2022 to February 12, 2022. Few alumni of the Department were invited for the career counselling session.



# DEPARTMENT OF MATHEMATICS

Mathematics is a more powerful instrument of knowledge than any other that has been bequeathed to us by human agency  
**-Rene Descartes**

Department of Mathematics in collaboration with Vivekanand Vichar Manch organized a National Poster Making Competition on the theme 'DREAM INDIA OF SWAMI VIVEKANAND / स्वामी विवेकानंद के सपनों का भारत' on October 30, 2021. Poster entries beautifully depicted participants' interpretations of the topic. The students of B.Sc. Mathematics of Vidya Vistar Scheme partner College : Indira Gandhi Government College, Tezu, Arunachal Pradesh too participated with five entries.





## DEPARTMENT OF MICROBIOLOGY

“The role of the infinitely small in nature is infinitely great  
-Louis Pasteur

The Department of Microbiology focuses on the overall development of the students. Along with classroom teaching, efforts are made to expose the students to the cutting-edge work going on in various laboratories and industries. “Sukshmjeev” the Department of Microbiology society organizes various symposia, festivals and lectures in the college. In 2021-2022 following activities were organized by the department:

Environmental Project and Awareness Program (EPAP) 2021-22 – Second year students from the department are working on ten important issues such as e-waste Management, Water Pollution, Solid Waste Management, Air Pollution, Indoor Air Pollution, Climate change, Infectious Diseases and Public health, Global Warming, Loss of Biodiversity, Biomedical Waste Management and Plastic Waste Management. Students are conducting this program in various stages including literature search, presentations, surveys, awareness and data analysis. Presentations on the above-mentioned issues were organized by the department in November, 2021. At this point of time students are conducting surveys and analyzing the collected data.

National Webinar on the theme of 'Loss of Biodiversity' was organized in collaboration with LAKSHYA, under EPAP on March, 16, 2022. Dr. Hishmi Jamil Husain, Head Biodiversity, Corporate Sustainability, Tata Steels Ltd. gave a lecture and discussed various issues related to Microbial Biodiversity Loss and sensitized students about the perils of climate change.

National Online Workshop on 'Intellectual Property Rights (IPR)' – was organized in collaboration with School of Management, NIT, Rourkela from February 21 to 25, 2022. Various important topics such as Geographical Indications, Patent Filing, Plant Varieties and Rights of Breeder were covered in the workshop by eminent speakers from the field. These topics are being studied by the students in their IPR course and this workshop enhanced their practical knowledge with the real examples taken for the patenting of products.

An online workshop on 'Basic Techniques involved in Industrial Microbiology for Product Development' – was organized in collaboration with IIIM-Technology Business Incubator, CSIR-IIIM, Jammu from December 16 to December 21, 2021. In this workshop students were exposed to the theoretical and practical aspects of techniques used in Industrial Microbiology.

The Department of Microbiology participated in the “Science Adda” initiative of DBT on 17th December 2021 in both the offline and online modes. In offline mode school students visited the Microbiology Laboratory and interacted with the faculty members. Dr. Purnima Anand and Dr. Neeru Bhagat discussed the importance of microorganisms and demonstrated the microbiological media and the procedure of streaking for isolation/purification of bacterial cultures. Dr. Gunjan Sirohi and Dr. N. Vijaya Kumar explained the microscopic structure of Volvox colonies and the shape and arrangement of Bacillus cells at high power and immersion oil objective (100X) respectively. In online mode Dr. Pawas Goswami interacted with the students of Kendriya Vidyalay and discussed the importance and the scope of Microbiology with them.

A virtual workshop on analyzing bacterial growth kinetics through MS Excel was organized by the



department on November 17, 2021. Second year students of the department participated in this workshop and learned the usage of MS Excel for data analysis.

National Online Workshop on “Astrobiology” - was organized by department in collaboration with 'Spaceonova' from October 29-30, 2021. Students were exposed to new field of Astrobiology and various online databases and bioinformatic resources.

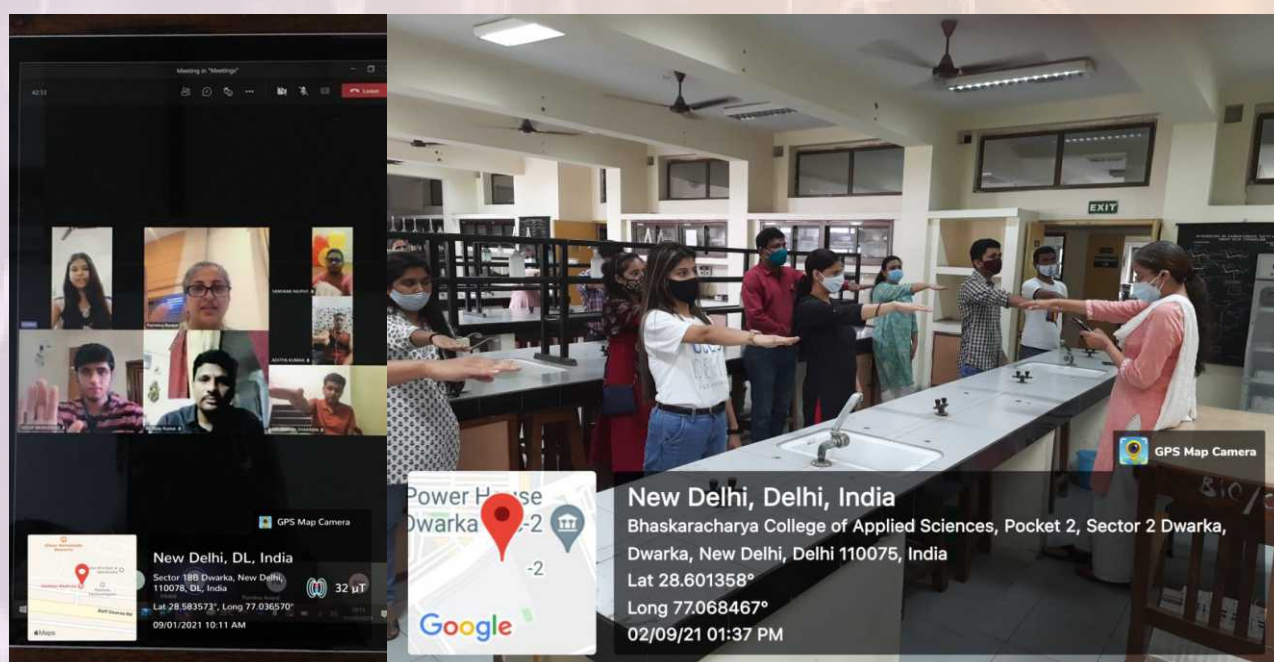
Virtual Visit was organized for third year students to lab and pilot scale fermenter in Amerging Technology Pvt Ltd. on October 29, 2021. Students learned about various parts of fermenter and its functioning, which is a very important aspect of the Industrial microbiology paper catered to the third year students.

National webinar on 'Small Molecules make a Big Impact: A Panoramic View of miRNAs in Esophageal Cancer' – was organized under the theme 'Microbiology: From Principle to Applications' on October 1, 2021. Dr. Rinu Sharma, Assistant Professor, University School of Biotechnology, Guru Gobind Singh Indraprastha University, interacted with students and discussed the problems and possible solutions for the treatment of esophageal cancer.

National webinar on 'Bio-Entrepreneurship and Introduction to BioNEST-UDSC' – was organized in collaboration with Bio-NEST, UDSC on September 30, 2021. Mr. Vijay Kantharia, CEO, Bio-NEST, UDSC interacted with attendees and described various facilities available for the researchers, entrepreneurs and students at Bio-NEST, UDSC.

International webinar on 'Allies and Adversaries in the Microbial World' – was organized on September 18, 2021 on the occasion of international Microorganism Day, celebrated on September 17, 2021. Dr. Deepti Jain, Associate Professor, Regional Centre for Biotechnology, Faridabad discussed the role of microorganisms in day today life and focused on the issue of biofilm formation and its implications.

International webinar on 'Journey from Biology to Machine Learning' – was organized on September 6, 2021. Dr. Ashish Jain (Alumnus), Data Scientist, Salesforce, Cambridge, MA participated and discussed his career path with the students. Dr. Ashish also counselled the students about career choices after their undergraduate course in Microbiology.

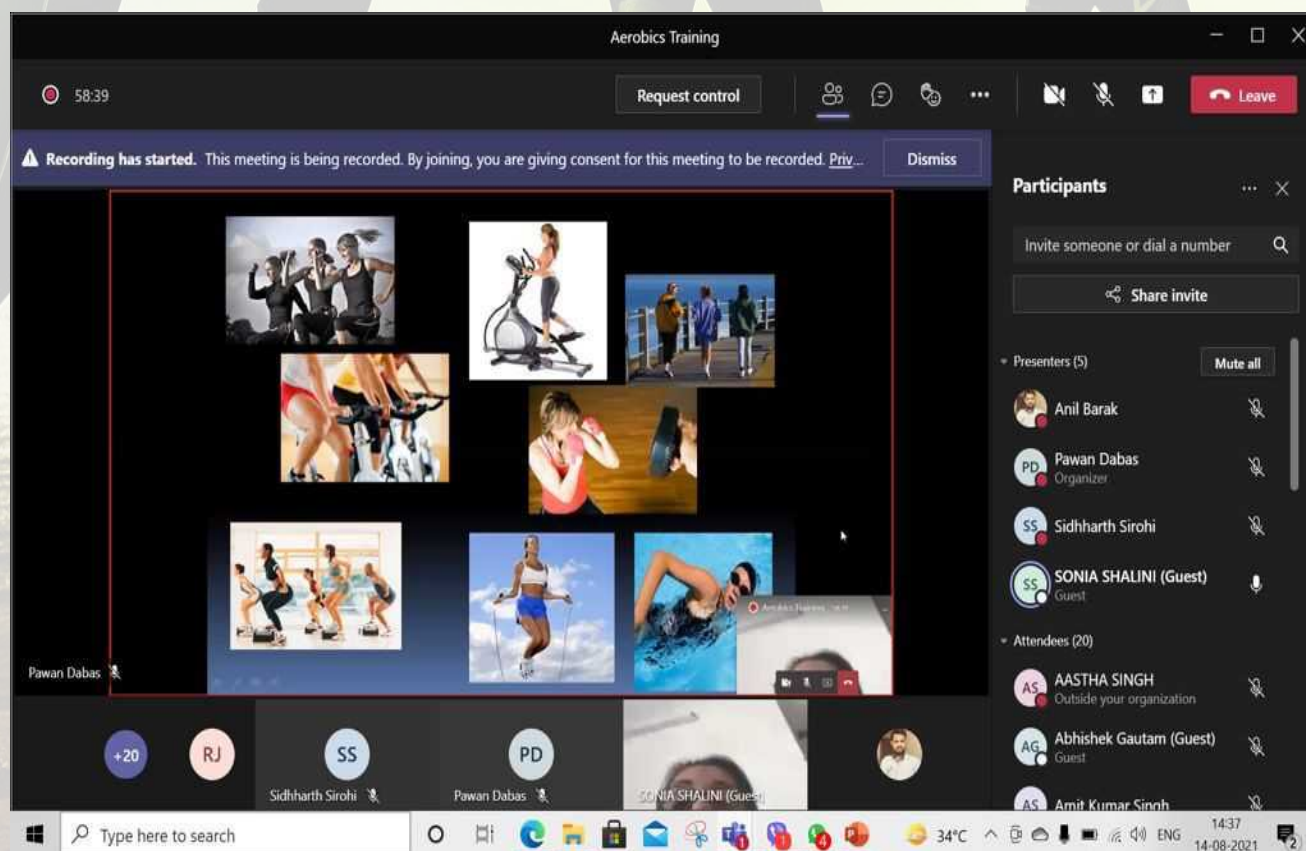




# DEPARTMENT OF PHYSICAL EDUCATION

"We don't stop playing because we grow old ; we grow old because we stop playing  
-Johann Bernhard Basedow

Bhaskaracharya College of Applied Sciences in association with the Department of Physical Education and Sports Sciences, University of Delhi launched a short term online course of 40 hours on 'Fitness Management' on 18.7.2021. Prof. Uma Kumar, Prof. & Head of the Department, Rheumatology, AIIMS, New Delhi was Chief guest on the inaugural session. The course covered various topics related to fitness of an individual which included the Study of the Musculo-skeletal system, Sports injuries and management, Stress Management, Yoga, Energy Systems during exercise, Exercise Mechanics, Nutrition, Weight control, Measurement of Body Composition, Aerobics Training, Different types of exercises for fitness. The course will also include Wellness, meditation and Fitness Testing in coming weekends. The prominent speakers of the course are Prof. Rajkumar, Director, Vallabhbhai Patel Chest Institute University of Delhi, Prof. Dhananjay Shaw, HOD, with Department of Physical Education and Sports Sciences (University of Delhi), Prof Lalit Sharma, Prof. Sonia Shalini, Dr. Vijay from IGIPSSS, University of Delhi and International speaker Dr. Rakesh Tomar from King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia. The valedictory of the course was held on 12.9.21. Prof. Anil Kumar Jain, Principal, UCMS, University of Delhi was the chief guest. A total number of 38 participants are participating which includes university teachers, school teachers, Ph.D students, graduate and post graduate students from India and abroad. This certificate course has been designed for anyone who has an interest in fitness and health. Regardless of whether the individual intends to use the knowledge for their own benefit, or the benefits of others, this online course will help all the way.





