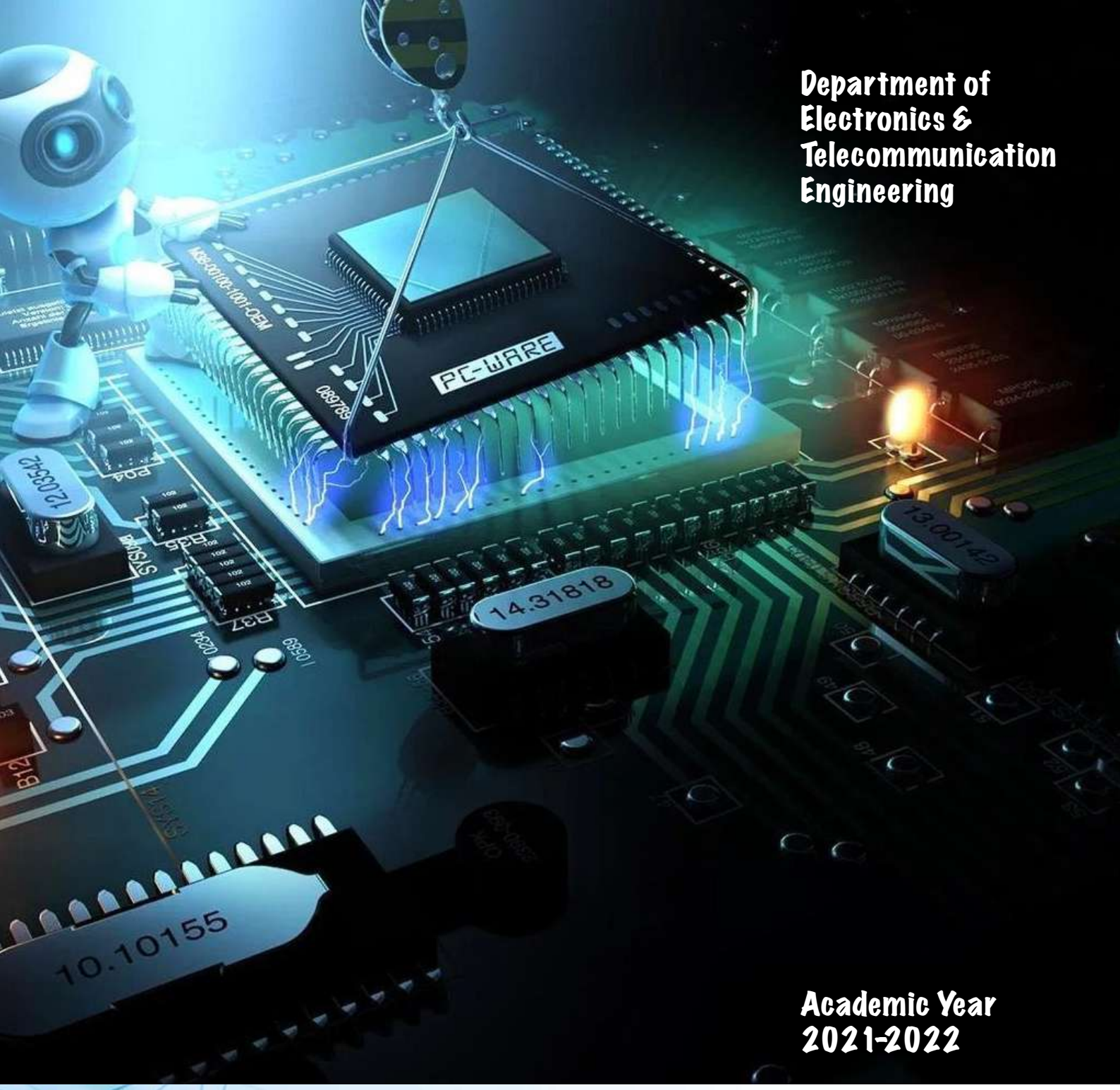


Department of Electronics & Telecommunication Engineering

Academic Year 2021-2022

INGENIOUS

~:PRINT ("BEYOND THE EXCEL !")

ANNUAL TECHNICAL MAGAZINE

Issue:- 03

Vision of the Institute:-

To be an institute of Global Repute committed to the cause of Nation Building through Technology Based Education.

Mission of the Institute:-

To be Enablers of Creation and Dissemination of Futuristic knowledge in Technology through Research and Quality Education.

Department Vision:-

To create a repute of prominence in Electronics and Telecommunication through World Class Professionals

Department Mission:-

To develop morally competent technocrats in Electronics and Telecommunication contributing in the growth and development of multidisciplinary fields through Research and Innovation.

M1: *To develop morally competent technocrats in Electronics and Telecommunication.*
M2: *To contribute in the growth and development of multidisciplinary fields.*
M3: *To inculcate research and innovation for developing solutions.*

Programme Educational Objective (PEO's):-

PEO1: *Graduates will be able to apply principles and practices to real-time scenario.*
PEO2: *Graduates will exhibit professional conduct and ethics while addressing challenges and solving problems of industry using recent technologies.*
PEO3: *Graduates will ensure lifelong learning through professional development and continuous up-skilling.*

Programme Specific Outcome (PSO's):-

PS01: *Adapt emerging trends in the domain to provide solutions for business, society & environment.*
PSO2: *Evaluate and solve problems related to wireless network, RF devices, VLSI and signal processing using modern tools.*
PSO3: *Design, simulate and analyze Electronics and Telecommunication based systems.*

EDITORIAL BOARD

ACKNOWLEDGEMENTS:

ER. ABDUL SAYEED

(HEAD OF DEPARTMENT)

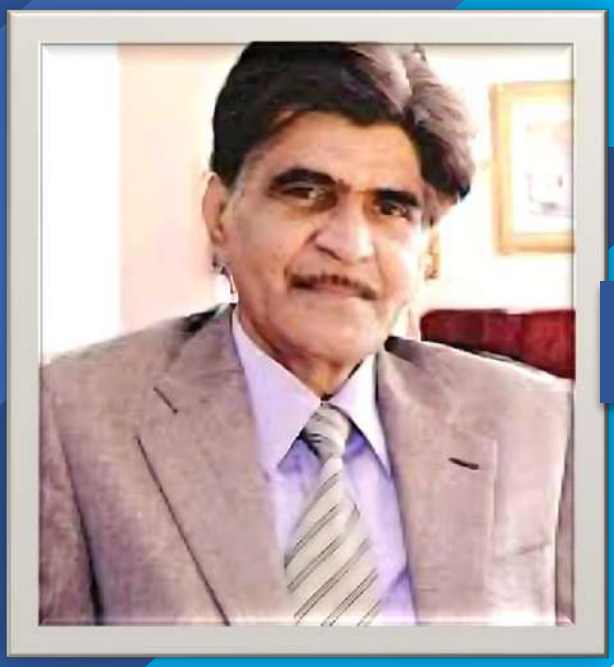
FACULTY IN-CHARGE:

ER. ZAFAR KHAN

(ASSISTANT PROFESSOR)

STUDENT'S IN-CHARGE:

1. Aman Gudekar
2. Hamza Farid
3. Divyesh Saroj
4. Zeeshan Khan
5. Arslan Kazi
6. Muntazir Momin
7. Namit Bhattacharjee
8. Neha Dhabadghaw
9. Kshitij Dandge



FROM OUR DIRECTOR'S DESK

Dr. Mohiuddin Ahmed

As the Director of this esteemed institution, I would like to take a moment to express my heartfelt gratitude towards each and every one of you. Your hard work, dedication, and relentless efforts towards knowledge and innovation have been a source of inspiration for us all.

In today's rapidly changing world, education plays a crucial role in shaping the future. It is imperative that we equip ourselves with the skills, knowledge and wisdom to tackle the challenges of tomorrow. The students and faculty of M.H Saboo Siddik College of Engineering are at the forefront of this pursuit, and I am proud to be a part of this vibrant community.

I would like to remind each and every one of you that the limits of what you can achieve are only set by your own imagination and determination. Your passion and drive to succeed will be the foundation for a brighter future, not only for yourselves, but for generations to come.

I congratulate the department of electronics & telecommunication engineering for bringing out another issue of 'INGENIOUS' magazine. I wish them for their endeavours.

Therefore, I encourage you to dream big, work hard and never give up on your goals. Together, we can make M.H Saboo Siddik College of Engineering a hub of excellence, where students can learn, grow, and flourish. Your potential is limitless, and I have faith in your ability to make a positive impact on the world.

FROM OUR PRINCIPAL'S DESK

Dr. Ganesh Kame
Professor and I/C principal

"Dear students,

As we begin a new academic year, I want to remind you of the power and potential you possess. Your college experience will challenge you, shape you, and prepare you for a lifetime of learning and growth. Embrace every opportunity with enthusiasm and determination, and always strive to be your best self.

Never underestimate the impact you can have on those around you. Your kindness, generosity, and hard work will inspire others and make a lasting difference in the world. So, dream big, work hard, and always believe in yourself.

Remember, the future belongs to those who believe in the beauty of their dreams. So, make your dreams a reality and always strive for excellence.

I am sure that INGENIOUS will provide a platform to the students to expand their technical knowledge and sharpen their hidden literary talent and strengthen the all-round development of the students.

MESSAGE FROM
OUR HOD'S DESK

Er. Abdul Sayeed

HOD _ EXTC Department

"Dear students,

I extend a warm welcome to all of you as you embark on a new and exciting journey in the field of Electronics and Telecommunication Engineering. I am honoured to be a part of your educational journey and am confident that you will make the most of your time here.

The world is changing rapidly, and the field of Electronics and Telecommunication Engineering is at the forefront of these changes. Your education and experience in this field will equip you with the skills and knowledge you need to make a positive impact on the world.

I encourage you to take advantage of every opportunity that comes your way. Participate in extracurricular activities, engage in research projects, and collaborate with your peers and professors. These experiences will not only enhance your education, but they will also help you develop important soft skills that will benefit you in your future career. Most importantly, always believe in yourself and your abilities. With hard work and dedication, you will achieve your goals and make a difference in the world.

I am hopeful that ingenious issue no 3, shall not only develop the taste for reading among students but also develop a sense of belonging to the institution as well.

I wish you all the best in your academic and personal endeavours"

From The Editor's Desk

"I am overflowing with pride as I look at the outcome of our collective efforts. The final product is a true representation of our hard work, determination, and passion. It is a testament to what can be achieved when a team comes together and strives for greatness. I am honored to be a part of this amazing team and this incredible journey."

My heartfelt thanks to our chief Editor, Er. Zafar Khan, for his unwavering support and guidance. You all are the reason behind the success of "Ingenious".

~ AMAN GUDEKAR

LEAD EDITOR

Editorial Team

THE EDITING TEAM

Hamza Farid

THE EDITING TEAM

Divyesh Saroj

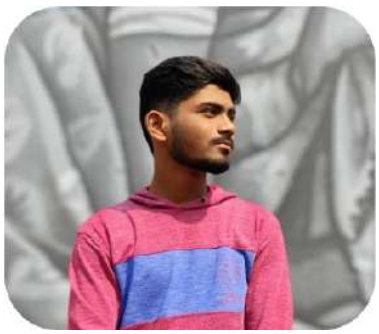
THE EDITING TEAM

Arslan Kazi

THE EDITING TEAM

Nameet Bhattacharjee

THE CONTENT TEAM



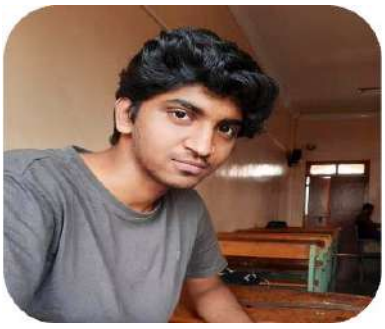
Kshitij Dandge

THE CONTENT TEAM

Neha Dhabadghaw

Content Team

THE CONTENT TEAM



Muntazir Momin

THE CONTENT TEAM

Zeeshan Khan

Special Thanks:-

Aftab Shaikh

Words cannot express the gratitude we have for the beautiful and insightful **shayaris** you have gifted to our magazine. Your words have touched our hearts and brought life to the pages. Your unique perspective and gift for poetry have truly elevated the magazine to new heights. Thank you for sharing your talent with us, and for reminding us of the beauty and power of language. We are truly blessed to have you on our team

Faculties Messages

"Work is workship."

