



TIREZIA

Volume 14, Issue 2

The Editorial Board
-Beckoning Creati'wit'y

June Issue

Indelibly Inked

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#International Yoga Day

Interviewing

Mr. Aashish Mittal
Director, NXP Semiconductors



Message From The Editorial Board

As we switch from dismal and desolation to the mellowness of vernalis that give rise to suavity, we embrace the sixth month of the year. As every cycle shall perpetuate, it is best to revere and reminisce the memories and foresee the effulgent dazzle ushering surplus possibilities to outdo and enkindle in all facets of life. June breezes are aromatic and diffusing when breathed with elation and felicity. The month can engender a series of peerless opportunities and a window for gala, rumination, and healing. June is a spesh for ethnic mosaics because of the noteworthy celebrations of Eid ul-Adha by ceremonializing the reliance and integration in the Islamic populace, a time for rumination, relinquishment and coming together to corroborate gratefulness and regard to the almighty. Harmoniously, we are evoked and prompted with the power of perseverance and the gravity of resilience.

Concurrently, the Government of India introduced a new novel scheme, the New India Literacy Programme (NILP), to negotiate the issue of adult illiteracy on March 31, 2023. World Book Day was observed on April 23, 2023, globally to promote the delight in reading, writing, publishing, and copyright with an initiative to create awareness of the preeminence of education and literacy. On May 6, 2023, King Charles III was crowned as the monarch of the United Kingdom in a grandiose coronation at Westminster Abbey. Chennai Super Kings won the Indian Premier League 2023 on May 29, 2023, against Gujarat Titans by 5 wickets scoring 171 runs in 15 overs. The Kerala government embarked on an innovative project with the Agency for New and Renewable Energy Research and Technology (ANERT) with the lofty goal of shifting every rooftop in Thiruvananthapuram into a solar energy-producing station by May 31, 2023. The United Nations General Assembly proclaimed June 21 to be International Yoga Day to offer a holistic approach to health and well-being in addition to achieving a balance in all facets of life.

IEEE-SB, MMMUT in collaboration with SAE Collegiate Club, MMMUT organized the annual technical fest of the University, techSRIJAN '23 from May 1, 2023 to May 3, 2023, to unleash the inner technical wizardry of the students standing at the forefront of innovation. Cultural Synod in collaboration with **The Editorial Board** organized the three-day annual Art, Literary and Cultural fest Abhyudaya '23- a beacon of ebullience, zest, and fervor that celebrates the multifaceted talents of young students and a platform for their ingenuity, creativity and competitive spirit. The Robotics Club organized their technical fest Robomania '23 from May 12, 2023 to May 14, 2023, entailing various technical events followed by a band night. **The Editorial Board** successfully conducted their Induction Drive 2023 for the freshmen from May 17, 2023 to May 20, 2023.

Winds in June are magical and explicate the concept of breakthrough and evolvment that our lives have changed for the better. The ambience is pliable and resilient which makes it delectable and ambrosial to breathe. **The Editorial Board** encourages the students to cash in on the break from their monotonous regime and spare time for themselves, to revitalize and embrace themselves with authenticity and sincerity. With this, we bring the June edition of **Tiresia** and wish you all the best for your prosperous future.

bienvenidos!

Our Team

Final Year Members: Abhishek Singh Chauhan, Akansha Saxena, Divyansh Srivastav, Divyansh Vinod, Divyanshi Yadav, Harshita Pandey, Hritik Mohan, Laxmi Pandey, Navrachit Kulshrestha, Radhika Srivastav, Ritvik Maurya, Shashvat Rastogi, Swarnima Mishra, Tanya Shukla, Tarun Sonkar, Yuvraj Rajyadhayksh

Third Year Members: Animesh Kumar Singh, Anoop Singh, Bhuwan Awasthi, Dilip Kumar Singh, Ishita Srivastava, Kaushki Tewari, Mohammad Ifham, Sankalp Sharma, Shivam Srivastava, Shreyashi Rai, Unnati Verma

Second Year Members: Abhijeet Yadav, Aditya Raj, Akanksha Pal, Akshat Saxena, Awantika Krishna, Harshita Mishra, Khwaab Jaiswal, Lavanya Gupta, Mayank Jaiswal, Nadeem Ahmed Warsi, Nikhil Tiwari, Saanvi Gupta, Shreyas Kumar, Swati Tiwari

MESSAGE FROM

Faculty Advisor



Dr. S. N. Singh
Faculty Advisor

Madan Mohan
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I am delighted to avail this platform to convey and offer this communiqué for the current issuance of **Tiresia**, MMMUT. The University has closely pursued and engaged in varicolored activities over the last few months. **The Editorial Board** recently interviewed social reformist and renowned motivator, Acharya Prashant Ji, an IIT and IIM alumni. Exemplary as it is, a determined engineer makes a lifetime's worth of improvements to the nation. In light of that, I would like to extend my deepest appreciation to the members of **The Editorial Board** for organizing the interview with such a renowned and preeminent individual.

Arunoday, an annual literary event conducted by **The Editorial Board** for freshmen, was observed by the faculty and the students of the institution. Along with this, the annual sports meet, Aayaas was organised, which was a huge success as evidenced by the entire campus buzzing with zealous athleticism and the active and avid involvement of the students and faculty alike. I am also delighted to state that during the Inter-University sports competition at RML Awadh University, our young and impassioned Malaviyans procured second position overall.