## DEPARTMENT OF PHYSICS

Imagination is more important than knowledge

*-Albert Einstein*

This event titled “Nanomaterials Virtual Lab Training ” was held on 27th January 2022, and was organized by The Physics Department of Bhagini Nivedita College, Shivaji College, Motilal Nehru College and Bhaskaracharya College of Applied Sciences, University of Delhi. Invited speaker Prof. Mohammad Khalid, a Research Professor and Head of Graphene and Advanced 2D Materials Research Group at Sunway University, Malaysia shared an in-depth analysis on Nano materials and their applications followed by a Virtual Lab Training tour and a very engaging question and answer session which helped discover and understand many properties of nanomaterials and particles that makes them useful for all kinds of applications in all fields.

Department of Physics in collaboration with Astronomy Club organized a webinar on “Tornadoes and Typhoons in the Space-Time Geometry“ on February 15 ,2022 at 10.30 am. The invited speaker Prof. Patrick Das Gupta (Speaker), Department of Physics and Astrophysics ,University of Delhi, delivered a highly informative talk to create awareness about Tornadoes and Typhoons in the Space-Time Geometry. At the end there was question answer session.

Department of Physics in collaboration with Astronomy Club organized a webinar on “Does the Cosmological Principle hold in the Universe?“ on March 10 ,2022 at 5 pm. The invited speaker Prof. Pravabati Chingangbam, Indian Institute of Astrophysics, Bangalore, delivered very interesting talk to enhance the awareness of the students about Does the Cosmological Principle hold in the Universe? Students from Various departments participated with enthusiasm and positive attitude. At the end there was question answer session.

**BHASKARACHARYA COLLEGE OF APPLIED SCIENCES (UNIVERSITY OF DELHI)**  
Accredited 'A' College by NAAC | Star College Status by DBT

**Department of Physics & Astronomy Club**  
Under the aegis of IQAC cell, BCAS and DBT Star College Scheme is organizing a talk on:

**Tornadoes and Typhoons in the Space-Time Geometry**

**By Prof. Patrick Das Gupta**  
Department of Physics & Astrophysics,  
(University of Delhi)

**15 Feb 2022**  
10:30 am  
On Microsoft Teams

[Click here for registration](#)

e-certificates will be issued to the registered participants after they have submitted feedback

**Prof. Avneesh Mittal** (Acting Principal)  
**Prof. N S Abbas** (Coordinator)  
DBT Star College Scheme

**Dr. Meetu Luthra** (Convener)  
Department of Physics

**Dr. Herendra Kumar** (Convener)  
Astronomy Club

**Prof. Anand Bharadvaja** (Department coordinator)  
DBT Star College Scheme

**Ms. Neha, Ms. Adreeja**  
Mr. Abhishek Prashant  
(Student Coordinators)

The screenshot shows a Microsoft Teams interface with a main video window displaying Prof. Patrick Das Gupta. The interface includes a sidebar with participant avatars (PG, AB, ML, AG, HK, NP) and a bottom section showing the webinar title and speaker information. The background of the main window features a cosmic image with labels like 'IRS 16C' and 'Sgr A'.



## DEPARTMENT OF POLYMER SCIENCE

Nature works with five polymers. Only five polymers. In the natural world, life builds from the bottom up, and it builds in resilience and multiple uses

*-Janine benyus*

B.Sc. (Hons.) Polymer Science course is offered only in Bhaskaracharya College of Applied sciences, University of Delhi. The program pertains to imparting expertise in Polymer Engineering and Technology.

The Department has an extremely good infrastructure for providing practical experience of synthesis, processing and testing of polymers. The laboratories are equipped with facilities including an Injection Molding Machine, TG/DTA, Compression Molding Machine, Two-Roll Mill, Single Screw Extruder, Universal Testing Machine, FT-IR and Rheometer to match the requirement of the experiments up to the mark of industrial standards. The syllabus also consists of the content about handling, maintenance and trouble-shooting of various equipments available in the laboratories.

PEARLS, Departmental Society, is a vibrant platform at which students get opportunity to participate in popular lectures of eminent Professors & Scientists from various institutions. It improves the awareness of students towards latest research and developments in the field of polymer science. Students also participate in conferences, workshops, symposiums, inhouse projects & industrial visits in addition to attending lectures.

A few programs organized by Departmental Society (PEARLS) in 2021-22 are listed below:

Department Polymer Science organized a Campus Darshan (Campus Visit) of 1st year students on 17th February 2021.

Department Polymer Science organized annual Alumni Meet on 03rd March 2021 via Microsoft Team Platform.

PEARLS (Society of Department of Polymer Science) organised annual festival & seminar on March 4, 2021, via Microsoft Team Platform.

Department of Polymer Science organized 02 days Inter College Workshop and Hands on Training on “Development and Testing of Packaging film” on March 11-12, 2021. The Workshop was organized in association with Department of Instrumentation & Department of Food Technology under the aegis of DBT Star College scheme.

Department of Polymer Science organized a 05 days Inter College Workshop and Hands on “Instrumental Analysis of Materials” during March 15-19, 2021. The Workshop was organized in association with Department of Instrumentation & Department of Food Technology & Department of Biochemistry under the aegis of DBT Star College scheme.

Department of Polymer Science (Under the aegis of IQAC & DBT Star College Scheme) organized 5th webinar of webinar series 2020-21 & virtual workshop on the topic “Small-Angle X-ray Scattering Analysis” on March 15, 2021 through Microsoft Teams.

PEARLS organized e-Farewell Meet for 3rd year students on April 13, 2021 via Microsoft Team Platform.

Department of Polymer Science conducted classes for PG Entrance/GATE Examination during 3- 24 April 2021 (on each Saturday) via Microsoft Teams.

Department of Polymer Science (PEARLS) in association with Indian Institute of Packaging, Delhi



organized First webinar of webinar series 2021-22 on July 12, 2021 through Microsoft Teams Platform. Department of Polymer Science organized IInd webinar of webinar series 2021-22 on August 03, 2021 through Microsoft Teams Platform.

Department of Polymer Science organized one-day online Awareness Cum Workshop on the topic entitled “Antimicrobial Activity of Biopolymeric Films” on August 21, 2021 collaboration with Department of Biomedical Science & Department of Instrumentation (under the aegis of DST Project)

Department of Polymer Science organized IIIrd webinar of webinar series 2021-22 on September 03, 2021 through Microsoft Teams Platform.

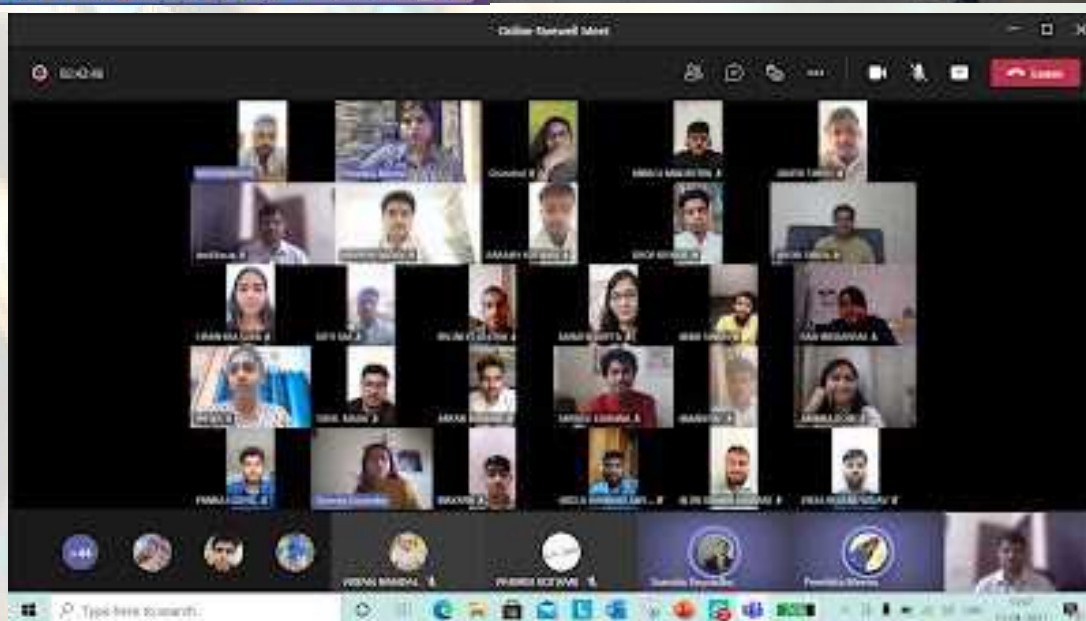
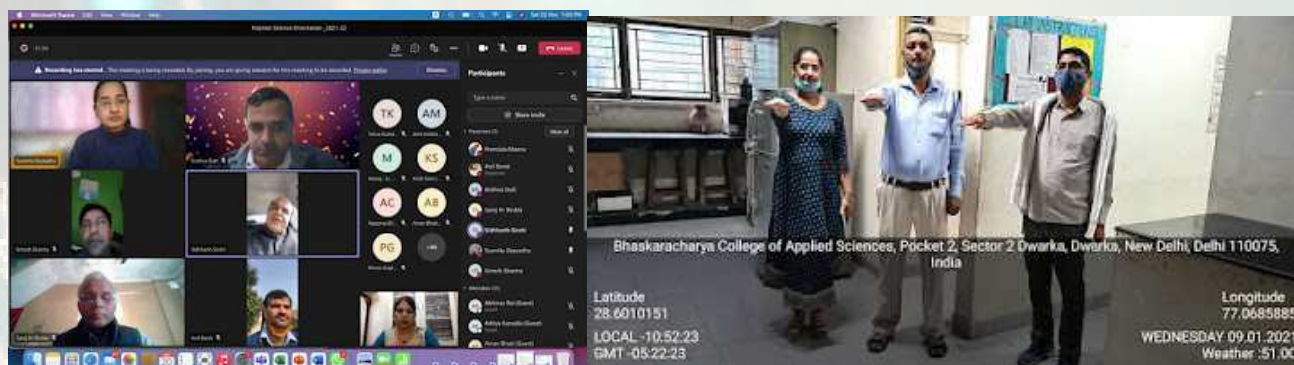
Faculty, Staff and students took Swachhta Pledge on September 1, 2021

Department of Polymer Science organized an orientation program for the newly admitted B.Sc. (H) first year students in the online mode via. Microsoft Teams on November 20, 2021.

Department of Polymer Science organized a student awareness e-workshop for B.Sc. (H) Ist, 2nd and IIIrd year students in association with IQAC via. Microsoft Teams on December 3, 2021.

Department of Polymer Science organized Freshers' Interaction program for newly admitted students (2021-22) on January 14, 2022 via Microsoft Teams.

Faculty of Department of Polymer Science (Prof. Sidhharth Sirohi & Dr. Anil Barak) visited the Gas Authority of India Limited (GAIL) Research & Development center at Noida (UP) on February 14, 2022 in connection with Students' visit, internships etc.





## DEPARTMENT OF ZOOLOGY

“He who has seen the intimate beauty of nature cannot tear himself away from it again, he must become either a poet or a naturalist, he may well become both”

**-Konrad Lorenz**

An online Short-Term Certificate course was organized by Department of Zoology, BCAS on ‘Immunological Techniques and their applications’ in collaboration with the parent department, University of Delhi. The course was also an initiative under the Vidya Vistar scheme through which our department shared knowledge with faculty and students of Indira Gandhi Government College (IGGC) in Tezu, Arunachal Pradesh. We aimed to impart indepth theoretical and practical understanding of various Immunology-based techniques like Immunodiffusion, ELISA, Confocal Microscopy, ChIP, FACS, etc. The course with total duration of 40 hours was conducted from October 22- November 09, 2021. Participants attended 10 lecture sessions that were delivered by distinguished academicians of Department of Zoology and National Institute of Immunology. Seventy eight participants attended the course and gained detailed knowledge about the immunological techniques and their applications. The Department of Zoology, BCAS in association with Department of Zoology of few other educational institutions, conducted an online Skill Enrichment Program (Basic) on ‘Bacterial Genomics and Metagenomics’ from January 15- February 7, 2022. The event conducted weekend hands-on sessions on various important bioinformatics tools for genome and metagenome analyses. It included a vast coverage of topics related to Linux software, databases, DNA sequencing and denovo bacterial genomic assembly, RAST annotations etc. The event witnessed an enthusiastic participation from students across the country.

Eranko, the Zoological society of BCAS, organized an online workshop ‘Sparrow Conservation and Nest Building’ on October 08, 2021 on occasion of Wildlife Conservation Week. The resource person for the workshop was Mr. Rakesh Khatri, popularly known as the Nest-Man of India. Active participation of youngsters in nest-making serves as an initiative for sparrow conservation in modern cities like Delhi. The event was followed by various competitions on the theme ‘Save Wildlife, Save Humanity’. On the occasion of World Ozone Day, we had organized a National online quiz competition ‘Quizone’ from September 15-16, 2021. Ninety-eight participants registered for the quiz from all over India. In the final round, six participants competed among whom three students from Gargi College bagged the first three positions. Eranko in collaboration with Alumni Committee of BCAS organized two online Alumni events. ‘पुनः Alumni Meet 2022 @ Zoology’ was conducted on January 30, 2022. The event aimed to bring together alumni of our department (Batch 2017-20 and 2018-21) with the current Zoology students for better interaction. Alumni answered queries raised by their fellow juniors and shared their experiences of graduation. They also showed eagerness in becoming a part of the Alumni association in future. ‘Career guidance by Alumni’ was scheduled from January 31- February 02, 2022. Alumni of both academic batches had come together to provide guidance about Competitive examinations in Zoology/allied sciences/MBA or others, Masters programmes & Job opportunities in India and abroad, etc. With a similar objective in mind, faculty members of our department conducted online weekend classes from January 22-February 26, 2022 for M.Sc. entrance exam preparation for final year students belonging to various disciplines of our college. The various papers taught by the faculty included



Molecular biology, Evolutionary biology, Developmental biology, Animal Biotechnology, Human Physiology, Immunology, Biochemistry and Ecology. Students participated in fair numbers and learnt a lot about important topics to be covered, problem solving and tips to score better in entrance exams

**NATIONAL LEVEL SKILL ENRICHMENT PROGRAM**

**Basic Local Alignment Search Tool (BLAST)**

Dr. Princy Hira

5:07 PM | SEP (BASIC) Bacterial Genomics & Met...