DR.RAVINDRA CHANDU PATIL
Associate Professor

"With honesty as your guiding principle, hard work as your driving force, and sincerity as your compass, you can set your goals, overcome obstacles, and face life's challenges head-on. Always have a faith in Allah, pray to Him, and take positive actions to improve every day. Don't be afraid of failure hence learn from your mistakes as well as mistakes of others. Always try to think differently from others because you are unique."

ER.FEIROZ SHAIKH

Assistant Professor

"Magic is believing in yourself, if you can do that, you can make anything happen always great thing never came from comfort zones. If you want something you never had, you have to do something you have never done. We did not come to fear the future. We came here to shape it."

ER.NAYANA CHASKAR

Assistant Professor

ER.ZAFAR KHAN

Assistant Professor

"To be successful in a professional career apart from skill and in my view, it is more important than skill that students should have moral values that can be inculcated in students include: honesty, respect, responsibility, fairness, kindness, empathy, and self-discipline. It is also important to teach students how to treat others with compassion and understanding and a sense of social responsibility and respect for all individuals."

"Engineering is not just about building structures and machines, it's about shaping the world with creativity, critical thinking, and a passion for problem-solving."

ER.AMOL SANKPAL

Assistant Professor

ER.NABANITA NATH CHOWDHURY

Assistant Professor

"Congratulations to all of you if you are reading this, as that means you are on a path of being an engineer. As Victor Hugo once said, "It is by suffering that human beings become engineers". You will know something of suffering over the next few years as engineering requires a lot of math on time management. Once you will learn that, success will be waiting for you.Engineering is all about juggling many things. All my good wishes for you all., follow the path but make your own traces and conquer the world. Good luck to all my dear students."

“It is indeed a happy moment for our Electronics and Telecommunication Engineering Department has successfully brought out the second edition of the technical magazine 'Ingenious' for the year 2022-23. This magazine is an informative technical material and skill developing tool for the students. I wish the editorial team all the very best for releasing more such magazines in future.”

ER. AWIJ SHAIKH

Assistant Professor

“Be like a butterfly, strong enough to break from your cocoon and spread your wings.”

ER.PRAGATI PAL

Assistant Professor

“It is more important for you to acquire knowledge than wealth, because wealth has been apportioned and allocated to You by the Just Allah. But Knowledge is in the guardianship of scholars and you have been directed to approach them and require it from them.”

ER.SAMANA JAFRI

Assistant Professor

"Never get disheartened or disappointed due to failure, consider this failure as another opportunity to bounce back with new Zeal, enthusiasm & full energy."

ER.REHANA JAMADAR

Assistant Professor

"Stay Focused, Stay Motivated,And Keep Moving Forward".

Sultan Mulla

Lab Assistant

"Every Challenge Is An Opportunity To Grow."

Irfan Shaikh

Lab Assistant

"Celebrate your Success, No Matter How Small That Seem".

Shahbuddin Shaikh

Lab Assistant

INDEX

OUR DEPARTMENT

Academic Year 2021-2022

First Year

Second Year

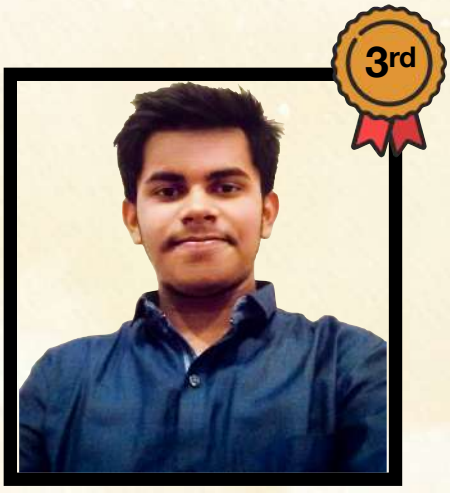
Rankers:-

Semester 3:-

Khan Afzal
SGPA- 9.92

Ladak Shifa
SGPA- 9.63

Sayed Anam Fatima
SGPA- 9.63



Saroj Divyesh
SGPA- 9.58

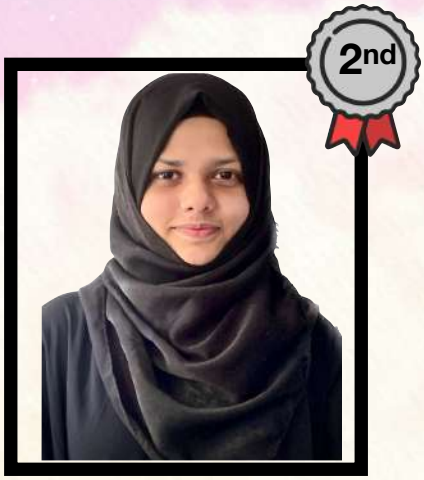
Khan Hena
SGPA- 9.58

Rankers:-

Semester 4:-

Shaikh Naznin
SGPA- 9.38

Khan Hena
SGPA- 8.92



Mirkar Daniya
SGPA- 8.92

Neha Dhabadghaw
SGPA- 8.63

Photo Gallery


PRODUCTION PROCESS
LABORATORY

Third Year

Rankers:-

Semester 5:-

Naik Sakshi
SGPA- 9.74

Sahu Gautam
SGPA- 9.17

Damania Yesh
SGPA- 9.09

Shaikh Areeb
SGPA- 9.09

Rankers:-

Semester 6:-

Khan Arshad
SGPA- 9.73

Naik Sakshi
SGPA- 9.32

Sahu Gautam
SGPA- 9.14

Photo Gallery

Fourth Year

Rankers:-

Semester 7:-

Sonkusare Gauravi
SGPA- 9.69

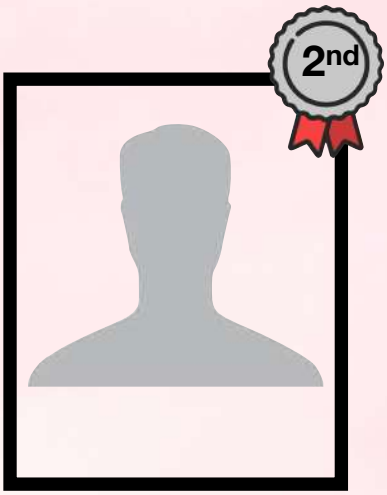
Shaikh Barkat
SGPA- 9.38

Daave Neel
SGPA- 9.15

Rankers:-

Semester 8:-

Virani Fatima
SGPA- 9.71



Ansari Noor
SGPA- 9.54

Bijwala Amaan
SGPA- 9.46

Photo Gallery


POCO
SHOT ON POCO F1

THE IETE STUDENTS FORUM-ISF

" **THE INSTITUTION OF ELECTRONICS AND TELECOMMUNICATION ENGINEERS** " **(IETE)**, Students Forum was brought into existence in **M.H. SABOO SIDDIK COLLEGE OF ENGINEERING** on 10th OCTOBER 2017 and was inaugurated by **Dr. Udhav Bhosle**, Principal, RGIT, Mumbai.

ABOUT IETE:

IETE is India's leading recognized professional society devoted to the advancement of Science and Technology of Electronics, Telecommunication & IT. Government of India has recognized IETE as a Scientific and Industrial Research Organization. The objectives of IETE focuses on advancement of the Science and Technology of Electronics, Telecommunication, Computers, Information Technology, and related areas. IETE conducts and sponsors technical meetings, conferences, symposia, and exhibitions all over India.

VISION:

Reaching the un-reached and empowering the youth through Technical Education and Skill Development.

MISSION:

Advancement of Electronics, Telecommunication, Information Technology & other related disciplines to contribute in Nation's Human Resource & Infrastructure Development through our engineers.

OBJECTIVES:

1. Improving standard of Engineering Education.

2. Counselling the students in emerging new opportunities.

3. Encouraging and motivating outside classroom studies / workshops / projects / seminars.

4. Increasing the student's base and corporate membership of IETE

IETE COMMITTEE 2021-2022:

DESIGNATION	NAME
Chairperson	*Miss Faiza Khalifa (B.E EXTC)*
Secretary	*Mr. Mohd Adib Shaikh (B.E EXTC)*
Treasurer	*Mr. Akshay Bhoir (B.E EXTC)* *Ms. Hafsa Shaikh (B.E EXTC)*
Technical Head	*Ms. Gauravi Sonkusare (B.E EXTC)*
Technical Co-ordinator	*Ms . Sakshi Naik (T.E EXTC)*
Public Relation Head	*Mr. Arfat Khan (B.E EXTC)*
Public Relation Co-ordinator	*Ms.Aafiya (T.E EXTC)*
Creative Head	*Ms. Falaknaaz Khan (B.E EXC)*
Creative Co-ordinator	*Ms. Shivani Parab (B.E EXTC)*
Sponsor Head	*Mr . Izhaan Ghansar (B.E EXTC)*
Sponsor Co-ordinator	*Mr. Danish Siddiqui (B.E EXTC)*
Membership Head	*Mr. Hamid Ansari (B.E EXTC)*
Membership Co-ordinator	*Mr. Areeb Shaikh (B.E EXTC)*

Training and Placement Report

STAFF CO-ORDINATOR

Er. Nabanita Nath Chaudhary

STUDENT CO-ORDINATOR

1. Gauravi
2. Neel

Sr no	Student Name	Company Name	CTC Per Annum (in Lacs)
1	Dave Neel Rakesh Sharmishta	L&T Infotech	5
2	Ansari Hamid Raja Gulam Shabnam	Evosys Global	3.6
3	Ansari Hamid Raja Gulam Shabnam	Ugam Solutions	4
4	Ansari Hamid Raja Gulam Shabnam	Wipro Limited	3.5
5	Siddiqui Mohammad Sharif Jamaluddin Kaneez Fatima	Evosys Global	3.6
6	Khan Falaknaaz Zarin Shenaz	Evosys Global	3.6
7	Khan Tauqeer Zaman Abdullah	Evosys Global	3.6
8	Vishwakarma Brijesh Ramajor Kamalavati	Wipro Limited	3.5
9	Siddique Zubair Shakil Mukimunissa	Wipro Limited	3.5
10	Khan Ishtiyak Yarmohammad Gulbhar	Wipro Limited	3.5
11	Parab Shivani Yeshwant Shi	Wipro Limited	3.5

Sr no	Student Name	Company Name	CTC Per Annum (in Lacs)
12	Rangrez Arshad Mohd Aslam Saidgnissa	Wipro Limited	3.5
13	Shaikh Nooruddin Kamruddin Shahida	Wipro Limited	3.5
14	Khalifa Faiza Parvez Razia	TCS	3.5
15	Khan Arafat Zia Ahmed Rubina	TCS	3.5
16	Ansari Noor Lalmohammad Amina	TCS	3.5
17	Shaikh Tanveer Ahmad Abdul Zameer Idris Bano	TCS	3.5
18	Shetty Krithik Shekhar Mamatha	TCS	3.5
19	Bijwala Aman Ashraf Shirin	TCS	3.5
20	Sonkusare Gauravi Suresh Yogini	TCS	3.5
21	Siddiqui Rizwana Khatoon Wahid Ali	NeoSoft Technologies	3.36
22	Bhor Akshay Balasaheb Shaila	Easa Al Saleh Algurg	10
23	Dabir Arfat Sirajuddin	Maxvalbuildtrack	4.2
24	Mohd. Shezan Irfan Shaikh	Team Computers	IND STD
25	Iram Sayed	L&T Infotech	IND STD

Sr no	Student Name	Company Name	CTC Per Annum (in Lacs)
26	Shikalghar Noor Mohammad Arif Ayesha Bi	Team Computers	IND STD
27	Shaikh Mohammad Adib Mohammad Arif Asquara Begum	Team Computers	IND STD
28	Shaikh Hafsa Arif Rizwana	Team Computers	IND STD
29	Shaikh Umair Farooque Seema	Team Computers	IND STD
30	Ansari Mohd Faiyaz Mohd Farook Rehmat Kausar	Team Computers	IND STD
31	Solkar Tabique Ashfaque	Team Computers	IND STD
32	Sayed Owais Nasir Husain Gazala	Team Computers	IND STD
33	Shaikh Mohammad Shoaib Rafiq Salimabegam	Team Computers	IND STD