At Mewar University, where the Association of Indian Universities has jointly arranged an all-India debate tournament, four students of our University competed. The participants were in the predicament of whether voting should be obligatory in a company with the genesis of democratic principles. Meanwhile, The National Digital

Library Club, Madan Mohan Malaviya University, operated by IIT Kharagpur and overseen by the Indian Ministry of Education, received a renewal for another year in February. Along the same lines, India geared up to take the G-20 leadership, surging and rocketing with fellow nations, promoting cooperation and generating awareness among the scholars and the educator academia. The young and budding Malaviyans also partook in the Gorakhpur Investment Summit with ardent fervor and gusto. The pupils' endeavors and level of dedication helped us reach these milestones. Moreover, Ambedkar Jayanti was celebrated to pay tribute to the life of the renowned polymath and civil rights activist, Dr. Bhimrao Ramji Ambedkar. Last but by no means least, the academic year ended with the annual Art, Literary and Cultural fiesta, Abhyudaya '23 which was conducted with great zeal and enthusiasm. Captivating the audience through diverse artistic expressions and electrifying performances, it has left behind a unique and enriching experience along with memories to be cherished forever.

Kudos to **The Editorial Board** team for coming forth with **Tiresia**, an exemplary publication with ranging perspectives and a plethora of viewpoints.

With best regards
Dr. Sudhir Narayan Singh
Faculty Advisor
The Editorial Board
MMMUT

Tête-à-tête

A talk with Mr. Aashish Mittal

Mr. Aashish Mittal, the esteemed director of NXP Semiconductors, boasts a remarkable academic and professional background. After graduating with a Bachelor of Technology in Electronics and Communication Engineering from MMMUT, he pursued his Master of Technology in Semiconductor Engineering from IIT-BHU. With a tenure spanning over 25 years, he has honed his expertise in the intricate realm of chip designing, showcasing his immense talent through notable engagements with renowned companies such as Motorola, Freescale, and NXP Semiconductors. **The Editorial Board** had the privilege of engaging with him, discussing his remarkable experiences.

Here's a notable excerpt from the interview.



Q How would you describe your journey as a Malaviyan?

A Malaviya is cognated with the great Indian scholar, educational reformer and a notable politician, Pandit Madan Mohan Malaviya. It was an exulting experience, an enigma to get admitted into such a prestigious institution and come by the finest opportunities the academia has to offer. The college, the association, the legacy that I have been bestowed with is monumental and stupendous to me, my accomplice and the faculty who motivated and made me a notable personage.

Q How do you keep your technical skills updated to tackle the technical standards of that time?

A A critical and an indispensable question that needs to be addressed by the nascent and incipient youth nowadays. If you're learning any type of skill, be it technical or a soft skill, to amalgamate into the corporate world, you need to keep learning because once you cease to learn, you will be dislodged from the occupation after some years due to an expression- "Learning, Unlearning, and Relearning." When one assimilates, they are obliged to commit blunders. Then they learn from those blunders to discern right from wrong. I tell people to expose themselves to challenges, to affront what is subsequent, and one should never cease to learn because the industry is changing expeditiously. One needs to persevere with the service industry, and I think young and fledgling minds should be following this mantra. One should always have the urge to get out of their comfort zone and get things done. I witness my colleagues who have discontinued learning after a few years of their

employment and for this particular reason, I share this principle because when one learns, they not only add eminence to their personality but also add value to the company, economy, and the collective development of those skills.

Q Would you like to share an anecdote from your college life that makes you feel nostalgic?

A There was a situation in Gorakhpur at that time. The roads were blocked, nobody was allowed to go anywhere, the college was off, we were stuck in hostels, we were not allowed to go home, there were no cell phones, completely put off from the outside world. The situation was so intense at that time that there was unavailability of food in the mess. Since we were famished, we decided to sneak out at night. We did and used the path through the jungle to the railway track. We reached Kunraghat to feed ourselves. That was memorable as well as emotional because now one can only look back at those memories and reminisce how beautiful and magnificent our college life was.

Q How has this college helped shape your career?

A During those times, enrolling and getting accepted into finest colleges to pursue postgraduation was a result of stirring and uplifting experience and motivation by our seniors who acted in accordance with the modus operandi. It was bestowal and legacy in its own. My GATE score was 99.93% from then I pursued my masters in semiconductors from IIT-BHU. I truly give credit to the fact that bonding with the peers matters. Today's generation can get a picture on everything and lay hold of it. We have a huge diversity in time. Before



One should always have the urge to get out of their comfort zone and get things done.

then, engineering your way into one company was colossal and I place my trust in the alliance that persuaded and inspired me to join the company.

Q What advise would you give to the students who are aspiring to crack GATE ?

A Most of the students here belong to a middle-class family and their first and foremost incitation is inferred from one's family. One needs to reconnoiter their parents, relatives, and siblings as a source of stimulants. Their anticipation will lead to motivation so that they can achieve what they are here for. I have seen numerous people who have procured so much in their lives because of how humble and motivated they were. Many of my colleagues are in engineering services and seven of them in administrative services. I advise students to acknowledge their parents' wishes as they are working every day for their wards' higher studies and fulfilling their wishes should be their foremost responsibility.

Q We are students and have yet not experienced life in the corporate world. What would be your advice to the people who are planning to get into the corporate world? What are the various things that we should keep in mind?