**Pair-wise Alignment v/s Multiple Alignment**

Pair-wise alignment is performed between a pair of sequences (a query and a subject) whereas multiple sequence alignment is among multiple sequences (represented by locus name).

Examples:

Seq	Query	Subject	Seq	Subject
1	MMHETPEKNS	AVTALWGKVN	1	MMHETPEKNS
2	MMHESGDEKN	AVHGEWSKVN	2	MMHESGDEKN
3	MMHESGDEKN	AVHGEWSKVN	3	MMHESGDEKN
4	MMHETPEKNS	AVTALWGKVN	4	MMHETPEKNS
5	MMHETPEKNS	AVTALWGKVN	5	MMHETPEKNS
6	MMHETPEKNS	AVTALWGKVN	6	MMHETPEKNS
7	MMHETPEKNS	AVTALWGKVN	7	MMHETPEKNS
8	MMHETPEKNS	AVTALWGKVN	8	MMHETPEKNS
9	MMHETPEKNS	AVTALWGKVN	9	MMHETPEKNS
10	MMHETPEKNS	AVTALWGKVN	10	MMHETPEKNS

Pairwise Alignment (e.g. BLASTn)      Multiple Alignment (e.g. ClustalX1)

5:10 PM | SEP (BASIC) Bacterial Genomics & Met...

**Why BLAST??**

- ✓ Determining what orthologs and paralogs are known for a particular protein or nucleic acid sequence
- ✓ Determining what proteins or genes are present in a particular organism
- ✓ Determining the identity of a DNA or protein sequence
- ✓ Discovering new genes
- ✓ Determining what variants have been described for a particular gene or protein

5:12 PM | rds-dms-apt

**Question-2**

Greater UV radiation through the atmosphere due to the depletion of the ozone layer lead to increased risks of Neurological disorder.

- TRUE
- FALSE



# CELLS, COMMITTEES AND CLUBS

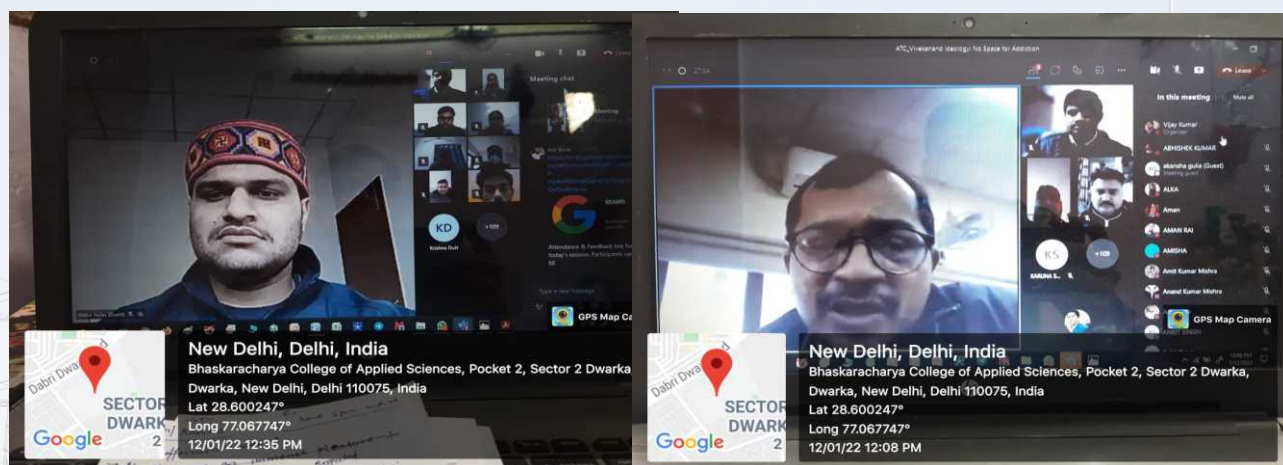




## ANTI-TOBACCO CELL

**Convener: Dr. Vijay Kumar**

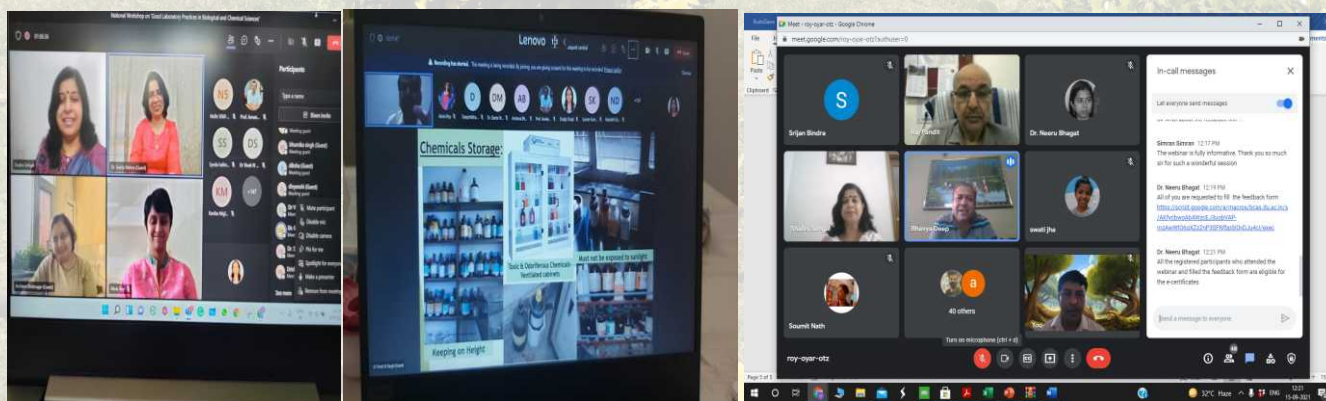
Anti-Tobacco Cell organized a webinar on “Swami Vivekananda Ideology: No Space for Addiction” on January 12, 2022, on the occasion of National Youth Day (Swami Vivekananda Jayanti). The aim of the webinar was to spread awareness about the negative impact of tobacco on people's lung health.



## BIOLOGICAL & CHEMICAL WASTE MANAGEMENT COMMITTEE

**Convener: Dr. Shalini Sehgal**

The College is committed to, and continuously striving towards, the idea of a green and clean campus. In this endeavor, biological and chemical waste management committee is organizing activities throughout the year to create awareness about good lab practices. A webinar on 'Indian Rivers: Ancient Culture and Modern Science' and an online National workshop on 'Good Laboratory Practices in Biological and Chemical Sciences' was organized. A follow up student activity on Good Laboratory Practices is also being conducted to understand the impact of the workshop. A Memorandum of Understanding (MoU) was signed with Ms. SMS Water Grace BMW Pvt. Ltd.- a Government of Delhi empaneled company for waste management in January, 2022 for a period of two years and a well-defined procedure was established in the college to handle the waste generated.





# CAREER COUNSELLING CELL

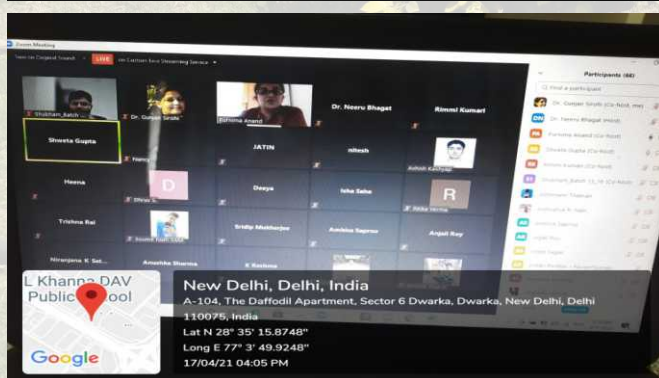
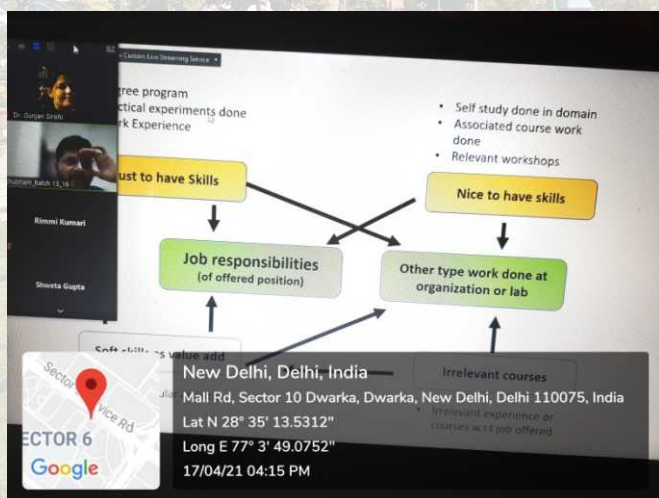
**Convener: Dr. Uma Dhawan**

The Career Counselling Cell and the Department of Computer Science in association with the University of Berkeley, USA organized an “International webinar on Career Opportunities in Financial Engineering” on September 30, 2021.

The cell in association with DNAmics, the society of the Department of Biomedical Science organized a two-hour online “International Workshop on Science Communication and the Art of Writing about Science”. This interactive workshop was aimed to make the students appreciate not only the importance of effective communication in science but also the career opportunities in science communication.

A panel discussion on 'Careers in Neuroscience' was held on the Brain Awareness Day in the college on November 11, 2021 in association with the Amity Institute of Neuropsychology and Neurosciences, Amity University, NOIDA. The distinguished panelists interacted with the participants and provided insights related to the qualifications, scope and future of neuroscience.

With an objective to assist the second year students of our college, the cell, in collaboration with GUS Global Services, Pearl Academy and UPES organized an online career assessment test during April 14-16, 2021. This test was a comprehensive exercise for students to understand their strengths and shortcomings. with an objective to intimate the participants about the importance of soft skills in preparing an effective and captivating CV, a Workshop on 'Curriculum Vitae' was organized by the Department of Microbiology in collaboration with the Career Counselling Cell on April 17, 2021. The speaker enriched the understanding of participants about preparing an objective, crisp and appealing CV.





## EQUAL OPPORTUNITY CELL

**Convener: Dr. Pawas Goswami**

Equal Opportunity Cell of the college is actively involved in various activities to provide equal opportunities to students from all walks of life. The college signed an MOU with Vision Divyang Foundation, a non-governmental organization working for the benefit of divyangjan, on November 23, 2021. Dr. N Vijaya Kumar and Dr. Pawas Goswami attended 'Awareness Generation and Sensitization Training Program on Rights of Persons with Disabilities Act, 2016', organized by National Institute of Labour Economics Research and Development (NILERD) on January 11-12, 2021. A counselling session on the theme of 'Mental Health and Wellness' was organized in collaboration with Vision Divyang Foundation on February 5, 2022. Mr. Mukesh G Gupta, Chairperson, Vision Divyang Foundation, interacted with the students in a very congenial and informal manner and gave them lifestyle tips for a stress-free living.





# GENDER SENSITIZATION COMMITTEE

**Convener: Dr. Inderbir Kaur**

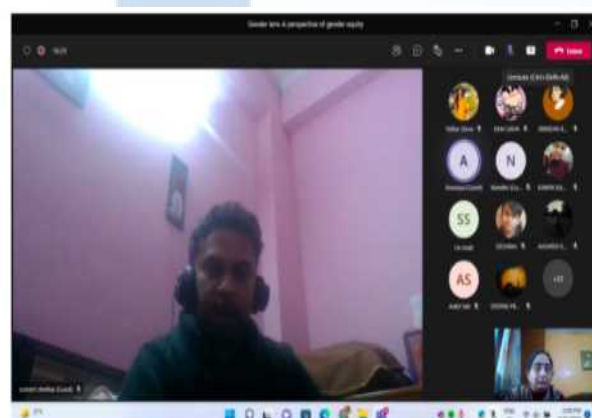
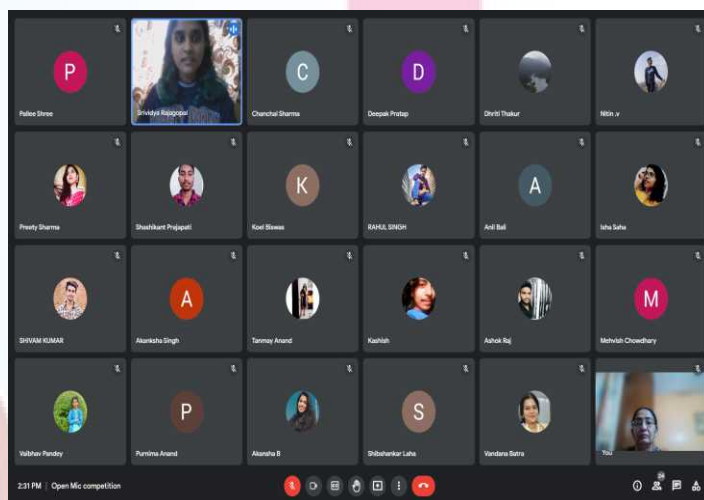
The aim of the Gender Sensitization Committee is to offer an integrated and multidisciplinary approach to understanding the cultural and social constructs of gender which affect the experiences of individuals in society.

