GURU TEGH BAHADUR 4TH CENTENARY ENGINEERING COLLEGE
(Under The Aegis of D.S.G.M.C)
(Affiliated To GGSIPU & Approved By AICTE)
G-8 area, Rajouri Garden, New Delhi-110064

THE GTB4CEC TIMES

FEBRUARY 2025 NEWSLETTER

Varma, K. J. M. (2020, June 29). Chinese reserve forces brought under Xi's leadership. Rediff. https://m.rediff.com/news/report/chinese-reserve-forces-brought-under-xis-leadership/20200630.htm

China's latest breakthrough in military aviation—the White Emperor B, a sixth-generation fighter jet concept unveiled by AVIC at the 2024 Air show China. This cutting-edge prototype highlights China's vision for future aerial supremacy, showcasing advanced technology designed to adapt to modern combat demands.

AFP, & AFP. (2024, September 25). China test-fires ICBM into Pacific Ocean using "dummy warhead." The New Indian Express. https://www.newindianexpress.com/world/2024/Sep/25/china-test-fires-icbm-into-pacific-ocean-using-dummy-warhead

"THE WHITE EMPEROR": HERALDING 'THE AGE OF AI WARFARE

WHAT MAKES THE WHITE EMPEROR A GAME-CHANGER?

•AUTONOMOUS INTELLIGENCE:

With enhanced human-machine collaboration, this jet makes maintenance easier and maximises combat readiness. Equipped with artificial intelligence for improved pilot decision-making and seamless integration with unmanned systems, the White Emperor B is built for the future of warfare.

•COMBAT SWARM COORDINATION:

It commands drone swarms like a chess master, creating a web of deadly precision.

•ADAPTIVE STEALTH:

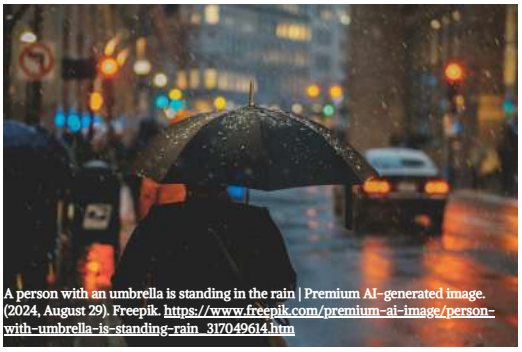
Its AI-integrated skin adapts in real time to counter advanced radar systems. This concept positions China alongside elite programs like the U.S. NGAD and Europe's FCAS.

The rise of systems like the White Emperor reminds the world that wars of the future will be fought as much with algorithms as with ammunition.

BY:
ARJUN DEV ARORA
2ND YEAR , CSE

"THE IMPORTANT THING IS NOT TO STOP QUESTIONING. CURIOSITY HAS ITS OWN REASON FOR EXISTING. ONE CANNOT HELP BUT BE IN AWE WHEN HE CONTEMPLATES THE MYSTERIES OF ETERNITY, OF LIFE, OF THE MARVELLOS STRUCTURE OF REALITY. IT IS ENOUGH IF ONE TRIES MERELY TO COMPREHEND A LITTLE OF THIS MYSTERY EACH DAY."

–ALBERT EINSTEIN



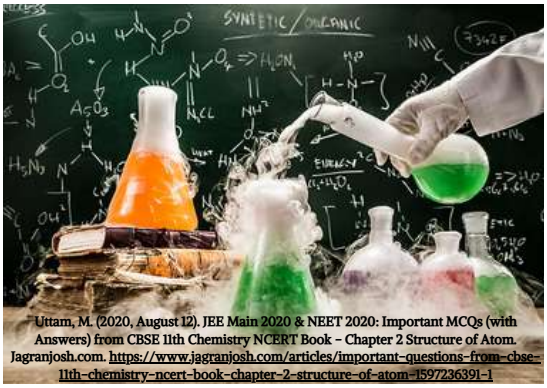
A person with an umbrella is standing in the rain | Premium AI-generated image. (2024, August 29). Freepik. https://www.freepik.com/premium-ai-image/person-with-umbrella-is-standing-rain_317049614.htm

THE RHYTHM OF THE RAIN

The whispers of rain, voiding out the pain.
The drops ricochet, the melody they create.
The songs they play, the emotions they convey.
The words they say, the message they impart.
The prayers they convey, the blessings they serve.
The will they provide, unapologetic and resolute.