A It's an excellent question since I am also part of a hiring team. My company will be visiting for placement drive in 2025. So, the students should readily be able to enhance their skills based on their knowledge of the required, available, and trendy in the market. For instance, IoT, AI, Cloud Computing, etc., and this should

be done before time runs out. Joining a company necessitates a set of skills. They should be able to decide what piques their interest.

Q Sir, you mentioned that your company will be coming for hiring in 2025, so can you mention some qualities you will be looking for in the candidates?

A The companys' major focus will be on ECE students, but vacancies will also be available for CSE students. Our Company NXP Semiconductors works on chip design, so we look for candidates who are apt in all the subjects related to V.L.S.I. i.e., the basics of digital logic, analog, and the workings of the V.L.S.I. circuits. These subjects are essential and beneficial in creating Boolean Circuits and Flip Flops. Supposedly, they aren't interested in chip design but A.I. technology, then they must work on relevant programming languages. Based on their interest, initially students should clarify what they need to persevere in to have a grasp at it.

Q What is your message for the budding Malaviyans?

A It's been almost 27 years since I graduated, and to this date I relish this college and its cultural legacy. It gets emotional to meet your peers after surpassing a long time, but once you see each other, you are flooded with all the memories. The culture of the college will indubitably help the students in their future ventures. The college also has a strong alumni base, which will assuredly help the students. Lastly, my best wishes to all the students for their future endeavors.



Mr. Aashish Mittal with his professional associates.

CAMPUS

DEC 1 The Editorial Board organized a Logo Making Competition among students to mark the University's Golden Jubilee celebration.

DEC 4 The Editorial Board completed the final round of Arunoday '23 with enthusiastic participation of students.

DEC 7 NSS, MMMUT initiated stationery and cloth donation campaign GOONJ to assist village students in their education.

DEC 10 Cultural Synod organized HEATS, a platform for freshmen to showcase their skills in dance, music, drama and fine arts.

DEC 18 The Social Engineers' Board organized DRISHYAA, a career guiding and illustrating session for freshmen of the University.

JAN 17 University Innovation Cell organized INNOWIZION consisting of a series of events to encourage students towards technology.

JAN 25 "Ghamzada", A Zee Music Company song sung by Akash Dubey, was relaunched with a large congregation of students at the Multi-Purpose Hall.

FEB 03 IEEE-SB, MMMUT organized HACKFEST '23- an event that focused on solving complex problems through innovation and creativity.

FEB 11 The Editorial Board conducted an online interactive session with the renowned author and Vedanta exegete Acharya Prashant Ji to enlighten the students of the University on their spiritual and academic path.

FEB 19 Cultural Synod organized Pintura De Pilares, a pillar painting competition to hone and admire the artistic skills of the students of the University.

FEB 21 Sports Sub-Council, MMMUT flagged off the 59th Annual Sports-meet AAYAAS-23 from February 21, 2023 to February 22, 2023.

FEB 27 IEEE-SB, MMMUT organized its event PIXELS, a 4-week long online photography competition under the banner of techSRIJAN '23.

MAR 10 Malaviya Shiksha Niketan took the initiative LIBRARY, Ek Pahel to open a crowd funded library for its students as an assistance in their basic education and a step towards their upliftment and alleviation.

BUZZ

MAR 12 The 6th iteration of the 3-day annual Art, Literary and Cultural fest of the University, **Abhyudaya '23** was set into motion with a plethora of online events like **Scribbles**, **Farmaiye Huzoor**, and **Photoholic** to embark upon the cultural and festive season of the University.

MAR 19 **Electronics & Communication Engineering Society (ECES)** organized **MALAVIYA INNOVATION CHALLENGE (MIC)**-a hackathon as a touchstone to the technical skills and to gauge the innovation of the students of the University.

MAR 28 **Team Abhyudaya** under Cultural Sub-Council took an initiative- **KHYAAAL** in collaboration with the NGO Shine foundation and the NIINE company by distributing sanitary pads in the nearby villages to raise awareness regarding health and hygiene among the women.

MAR 31 The teaser of **Abhyudaya '23** was launched by the Hon'ble Vice-Chancellor of the University, Prof. J. P. Pandey, on **March 31, 2023**.

APR 24 **Electrical Engineer's Legation** organised its highly anticipated annual fest **Electra-23** from **April 24, 2023 to April 25, 2023**, with an impressive lineup of activities.

APR 24 **Syntax Seige**, an event organised by **Codechef MMMUT Chapter** featured a week-long series of offline programming classes from **April 24, 2023 to April 30, 2023**.

APR 28 **Computer Engineering Society (CES)** launched **Ennexus '23**, an exciting 3-day extravaganza of various events from **April 28, 2023 to April 30, 2023**.

May 01 **IEEE-SB, MMMUT and SAE Collegiate Club, MMMUT** collectively organized the annual technical fest, **techSRIJAN '23** from **May 01, 2023 to May 03, 2023**.

MAY 05 Cultural Sub-Council organized **Abhyudaya '23**, the 3-day annual Art, Literary and Cultural fest from **May 05, 2023 to May 07, 2023**.

MAY 08 **Association of Civil Engineers (ACE)** organized **AVALAMBAN '23** from **May 08, 2023 to May 10, 2023**.

MAY 12 **Robotics Club, MMMUT** organised **Robomania '23**, an extravaganza for robotics enthusiasts from **May 12, 2023 to May 14, 2023**.