An open-mic competition on the theme "Gender Equality" was organized. The topics were assigned on the spot and were based on the concept of "Gender Equality". The event was organized on November 13, 2021. The event was conducted to encourage students to fight against gender inequality and stereotypes and move towards a better society.

An online debate competition was held on January 22, 2022, on the theme "Relevance of gender pay gap". The main goal of the event was to spread awareness about gender-related issues like gender inequality that still exists in our society.

A webinar was organized on February 12, 2022 in association with LAKSHYA-A Society for Social And Environmental Development, on the topic "Gender lens-a perspective of gender equity". The event was conducted to encourage students to see and understand gender sensitization from a completely new perspective of equity. The invited speaker - Nandini Srivastava explained the perspective of gender equality and encouraged students to fight for gender-based inequality, and sensitized students with current gender issues and inequality.

A session on the theme "Gender Sensitization" was organized. The speaker of the day - Dr. Ankita Gupta, highlighted the differences between sex and gender, spoke about various sexual orientations and gender identities. A 4-pillared approach to building an inclusive environment for all was suggested.



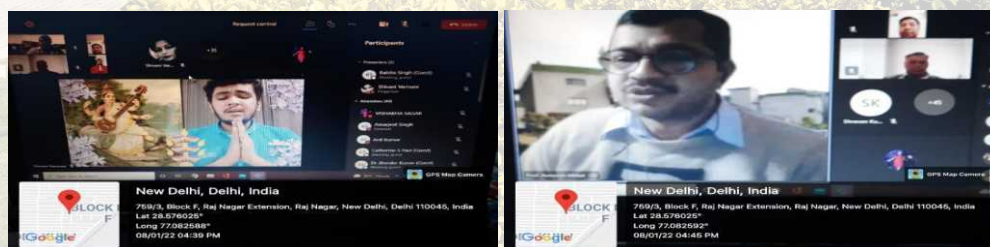


## NADI KO JANO COMMITTEE

**Convener: Dr. Shivani G. Varmani**

The 'Nadi ko Janno' committee of the Bhaskaracharya College of Applied Sciences, organized workshops for the faculties and students in association with Bhartiya Shikshan Mandal, Delhi Prant during the year with the aim to know your rivers a campaign for crowdsourcing data about rivers. Workshop on “Know Your Rivers” in association with Bhartiya Shikshan Mandal was organized on January 8, 2022. The major objective of this workshop was to know the fact about the rivers in neighbourhood and a campaign for crowdsourcing data about rivers. Prof. Avneesh Mittal, acting principal, addressed the gathering and emphasized the importance of the Know Your Rivers campaign, and highlighted the importance of rivers in human civilization. He also encouraged the participants to take up the challenge of the campaign and to educate society about the well-being and cleanliness of rivers. In the workshop, Dr. Babita Singh introduced the Bhartiya Shikshan Mandal and its functioning. She articulated the knowledge of Indian rivers and their tributaries. Mr. Aakash Upadhyay, in a technical session, explained to the participants about the uploading of the data on the Portal of Know Your Rivers campaign (RFR Foundation).

Workshop on “Know Your Rivers” in association with Bhartiya Shikshan Mandal was organized on February 05, 2022. The workshop aimed at providing the primer to all the registered students of the college about the campaign, the importance of rivers, and how to upload the data for the river in the Nadi ko Jano portal. The students were able to understand the upload the data on the 'Nadi Ko Jano' portal. Dr. Satyam Dwivedi, BCAS, delivered a lecture on rivers and explained the basic information about Indian rivers, history, and their importance. He showcased a live demonstration about the data we need to collect and how to upload the data in the designated nadi ko jano portal. The second speaker of the workshop Dr. Amarjeet Singh, a member of Nadi ko jano, Delhi Prant explained about the information we need to collect and upload in the portal.



## NORTH EAST CELL

**Convener: Dr. Sonia Salam**

North East cell in Collaboration of Equal opportunity cell, BCAS organized an Essay writing competition in memory of Dr. A.P.J. Abdul Kalam on the Topic on the topic “Innovative Ideas for creating livable planet Earth” on July 27, 2021. Chanika Mandal, B.Sc (Hons.) Botany, was given an appreciation certificate for her essay write up. Through this event the students got an opportunity to show their hidden talents and were able to improve their writing skills.



# NATIONAL EDUCATION POLICY 2020

**Convener: Dr. Vandana Batra**

NEP Task Force Committee organized an online Short-Term Course in collaboration with CPDHE (UGC-HRDC) on the topic on “राष्ट्रीय शिक्षा नीति 2020 द्वारा नव भारत निर्माण, making of Nav Bharat through National Education Policy 2020” from October 20-26, 2021. The event conveyed the importance of the new education policy and was a vital step towards the policy's smooth implementation. The course was inaugurated by Hon'ble Minister of State for Education Dr. Subhas Sarkar in the presence of Prof. Kailesh Sharma and Prof. Balaram Pani. Lectures were delivered by Heads of 18 prominent Institutions of India and a total of 62 participants from 29 different institutes participated in this event. The proposed course was aimed at making teachers aware of the various dimensions of this policy, its aspirations, expectations, and challenges so that implementation of policy can be achieved successfully in its true sense and spirit.





# NATIONAL SERVICE SCHEME

**Convener: Dr. Amit Kumar**

On the occasion of "Shaheed Diwas" March 23, 2021, NSS organised Essay Writing Competition on the topic: "Bhagat Singh's contribution in development of Young India" and Slogan Writing Competition on the topic: "Bhagat Singh- The torchbearer of our independence". Participants submitted their beautiful work and expressed their gratitude towards Bhagat Singh's contribution.

The NSS Cell facilitated participation of the college students in "Namami Gange" - Ganga Quest 2021. It was a Government organised event from April 7, 2021 to May 8, 2021 on National Mission for Clean Ganga by Ministry of Jal Shakti.

A Webinar on COVID Vaccine Immunization and Life Style Diseases was organised on April 10, 2021. Dr. Jyoti Lakshmi, a family physician running a private clinic at Bangalore, was the speaker. Participants were briefed about the importance of about the Vaccine Immunization.

A national webinar on "COVID Immunisation through Vaccination" on the occasion of National Vaccine Festival on April 14, 2021. It was a NSS-outreach programme, organised for mass awareness during national vaccination fest. Dr. Naveen Thacker – member of COVID-19 Vaccine Immunization task force member- Gujrat Government, briefed the participants about Vaccination and its importance.

NSS Organized in-house pledge ceremony on the occasion of World No Tobacco Day on May 31, 2021. Participants took a pledge that they will not consume tobacco and will promote a healthy lifestyle among their peers.

A National Webinar was organized on "Wildlife Conservation Issues" on the occasion of World Environment Day on June 5, 2021, in association with Humane Society International/India. The invited speaker Mr. Hemanth Byatroy, discussed about wildlife and the importance wildlife conservation.

NSS unit launched the YOGA programme named SURYATHON ) on June 15, 2021, for the collection of contributions for Children who lost parent(s) in COVID-19 pandemic. The event was extended from June 15-30, 2021 where the Yoga practitioners had to register their Yoga practices during this period and report on Mobile APP-LifeCykul.

On the occasion of International Yoga Day NSS unit along with Yoga club organized the Online Session on YOGA for Everyone on June 21, 2021. The national participants reached more than 100 including students, faculties, and others. The experts were invited from YOGA Vigyan Sansthan, including Mr. Rajiv Dhama, Mr. Naresh Gupta (Governing Body Member) and Mr. Rajeev Bansal.

Students, faculty and staff attended online National Youth Award Function on August 12, 2021, organised by Ministry of Youth Affairs and Sports

An awareness Drive on Waste Management for awareness among youth during Swachhatta Pakhwada was organized from August 1-15, 2021. The aim of the event was to create awareness among young learners via an online Campaign through poster/slogan/ photography events. Dharamshila Cancer Foundation and Research Centre in collaboration with Bhaskaracharya College of Applied Sciences organised National Webinar on Cancer Prevention & Palliative care on September 24, 2021 on the occasion of NSS day. The invited clinicians talked about Cancer Prevention & Palliative care one must adapt to live a healthy life.

Freedom Run in 744 Districts across the country was organised from August 13 to October 2, 2021 as a part of Azadi Ka Amrut Mahotsav- India@75. Students were encouraged to participate and maintain a healthy

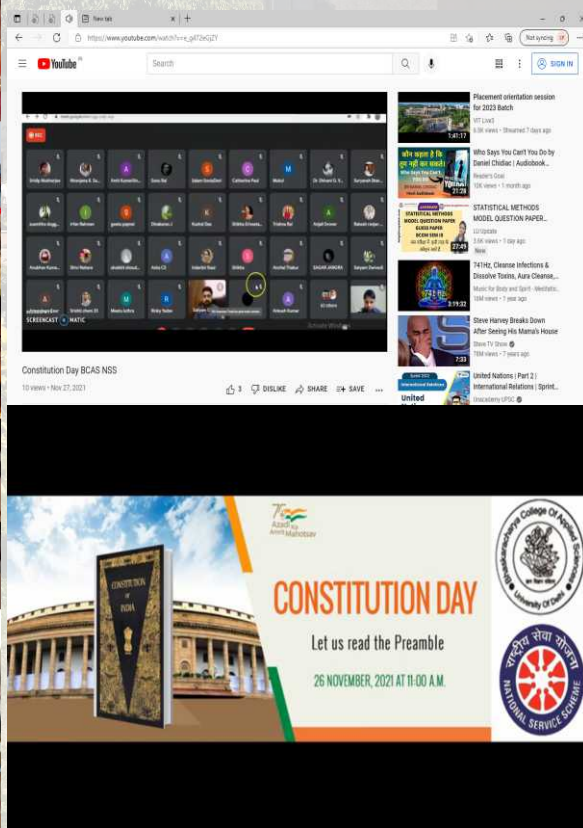
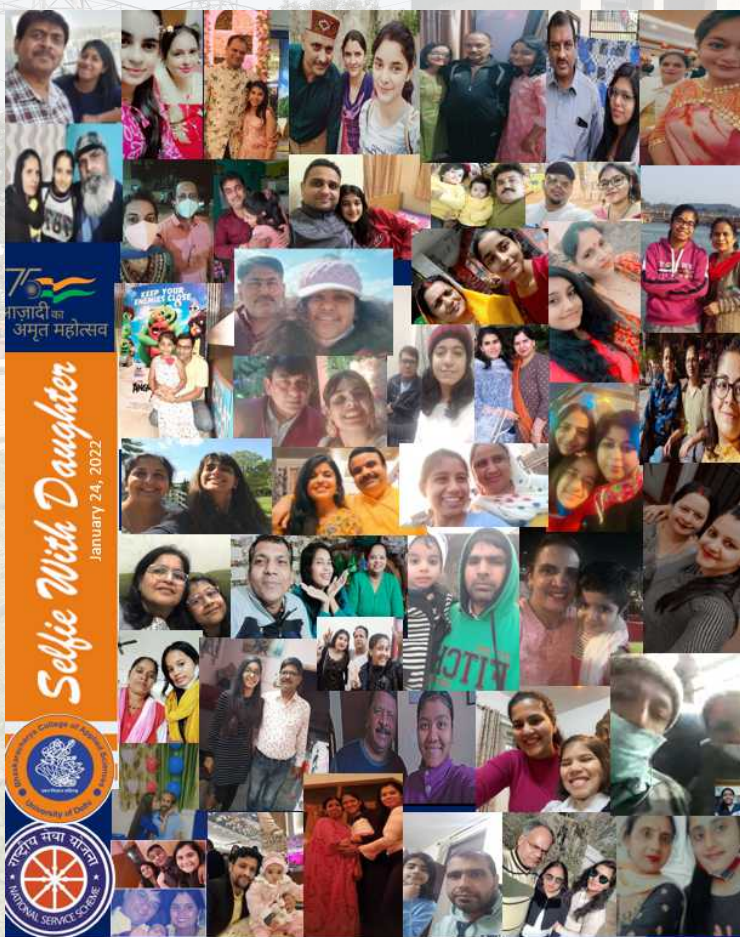


living.

An Inter-College online debate competition on “Is Social Media the Fourth Pillar of Democracy?” was organised on November 12, 2021 under the guidance of Mr. Devender Shokeen - Assistant Electoral Registration Officer District Election Office, South-West Delhi. The participants gained valuable knowledge regarding electoral process of India.

NSS facilitated National read the preamble of Constitution of India on the occasion of Constitution Day, November 26, 2021

On the occasion of Constitution Day, the NSS cell organised an event “Let us read the preamble” on November 26, 2021. Participants read the preamble together. The event ended by singing the National Anthem. Freedom Essay Writing was organized as part of 25th National Youth Festival during January 12-16, 2022 part of Azadi Ka Amrut Mahotsav- India@75 Also an the Essay writing competition was organized from December 19-25, 2021 “Selfie with Daughter” Campaign was organized from January 20-27, 2022 on the occasion of International Daughters' Day on January 24, 2022 under Azadi Ka Amrut Mahotsav- India@75.