Details of Industrial Training 2021-2022

Sr no	Student Name	Company Name	Duration
1	Arfat Dabir	Electrosoft Automation Pvt. Ltd	10 week
2	Yasir Molla	Acmegrade	4 week
3	Aman Gudekar	Deloitte-Forage	4 week
4	Aman Gudekar	Accenture-Forage	4 week
5	Aman Gudekar	Infosys	4 week
6	Aman Gudekar	Mastercard	4 week
7	Aman Gudekar	VISA	4 week
8	Aman Gudekar	CISCO	4 week

Internship Details of Academic Year 2021-22

Sr no	Student Name	Company Name	Duration
1	Aftab Shaikh	Open Cloudware	6 week
2	Aiman Shaikh	Tejyash Cyber Solutions	4 week
3	Areeb Shaikh	Shah & Anchor Kutchhi Engg. College	2 week
4	Idrisi Arfat Ahmed	Tejyash Cyber Solutions	4 week
5	Haziq Shareef	Internship Studio	5 week
6	Bhattacharjee Nameet	Techfest, IIT Bombay	8 week
7	Bhattacharjee Nameet	PERSONIFwY	8 week
8	Neel Dave	Indobionics	8 Week
9	Neel Dave	Graduate Rotational Internship Program	4 week
10	Shaikh Hassan	Acmegrade	8 week
11	Shaikh Shumaila Amber	Tejyash Cyber Solutions	4 week
12	Haris Patel	LTD Pvt. LTD	8 week
13	Divyesh Saroj	Mahadiscom	4 week

Sr no	Student Name	Company Name	Duration
14	Anam Fatima	Mahadiscom	**4 week**
15	Haris Patel	LTD Pvt. LTD.	**8 week**
16	Amiruddin Shaikh	LTD Pvt. LTD.	**8 week**
17	Awes Sayyed	Network Intelligence	**4 week**
18	Danish Siddiqui	Suven Consultants & Technology Pvt. Ltd.	**2 week**

Project Achievements

1. Title:- Car Parking System Via Facial Recognition

- **Group Members:-**

  Aman Gudekar , Zeeshan Khan , Arslan Kazi , Het parmar.

  Under the Guidance of:-

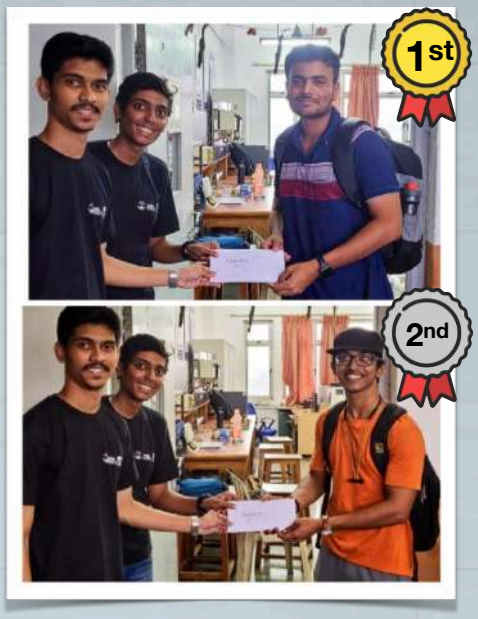
  Prof .Feiroz Shaikh

- **Event Name:- Genesis Inter college project Competition.**
- **Orgazined by:- St.Francis Institute of Technology , Borivali**
- **Rank Received :- 3rd Rank**

- The Second-year students have created a cutting-edge car parking system that utilizes facial recognition technology. This technology allows the system to accurately identify individuals and grant or deny access to a car parking facility based on their pre-authorized status. This innovative project was completed as part of a competition, and the students involved have demonstrated their technical prowess and problem-solving skills. The success of the project can be attributed, in part, to the guidance provided by **Professor Feiroz Shaikh.** Through his mentorship and expertise, the students were able to achieve this impressive accomplishment.

2. Title :- Death Race

- **Event Name:- Death Race.**
- **Orgazined by:- KJ Somaiya Institute of Technology**
- **Rank Received :- 1st Aman Gudekar & 2nd Namit Bhattacharjee**



"Third year students have competed in a event called 'Death Race' and securing both winning and runner up position making our college proud of them."

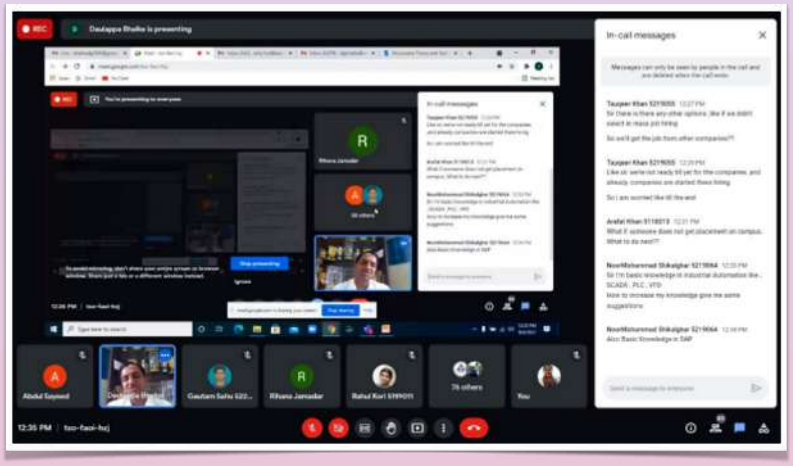
- The individuals have built and operate an autonomous car using an Arduino micro controller. The car was designed to navigate through a challenging course that was filled with obstacles. The goal was to complete the course in the shortest amount of time possible, and the individuals were able to achieve this feat with remarkable speed, setting a new record in the process. This accomplishment demonstrates not only their technical skills in engineering and programming, but also their ability to design and implement a functional and efficient system that can handle real-world challenges. The successful completion of this project highlights the potential of Arduino-based systems for the development of advanced autonomous vehicles.

3. Title:- Returning Mother Conference Ideathon

- **Event Name:- IEEE Returning Mother Conference**
- **Orgazined by:-IEEE**
- **Rank Received :- Shortlisted to meet the global investors which helded in Kalinga Institute of Technology, Odisha**
- **Group Members:- Aman Gudekar & Zeeshan Khan**

The duo managed to cracked the IEEE Returning Mother Conference Ideathon. They proposed the concept of Smart Cities under the Guidance of Prof. Feiroz Shaikh. They were invited to meet the global investors on 4th November 2022 helded in Kalinga Institute of Technology Odisha.

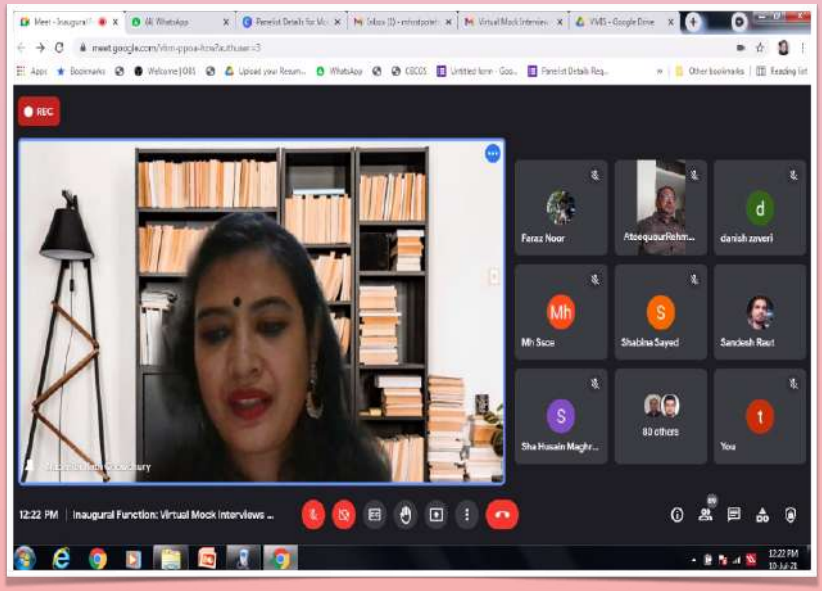
Departmental Activities



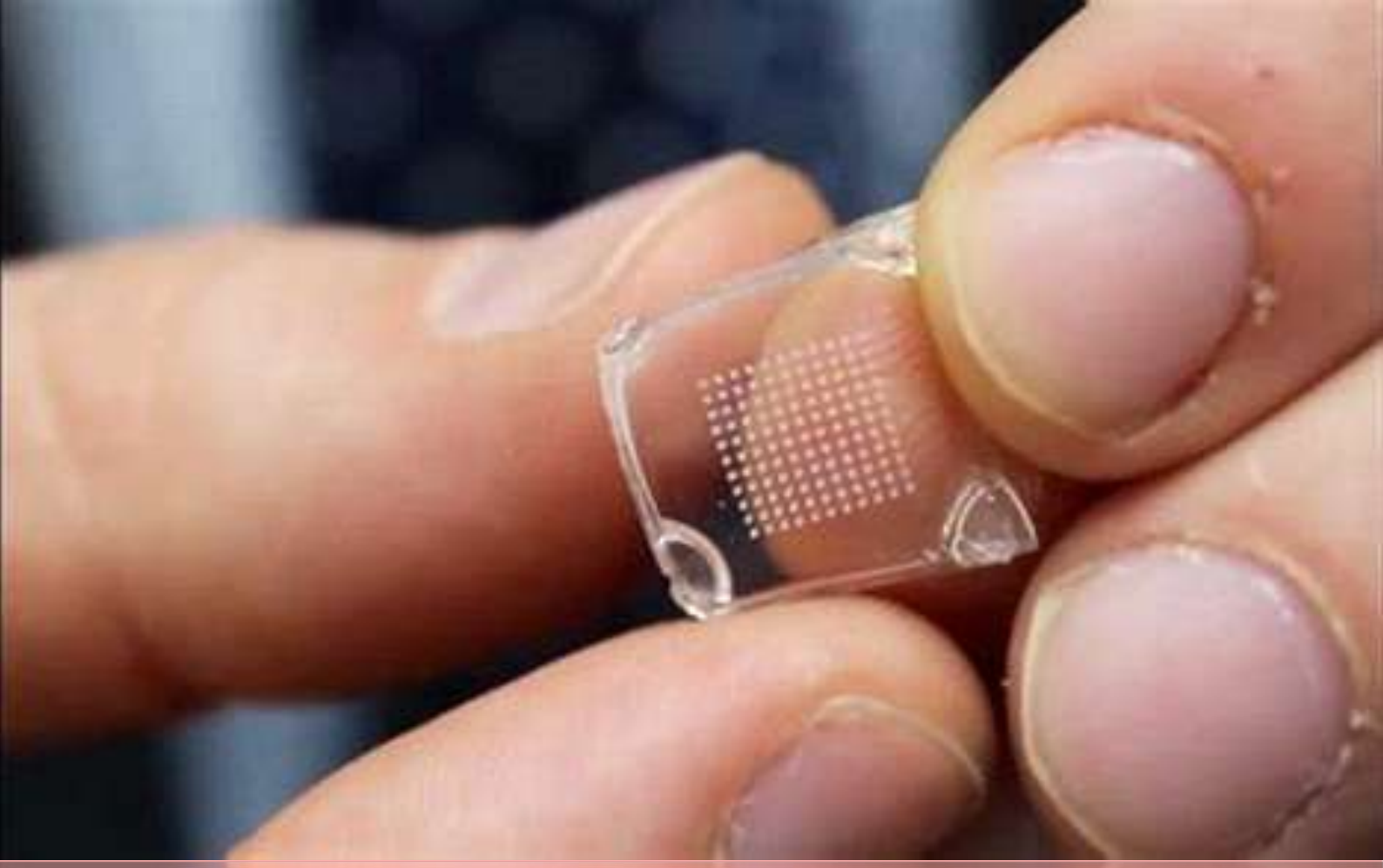
Conducted one day Webinar on Industry Expectations from Professionals colleges and Engineering Graduates on 6th September, 2021.