MAY 15 **IEEE-SB, MMMUT** successfully completed its **Induction Drive** from **May 15, 2023 to May 17, 2023**.

MAY 17 **The Editorial Board** successfully completed its **Induction Drive** from **May 17, 2023 to May 20, 2023**.

JUN 13 **Codechef MMMUT Chapter** successfully completed its **Induction Drive** from **June 13, 2023 to June 18, 2023**.



Rupee 3.0



*Bits and blocks, a digital age,
New currencies, the financial stage.*

The world has come a long way since the barter system. From the origin of money in trading cowrie shells and beads to potentially surpassing paper money, the concept of capital transfer is ever-changing. With us now pushing headfirst into the technological age, digital currency is the next logical step in the evolution of tradeable money.

With the advancement of technology, everything has become faster, easier, and more efficient. In the world of currency exchange, the latest innovation that is taking the financial industry in our country by storm is eINR– the electronic version of the Indian Rupee. The advent of digital currencies and the inevitable headfirst dive of the world in the era of Web 3.0 has given rise to a new era of financial innovation, and India must not be left behind. The Reserve Bank of India (RBI) has recently introduced the electronic Indian Rupee, or eINR for short, as a digital version of the fiat currency of India. The eINR represents a sophisticated and cutting-

edge technology of Web3 applications which is designed to provide the same level of security and stability as traditional currencies while offering a host of new benefits and features. It operates on a blockchain platform that is specifically designed for use by the RBI and is expected to be more efficient, secure, and transparent than existing blockchain networks. It is stored and transacted digitally, offering users faster transaction times, lower transaction fees, and increased accessibility. It has the potential to increase financial inclusion by providing a more affordable and accessible alternative to traditional banking systems.

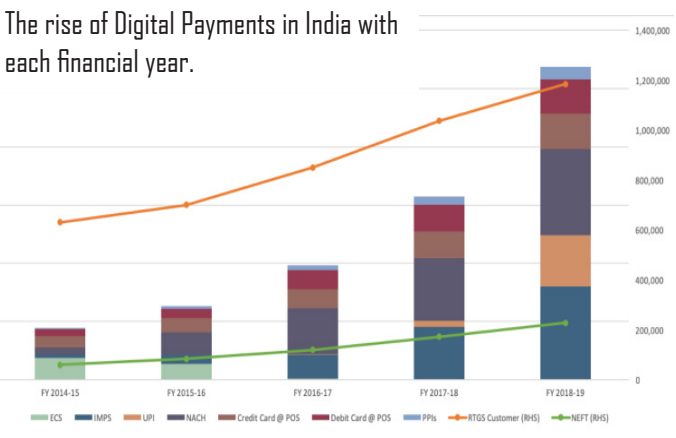
One of the most significant benefits of the eINR is its potential to reduce fraud and counterfeiting. The digital nature of the currency makes it more difficult to counterfeit or manipulate, and the transparency of the blockchain technology intrinsic to Web3 makes it easier to detect and prevent fraud. This will have a positive impact on India's cash-based economy, which has long

been plagued by forgery and fraudulent activities. Another significant benefit of the digitised currency is its potential to increase the efficiency and speed of transactions, particularly for cross-border payments. Traditional banking systems can be slow and costly, particularly for international transactions. The e-Rupee could provide a faster and more cost-effective alternative, allowing businesses to transact more efficiently and expand into new markets. The adoption of digital currency will also have a positive impact on the environment. Traditional banking transactions involve the use of a significant amount of paper, which contributes to deforestation and other environmental issues. With the use of e-Rupee, all transactions would be done electronically, reducing the need for paper and other resources.

Despite the potential benefits of the digitised currency, there are also several challenges and risks associated with its implementation. Cybersecurity is a major concern for all digital currencies, and the RBI must ensure that the eINR blockchain is secure and resistant to hacking and other forms of cyberattacks. There is also a risk that it could be used for illicit activities such as money laundering and terrorism financing, so the RBI must ensure that appropriate anti-money laundering and counter-terrorism financing measures are in place to prevent such activities.

Hence, eINR will be a game-changer in the Indian banking sector. It will transform the way we transact, making it faster, easier, and more secure. It will also boost financial inclusion and have a positive impact on the environment. With the continued adoption of digital currency, we can expect to see further advancements in the Indian banking sector, as well as the broader economy.