# VIDYA VISTAR SCHEME

## Coordinators:

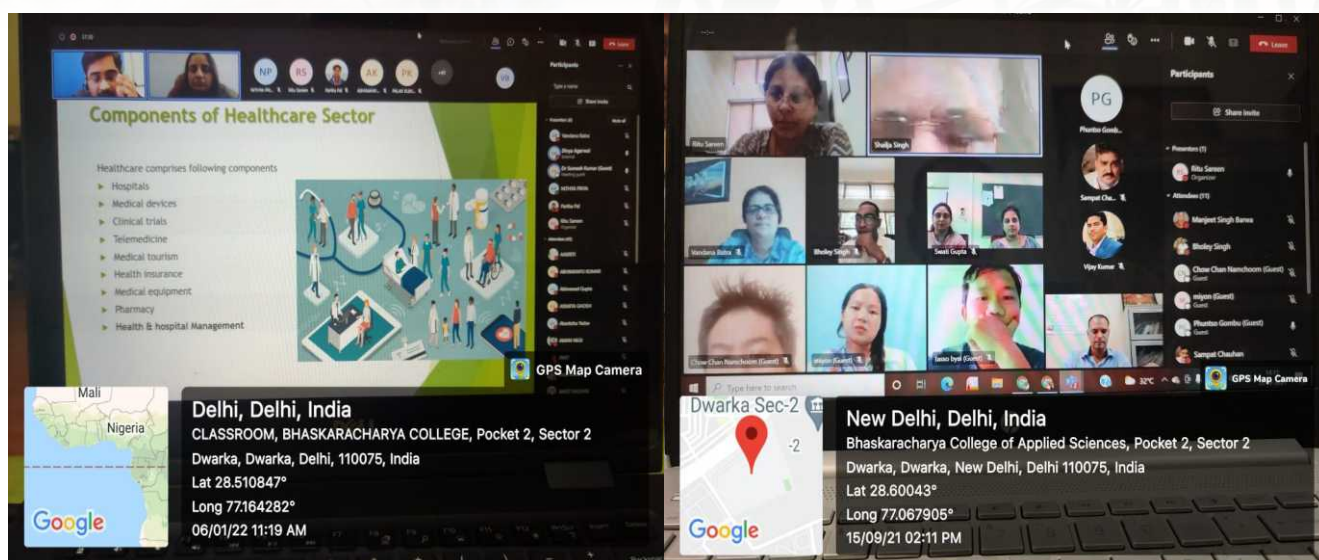
**Dr. Vandana Batra, Dr. Amit Kumar,  
Dr. Partha S. Pal , Ms. Ritu Sareen**

Vidya Vistar (V2) Scheme, is an initiative introduced by University of Delhi in 2021, for promoting academic cooperation between colleges of University of Delhi and Universities/Colleges/Institutes that are situated in remote areas of India. The aim is to facilitate sharing of academic resources, have joint research publications and interaction of students and teachers. The BCAS - V2 scheme was formally inaugurated by The Honourable Vice Chancellor, University of Delhi on August 14, 2021 where BCAS collaborated with IGGC Tezu, and GC Bomdila, of Arunachal Pradesh State. Virtual tours of Department of Chemistry, Botany, Physics, Zoology and Mathematics were organized by the college during September 14 and 20, 2021, in which faculty members of Indira Gandhi College, Tezu and BCAS participated. BCAS faculty showcased the laboratory equipment, performed experiments and discussed availability of study materials and chemicals as well as setting up of respective laboratories.

The V2 scheme in association with Department of Physics, organized a talk on “Active Galaxies and Research Methodology” where BCAS alumni Dr. Ravi Pratap Dubey discussed the workings of a galaxy with the students. V2 Scheme organized a talk on “Health sector: Engine of Economic Growth” on January 6, 2022. The resource person Divya Aggarwal helped students become aware of job opportunities and higher education prospects for UG students, in the Health sector. In December 2021, V2 scheme committee members facilitated access of Delhi University Library journals, books and other study material to all the students and faculties of Tezu n Bomdila colleges.

V2 scheme in association with Career Counselling Cell, organized Online career assessment Test from February 28 - March 5, 2022 wherein students of all three colleges are able to understand their strengths and shortcomings for prospective jobs. V2 scheme in association with NEP Task force committee organized an online webinar on the theme “राष्ट्रीय शिक्षा नीति और भारतीय ज्ञान परम्परा” on January 29, 2022.

The invited resource person Prof. Hare Ram Tripathi (VC, Sampuranand Sanskrit Vishwavidyalaya, Varanasi) emphasized how the different policy points of NEP 2020 can be achieved by keeping ancient Indian wisdom in sight.





# VIVEKANAND VICHAR MANCH

**Convener: Dr. Ragini Jindal**

The Vivekanand Vichar Manch organized an online National Debate Competition on October 19, 2021 in association with the Department of Microbiology on the theme “Is technology bringing people together?”. The objective of organizing this event was to enhance critical thinking, verbal skills and confidence in students for public speaking. With an objective of stimulating creativity, imagination and artistic abilities, an online National Portrait Making Competition on theme: 'Portrait of Swami Vivekananda' was also organized on October 25, 2021. Beautiful entries of portrait of Swamiji were received from all across India which showcased exemplary finesse in the artwork of the participants. Another event, namely, National Slogan Writing Competition was organized on the theme: “Self-Reliant India/आत्मनिर्भर भारत” on October 27, 2021 to bring forward the artistic and critical thinking capabilities of students. Entries were received from all across India wherein participants beautifully depicted their interpretations of the topic. To commemorate the Birth Anniversary of Sister Bhagini Nivedita, a National Webinar on 'Empowered Women=Stronger Nation' was organized by Vivekanand Vichar Manch in association with the Women Development Cell on October 28, 2021. Sh. Vikrant Khandelwal, Organizing Secretary, Bhartiya Vikas Parishad was the speaker. The objective of the webinar was to emphasize the empowerment of women as a crucial aspect of laying the foundation of a stronger Nation. A Poster Making Competition was organized jointly with the Department of Mathematics on theme: “Dream India of Swami Vivekananda/स्वामी विवेकानंद के सपनों का भारत” on October 30, 2021. The objective of this competition was to ignite the creativity and facilitate the artistic abilities of the participants.

Celebrated National Youth Day on the occasion of Swami Vivekanand Jayanti by organising Webinar on 'Role of National Education Policy in Empowering Qualities in Youth of 21st Century', '२१ वीं सदी के युवा के व्यक्तित्व निर्माण में राष्ट्रीय शिक्षा नीति का योगदान' on January 12, 2022. Prof. Anand Paliwal, Department of Law, Mohanlal Sukhadia University, Udaipur was the invited Speaker. The objective of the webinar was to motivate our youth to empower themselves and contribute to Nation Building. Prof. Anand Paliwal discussed how National Education Policy can help in personality development and empowerment of youth. He further enlightened the participants regarding need for recognition of ancient and eternal Indian knowledge, importance of परा विद्या in an individual, respect for constitutional values and duties and skill development. Celebrated अंतर्राष्ट्रीय मातृभाषा दिवस to inculcate feeling of pride and respect towards the languages and celebrate the linguistic diversity of our nation by organising following events: Webinar in association with Atelier: Capability enhancement and Literary Club on the topic 'भाषा संबंधी परिचर्चा अंतर्राष्ट्रीय स्वरूप और संभावनाएं' was organised on February 21, 2022. Dr Harinder Kumar, Department of Hindi, Hindu College, University of Delhi was the invited speaker. He explained the indispensable role of various Indian languages during our freedom struggle, Kargil War and even in present times how they are appreciated across the world. He informed how the New Education Policy has opened doors for people wanting to learn new subjects in their own language and explained the contribution of Hindi in various fields such as television, journalism, radio and education. लोकगीत प्रतियोगिता in association with Music Club, was organised on February 25, 2022 at college amphitheater. The college reverberated with great singing and event was greatly enjoyed by all.

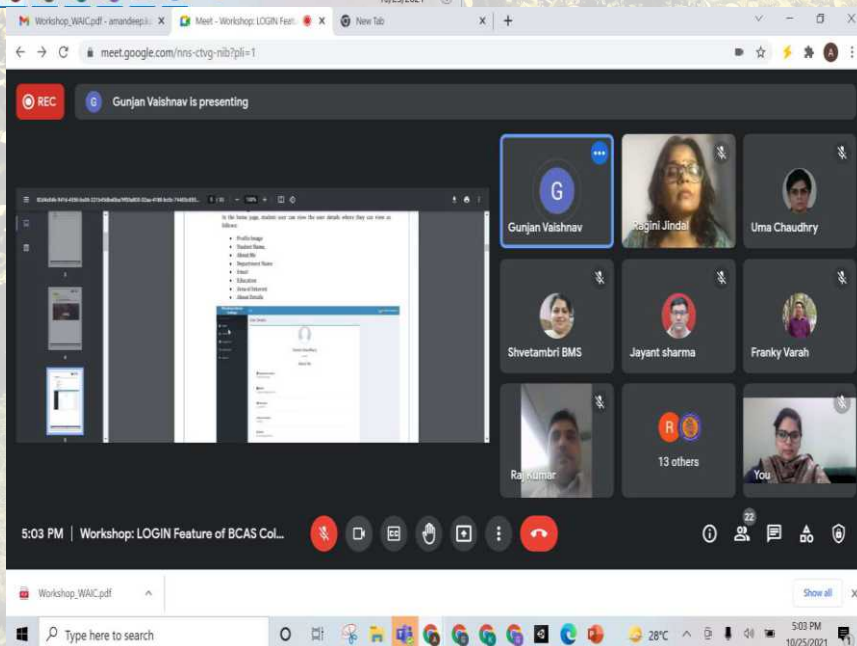
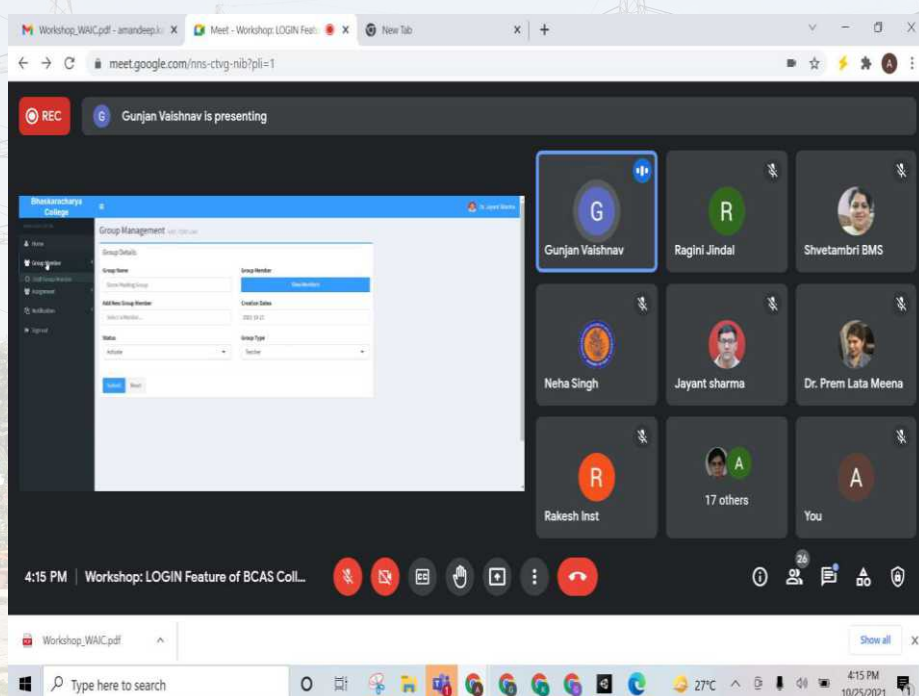




# WEBSITE AND INTERNET COMMITTEE

**Convener: Dr. Ragini Jindal**

Website is an important aspect of any organization. The college website strives to provide extensive, updated information about the college reflecting its vision and mission. Website played an important role in online teaching during pandemic. A Workshop on login feature of college website was organised during October 25-26, 2021 for both teaching and non-teaching staff. Ms. Pooja Singh, Senior Business Analyst and Ms. Gunjan, Senior Developer attended on behalf of Maxtra Technology Pvt. Ltd. to demonstrate the login feature and train staff for the same. It was a hands on workshop and staff logged in to their respective accounts and practiced various features on their own during the workshop. Queries were resolved by the resource person in a detailed manner.