Session by Guest Speakers, **Er. Maruf Shaikh, Er. Unsiya Mirkar, Er. Rumana Shaikh, Er. Zaid Shaikh, Er. Aliza Shaikh, Er. Mubeen Patel on how to get into an industry.**

Virtual mock interviews via Google meet for B.E. students



TECHNICAL ARTICLES



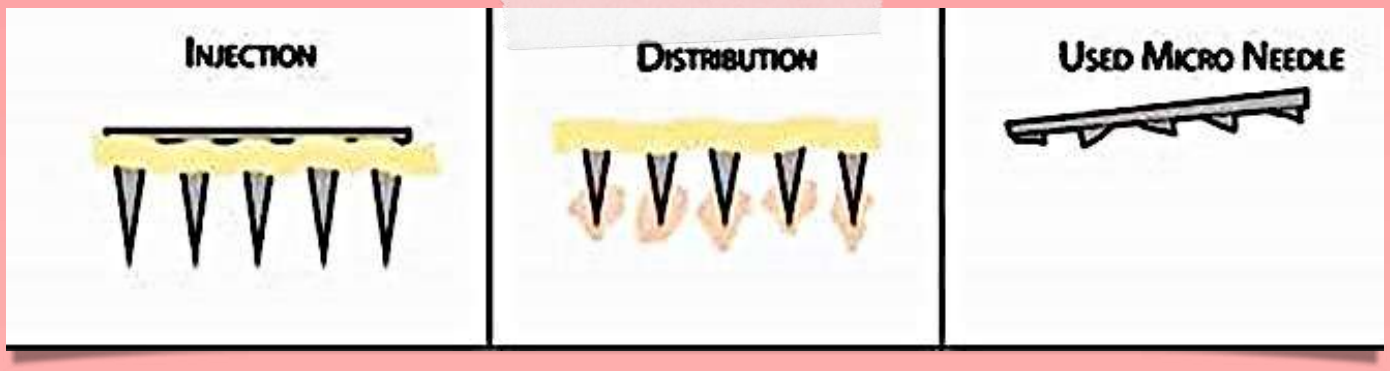
1. Micro Needles for Painless Injections & Tests

Micro Needle are revolutionizing multiple areas of the health sectors . From Skin cancer treatments to faster than oral administration of painkillers ,they can even be used to allow ground breaking access to biomarker information . Pico fluidics , a life sciences company based at Cardiff Madicentre , has pioneered a micro needle technology which could mean an end to certain types of hypodermic syringe injection – but how does it all work?

Microneedle devices could enable testing and treatment to be delivered in underserved areas because they do not require costly equipment or a lot of training to administer. Micron Biomedical has developed one such easy-to-use device: a bandage-sized patch that anyone can apply.

Another company called Vaxxas is developing a microneedle vaccine patch that in animal and early human testing elicited enhanced immune responses using a mere fraction of the usual dose. Microneedles can also reduce the risk of transmitting blood-borne viruses and decrease hazardous waste from the disposal of conventional needles.The needles can also be manufactured as solid, coated or hollow, depending on their intended use. Solid micro needles can deliver drugs into the skin after perforation, while coated micro needles have a layer of medicine pasted over them which is then released into the body.

Hollow micro needles allow drugs to be injected directly into the skin through holes in the needles. Thinner than a human hair, micro needles are often made from a hydrogel forming substance similar to the material used to manufacture soft contact lenses. Remaining hard in a dry state so that they can penetrate the skin, micro needles rapidly take in fluid from the puncture site and swell, forming a jelly-like material, it's through this virtually painless needle injection which medicines can be delivered intothe body, or biomarkers can be picked up for monitoring purposes.



In Micro needling, the micro needles are used to create tiny punctures in the skin. This process stimulates the production of collagen and elastin, which can help improve the appearance of fine lines, scars, and other skin imperfections. Micro needling is often used to treat acne scarring, sun damage, and uneven skin tone.

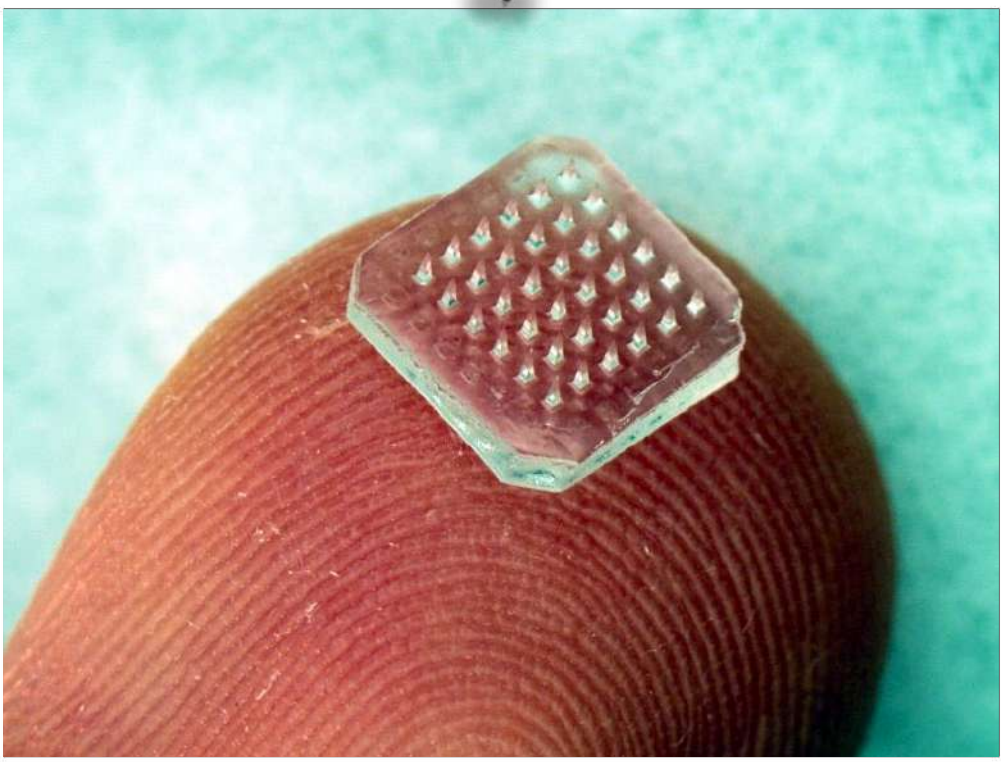
Yes, that's correct. Micro needling is a popular cosmetic treatment that is used to improve the appearance of the skin. It works by creating tiny punctures in the skin, which stimulates the production of collagen and elastin. These two proteins are important for maintaining the structure and elasticity of the skin, and when they are produced in greater quantities, they can help to improve the appearance of fine lines, scars, and other skin imperfections.

The procedure is relatively quick and can be done in a doctor's office or a spa. It is generally well tolerated and has few side effects, although some people may experience redness and swelling in the treated area for a few days after the treatment.

Microneedle devices could enable testing and treatment to be delivered in underserved areas because they do not require costly equipment or a lot of training to administer. Micron Biomedical has developed one such easy-to-use device: a bandage-sized patch that anyone can apply. Another company called Vaxxas is developing a microneedle vaccine patch that in animal and early human testing elicited enhanced immune responses using a mere fraction of the usual dose. Microneedles can also reduce the risk of transmitting blood-borne viruses and decrease hazardous waste from the disposal of conventional needles.

Results:-

Micro needles are used to administer medications through the skin. This method can be used to deliver a wide range of medications, including painkillers, hormones, and anti-nausea drugs. Transdermal drug delivery can be an effective alternative to traditional methods of administering medication. Overall, micro needles have been proven to be a safe and effective tool in a variety of medical and cosmetic procedures. They can help improve the appearance of the skin and deliver medication to the body in a more targeted and efficient manner



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~By Aman Gudekar
S.E Extc

2. Embedded Security Systems

Embedded security is designed to protect the embedded components and software within an IoT device. Implementing IoT security at this level can be difficult but provides a number of benefits. Embedded systems security provides mechanisms to protect an embedded system from all types of malicious behavior. In this section, you'll learn about embedded systems security, related security terms, software and physical security and four qualities of embedded systems that affect security.

Common Embedded System Security Challenges :-

IoT device manufacturers face several challenges when attempting to secure their products against cybersecurity threats. Some of these challenges include:

Third-Party Components :- IoT device manufacturers commonly use third-party components as part of their devices. These components create a potential supply chain vulnerability since they could be modified to include malware or contain exploitable vulnerabilities. Without embedded security, it may be difficult or impossible to detect and protect against these low-level threats.

Lack of Standardization :- *The IoT industry has few current regulations and standards, especially in the area of cybersecurity. This makes it more difficult to develop secure devices as manufacturers struggle to be certain of the security of the components that they use and systems that they interact with. Additionally, the lack of "best practices" makes it harder to determine if a manufacturer is properly securing its devices.*

Unmanaged and Unpatched Devices :- *IoT devices are often deployed with minimal monitoring and maintenance. This means that vulnerabilities on the device may be left unpatched, leaving it vulnerable to exploitation. An embedded security solution that simplifies device security monitoring and updates can help to address this issue.*

Insecure Network Connectivity :- *As 5G becomes more popular, an increasing number of IoT devices will be directly connected to mobile networks. With direct-to-Internet connectivity, these devices lack the protection of an Organization's internal security stack. As a result, on-device security solutions are essential to protecting these devices against attack.*

Like computers, many embedded systems have security vulnerabilities that can provide a way for a threat actor to gain access to the system. Typically, there is a time lag between the discovery of a specific vulnerability—such as a CVE, misconfiguration, or weak or missing encryption—and the availability and application of a patch or other remediation. Meanwhile, vulnerable systems are at risk. System hardening and the use of additional layers of security—such as a managed security service, firewall or intrusion detection and prevention system (IDPS)—reduce the risk that a threat actor will successfully exploit the vulnerability.

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~ By Divyesh Saroj
S.E Extc

3. Digital Medicine

Digital medicine describes a field dealing with the use of technology as tools for measurement and intervention in the service of human health. Digital medicine products are powered by high-quality hardware and software that broadly support the practice of medicine, including treatment, recovery, disease prevention, and health promotion for individuals and across populations.

Digital medicine as a discipline includes both broad expertise and responsibility for the use of these digital tools.

Digital medicine focuses on generating evidence to support the use of these technologies.This products can be used alone or in conjunction with drugs, biologics, devices or other products to optimize patient care and health outcomes. Digital medicine provides patients and healthcare providers with intelligent and affordable tools to address a wide range of conditions through high-quality, safe and effective data-driven measurements and inventions.

As digital technology became more portable, easier to use and affordable, it began to capture the minds of medical researchers. From new imaging tools to mobile devices, Stanford researchers are exploring how to use technologically advanced tools to fill gaps in patient care. And that started to change..

The following two stories show how Stanford researchers are exploring using new technologies to solve old problems. An emergency room doctor is using tablets to train community health workers in underservedrural areas of Haiti and India. Radiologists transform holograms to aid breast tumor removal. Heart doctors are tapping into society's obsession with smartphones to try and "ping" people off the couch and onto their feet. And researchers are using Google Glass to provide home therapy for children with autism.

"There is a revolution in healthcare that is largely driven by technology," said Michael Halaas, associate dean for industry relations and digital health. "There are many great ideas emerging to transform healthcare that are digitally driven, but they need to be validated and thoughtfully presented. We continue to focus on developing digital health tools that can improve health while preserving the human element that is vital to the delivery of care."

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~By Nameet Bhattacharjee
S.E Extc

4. 3D Genomic Printing

Three dimensional (3D) bioprinting is the utilization of 3D printing-like techniques to combine cells, growth factors, and/or biomaterials to fabricate biomedical parts, often with the aim of imitating natural tissue characteristics.

Generally, 3D bioprinting can utilize a layer-by-layermethod to deposit materials known as bio-inks to create tissue-like structures that are later used in various medical and tissue engineering fields.