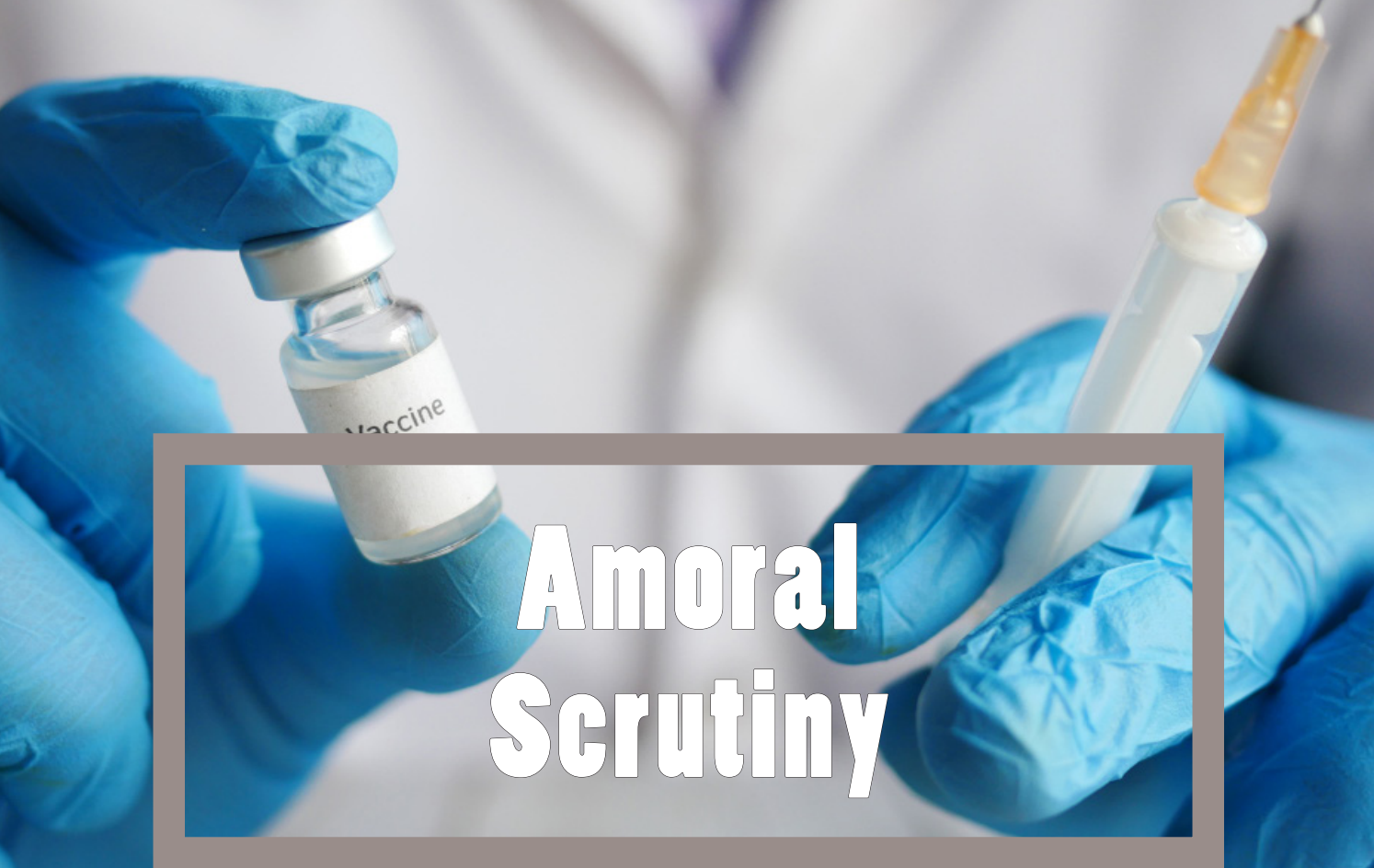
Another concern regarding the digital rupee might be how it may affect the economy of India. Given that the current state of the economy of India is certainly not



in the best condition, introducing a new type of currency tied to the official tender of a sovereign nation can be a really risky move. The optimist's view can be that the digital rupee might emerge in the Forex market as an innovation that allows for easier exchanges and more versatility, marking its place as a potential contender in the vast sea of currencies of the world. A government-backed currency along with the benefits of blockchain technology does sound like the currency of the future and given the success of the UPI technology and its reverence and the interest of many countries in acquiring the technology for themselves, the think tanks at RBI may be able to pull this stunt off. However, the main concern still stands in a what-if situation, what if the global stage sees the eINR as just a gimmick currency and does not show enough trust in it? It is completely possible that the official and original rupee may also face tough waters for merely being attached to the experimental currency. These concerns are not empty and it is hoped that the government does its due diligence in solving these issues. Regardless, eINR may be the first one-of-a-kind technology that will be perfected with time and emerge as a popular currency.

In conclusion, digitised currency is an innovative digital currency that has revolutionized the Indian banking sector. Its convenience, security, low transaction fees, and transparency make it an attractive option for users. However, the challenges and risks associated with its implementation must also be carefully considered and mitigated to ensure that it is a safe, secure, and effective alternative to traditional fiat currencies. With the continued growth of eINR, we can expect to see further advancements in the Indian economy and a brighter future. So, join the digital revolution and embrace eINR today!





Amoral Scrutiny

“

*Human subjects, used and abused
Ethics ignored, morals bruised.*

Human experimentation has been around for hundreds of years. It has aided in advancing medical knowledge, improving treatments, and creating novel technologies. However, there have been instances of unethical and immoral human experimentation, resulting in severe damage and anguish to those involved. From Novocain surgeries to clinical trials conducted overseas, the history of human experimentation is riddled with loathsome atrocities. Human subjects research has a history of scandal and has raised a slew of complex ethical, legal, political, and humanistic issues in the past. Misguided medical testing has historically targeted prisoners, soldiers, the mentally ill, and the poor.

In this context, the earliest cited case is English physician Edward Jenner's development of the smallpox vaccine in 1796, when he injected an eight-year-old child with pus from a cowpox infection and then deliberately exposed her to a smallpox carrier. Although Jenner's experiment was fortunately

successful, the method of exposing a child to a potentially fatal disease is unquestionably unethical.