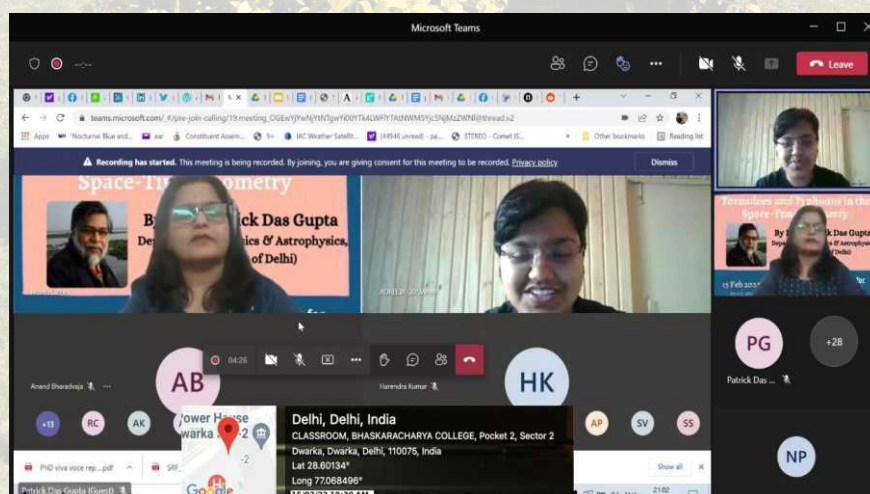
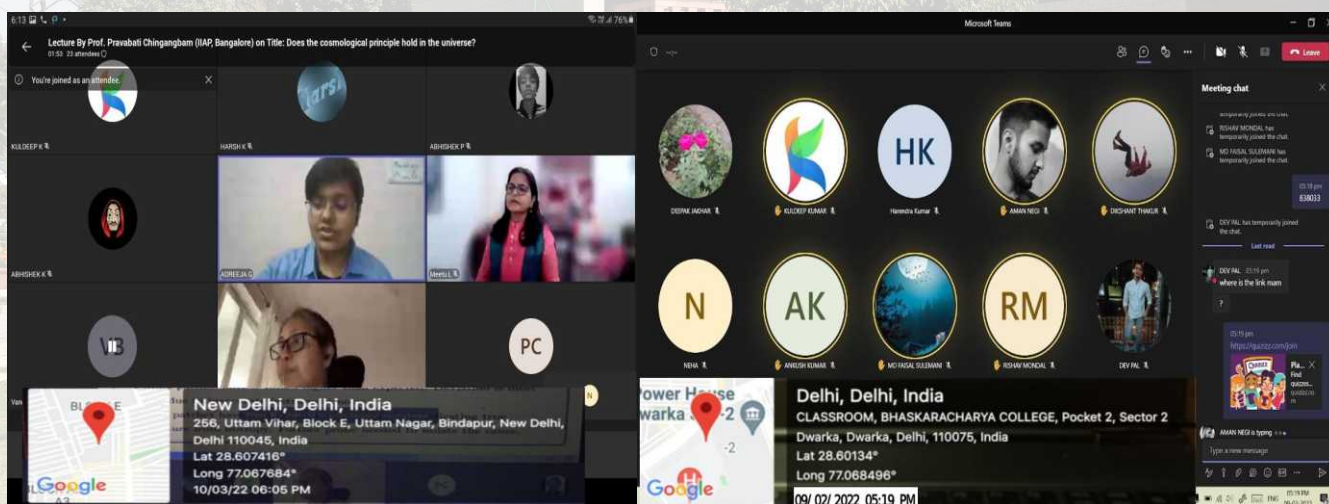
# ASTRONOMY CLUB

**Convener : Dr. Herendra Kumar**

To enhance the awareness of the students about space, our solar system and stars, the astronomy Club organized “ an online quiz competition” on February 9, 2021 Students from Various departments participated with enthusiasm and positive Attitude. The participants were able to increase their Knowledge about the universe

To enhance the awareness of the students about Tornadoes and Typhoons in the Space-Time Geometry the astronomy Club in collaboration with department of Physics organized a webinar on “ Tornadoes and Typhoons in the Space-Time Geometry“ on February 15, 2022. Prof. Patrick Das Gupta, Department of Physics and Astrophysics, University of Delhi was the resource person. The Participants increased their knowledge about space time geometry

To enhance the awareness of the students about the Universe?”, Astronomy Club in collaboration with department of Physics organized a webinar on “Does the Cosmological Principle hold in the Universe?“ on March 10, 2022. Prof. Pravabati Chingambam, Indian Institute of Astrophysics, Bangalore was the resource person. Students from Various departments participated with enthusiasm and positive attitude. Participants increased their Knowledge about the Cosmological Principles that hold the Universe

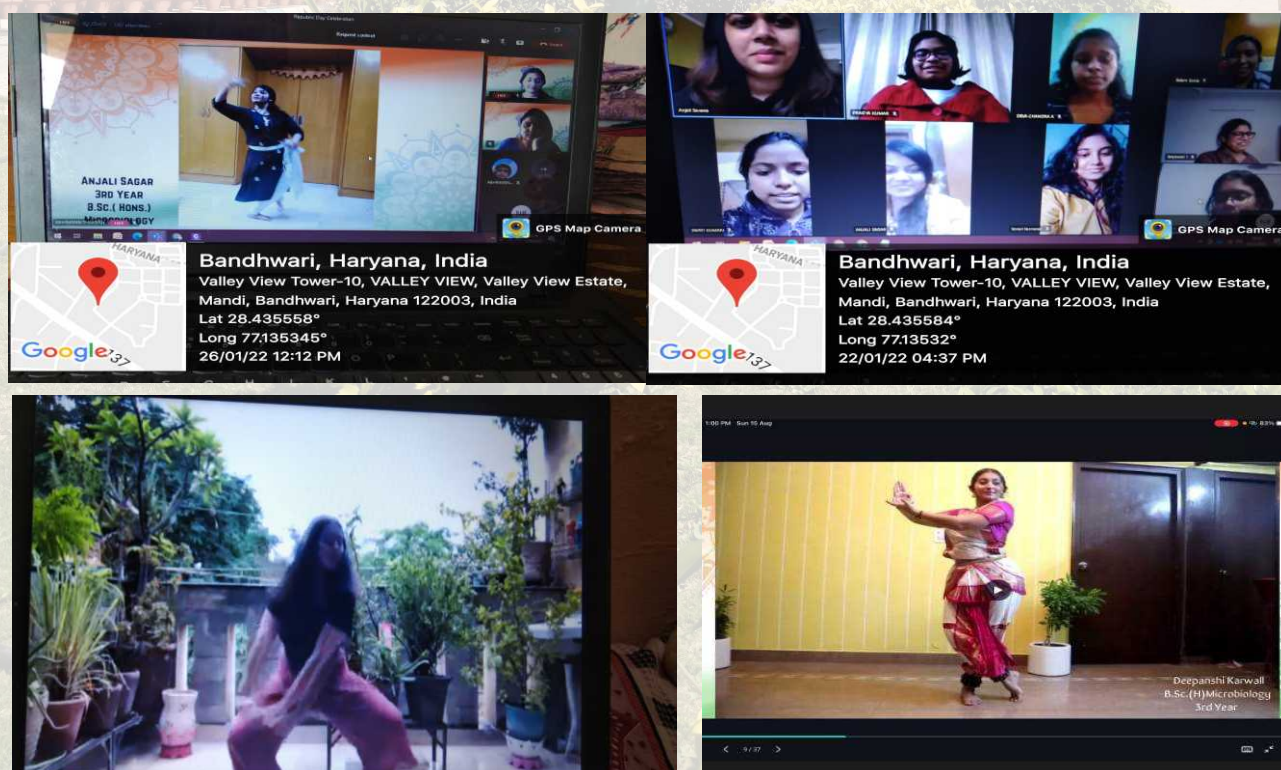




## RAGE - DANCE CLUB

**Convener : Dr. Neeru Bhagat**

The Dance Club organised the event 'Dil Hain Hindustani' as part of celebrating 75 years of Independence 'Azadi ka Amrut Mahotsav' by the ECA committee on August 15, 2021. A total of five individual/group students sent their recorded dance performances showing various dance forms like Bharatnatyam, Kathak, Free style and contemporary patriotic songs. The recorded videos were played and appreciated on the day of the event. An Intracollege Solo Dance competition 'Taal: The Poetry of Foot' was organised in the month of November 2021. The objective of the competition was to give a platform to students to showcase their talents of diverse forms of dance. The dance videos were received as recorded videos from the students. 'NrityaUtsav' – an online Solo Dance competition was organized in the month of January 2022 under Azadi ka Amrut Mahotsav. The purpose of the competition was to showcase the devotion to our country. The participants portrayed the dance forms depicting the devotion to our motherland. On the occasion of Republic Day the students presented a collage of solo dance videos. Five online Dance sessions 'NrityaKala' were organized starting from January 29, 2022 to February 26, 2022 on every Saturday. The resource persons for these sessions were students of the Dance club. The objective of the sessions was to develop the skills of teaching, teamwork and enhance their dancing skills. The dance styles included any dance forms from classical, to western like Bharatnatyam, Jazz, Kathak. Students joined these dance sessions enthusiastically. Also, an International webinar on 'Breast Cancer and Cervix Cancer' was organized on the occasion of International Women's Day in collaboration with National Service Scheme and Dharmshila Cancer Foundation and Research Centre (DCFRC). The resource person, Dr. Pragya Singh from Sr. Manager - Projects, DCFRC, discussed various factors that promote cancer, healthy lifestyle and self diagnosis of cancer





# CONFIANZA - THE DEBATE CLUB

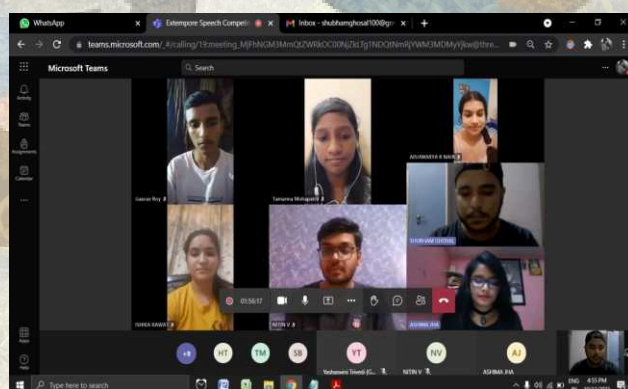
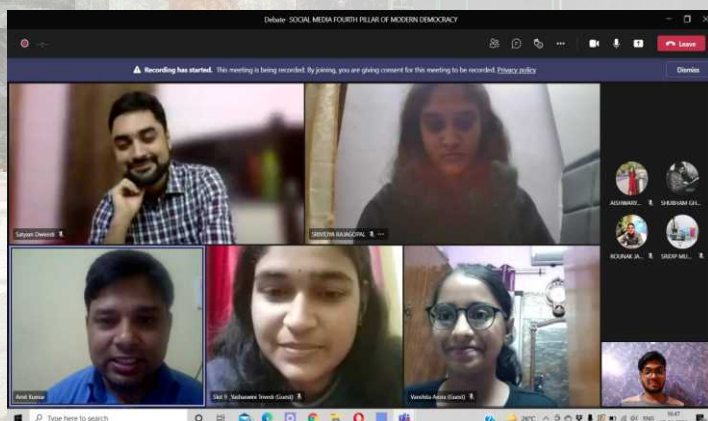
**Convener: Dr. Satyam Dwivedi**

Confianza - The Debate Club organized debate competition on September 21, 2021 titled “Can India afford to be the peacemaker in the emerging world?” The competition emphasized on the strengths and repercussions of India as a peacemaker in the emerging world.

An extempore competition on October 13, 2021 in collaboration with The Gandhian Study Centre was also organized. The competition imparted Gandhi ji's ideology to transform an individual and society in accordance with the truth and nonviolence.

On November 12, 2021, a debate competition on “Is social media the fourth pillar of democracy?” was organized in collaboration with NSS cell and Office of Electoral Registration. The competition served as a medium to spread awareness regarding the electoral process in India.

In an Inter- college online workshop on February 23, 2022 on “Find your Ikigai”, Mr. Shashidhar Bhat was the resource person . The workshop emphasized on the navigation of journey of professional career by finding one's ikigai, a Japanese way of life proven for success and longevity.





# DARPAN - THE DRAMATICS CLUB

**Convener: Dr. Anjali Saxena**

“Art is always not about pretty things, it's about who we are, what happened to us and how our lives are affected.” BCAS Dramatics Club “Darpan” tries to bring forth this face of art to life using theatre because we believe “well performed is well received”.

Darpan, organized a National Webinar on Organic Theatre entitled “जैव-ऐ-रंगमंच” on July 24, 2021 via Zoom. The event was organized as a part of celebrations for 75 years of Independence of India, Aazadi-ka-Amrit-Mahotsav. The invited speaker Shri Manish Mitra interacted with the students and was able to open their eyes to various aspects and influences of initial Indian theatre.

“Drishtikon: India's Scientific Journey” a short film made by the students of BCAS displayed the struggles of Dr. Radha Pant - The First Woman to be accepted into a Science course, University of Delhi, Dr. Rajagopalan Vasudevan - The Plastic Man of India and Dr. A. P. J. Abdul Kalam. The film premiered online on October 3, 2021. On October 11, 2021, Darpan organized an Intercollege Mono Act Competition on the themes: International girl child day & National coming out day. TABEER a short play made by the students of BCAS was casted on January 26, 2022 on MS Teams as part of celebration of Azadi ka Amrit. The play highlighted important aspects of the society and highlighted role of B.R. Ambedkar in nation building.