Genomic imprinting is an inheritance process independent of the classical Mendelian inheritance. It is an epigenetic process that involves DNA methylation and histone methylation without altering the genetic sequence. These epigenetic marks are established ("imprinted") in the germline (sperm or egg cells) of the parents and are maintained through mitotic cell divisions in the somatic cells of an organism.DNA of Things technology has a number of applications that go beyond simple reproduction. For instance, the research team says it can be used to conceal information inside of everyday objects.

Technology is capable of amazing things, but it doesn't mean those things are easy. It's incredible that scientists can produce DNA in a lab, but the process is difficult, lengthy and requires toxic chemicals. Imagine, however, if they could simply print it, the way that you would 3D print anything else. That could be the future, after scientists at UC Berkeley and Lawrence Berkeley National Laboratory developed a new way to synthesize DNA. The method could lead to DNA printers, similar to ordinary 3D printers, that could produce DNA strands that are more accurate and 10 times longer than the strands produced with today's methods – more quickly and easily, and without the use of toxic chemicals.

The DNA 3D printing market is concentrated with few players, as the market is witnessing robust growth over the forecast timeline due to the rising adoption of innovative technologies. As the innovations in DNA 3D printing are leading to bring down the cost of constructing DNA strands, these entrepreneurs are aiming for a low price point. This will act as a growth rendering factor over the forecast period.The unique technology could also be used to mark and identify things like medication or construction materials. Data about the medication's quality could be stored directly inside of it, enabling supervisory authorities to conduct quality control tests directly on the product. In construction, the technology could be valuable in telling future construction workers what products were used in a building.

Today, the DNA of Things method is still too costly to be broadly applied, but the research team says that the cost of producing the DNA-embedded objects will decrease (per unit) the larger batches are made—because the bulk of the cost is associated with the DNA synthesis.

3D Printing of Molds

The device and the mold platform structure were designed in AutoCAD. The stereolithography mold was printed on a Form2 SLA desktop 3D printer using Formlabs standard clear resin. The "One-click Print" tool in the PreForm software was used to orient the part on the print bed and generate support structures. The layer height for the print was set at 25 μm. The printed part was washed with isopropyl alcohol (IPA) in the Form Wash for 20 min.

Device Fabrication

Devices were replicated from the 3D-printed mold in PDMS by first mixing silicone elastomer and curing agent (Sylgard 184, Dow Corning) at a 10:1 ratio for 5 min at 2000 rpm in a Thinky ARE-310 mixer, followed by a degassing step at 2200 rpm for 5 min. The PDMS mixture was poured on the 3D printed mold, degassed again in a vacuum desiccator for 20 min, and then cured at 75 °C for 2 h. The cured PDMS was peeled off from the mold, and 1.5 mm diameter reservoirs were punched in the gel and fluid channels. The devices were bonded to a glass slide after oxygen plasma treatment for 2 min in a Harrick PDC-32G plasma cleaner and then heated at 75 °C for 36 h prior to use.

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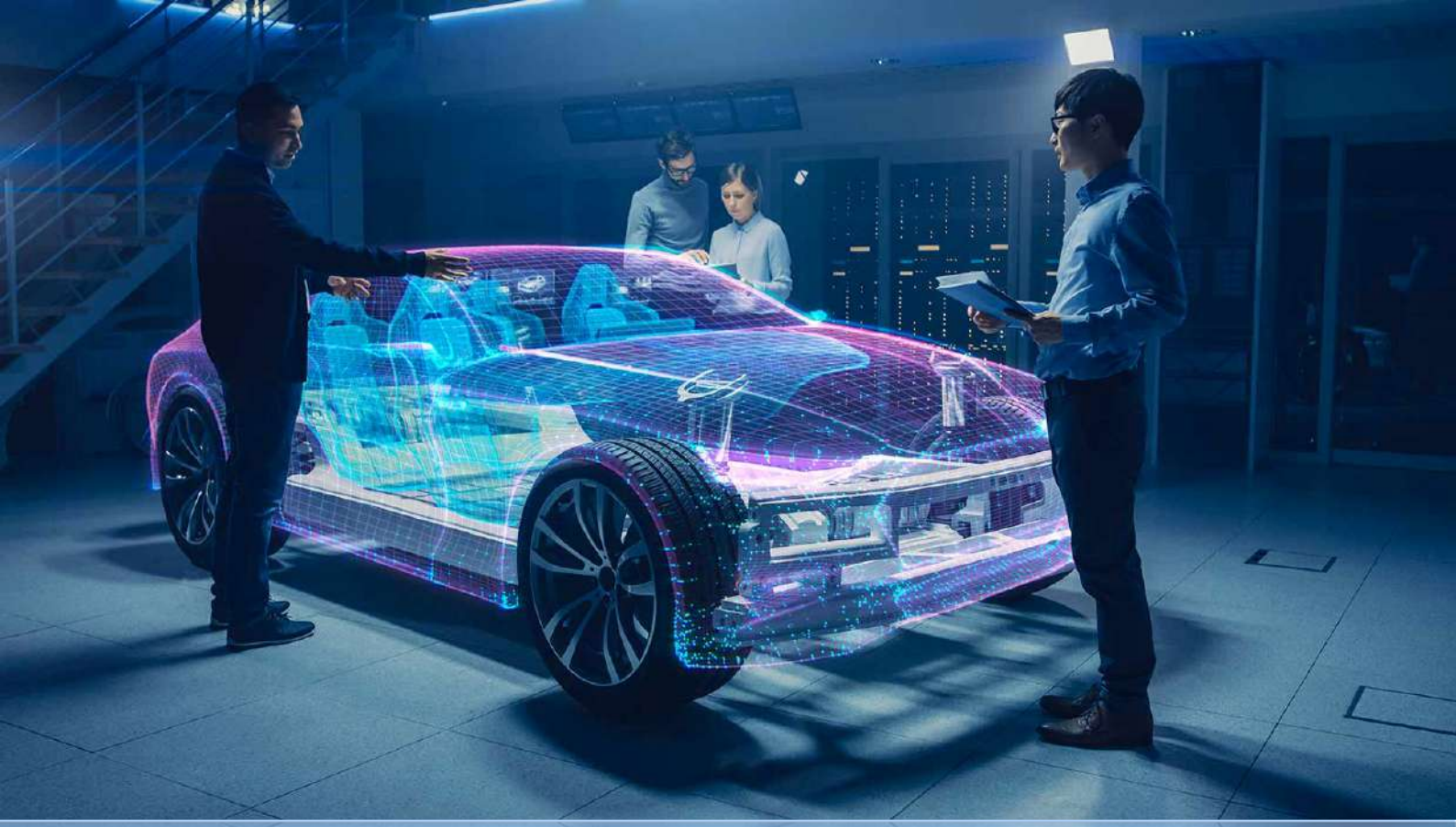
~By Kshitij Dandge
S.E Extc



5. Spatial Computing

Spatial computing is the digitization of activities of machines, people, objects, and the environments in which they take place to enable and optimize actions and interactions. This technology has the potential to digitally transform how industrial enterprises optimize operations for frontline workers in their factories, worksites, and warehouses.

What can spatial computing do?

As an emerging technology, the possibilities are limitless for industrial use cases for spatial computing to drive value across products, people, places, and processes. Below are a few applications of spatial technologies PTC envisions within the industrial workplace.With augmented reality as an interface, spatial computing enables more seamless interactions between people, products, processes, and physical spaces.

This technology has the potential to revolutionize the way we interact with the world around us, offering new ways for us to access information, communicate with others, and complete tasks.

With augmented reality as an interface, spatial computing enables more seamless interactions between people, products, processes, and physical spaces. This technology has the potential to revolutionize the way we interact with the world around us, offering new ways for us to access information, communicate with others, and complete

tasks. With the integration of AR into various industries, such as retail, education, and healthcare, we are beginning to see the transformative power of spatial computing and its ability to create immersive and interactive experiences.

"Spatial computing" at the heart of this scene is the next step in the ongoing convergence of the physical and digital worlds. It does everything that virtual reality and augmented reality applications do: it digitizes objects that connect via the cloud; allow sensors and motors to interact with each other; and digitally represent the real world. It then combines these capabilities with high-fidelity spatial mapping to allow a computer "coordinator" to track and control the movements and interactions of objects as a person moves through a digital or physical world. Spatial computing will soon bring human-machine and machine interaction to a new level of efficiency in many areas of life, including industry, healthcare, transportation, and the home. Big companies, including Microsoft and Amazon, are investing heavily in this technology.

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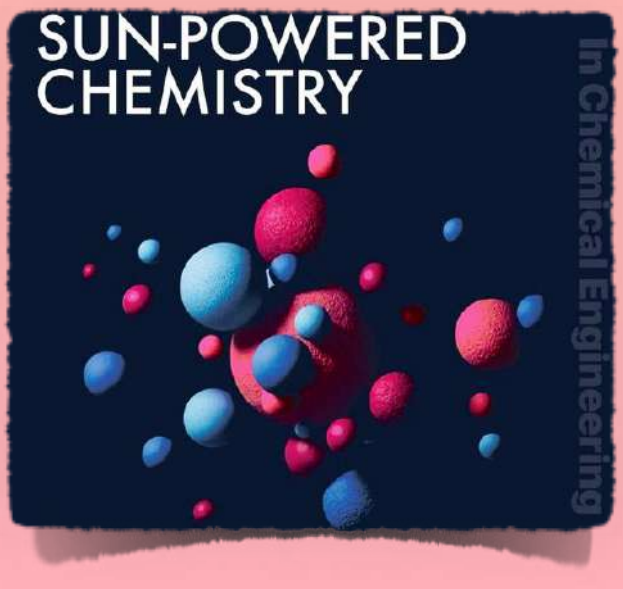
~By Hamza Farid
S.E Extc

6. Sun Powered Chemistry

The manufacture of many chemicals important to human health and comfort consumes fossil fuels, thereby contributing to extractive processes, carbon dioxide emissions and climate change. A new approach employs sunlight to convert waste carbon dioxide into these needed chemicals, potentially reducing emissions in two ways: by using the unwanted gas as a raw material and sunlight, not fossil fuels, as the source of energy. needed for production.



This process is becoming increasingly feasible thanks to advances in sunlight-activated catalysts, or photocatalysts. In recent years investigators have developed photocatalysts that break the resistant double bond between carbon and oxygen in carbon dioxide. This is a critical first step in creating "solar" refineries that produce useful compounds from the waste gas—including "platform" molecules that can serve as raw materials for the synthesis of such varied products as medicines, detergents, fertilizers and textiles.