BY:
DIMPLE
1ST YEAR , ECE

Got writing skills that could make Shakespeare jealous? Send them to wordsmith.workgtb4cec@gmail.com – we'll help you take over the literary world (or at least the inbox)

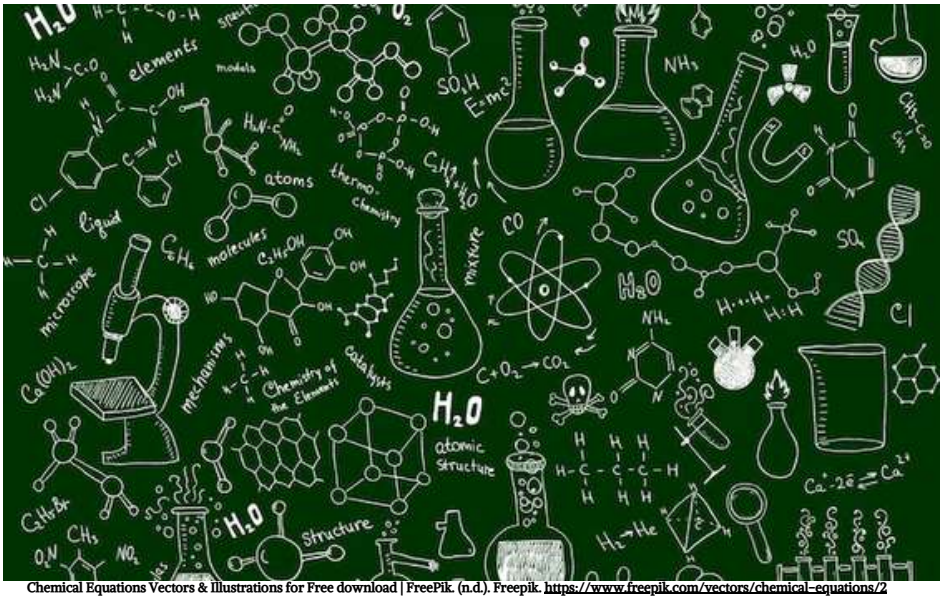


Uttam, M. (2020, August 12). JEE Main 2020 & NEET 2020: Important MCQs (with Answers) from CBSE 11th Chemistry NCERT Book – Chapter 2 Structure of Atom. Jagranjosh.com. https://www.jagranjosh.com/articles/important-questions-from-cbse-11th-chemistry-ncert-book-chapter-2-structure-of-atom-1597236391-1

SCIENTIFIC ETHICS

As science and technology continue to evolve at an unprecedented pace, ethical principles must guide this progress to ensure that humanity benefits while minimizing harm to the planet and its species. Over the past century, remarkable milestones like landing on the moon, inventing the internet, and developing artificial intelligence have transformed the world. However, these advancements must be conducted responsibly and with ethical consideration.

Scientific ethics encompass values such as obtaining informed consent, ensuring honesty in reporting, respecting privacy, and maintaining transparency in research. These principles safeguard both the integrity of science and the rights of individuals involved.



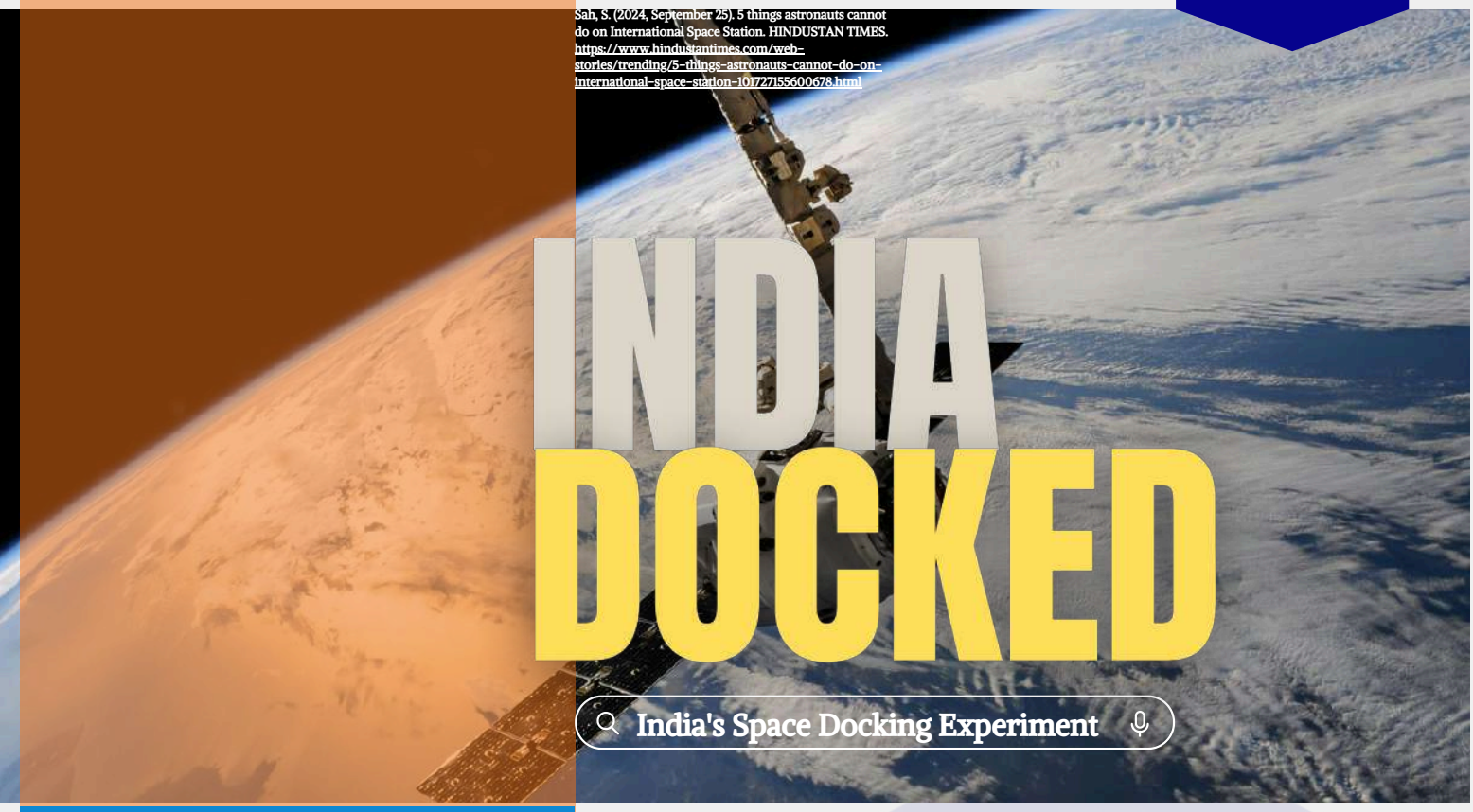
Chemical Equations Vectors & Illustrations for Free download | FreePik. (n.d.). Freepik. https://www.freepik.com/vectors/chemical-equations/2