## EXTRA CURRICULAR ACTIVITIES COMMITTEE

**Convener: Dr. N. Vijay Kumar**

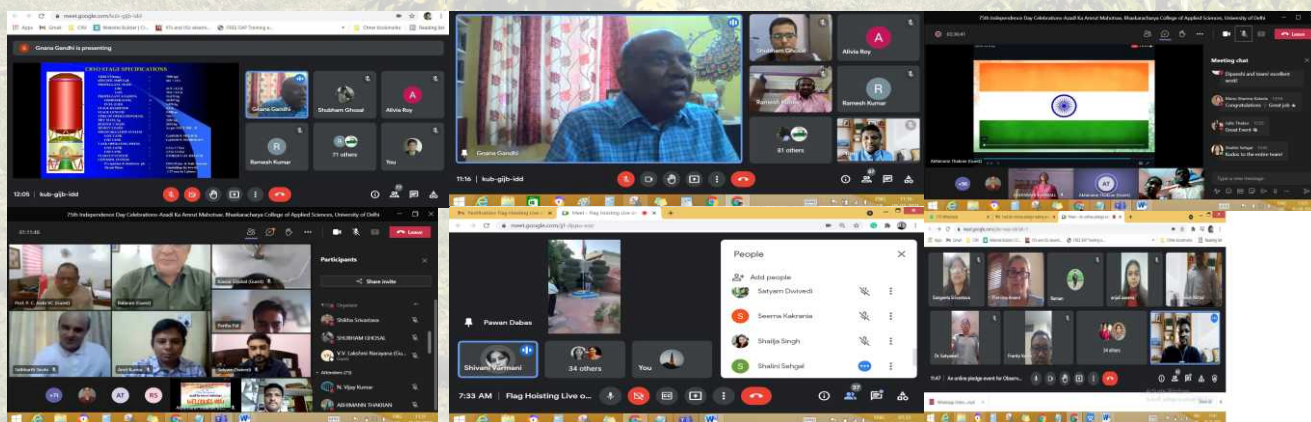
ECA committee of the college facilitates and conducts various cultural events such as dance, music, dramatic events, film screenings, fine arts, photography and debate events to inculcate and instigate the cultural interest of students. All students are given equal opportunity of participation in the events. Due to COVID-19 pandemic, the ECA Committee held various online and some offline cultural events.

To celebrate 75 years of India's Independence, a National webinar on “My Life with Rocket Science” was organized on July 8, 2021. The invited speaker - Padma Shree Sh. Vasudevan Gnana Gandhi highlighted the importance of space research and how students can pursue research in aeronautical engineering and allied subjects.

The 74th independence day celebrations were organized on MS Teams online platform. Flag hoisting was done by Prof. Balaram Pani, Principal and acting Dean of Colleges, University of Delhi. The celebration also included inauguration of the Vidya Vistar Scheme, by guest Prof. Ratnabali, Coordinator of Vidya Vistar Scheme, University of Delhi and inauguration of BRAHMA software of college by Prof. P.C. Joshi, Hon'ble Vice Chancellor of University of Delhi. ECA also organized a National Webinar on “Role of Youth in Making Modern India”. The Chief Guest of the event was Mr. V. V. Lakshmi Narayana, IPS, Joint Director of Central Bureau of Investigation (CBI) (Retd.) and winner of coveted President's Police Medal, inspired students with his words of wisdom. The event showcased performances by the students of dance, music and art and film clubs.

The Vigilance Awareness Week 2021 was observed from October 26 to November 1, 2021, as part of Independent India @75. The Vigilance Awareness Week is celebrated every year in the birthday week of Sh. Sardar Vallabhbhai Patel Ji, often referred to as the 'Bismark of India'. The theme of the week was “Independent India @ 75: Self Reliance with Integrity; 'स्वतंत्र भारत @ 75: सत्यनिष्ठा से आत्मनिर्भरता'. An online integrity pledge was taken on google meet platform on November 1, 2021. The role of Sh. Sardar Vallabhbhai Patel in bringing India's integrity and the importance of vigilance awareness event was highlighted.

The 73rd Republic Day was celebrated online on January 26, 2022.. flag hoisting ceremony held in the college campus. Flag hoisting was done by Prof. Balaram Pani, Dean of Colleges. Events by Music, Dance, Dramatics, Fine Arts and Film clubs motivated the students.





## PRANAHI - THE ECO CLUB

**Convener: Dr. Gunjan Sirohi**

Pranahi, the Eco Club organized International Tiger Day celebration on July 29, 2021. Online poster-making and slogan-writing competitions based on the theme “To spread awareness about “SAVE TIGER” movement” was organized.

Plantation Drive based on the theme “Plant a Tree Around Us & Save Environment”: Conducted from September 1-7, 2021. Through this plantation drive the Eco club was able to contribute little towards making India greener and also tried to inculcate the sense of responsibility in students to contribute for making the environment greener and cleaner in their surrounding areas.

Adoption of School (Kendriya Vidyalaya, Sector-5 Dwarka) The Eco club adopted the school to create environment protection awareness among students and staff of the school through conducting various environment protection activities like plantation drive, essay writing, poster making competition, webinars/seminars/workshop.

Outreach Awareness Campaign on “Beat Single Use Plastic Pollution” was held at DDA-Park, Sector -2, Dwarka, New Delhi on September 9, 2021. Through this drive Eco club volunteers sensitized students, staffs and local residents regarding “Ban on single use plastics”.

Ozone Day celebration : Eco club organized the various events namely poster making competition under the themes of “Ozone layer protection and Global Warming” and National Webinar on “Ozone and Climate Change”. In this events participants from different institute including Kendriya Vidyalaya, Sector-5 Dwarka (adopted school) participated.

Wild life Week was celebrated from October 2-8, 2021. On this occasion online competitions of Play/Natak and essay writing were organized. Also a national webinar was organised to draw the attention of the





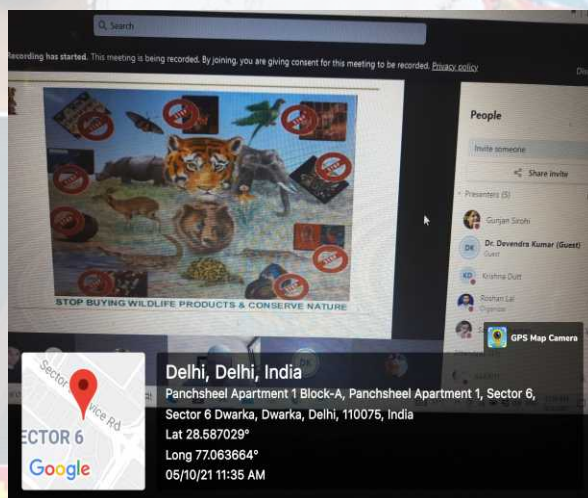
students towards the importance of conservation of wild life.

Eco friendly and Melodious Deepotsav was organized on November 3, 2021 in association with the Music club. This was an initiation for green Diwali celebration by using water sensor Diyas. It created awareness among students about how we can conserve energy and reduce pollution by using water based sensor Diyas for such festivals and occasions.

National Energy Conservation Day was celebrated on December 14, 2021. A National webinar was organized to educate and create awareness about the importance of conservation of different sources of energy.

An Online Workshop on Vermicomposting was organized on February 12, 2022 to give training/exposure to the students about recycling of organic waste through vermicomposting.

Outreach Awareness Campaign on “Plastic litter free Delhi to encourage 4Rs-Reduce, Reuse, Recycle & Recover to make circular economy possible” was organized in association with Lakshya- A Society for Social and Environmental Development on February 14, 2022 on the college campus and at DDA-Park, Sector -2, Dwarka (near Bhaskaracharya College of Applied Sciences), New Delhi. The activity aimed to educate and sensitize people of college and surrounding area about proper disposal and management of plastic waste.





## FILM ODYSSEY - THE FILM CLUB

**Convener: Ms. Shweta Dua**

Film Odyssey: the Film Club, in collaboration with Darpan: the Dramatics Club of the our college produced a 23-minute short film titled “Drishtikon: India's Scientific Journey.” An exclusive premiere for the same was organized on October 3, 2021 for the celebration of Azadi ka Amrit Mahotsav. This short film celebrates the 75 glorious years of India's Independence through three era-defining acts of scientific discovery. Based on true stories, the film displays the struggles of Radha Pant - The First Woman to be accepted into a Science course, University of Delhi, Dr. Rajagopalan Vasudevan - The Plastic Man of India and Dr. A. P. J. Abdul Kalam - The Missile Man of India. The accompanying 'behind the scenes' video was also screened on the same day so that the students could get a better idea of the work that went into the production.

The Film Club also celebrated the 73rd Republic Day by screening a short film on "Why do we celebrate Republic Day?" to inculcate the feeling of patriotism in the audience.





## ATELIER - THE CAPABILITY ENHANCEMENT AND LITERARY CLUB

**Convener: Dr. Satyawati**

An online picture-based writing competition 'Picturesque' was conducted between March 26th - April 2nd 2021. Participants were shown various interesting and prompting pictures based on which they had to write a story. The aim was to primarily enhance writing and cognitive skills in students. Story writing skills were improved.

An online essay competition, "Lekhan" was organized on the occasion of teacher's day. The topic was "Role of Teachers in making India." The word limit was 500 words. From August 22, 2021, to September 05, 2021. The primary objective of this event was to promote morality, virtues, regard towards teachers and sense of unity and nationalism in undergraduate students. Freedom of expression through a bilingual medium helped students in shaping their ideas well.

On the occasion of Azadi ka Amrit Mahotsav, topic for the competition was "Literature that inspired freedom fighters". From September 20, to September 30, 2021. The specific aim of the event was to make participants understand the relevance of literature in the freedom struggle. The importance of literary practices in influencing different turning moments in history.

A bilingual essay-writing competition was organized on 26th November, 2021 at 3:00 p.m. in collaboration with the District Election Office, Southwest Delhi on "Electoral Process in India". The event focussed on highlighting the writing skills of students. To see the level of comprehension regarding the electoral process and the level of awareness regarding the topic provided.

A webinar on creating awareness on "National Pension Scheme" was conducted on January 21st 2022 at 2:00PM. The event was conducted in the presence of Dr. Avneesh Mittal (Principal of BCAS, DU). The speaker of the event was Mr. Akshay Sori, who is the Senior Manager of the NPS & Annuity branch at ICICI Prudential Pension Funds Management Ltd. It was hosted by Dr. Satyawati (Convener of Atelier). The webinar created awareness about the NPS Scheme among both faculty members and students of the college. The webinar resolved many queries regarding financial decisions which are to be taken by participants in order to open an account under NPS.

An intra college E- Group discussion on the topic "Identity crisis in the LGBTQ+ community" on February 12, 2022. The event began with the convener, Dr. Satyawati, addressing the gathering and speaking about the importance of the LGBTQ+ rights. The primary aim of this event was to make students ponder over major issues of Identity crises in LGBTQ community. Students members came up with many suggestions to avoid the crises of this community to liminalise their segregation from the heteronormative society. Solutions by the teams was focused on the changes that can be made in the realm of education sectors, societal gathering.

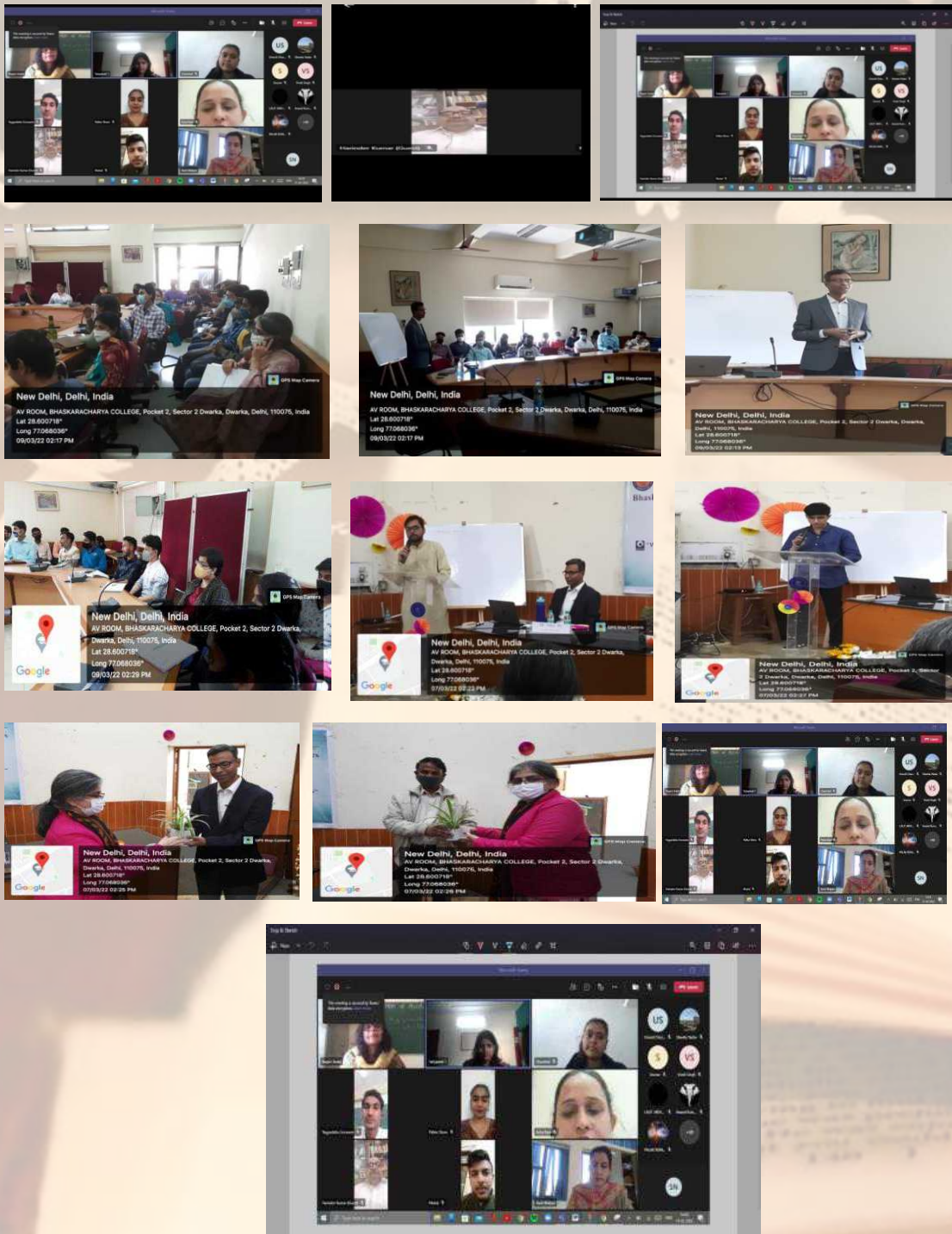
The club in association with Vivekanand Vichar Manch organised an intercollege webinar on the topic "भाषा संबंधी परिचर्चा: अंतर्राष्ट्रीय स्वरूप और संभावनाएं". The objective was to celebrate International Mother language day on February 21, 2022 at 1:00 pm through online mode. The resource person of the event was Dr Harinder Kumar, Department of Hindi, University of Delhi. He mentioned the importance of Indian culture, yoga and our mother language and further drew light on the history of 21st February. Further, he emphasised on "Azadi ka amrit mahotsav" and linked it with the contribution of our mother



tongue during the struggle for freedom.