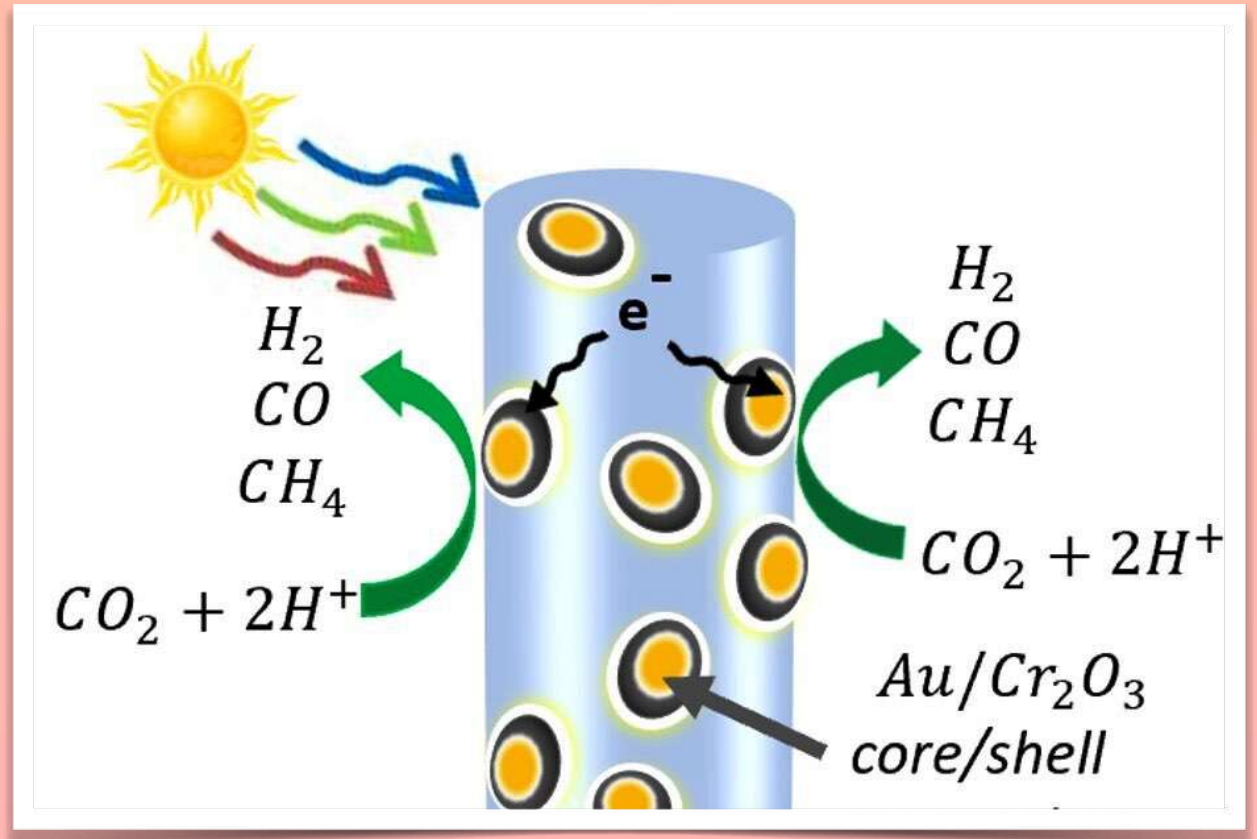
Objectives:-

Photocatalysts are typically semiconductors, which require high-energy ultraviolet light to generate the electrons involved in the transformation of carbon dioxide. Yet ultraviolet light is both scarce (representing just 5 percent of sunlight) and harmful. The development of new catalysts that work under more abundant and benign visible light has therefore been a major objective. That demand is being addressed by careful engineering of the composition, structure and morphology of existing catalysts, such as titanium dioxide. Although it efficiently converts carbon dioxide into other molecules solely in response to ultraviolet light, doping it with nitrogen greatly lowers the energy required to do so. The altered catalyst now needs only visible light to yield widely used chemicals such as methanol, formaldehyde and formic acid—collectively important in the manufacture of adhesives, foams, plywood, cabinetry, flooring and disinfectants.

At the moment, solar chemical research is occurring mainly in academic laboratories, including at the Joint Center for Artificial Photosynthesis, run by the California Institute of Technology in partnership with Lawrence Berkeley National Laboratory; a Netherlands-based collaboration of universities, industry and research and technology organizations called the Sunrise consortium; and the department of heterogeneous reactions at the Max Planck Institute for Chemical Energy Conversion in Mülheim, Germany. Some start-ups are working on a different approach to transforming carbon dioxide into useful substances—namely, applying electricity to drive the chemical reactions. Using electricity to power the reactions would obviously be less environmentally friendly than using sunlight if the electricity were derived from fossil-fuel combustion, but reliance on photovoltaics could overcome that drawback.

Examples:-

Solar-powered synthesis gas could recycle carbon dioxide into fuels and useful chemicals, If we can generate syngas from carbon dioxide utilizing only solar energy, we can use this as a precursor for methanol and other chemicals and fuels. This will significantly reduce overall CO2 emissions, said Zetian Mi, professor of electrical and computer engineering at the University of Michigan, who led the study published in the Proceedings of the National Academy of Science. Composed mainly of hydrogen and carbon monoxide with a little methane, syngas is commonly derived from fossil fuels with the help of electricity.



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~By Neha Dhabadghaw
S.E Extc

7. Virtual patients

The term virtual patient is used to describe interactive computer simulations used in health care education to train students on clinical processes such as making diagnoses and therapeutic decisions. Virtual patients attempt to combine modern technologies and game-based learning to facilitate education, and complement real clinical training. The use of virtual patients is increasing in healthcare due to increased demands on healthcare professionals, education of healthcare trainees, and to provide learners with a safe practice environment.There are many different formats from which a virtual patient may choose, but the overarching principle is that of interactivity.

Virtual patients typically have mechanisms where information is parsed out in response to the learners, simulating how patients respond to different treatments. Interactivity is often included with questions, specific decision-making tasks, text-composition etc. and is non-sequential. Most systems provide quantitative and qualitative feedback.

Objectives:-

The objective of this review was to evaluate the effectiveness of virtual patient simulation for delivering pre- and post registration health care professions education using the following comparisons:

1) Virtual patient versus traditional education
2) Virtual patient blended learning versus traditional education
3) Virtual patient versus other types of digital education
4) Virtual patient design comparison

By traditional education, we mean all nondigital educational methods. This includes lectures, reading exercises, group discussion in classroom, and nondigital simulation as standardized patients or mannequinbased training. Virtual patient blended learning is the addition of virtual patients as a supplement to traditional education when the control intervention uses nondigital education methods only. Other types of digital education may include interventions such as video recordings, Web-based tutorials, or virtual classrooms

Conclusions:-

Virtual patients have been shown to be a time-efficient and cost-effective method of developing clinical reasoning skills in students through independent and repeated practice of physician tasks in a safe environment without the risk of harm to the patient or learner, which can significantly increase the mental pool of learned cases in students.Unlike simulated or real patients, virtual patients can be accessed on demand, and the user may monitor a case over several months while spending less than an hour in real-time.

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~By Neha Dhabadghaw
S.E Extc

8.Electric Aviation

In Electric aircraft is an aircraft powered by electricity. Electric aircraft are seen as a way to reduce the environmental effectsof aviation, providing zero emissions and quieter flights.Electricity may be supplied by avariety of methods, the most common being batteries. Most have electric motors driving propellers or turbines.

The Velis Electro became the first type certificated crewedelectric aircraft on 10 June

Electric aviation has become an important area of research following the rapid growth of the aviation industry, which directly corresponds to significant growth inaviation-related emissions. Despite the promising emission reduction potential of electric airplanes, several

In 2019, Eviation Aircraft had a backorder for more than 150 of its nine-passenger Alice airplanes with a range of 650 miles. Starting in the 2020s, there were more than 100 electric aviation projects under development worldwide. In 2022, United Airlines announced plans to have 100 30-passenger combination electric/propeller planes in the air for short trips by 2030. The hybrid planes, which were purchased from Swedish startup Heart Aerospace, can travel roughly 125 miles on battery before switching to fuel. Full recharging is expected to take only 30 minutes.

Regional Air mobility:-

Regional air mobility (RAM) offers a huge opportunity to reinvigorate existing airport infrastructure and networks, which are often underserved, for commuter aircraft and thin- haul cargo.By offering a cost-efficient landscape for short take-off and landing, RAM could be the answer to costly business commutes, especially in geographically remote or hard to reach areas, as well as supporting enhanced demand for the transportation of goods through e- commerce.With the development of electric machines in the power class of around half a megawatt, Rolls-Royce will help hybrid- and all-electric commuter aircraft operate commercially in the second half of this decade.Urban air mobility (UAM) such as air taxis and electric take-off and landing vehicles (eVTOL) are due to take to the skies by the mid-2020s, creating a billion-pound market size. Designed to carry up to four people or transport light cargo, the urban air mobility industry will revolutionise intracity travel and supply chains.

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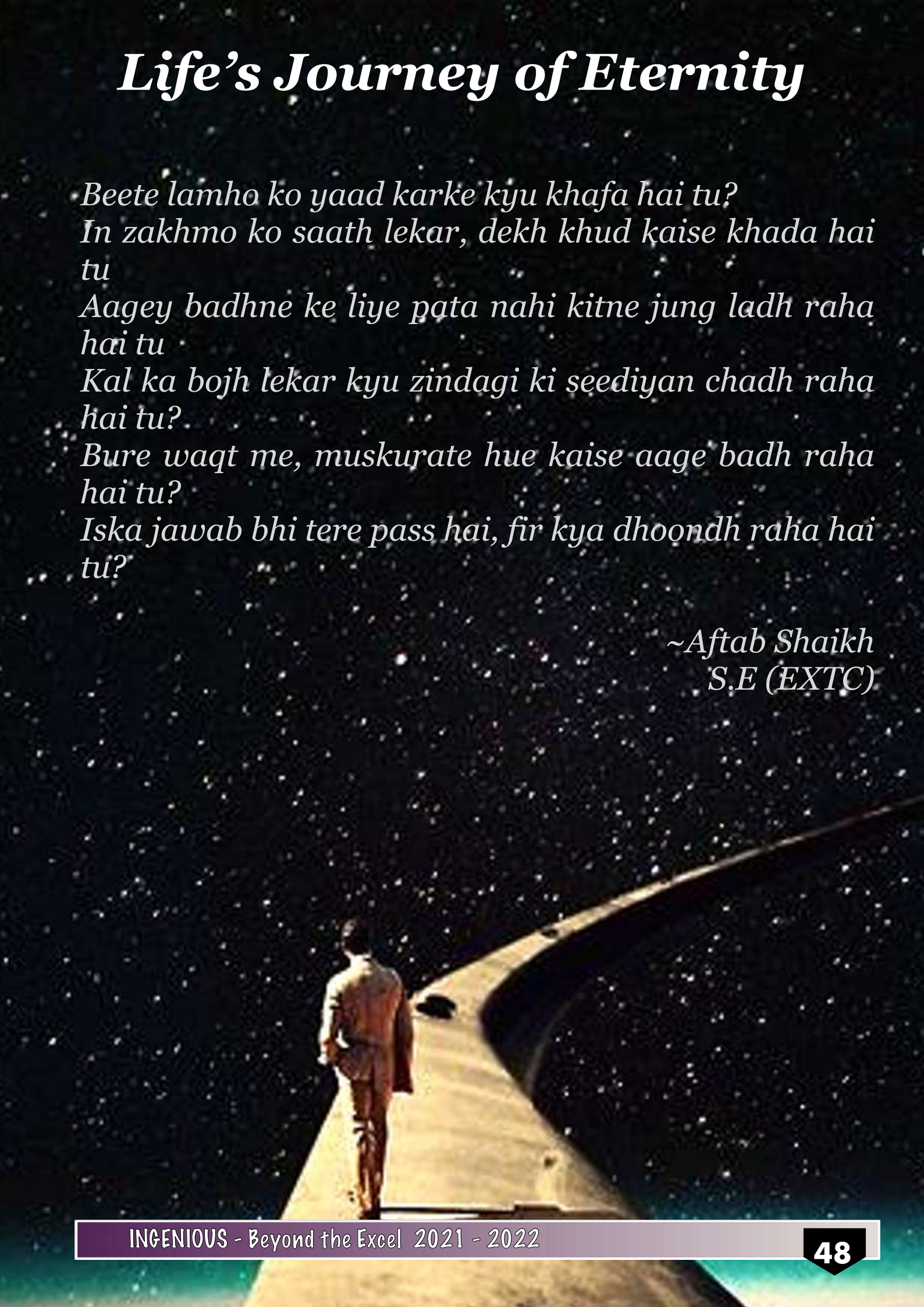
~By Muntazir Momin
S.E Extc

Life's Journey of Eternity

Beete lamho ko yaad karke kyu khafa hai tu?
In zakhmo ko saath lekar, dekh khud kaise khada hai tu
Aagey badhne ke liye pata nahi kitne jung ladh raha hai tu
Kal ka bojh lekar kyu zindagi ki seediyan chadh raha hai tu?
Bure waqt me, muskurate hue kaise aage badh raha hai tu?
Iska jawab bhi tere pass hai, fir kya dhoondh raha hai tu?

~Aftab Shaikh
S.E (EXTC)



Dastaan -E- Engineering

Kal ki he Baat thi jaha aaya tha me kitaabe lekar,
Aaj jaa rha hu toh kuch nahi bass yaadein lekar,
"Engineering college me sambhaalke rehna" dara diya sabh ne ye kehkar,
Mile kuch yaar mujhe jinhone banaa diya iss insaan ko behtar.