The Tuskegee Syphilis Study, undertaken by the United States Public Health Service between 1932 and 1972, was one of the most infamous examples of immoral human experiments. 600 African-American men were recruited for this study to investigate the effects of untreated syphilis. Unfortunately, even after penicillin was determined to be an effective medication, the men were not notified that they had the condition and were left untreated. As a result, thousands of them suffered from serious health problems, and some even died.

The Stanford Prison Experiment was conducted in 1971 by psychologist Philip Zimbardo. The experiment aimed to study the dynamics of power and authority in a simulated prison environment. Participants were randomly assigned to be either prisoners or guards in a mock prison. The guards were given

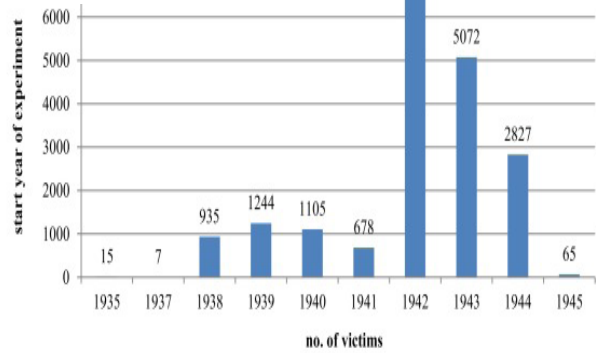
complete control over the prisoners, and over time they became increasingly abusive and sadistic. The experiment was intended to last for two weeks, but it had to be stopped just after six days due to the extreme psychological distress experienced by the participants. The Stanford Prison Experiment was a clear violation of ethical principles, as the participants were subjected to psychological harm without their informed consent. The experiment demonstrated the dangers of unchecked authority and the importance of ethical guidelines in research involving human subjects. The most notorious examples of unethical human experimentation were conducted by Nazi doctors during World War II. These experiments were conducted on concentration camp prisoners and involved a wide range of atrocities. Doctors subjected prisoners to freezing temperatures, high altitude, and low-pressure environments to test their endurance. They also injected prisoners with infectious diseases and toxic substances, and performed gruesome surgical procedures without anesthesia. The experiments carried out by the Nazi doctors led to the deaths of thousands of prisoners and caused immense physical and psychological suffering. The Nuremberg Trials after World War II led to the establishment of the Nuremberg Code, which established ethical guidelines for medical research involving human subjects.

The government of United States conducted radiation experiments on unsuspecting civilians in the 1950s and 1960s. People were exposed to high quantities of radiation without their knowledge or consent in these trials. Some of those subjected to these studies ultimately acquired cancer and other major health issues. These experiments were unethical as they breached core principles of medical ethics such as informed consent, respect for human dignity, and protection of vulnerable groups. Participants



A doctor drawing blood from one of the Tuskegee test subjects.

The victims of unethical human experiments.



were often not completely informed of the risks and potential hazards associated with the tests, and in other circumstances, they were pressured or compelled to participate. These immoral experiments have far-reaching and long-lasting implications. They have harmed public trust in medical research and stifled scientific advancement. They have also brought hardships and devastation to victims and their families, many of whom have struggled to secure compensation or justice for the harm done to them. The path to current medical understanding was paved with the tragedy of many people who were subjected to medical testing without their consent. Despite the extensive list of failures to uphold ethical standards in research, there have been a few notable exceptions. While these atrocities were not penalized, some of them resulted in medical breakthroughs that saved thousands of lives. The most important concern in research ethics is not whether we should conduct research, but how we can balance or justify putting individual human subjects in danger for the purpose of scientific gain. Committees are becoming more careful in terms of secrecy, privacy, and legality. Morality is becoming bureaucratized, and ethics is institutionalized in human research.

To summarize, unethical human experimentation has been a terrible chapter in medical history. It had a profound impact on society and has led to the establishment of ethical guidelines and regulations to protect the rights and welfare of human subjects. Examples discussed in this article illustrate the importance of informed consent, beneficence, and respect for persons in medical research involving human subjects. While some of these experiments have aided medical research, the harm and suffering imposed on human participants cannot be justified. In order to protect vulnerable population and guarantee that human research is conducted safely and ethically, it is crucial that we continue to learn from our mistakes and work towards the establishment of more rigorous ethical frameworks.

inSights

TECH

Mail your answers at
literaryedb@mmmut.ac.in

Assume R has the highest priority followed by Q and P has the lowest priority. What will be the priority encoder using 4:1 multiplexers as the main components when a priority encoder accepts three input signals (P, Q and R) and produce a two-bit output (X_1, X_0) corresponding to the highest priority active input signal and if none of the inputs are active the output should be 00?

COMPUTER SCIENCE
AND ENGINEERING

What will be the overlap angle if the converter operates in the inverter mode with a $\alpha = 130^\circ$ and without any change in the D.C. load current and also calculate the reduction in D.C. output voltage due to the overlap if it is given that a 3-phase fully controlled thyristor bridge converter is operated from an A.C. supply of 500V RMS line to line? When the converter is operated in the rectifier mode at a control angle $\alpha = 30^\circ$, the overlap angle (γ) due to the line reactance is 15.

ELECTRICAL ENGINEERING

How many bits are available for storing, protection and other information in each page table entry when a computer system uses 48-bit virtual address, and 48-bit physical address? It is given that equal number of bits should be used for indexing pages of first level and second level and two level page tables should be used to translate from virtual address to physical address, the size of each page table entry is 4 bytes.

