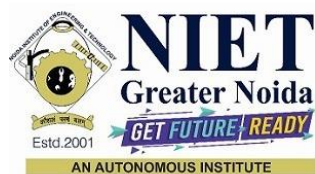


# NEWSLETTER

(2020-2021)

Issue on- July 2021



## NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY

### DEPARTMENT OF BIOTECHNOLOGY

### Message from HOD Desk



I welcome all the students & their parents to the Department of Biotechnology. Biotechnology is an essence of today's world. We are committed to providing not only the technical education to our students but also the leadership qualities through which they can create employment to others. Noida Institute of Engineering & Technology (N.I.E.T) has been established with the legacy of 20 years of academic excellence as its founding pillar. The sole vision of N.I.E.T. is to produce good technologies with human values and Indian ethos. Skill & knowledge relevant to real world problem are inseminated to produce dynamic, socially conscious, and sensitive human beings. N.I.E.T. focuses on holistic development of the students by a combination of both curricular and extracurricular activities. We believe that to develop a tender mind we need to go beyond classroom teaching, and we realize that N.I.E.T., which helps to make the students industry ready.

### VISION

To become a prime influencer in the field of Biotechnology and provide a vibrant learning environment to the students that will have a transformative impact on the society in terms of academics, research, and entrepreneurship.

### MISSION

**M1:** - To create educational experience targeted on a deep understanding of interdisciplinary sciences & engineering with the focus on development of industry aligned skills.

**M2:** - To expertise in research, innovation and entrepreneurship supporting the overall growth of the biotechnology academia and industry.

**M3:** - To inculcate leadership qualities in students to handle competitive edge, social & ethical challenges for a better world.

### PEO's

**PEO 1:** Students will acquire knowledge skills in the frontier areas of Biotechnology and will be able to solve societal problem individually and in team.

**PEO 2:** Students will be able to think creatively and critically about the use of biotechnology ethically to address local and global problems.

**PEO 3:** Students will be able to implement the engineering principles to biological systems for development of industrial applications, as well as entrepreneurship skills to start biotech industries.

### PSO's

**PSO1:** To apply knowledge of basic sciences and biotechnological techniques to modify living organisms.

**PSO2:** To design, optimize, analyse & scale up bioprocesses to develop useful products with societal consideration.

**PSO3:** To generate, analyse & interpret biological data using Insilco & other relevant approaches.

# DEPARTMENT HIGHLIGHTS

- Department of Biotechnology organized a 6-day workshop for its students which covered all the latest biotechnological research and innovations in May 2021.
- Department of biotechnology in collaboration with NIET-IIC organized a workshop on AYURVEDA: Art of being” by Dr. Akhilesh Sharma, Ayurvedic Physician and consultant, Advisor (Ayurveda) to the Govt. of Delhi, for students of all department and faculty members on 24 June 2021. The lecture helped the students, faculty, and researchers to unzip the potential of Ayurveda in the betterment of life. The lecture focussed on developing the interest of participants in research and innovation related to Ayurveda.



- Department of biotechnology in association with Institute Innovation Council (IIC)-NIET organized an online lecture on Research writing process by Dr. Deepak Gola, Assistant Professor, Department of biotechnology, NIET. The lecture helped the students, faculty, and researchers to unzip the potential of reference management software: Mendeley. Apart from that he also inspired and motivated participants to take initiative in research writing.