On February 28, 2022 the club organized a poetry writing competition “Daastan- E- lekh” with the topic “Nature, Sacrifice and forgiveness”. The aim of the event was to encourage the spirit of writing amongst the students and also to honor nature, sacrifice and forgiveness. The event was held in the online mode and participants submitted their profound poetry in a simple yet thought provoking manner.

A two day workshop on “Building Emotional Agility” was organized by the club. The speaker was Mr. Athar Ali, the founder of Mindsmiths, on March 07, 2022 and March 09, 2022. The Workshop was facilitated by Principal Sir Prof. Avneesh Mittal, who welcomed the speaker and congratulated students on their interactive participation. The primary aim of this event was to make students understand their emotional intelligence and ways to deal with negative emotions in a healthy and productive way.





## MODERN AND FINE ARTS CLUB

**Convener: Dr. Amandeep Kaur**

An Intercollege Online Painting Competition was organized as a part of India @ 75, Azadi ka Amrit Mahotsav on August 13, 2021. The theme of the competition was major developments of India in 75 years of Independence. The objective of conducting this event was to encourage students to retrospect and paint the major developments attained in our country in 75 years of Independence.

A logo designing competition was organized on February 17, 2022. The theme of designing the logo was 75 years of India's independence and 25 years of college establishment. The objective of the competition was to enhance the digital artwork skills of the participants and celebration of Azadi ka Amrit Mahotsav.

The Modern and Fine Arts Club in collaboration with Department of Computer Science organized 2-hour workshop on 'ICT Skills for Laboratory Staff - Poster and Certificate Designing using Canva' on March 3, 2022. The workshop aimed to train laboratory staff about digital designing skills. After attending the participants were able to design posters and certificates online using canva on mobile phone and laptop.





# MOKSHA - THE MUSIC CLUB

**Convener: Dr. Shikha Srivastava**

In honor of 75 years of independence and the “Azadi ka Amrit Mahotsav”, Moksha the music society of Bhaskaracharya College of Applied Sciences, University of Delhi, organized a live singing competition, 'Azadi ke Antare' on July 31, 2021.

Independence Day was celebrated on August 15, 2021 with the ECA Committee under the major celebrations of Azadi ka Amrit Mahotsav.

An Online competitive event “Sangeet-e-Kudrat” was organized on January 2, 2022. The competitive event was organized to give students a feeling of the wonders of nature and motivate them to take initiatives for healing nature with music. Republic Day was celebrated on January 26, 2022 with the ECA Committee under the major celebrations of Azadi ka Amrit Mahotsav. An Online Workshop on sensory gardens: Plants that engage with our senses was organized on February 5, 2022 in collaboration with Garden committee. Most gardens offer visual appeal but a sensory garden is a garden that has a collection of plants that are appealing to one or more of the five senses; sight, smell, sound, taste, and touch.

A folk songs competition was organized on February 25, 2022 in collaboration with Vivekanand Vichar Manch in order to celebrate “Antarrashtryiya Matri Bhasha Diwas”. Folk song competition was organized on this occasion for students to inculcate a feeling of dedication towards their regional/local language and nation by bringing out unity in diversity.

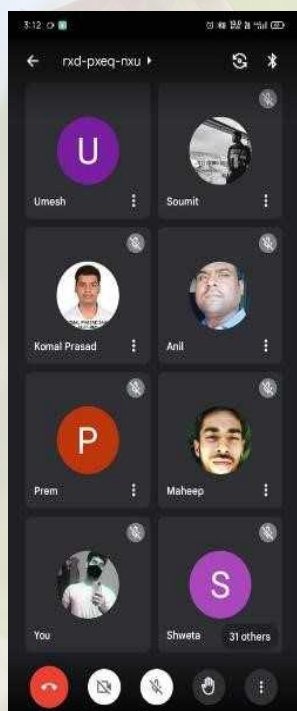
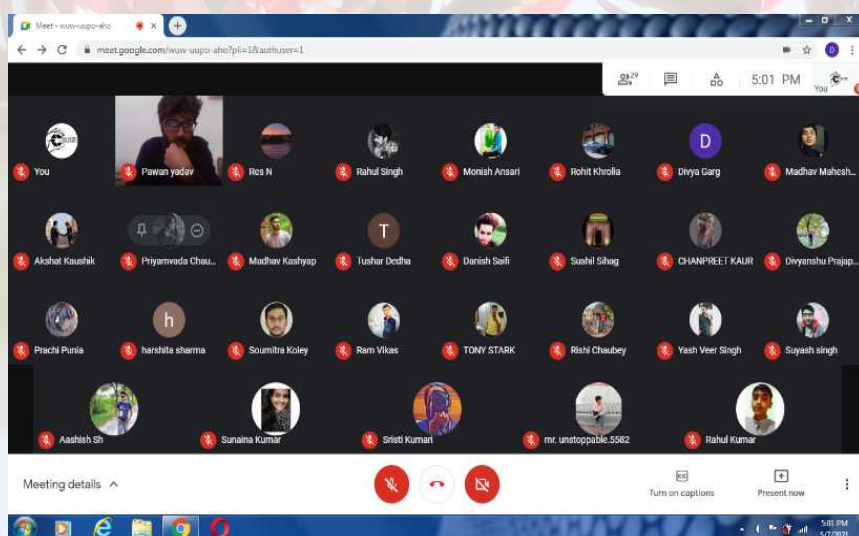




# CLICKERATI - THE PHOTOGRAPHY CLUB

**Convener: Dr Umesh Kumar**

CLICKERATI the photography club of the college has been formed with an objective to provide guidance and a platform to the young photographers in our College. Student members of the society are given an opportunity to cover all the major events organized in the college to nurture their creative and observation skills. Apart from this, the society organizes workshops, competitions, and photo walks from time to time. The club organized a "Coping up with pandemic" interactive session with Khushal Balan and Pawan Yadav on May 7, 2021. A webinar on Geotagging was organized on December 30, 2021 covering the basics one needs to know about Geotagging. An intra-college photography competition "campus-o-graphy" was held on February 28, 2022. The theme of the event was to cover flora and fauna inside the college campus in a given time slot.



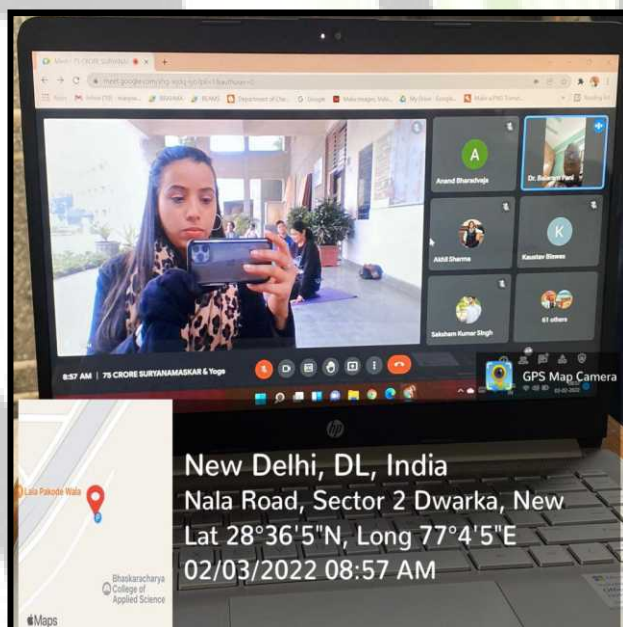
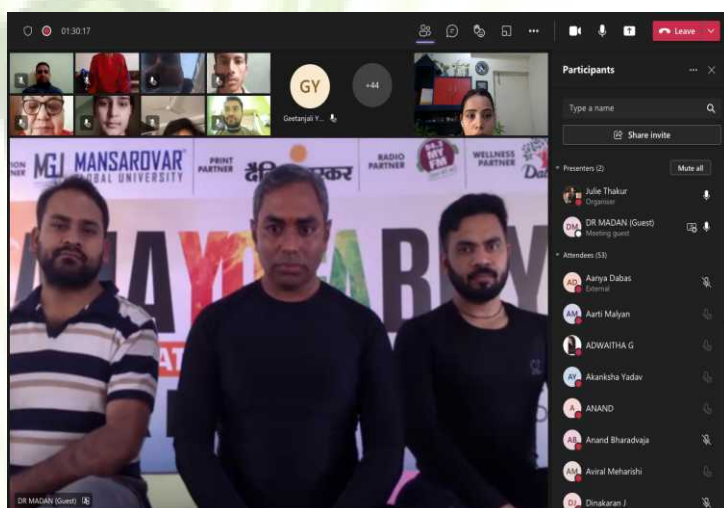
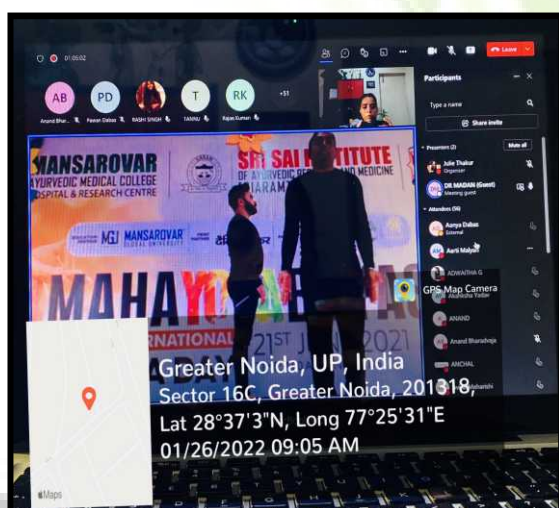


# THE YOGA CLUB

**Convener: Dr. Julie Thakur**

The yoga club in collaboration with the Sports Committee organized an online 'Surya Namaskar Program' on January 26, 2022. Dr. Madan Mohan Singh Kushwaha, Associate Professor, Mansarovar Group of Institution, Madhya Pradesh demonstrated the basic Yoga Asanas, Surya Namaskar, and breathing exercises to boost immunity. The event aimed at spreading awareness about the role of Suryanamaskar in our day-to-day life. The program has enhanced the life skills of the participants and the series of 12 powerful poses rejuvenated the mind, body and soul.

The Department of Physical Education and Yoga club jointly organized a '75 Crore Surya Namaskar & Yoga' program on February 03, 2022, in blended mode. Ms. Meenakshi, a certified yoga practitioner demonstrated the Surya Namaskar, along with many other exercises. The event aimed at spreading awareness about the importance of doing Suryanamaskar early in the morning. The program has enhanced the life skills of the participants.





# Student Editorial Board

RESONANCE | BCAS



Aim for liberation not just empowerment! Free yourself from the shackles that bind you to bigotry and injustice.

SRIVIDYA RAJAGOPAL



Beholding the innocent intellect while retracing retrospections of dulcet harmonies

ABHIMANN THAKRAN



A dime's worth of life, we live in. A fortune's worth, I aspire to build.

VEDIKA SHAIKENDRA KUMAR



Be the creator of your own magic.

SARAH NAVAZ



"There's a lot of beauty in ordinary things. Isn't that kind of the point?" -Beesly

VIVEK SINGH



Time is the most powerful thing in the entire cosmos, even gods cannot violate time's law.

NIKHIL MISHRA



Live in the moment, sometimes the journey is better than the destination.

SUDIKSHA GUPTA



Take your work seriously, not yourself

KUNTAK SAHA



# Student Editorial Board

RESONANCE | BCAS



You get  
what you  
deserve!

PRAGYA  
KUMAR



Forever  
flamboyant we  
the students of  
sanctity stand

ABHISHEK  
PRASHANT



College magazine is  
like a treasure which  
collect and throw  
limelight towards the  
talent of its students  
. It is the summary of  
the college.

SWARNA NIRALEE



If you give your  
best to the  
present, then the  
future would give  
its best to you.

YASHASWI  
SHARMA



And miles to  
go before I  
sleep..

SHIVAJI  
PRATAP SINGH



"You only live  
once, but if you  
do it right, once  
is enough."

HARSH



Technology is to Man  
as Man is to the Earth  
(a Parasite).

RISHABH VASHIST



Future is always uncertain, no  
matter what promises are made  
in the present. Don't let it stop  
you from making the most of  
what is being offered in this  
moment.

ANGELA PARVEZ



It's always easy to  
stand in queue and  
wait like the rest, but  
only the extraordinary  
have the courage to  
make people follow  
them!

NISHA MAHATO



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