INFORMATION TECHNOLOGY

Calculate the reactions at support when a two-hinged parabolic arch of span 120m and rise 40m carries a central concentrated load of 150kN. The moment of inertia of any section is $I_c \sec \alpha$, where α is the slope at the section and I_c is the moment of inertia at the crown. (Neglect the effect of ribshortening)

CIVIL ENGINEERING

Neglecting heat transfer to the surroundings, what will be the outlet temperature of the cold fluid in Kelvin when it is given that of a counter flow heat exchanger, for the hot fluid the heat capacity = 4kJ/kg-K, mass flow-rate = 10kg/s, inlet temperature = 200°C, outlet temperature = 100°C and for the cold fluid, heat capacity = 8kJ/kg-K, mass flow-rate = 20kg/s, inlet temperature = 25°C?

MECHANICAL ENGINEERING

The following liquid phase reaction is taking place in an isothermal batch reactor:



Feed concentration = 1mol/Litre. What is the time at which the concentration of B will be maximum and of A will be minimum?

CHEMICAL ENGINEERING

What will be the voltage across the combination which is instantaneously reversed at $t=0$ when a PN junction series with a 110 Ω resistor is forward biased so that a current of 110mA flows and the reverse current that flows through the junction at $t=0$ is 110mA?

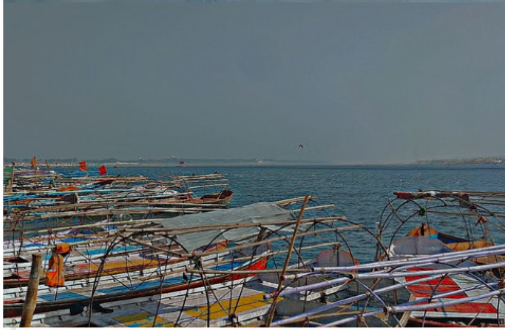
ELECTRONICS AND
COMMUNICATION ENGINEERING



Winner of the Tech inSights of Tiresia Volume 14, Issue 1 is Abhishek Yadav, B.Tech. 2nd Year, CSE.
Rest of the answers were either late or unsatisfactory.

-- Zuhause --

Prayagraj



Allahabad Sangam (also known as Triveni)- a confluence of the mighty Ganges, Yamuna, and mythological Saraswati rivers, is a site of great spiritual significance, imbued with numinous aura that has captivated devotees and mystics for centuries.

Deepali Malviya
EE, 2nd Year

Lucknow



Ambedkar Memorial Park, formally known as Dr. Bhimrao Ambedkar Samajik Parivartan Prateek Sthal, is a public park and memorial. It is dedicated to Dr. B.R. Ambedkar, the first law minister of India. The park also honors the lives and memories of Jyotirao Phule, Narayana Guru, Birsa Munda, Shahuji Maharaj and Kanshi Ram. The interesting thing about this park is that it also has 124 monumental elephants.

Pratibha Kaushal
EE, 1st Year

Kaushambi



The mystical world of Khmer Empire at the **Cambodian Temple** in Kaushambi is an architectural masterpiece showcasing the grandeur of Southeast Asian culture and history.

Nikhil Tiwari
EE, 2nd Year

Chitrakoot



Chitrakoot, the tranquil beauty of India's spiritual heartland, is a land of ancient temples, picturesque waterfalls, and sacred lakes.

Abhinav Singh
ECE, 2nd Year

Ballia



The essence of rustic India is in the small town of Uttar Pradesh, **Ballia** where tradition meets modernity in a harmonious blend, offering a unique glimpse into the cultural fabric of India.

Ram Krishna Yadav
EE, 2nd Year

We invite all the students to showcase their photography skills and send their clicks of their city along with a caption on literaryedb@mmmut.ac.in (basic editing is allowed). Best ones will be published in the next issue of **Tiresia**.



झलक

“

जहाँ जलती है उम्मीदों की प्यास,
जहाँ जाकर करते हैं, जिंदगी की तलाश,
यह झलक देती है हमें राह दर-दर,
कभी न छोड़ने वाली एक नई उड़ान की आस।

एक बार एक दार्शनिक ने अपने शिष्यों से पूछा कि आप लोगों के अनुभव में कौन-सा एक शब्द है जो आपके जीवन के महत्व को सबसे अच्छे तरीके से समझाता है, तब उनके शिष्यों ने शांति, ज्ञान एवं प्रेम जैसे शब्दों को बताया और कहा कि यही कुछ ऐसे शब्द हैं जो हमें हमारे जीवन से रूबरू कराते हैं। दार्शनिक ने उनकी बातों को सुना और एक असंतुष्टि के उपरांत बोले कि यदि आज हमें अपने जीवन को भली-भाँति समझना है तो उसके लिए जरूरत है हमें एक 'झलक' की। झलक एक क्षणिक सी वह रोशनी है जो अंधकार में पड़े हमारे वर्तमान एवं भविष्य को उजागर कर उसमें एक नई स्फूर्ति ला पाने में सक्षम है। मानव जीवन को यदि जीवनपर्यन्त अपने लक्ष्य की झलक एवं सही मार्गदर्शन मिल जाए तो वह कभी भी उस लक्ष्य को पाने से नहीं भटक सकता। वह उजाले से भरे भविष्य की झलक एवं सकारात्मक ढंग से प्रज्ज्वलित चमक उसे बार-बार एहसास कराती रहेगी उस पल का जब सफलता उसके कदम चूमेगी और लोग उसकी इस सफलता पर उसकी सराहना कर रहे होंगे, जो उसे अपने कर्तव्यपथ पर निरंतर गतिशील बनाएगा।