## STUDENT ARTICLES

### The Effect of Covid-19 on air quality in India: a Perspective

Corona virus disease- 2019 (COVID-19), an infectious disease identified in late December 2019, in Wuhan city of China, was declared a pandemic by the World Health Organization. The novel corona virus disease (COVID-19) pandemic poses a cruel option to the world: the society and economy. It revealed the vulnerabilities and strengths of each country and has taught us a series of lifelong lessons. As we are aware of the occurrence of pandemic which led to a kind of pause to our daily life and had several perils, there were some perks as well like the climatic and environmental condition. As the pandemic occurred in our nation i.e. corona virus it had some positive effects in our nation largely with respect to climatic conditions and a major problem of global warming especially due to cut back in vehicles on the road and crystal clear air in many cities. After COVID 19 we need to understand that our growing economy needs to respect the carrying capacity of nature. This perspective provides evidence of significant changes in air quality of the Indian region during the government lockdown order to reduce the effects of COVID-19. According to previous study, it can be considered that the massive reduction of aerosol concentration during quarantine, novel corona virus might paradoxically have reduced the percentage of deaths during the period, by significantly reducing the percentage of fatalities due to degradation of air quality. Amidst the devastating Covid-19 pandemic, a rare positive has been the many global decrease in pollution levels. Many researchers have hypothesized that the drop by pollution levels may currently be saving a big number of lives, not only by reducing individuals' susceptibility to Covid-19, but also by preventing a number of the world's seven million annual deaths thanks to pollution exposure. It's clear that many cities are breathing translucent air and pollution spurned mostly on accident because of the corona virus.

By: Supriya Rai (4<sup>th</sup> year)

## **BIOCOMPUTERS**

BIO-COMPUTERS use system of biologically derived molecules such as DNA and Protein to perform computational calculations involving storing, retrieving, and processing data. The development of Bio-computers has been made possible by the expanding new Science of Nano-biotechnology. The term Nano-biotechnology can be defined in multiple ways; in a more general sense, Nano-Biotechnology defined as any types of technology that uses both Nano-scale materials (1-100 nanometers) and biologically based materials. More specially as the design and engineering of Protein that can then be assembled into larger, functional structures. The implementation of Nano-Biotechnology to design and produce synthetically designed protein as well as the design and synthesis of artificial DNA molecules can allow the construction of functional Bio-computers. Bio-computers can also be designed with Cells as their basic components. Chemically induced dimerization system can be used to make logic gates from cells. These logic gates are activated by Chemical agents that induce interactions between previously non-interacting Proteins and trigger some observable change in the cells. Researchers have dreamed of molecular-scale computing devices could be embedded in our bodies to monitor health and treat diseases before they progress. The advantage of such computers, which would be made of biological materials, would lie in their ability to speak the biochemical language of life. The ability to Engineer Bimolecular systems specifically so that it can interact in a fashion that can ultimately result in the computational functionality of a computer.

By- Devesh Raj (3<sup>rd</sup> year)

## **BIOTECHNOLOGY IN MEDICINE**

Biotechnology is defined as exploitation of living organisms by harnessing cellular and molecular process to develop products and technologies that could help to improve the life of human and its welfare. Biotechnology is widely used in various fields such as medicine, agriculture, food

processing etc. When we talked about applications of biotechnology in medicine, we come across the word Red Biotechnology which concerned about the medical sciences, development of innovative drugs, vaccines, gene therapy, stem cell therapy and their treatments. Nowadays, biological medicines have successfully saved countless lives of patients with serious diseases such as Cancer, Rheumatoid Arthritis (Autoimmune disorder), blood related illness and Multiple Sclerosis (Neurological disorder). Biotechnology has covered every field including Agricultural and medical sectors with the aim of improving the different targeted Genes and customized medicines. Advancement in innovative methodologies of Biotechnology in medicine include genomics, pharmaceuticals, DNA sequencing, cell culture, and recombinant DNA technology have effectively improved the understanding of health science, through gene sequencing, stem cells for regenerative medicine, tissue engineering and antibiotics. With the steady improvements medical biotechnology can surely become a well-received foundation in Health science. The medical biotechnology has application in Biopharmaceuticals, Pharmacogenomics, Gene testing and recombinant insulin etc.

By: - Kiran Shivach (3<sup>rd</sup> year)

## **POETRY**

### **SIGNET OF ETERNITY**

The day was when I did not keep myself in  
readiness for thee.