Thaan liya tha ki jaane nahi dunga ek bhi lecture khaali mai,
Pata nahi chala kabh guzra poora sem dost daari me,
End sem ke time jaha sabh lag jaate submission ki tayyari me,
Wahi kuch yaar the bekhabar college ki duniya se apni he duniya daari me.

Yeh toh dastoor hai har college life ka ki nigaahein kisi na kisi se mil he jaate hai,
Aur ittefaq bhi aisa voh har modd par takraate hai,
Dekhte dekhte samay guzar jaata aur usse ek lafz bhi keh naa paate hai,
Aur yeh sirf mai he jaanta hu kitni dafa usko dekhne k liye uske class k chakkar kaate hai.

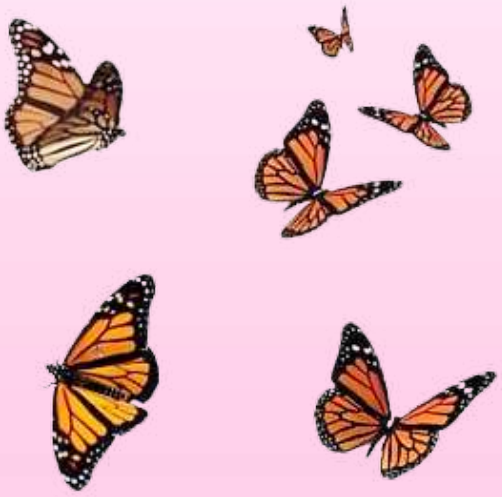
Sabar to tabh seekha tha ki kabh break ho aur teacher bahar jaaye,
Aur kabh Auto, Civil, IT, Mech wale dost ek class me mil jaaye,
Baate gam bhi aur naajaane kitne mazak udaye,
Kehne ko hum sabh alag the par voh maa ka khaana he jo sabhko ek saath laaye.

Fikar lagi rehti thi ki "yaar kal firse subeh college aana hai",
Aur aaj yeh shaam aayi jaha aakhri baar iss gate se bahar jaana hai,
Abh sabh yaado ko lekr aur voh galtiya nahi dohorana hai,
Naam roshan kar aage, tujhe ek acha Engineer kehlana hai.

~ By Aftab Shaikh
S.E EXTC

The Essence of Life - A Butterfly's Struggle

Welcome. I'm Deeksha Pal, and since reading magazines hasn't yet forayed into the realm of the dead, I'm assuming you're alive. And since you're alive, I request you to allow me to be your humble guide as I walk you through the essence of life. Have you ever seen a butterfly? Yes, the beautiful creatures with brightly coloured wings. They are considered the symbol of endurance, hope, life and transformation by many cultures throughout the world. And rightly so, because the life of a butterfly entails various struggles, right from when they are a caterpillar to when they turn into a pupa, to when the butterfly finally emerges through the tiny opening in the pupa. So, the three lessons which we can learn from this and which form the essence of our lives are as follows:-



First, what the caterpillar considers its doom, its end, is actually the exact thing which gives the butterfly a new lease of life. So, the challenges and obstacles which we consider the end of our career, the end of our lives, are actually the stepping stones to success in various forms.

The second thing which we can notice is that the transformation of a caterpillar to a butterfly does not happen overnight. It requires time, perseverance and a lot of internal changes. Similarly, we cannot expect ourselves to be a better version of ourselves overnight. It will require solving internal conflicts, strength of character and the will to improve from within. If you attach a pair of wings to a caterpillar and expect that you'll see a butterfly, you're mistaken. dysfunctional caterpillar.

Likewise, if somebody hands you ready made resources which you aren't even capable of understanding or using. Those resources will simply be wasted on you. They won't develop you. They won't improve you.

The third and the most important thing which we should notice is that when a butterfly emerges from the pupa, it struggles a lot. And that struggle is responsible for strengthening the wings of a butterfly, which allows the butterfly to fly, to fly toward its freedom and live life to its full potential. Similarly, unless you put in efforts, unless you toil for it, unless you do the hard work, you're not going to succeed and be able to live life to its full potential. If somebody helps the butterfly during this crucial phase, it is doomed to live a crippled life because its wings remain weak. Similarly, if somebody else pushes you, it's just going to propel you till a certain stage, not beyond it. It will not be a sustainable change for you.

So, after knowing these three lessons, what have you decided? Do you want to live a crippled life or are you ready to explore, ready to face the world, ready to come out of your cocoon? Do give it a thought. Thank you.

- By Deeksha Pal

Junior College: The Best Part of Life

Attending Mohammad. Haji Saboo Siddik Junior College was among the most memorable events of my life. It was a completely new circumstance. I made a few acquaintances and met a few new individuals on my first day at this college. I was chosen to act as the class's CR on the same day. I was enthusiastic to learn new facts about computer science when I decided to pursue HSC in it. I became friends with many students as the days went by. The group of our pals was the best in the class. We got up to a lot of mischief and had a fun time. The teachers we had were ardent believers in education and treated us like friends. Hardware and software were my favourite subjects. My interest in computer science expanded as I learned more about it.

As the days passed, the month of January arrived, January 26th is India's Republic Day, as we all know, we got an opportunity to performa parade on this magnificent day.

We began rehearsing for the approaching parade. One of my friends from NCC had extensive knowledge of the parade, so we decided that he should lead the march and we should follow him back. The college provided us an instructor who prepared us for the parade. The day of 26th of January arrived we were all dressed in full white uniforms, with a green beret on our heads and black shoes, we performed the parade in our college. After performing in our college and receiving praise from everyone, we were taken to Anjuman-I-Islam's Allana College for the parade competition. There were many college teams, all of which performed great that day. We didn't win, but the experience we had that day was great and unique.

The picnic was one of the nicest experiences I've ever had. It was the day we had all been waiting for. All our friends showed up at the college at six in the morning so we could leave for the picnic. When the buses arrived, we all sat down and got to having fun. We also brought food from home to eat during the journey, which we all ate together. I still remember one of my friend's getting pasta, which was the best pasta I had ever had. This was one of the memorable things for me that day. When we got to our destination, we all hopped off the bus, hurried to the bathroom, changed into our swimming clothing, and then dove into the water to begin playing. I avoided going in deep water and was terrified to ride the slides because I have a severe fear of both. My pals grabbed my wrists and legs and started dragging me toward the slide since they could tell I was scared, but I was able to break free and turn around. They all encouraged me to go down the slides with them, but I declined out of extreme fear. While our teachers, who were more like our friends, were sitting apart, we decided to go take a few pictures with them. We grabbed our phones and snapped numerous pictures with our teachers, who were also having fun. We all snapped a lot of photos with our pals, and those photos became our finest memories. After a little while, we stopped for lunch, which was delicious and enjoyed by all. Following lunch, we returned to the lake. We dried off, put on our clothing, and then it was time to depart the location after having a terrific day and creating wonderful memories. Everyone was extremely exhausted as we travelled back to our homes and boarded our buses; most of them fell asleep on board. Everyone then returned to their homes from college. after having a terrific day and creating wonderful memories. Everyone was extremely exhausted as we travelled back to our homes and boarded our buses; most of them fell asleep on board. Everyone then returned to their homes from college. We used to compete with one another during exam periods, which helped us become more and more competitive. Our friendly competition was healthy. I recall that my friends and I used to stay up late studying for exams that taught us how to work hard in life. I learned a lot in junior college that I will apply to my life.

I will never forget my teachers because, as I mentioned, they were more than just our teachers; they were also like friends to us. Few days after our board exam was over, we friends went specifically to see our beloved teachers who gave us so much knowledge and value. The friends I made were some of the bests, and I will never forget the things I learnt from them.

In conclusion, I would like to state that my time spent in college was the best time of my life. I will always cherish the memories of those classmates, those instructors, and, most of all, the entire college. I also urge everyone to make full use of their college years because you can only have these kinds of experiences there.

~By Divyesh Saroj

S.E Extc

In conversation with Dr.Iqbal Shaikh

~Interview of Dr.Iqbal Shaikh, Author of Tech Knowledge, Ph.D. Physics
By Team Magazine

Dr. Iqbal Shaikh , Ph.D.(Physics), Thesis title **" INVESTIGATION OF MAGNETIC & ELECTRICAL PROPERTIES OF MIXED OXIDES & OXIDE SUPERCONDUCTORS "** , shares his valuable experience of how he achieved great heights of success with his studies. He has published total 28 books till date & 11 Research Papers in International Journals. He has completed M.SC (Physics) Department of Physics Saurashtra University Rajkot (1990) and Achieved University First Rank.

Neha: When you get inspiration to go for research in the field of physics?

DIS: I never found research interesting, but while I was in graduation, I realized something was missing. I noticed a difference between professors who had doctorate degrees and those who did not. When I entered Masters, most of my faculty members were from an international background and that made me to go deeper in my studies. I also had the opportunity to clear Junior Research Fellowship and received a handsome fellowship, which was a major factor in my decision to continue with research. My research experience started before my PhD work and I was able to complete it in a short amount of time by visiting various labs in India. I have eleven papers in international journals and one review article, which is a significant achievement. My PhD was awarded in December 1994 and my desire to be respected by others was a key factor in my decision to pursue research.

Kshitij: How do you plan to involve undergraduate and graduate students in your research?

DIS: As someone who completed research working with a prestigious institute like TIFR, I can attest that it is not easy to enter that field. However, from the beginning, if you set your mind to it, it becomes a bit easier. In my role as someone who helps frame the syllabus, I have taken the first step towards developing a research atmosphere for first-year engineering students by eliminating assignments and replacing them with mini projects. This project is a full-year project and includes submissions of titles and statement of problems in the first semester, with execution in the second semester.This way, students learn to have proper planning and execution

Neha: Can you please discuss a difficult problem you have encountered in your journey of research and how you have overcome through it?

DIS: Mine was basically an experimental work. So, my biggest problem was like instruments or experimental setups which are needed in my work. They are very costly every university cannot afford. And that's the reason, the problem which I used to face or rather I remember very clearly is like taking instruments here and there for simple job that is calibration. I still remember that from Rajkot that is located in Gujarat, I had taken some instruments which were very important and costly all the way to Pune for calibration purpose, and funny thing happened was like I was caught by Octroi people and like culprit I was meant to sit over there at Octroi Naka and that too for really a long time.

Zeeshan: How do you plan to spread your research finding to a wider scientific community?

DIS: That is a very well-established network. We have that is research papers. Whether it is me or any other eminent person, you can easily reach to others only through research papers. And like whether it is published in journals or it is published in conferences. So, for that, as an individual, I cannot do much basically like participation in good sort of conferences where you can have mutual exchange of ideas and all these things. Whereas journals with high impact factor and all, they play a very important role in enhancing the quality of research or research aptitude in researchers. So basically, would like to say that visit library.

Hamza: How do you plan to involve other researchers and institutions? How you collaborate with the other researchers and institutions?

DIS: What has happened is funds in research domain as of today, what we are facing is the scarcity of funds. Previously, government of India or other funding agencies, they used to sanction quite huge amount. But global scenario has compelled them not to go ahead. Even in my case, like I had almost I'm talking about 90s in those days, around a lakh of rupees I used to have for contingency just for travel. Whereas most of the researchers are finding it too tough to arrange funds. And there are two reasons, one of them is the quality of research has gone down I should say the originality that concept is somewhere lost. Secondly, people have forgotten the difference between PhD and research. Now, these two are two separate questions like for college faculties, if they want is PhD or research. These two are two different aspects. So people have become more inclined towards PhD and not research. So by hook or by crook they want degree and with this only you can understand that it is far more difficult to get a person I mean inclined towards research. So newcomers must find out the difference and must keep this in the mind before they take up any sort of activity.

Zeeshan: How do you try to evolve undergraduate research?

DIS: Getting them involved into as on today I am focusing myself towards popularizing the science. So in that connection, like I deliver lectures at the various colleges on coming 30th I'm having one say such a lecture at Saint Xavier's College of Engineering Mahim. Likewise, I keep delivering lectures and kind of seminars just to inculcate quality research because I keep delivering lectures on research methodology or something which I personally feel that this is the area where we have a lot

Hamza: How do you decide on the level of complexity about the periods mentioned in the book?