एक छोटी-सी ज्योति या एक छोटी-सी झलक अनंत ज्ञान के महासागर की ओर सम्बन्ध बनाकर हमारे जीवन को एक आध्यात्मिक अनुभव प्रदान करती है एवं हमें अपने जीवन में कुछ नया कर गुजरने की ओर प्रेरित करती है। भगवान श्री कृष्ण ने कहा है "ज्ञान की प्राप्ति के लिए केवल श्रम ही नहीं, अपितु एकाग्रता एवं सही मार्गदर्शन भी अनिवार्य है।" इसलिए मनुष्य को अपने जीवन में एक कुशल मार्गदर्शक एवं अपने लक्ष्य के प्रति सही झलक की आवश्यकता है जो उसे जीवन पथ पर आगे ले जाने में समर्थ हो।

झलक का हमारे पौराणिक और ऐतिहासिक जीवन में भी अत्यधिक महत्व है। इसका प्रमाण है कि प्राचीन युग में ऋषि-मुनियों ने अपना सर्वस्व जीवन पर्वतों, वनों आदि में केवल इस तपस्या मात्र में न्यौछावर कर दिया कि उन्हें परमात्मा की एक छोटी-सी झलक देखने को मिल जाए जिससे कि उनके जीवन का उद्धार हो सके उनके अनुसार परमात्मा की एक झलक से वह अपने भविष्य को स्वर्णिम बना सकते हैं और सभी सांसारिक मोह से मुक्ति पाकर मोक्ष को प्राप्त कर सकते हैं। आध्यात्मिक

अनुभव में मीराबाई श्रीकृष्ण की भक्ति में सदैव लीन रहती थीं जिससे कि उन्हें बस एक बार श्रीकृष्ण की झलक दिख जाए। झलक क्षणभंगुर होता है जिसे हम अपने चारों ओर देख और महसूस कर सकते हैं। वे हमें आशा देते हैं और हमें विपरीत परिस्थितियों में भी निराश नहीं होने देते हैं, भले ही समय कितना भी कठिन क्यों न हो। जब हम पीछे मुड़कर अपने अतीत को देखते हैं, तो यह हमें एक बेहतर और उज्ज्वल भविष्य के लिए प्रेरित करता है। बस एक छोटी सी झलक हमें कृतज्ञ महसूस करने और जीवन में एक उद्देश्य प्राप्त करने में मदद कर सकती है। यह हमें हमारे महत्वाकांक्षी उद्देश्यों को प्राप्त करने में सहायता कर सकता है। हमारे जीवन की झलकियां पुरानी तस्वीरों से संजोई एक एलबम की तरह हैं जिनमें हमारे बचपन से लेकर युवाव्यस्क होने तक की सभी स्मृतियां हैं। वे उन खास पलों को याद रखने में हमारी मदद करते हैं। भले ही हम आज अपने जीवन में व्यस्त हैं, हम सभी के पास अपने अतीत की यादें और झलकियां हैं जो हमें उनके विषय में सोचने पर विनोद का अनुभव कराती हैं। इसके अलावा किसी कला एवं कार्यक्रम की झलक जैसे नृत्य, संगीत और किसी साहित्यिक कार्यों की झलक भी मानव के मस्तिष्क पर एक अनुपम छाप छोड़ती है। इसके माध्यम से वह अपने उन बीते हुए पलों को याद करता

है जिसमें वह उपस्थित था और जो वर्तमान में उसके लिए मायने रखता है। इस प्रकार झलक सुंदरता या आनंद के एक क्षणभंगुर क्षण को पकड़ने के विचार का प्रतिनिधित्व करती है, चाहे वह नृत्य प्रदर्शन या किसी जादुई चीज की एक साधारण झलक हो। आखिरकार, झलक हमारे रास्ते में आने वाले सुंदरता के क्षणों को संजोने, उनकी सराहना करने और उन्हें हमारी यादों में मजबूती से पकड़ने के लिए एक अनुस्मारक है। झलक हमारी दुनिया की समृद्ध सांस्कृतिक विरासत और विविधता का प्रतिबिंब है, और यह सभी उम्र और पृष्ठभूमि के लोगों को लुभा पाने में सक्षम है। यह हमें एकजुट करने या जोड़ने के लिए सदैव तत्पर एवं हमें हमारी साझा मानवता को गले लगाते हुए हमारे मतभेदों को मिटाने के लिए प्रोत्साहित भी करता है।

अंत में झलक एक शक्तिशाली अवधारणा है जो हमें अपने जीवन में चौकस और आत्मनिर्भर होने, हमारे रास्ते में आने वाले अवसरों को पहचानने और अपने लक्ष्यों के प्रति समर्पित होकर उस पर दृढ़ संकल्प से कार्य करने की सलाह देती है। यह हमें जीवन के कठिन से कठिन पड़ावों में भी अपने दृष्टिकोण को सकारात्मक बनाए रखने एवं रोजमर्रा के जीवन सिद्धांतों को अनुशासन के साथ शामिल करके जीवन की गहराइयों को समझाती है।





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