And entering my heart unbidden even as one of  
the common crowds,

Unknown to me, my king, thou didst press the  
signet of eternity upon

Many of fleeing moment of life.

And today when by chance I light upon human  
occurrences and see thy steps,

I find they have lain scattered in the dust mixed  
with memories of deed

Of the coffins of truth and my trivial days

Forgotten.

Thou things couldn't condemn my childish plays  
among their dust,

N steps that I heard in my heart are the same

Those are echoing from heart to heart.

This is my delight,

Thus, to wait and watch at the wayside

Where the shadow chases light

And the rain comes in the wake of the summer

Massagers, with tidy waves from unknown skies,

Great me and bless me and then pass by me along  
the road.

And the breadth of positivity is sweet.

From dawn till dusk, I sit here, Near the gates to  
heaven, my heart.

It is glad within,

And I know that of a sudden

The happy face will arrive, the cheering one when I  
shall see

Bright and shiny leaving me amorous

In the meantime, I smile, and I smile all alone.

In the meantime, the air is filling with the perfume  
Of "PROMETTRE"

By: Sweety Singh (2<sup>nd</sup> year)

### Crawling

Crawling life

Crawling my past to present

From day to night

I just defined to be,

Girl of own will

Numerous stone and gemstone touch my life

But I was diamond fixed with one element,

That is my willpower

Narrating millions of views won't strict a person

Because person strikes it own Crawling

Of past and present

So being a girl thought or boy thought won't matter

Matter is your Crawling life button

Which would be,

Delight past

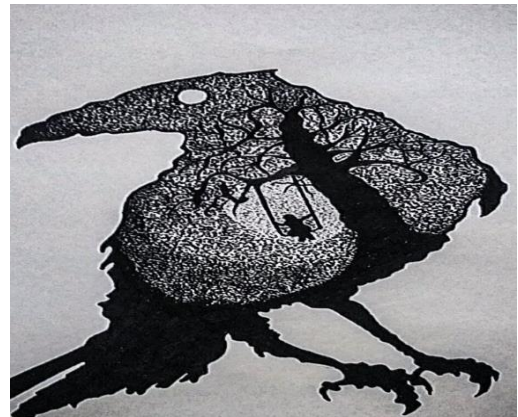
Explore your present

Spark your future

By: Priyanka Rajput (2<sup>nd</sup> Year)

## BEYOND CLASSROOM

The students of biotechnology department showcase  
their talent beyond classroom programmes in  
drawing/painting.

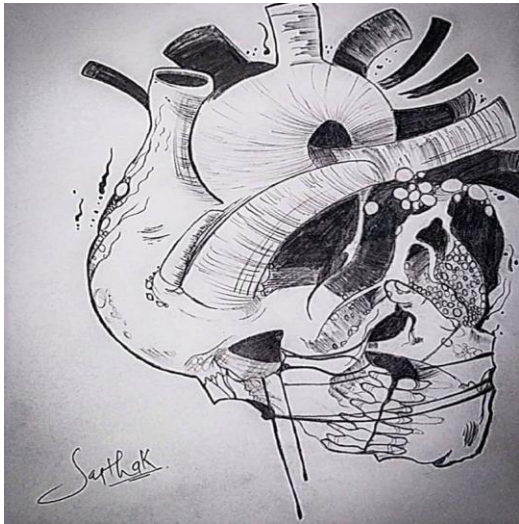


Shristi 2<sup>nd</sup> Year



Anjali 2<sup>nd</sup> Year





**Gautam 2<sup>nd</sup> Year**



**Tahseen 2<sup>nd</sup> Year**

## ACHIEVEMENTS

- Shivansh Verma of department of biotechnology has scored 1994 Rank in Gate Biotechnology 2021.



- Ambuj Upadhyay of department of biotechnology has scored 501 Rank in Gate biotechnology 2021.



## EDITORIAL BOARD MEMBERS

Ms. Shweta Sharma

Divyanshi

Devesh