DIS: My origin as writer is somewhere hidden in reduce scriptwriting. When I was a graduate student, in those days, to earn money, I began writing as a way to earn money as a graduate student. I wrote reduced books and earned Rs35 per program. My writing habits from those days, I wrote in a way that could be helpful and earn money, led to my interest in writing books. I remember the days when I was a student where I collected questions that were likely to be asked in viva exams and even conducted a day-long session for viva. I started writing books and put a lot of effort's and responsibility for every sentence in it, even sending my family on vacation for 8-10 days to work on it. My books are now being used in several universities, and by the grace of God, I had written almost 29 or 30 books so far.

Aman: What are your Plans for other books in the field of physics?

DIS: Definitely yes. Because my plan is to write a book on, say, light pollution. See, basically that is the area which probably is under Discovered and underdeveloped, but definitely like the way today we have been talking about, say, Water Pollution or Air pollution or Sound Pollution. Same way. Let me be the pioneer in that field. Like even light is being polluted and as early as possible. We require a check on that. So basically, I would like to write a book probably like I may start very soon but there I want to make people aware that don't take light as in the purest form. It is polluted now and the way we spend whole day into artificial light that is causing lot of harm and we are having this call centers and since we are working as for international timings and all and definitely then we expose our body unnecessarily to artificial. Light and we are not definitely going towards sunlight and that is causing numerous problems and people are really not at all aware about that so just to make people aware or to make even

Namit: Any suggestions for the upcoming students who are just joining engineering?

DIS: I believe that it is important for students to be honest with themselves and to believe in hard work. I am in the concern that students are losing the ability to understand and interpret mathematics, which is an important tool in the field of engineering. I advise students who are pursuing engineering to develop a "smart mathematics" skill set, as it will be invaluable in their future careers. I give caution that, without this skill, four years of college will not yield any significant benefits.

~Team Magazine

Thank you so much,

Dr. Iqbal Shaikh, for taking time to speak with Team Magazine. Your insights & perspectives have been valuable and have greatly enriched our understanding of the topic at hand. Your generosity and willingness to share your knowledge with us is greatly appreciated. We hope to have the opportunity to work with you again in the future. Thank you !!😇

In conversation with Prof.Nabanita Nath Chowdhury

~Interview of Prof.Nabanita Nath Chowdhury, Tpo Co-ordinator,
By Team Magazine

Prof. Nabanita Nath Chowdhury is a competent individual with a degree in M.Tech. in Electrical Engineering from Calcutta University. She has worked at IIT, Bombay as a Research Fellow, in the Nano Electronics field, specifically on **"Organic Solar Cell fabrication"**, and also worked as a Lecturer in the Electrical Department of Meghnad Saha Institute of Technology, Kolkata for 1.2 years. As she worked with **Wipro Technologies** as **Project Engineer** for 1.3 Years she gained exposure to Computer Applications. Currently, she is working as an Asst. professor in Electronics and Telecommunication Dept of M.H.S.S. College of Engineering, Mumbai.

Kshitij: Can you tell me about the main objectives of your institution's career services department?

Prof.NC: Absolutely. Our department's main goal is to equip students with the necessary skills and knowledge to secure employment after graduation. To achieve this, we establish partnerships and connections with companies and organizations to provide students with internships and job opportunities. We also offer career counselling and guidance, including resume building and interview preparation, to assist students in their job search. In addition, we provide training and development programs for students to improve their employability skills, as well as support for alumni in their job search and career development. Our department also measures and improves the employment rate and level of satisfaction of graduates, while ensuring that companies receive the best-suited talent for their needs.

Hamza: To What Extent Is training content or delivery Customizable?

Prof.NC: In some cases, training content may be highly Customizable. For example, an Organization may work with a training provider to develop a Customized training program that is tailored to the specific needs and goals of the organization. This could include customizing the content to focus on specific industry

Namit: Which Skills are required to nurture highest package?

Prof.NC: Well, in today's job market, there are a lot of skills and qualities that employers are looking for. Technical skills, for example, are highly valued in almost every industry, as they demonstrate a deep understanding of specific concepts and tools. Leadership and management skills are also very important, as they show that a candidate can effectively manage teams, projects, and initiatives. Communication and negotiation skills are necessary to convey ideas and influence others, while problem-solving and critical thinking skills are highly valued because they allow individuals to analyze and solve complex problems. Adaptability and flexibility are becoming increasingly important, as technology and the job market continue to evolve rapidly. Digital skills are also highly valued, as proficiency with digital tools and technologies is increasingly important in almost every industry. Finally, an entrepreneurial spirit and the ability to think outside the box and come up with innovative solutions are highly valued in today's job market, as are emotional intelligence skills that allow individuals to understand, manage, and express their emotions in a positive way. Overall, employers are looking for candidates who can bring a wide range of skills and qualities to the table, and who are willing to adapt and grow as the job market continues to change.

Aman: What pre requisite skills that an student should develop before opting for an interview?

Prof.NC: Before a student decides to attend an interview, there are several important skills that they should develop to ensure that they have the best possible chance of securing the position. First, it's crucial that they know how to write an effective resume and cover letter, as this is often the first point of contact with the employer. They should also take the time to research the company and understand the job requirements, in order to prepare themselves for the interview process. Strong communication skills, both verbal and written, are also essential for effectively communicating their qualifications and experiences to potential employers. It's also important to have good time management and punctuality, as this demonstrates reliability and responsibility.

Zeeshan: What is the difference between on campus, off campus, pool campus?

Prof.NC: On-campus recruitment refers to the process of companies visiting a college or university campus to recruit students for job or internship opportunities. This typically happens on a regular basis, with companies coming to the campus to conduct interviews and meet with students. Off-campus recruitment refers to the process of companies recruiting all students who got their degree or done with final year paper and waiting for results, it is open to all eligible candidate. Pool campus recruitment is a recruitment drive where multiple colleges or universities come together to conduct recruitment drive. This is generally organized by the colleges or universities themselves, or by a recruiting agency. This allows the companies to reach a wider pool of candidates and to identify the best talent from multiple colleges or universities.

Namit: Any Suggestions for the upcoming third year and second year students?

Prof.NC: The experienced professor suggests that upcoming third-year and second-year students should focus on building their professional network, exploring different career options, improving their technical skills, getting involved in extracurricular activities, thinking about internships, being open to new opportunities, improving their soft skills, attending career fairs and workshops, and taking advantage of campus resources.

Thank you so much Prof Nabanita Nath Chowdhury, for taking the time to speak with Team Magazine. Your insights and perspectives have been invaluable and have greatly enriched our understanding of the topic at hand. Your generosity and willingness to share your knowledge with us is greatly appreciated. We hope to have the opportunity to work with you again in the future. Thank you!!😇

Programme Outcome (PO's):-

PO1. Graduates will develop an ability to apply knowledge of science, mathematics and engineering fundamentals appropriate to the discipline

PO2. Graduates will develop an ability to design and conduct experiments, as well as to analyze and interpret data to produce meaningful conclusions and recommendations.

PO3. Graduates will develop an ability to design, implement, and evaluate a circuit-based system, process, component, or program to meet desired needs within realistic constraints such as economic, environmental, manufacturability, and sustainability.

PO4. Graduates will develop an ability to analyze, identify, formulate and solve hardware and software based projects accounting for the interaction between hardware and software appropriate to its solution using current techniques, skills, and modern engineering tools

PO5. Graduates will develop an ability to analyze the local and global impact of communication techniques on individuals, organizations, and society.

PO6. Graduates will develop Knowledge of contemporary issues in the social sciences and the humanities using electronic circuits and communication.

PO7. Graduates will develop an understanding of professional, ethical, legal, security and social issues and responsibilities.

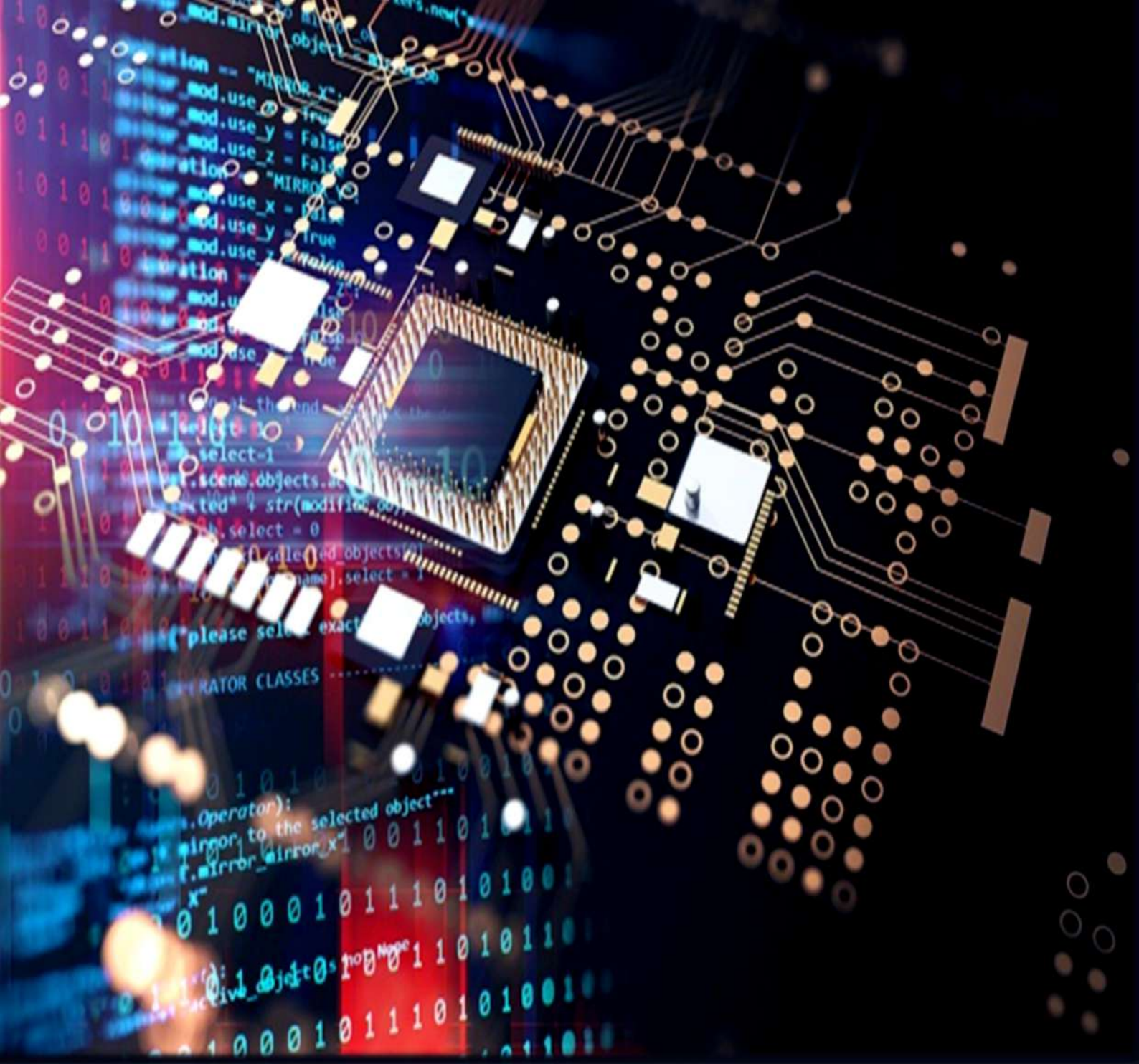
PO8. Graduates will develop an ability to function effectively individually and on teams, including diverse and multidisciplinary areas, to accomplish a common goal.

PO9. Graduates will develop an ability to propose original ideas and solutions as well as communicate effectively in both verbal and written forms to the customers/users.

PO10. Graduates will develop an ability to propose original ideas and solutions as well as communicate effectively in both verbal and written forms to the customers/users.

PO11. Graduates should be capable of self-education and clearly understand the value of lifelong learning

PO12. An ability to have an entrepreneurial mindset to apply knowledge of electronics and tele-communication engineering and management to one's own surrounding environments.



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