Unfortunately, history has witnessed ethical violations, notably in the inhumane experiments carried out by Dr. Josef Mengele during the Holocaust. These medical experiments, which included genetic testing, freezing experiments, and drug trials, were performed without consent in horrific conditions. These atrocities violated the most basic ethical principles and are a stark reminder of the consequences of neglecting ethics.

Today, strict ethical guidelines and regulations ensure that scientific research upholds moral standards. Though science continues to push boundaries, ethical conduct remains the compass guiding its journey. We are steadily progressing towards a world where sustainable development and climate change are central topics of discussion.

BY:
MUSTAFA QADEER
1ST YEAR , IT

IN THE SPACE



MISSION TIMELINES

- December 30, 2024: PSLV-C60 launched two satellites into orbit.
- January 9, 2025: Docking began after a delay for validation.
- January 12, 2025: Safety measures delayed docking.
- January 16, 2025: Satellites docked successfully.

REACTION TO THE SUCCESS

"Congratulations to our scientists at ISRO and the entire space fraternity for the successful demonstration of space docking of satellites. It is a significant stepping stone for India's ambitious space missions in the years to come."

—Shri Narendra Modi, Prime Minister of India

INDIA'S SpaDeX MISSION

On January 16, 2025, ISRO added another significant milestone to India's space exploration journey. After becoming the first nation to reach Mars' orbit in its maiden attempt under the Mangalyaan mission and being just the fourth country to land on the lunar far side under the Chandrayaan-3 mission, ISRO achieved another feat by successfully performing a space docking manoeuvre under the SpaDeX mission. This solidified India's position as only the fourth nation to demonstrate this crucial capability.

WHAT IS SPACE DOCKING?

Space docking refers to the process of mechanically connecting two spacecraft while they are both orbiting Earth or another celestial body. This intricate manoeuvre requires precise navigation and sophisticated technology. Space docking enables the construction of large space stations, the refuelling of spacecraft, and the exchange of crew members.

BY:
AMAN GOEL
2ND YEAR , CSE

THE QUILL'S ETERNAL SERENADE

BENGAL'S WOUND

The land of Tagore bleeds anew,
Its rivers whisper tales that rue.
Bengal's skies, once proud and free,
Now weep in silent agony.

A child's laughter, stolen away,
Shadows creep where sunlight lay.
The streets that hummed with joy and cheer,
Are stained with cries, with dread, with fear.

A mother mourns her daughter's name,
Her echo lost in the halls of shame.
The soil remembers every tear,
Each drop a testament to fear.

O rulers blind to the cries of pain,
Do you not hear the blood-stained rain?
The winds now howl, the earth protests,
For justice sleeps in sullied nests.

You build your towers, you write your laws,
Yet ignore the soul's despairing cause.
The soil shall bear your every sin,
The tides will rise, and truth will win.

The dawn will come when Bengal's flame,
Burns through the shroud of guilt and shame.
Her voice will echo, proud and strong,
Her spirit, free, will right the wrong.

BY:
MADHAV SHARMA
2ND YEAR , CSE

Blog. (2023, January 18). Ananya Chatterjee. https://ananyachatterjee.com/the-poetry-books-by-ananya-chatterjee/

BLAME WHO?

Why blame yourself?
For everything, you weep.
Oh! It rained today,
Because "I WORE GREEN!"?
I look into the mirror
For something I've lost.
I don't know what it is
Or what it would cost.
Accepting is a different thing,
But for no reason?
It's like snow in the summer season.
For every path I take,
Yes! I am responsible
For every path I make.
But if someone comes my way,
If someone turns the sleigh,
I should not just weep but rather take a stand
When they are peacefully sleeping behind my back.
Adjustment, they say,
"It happens like this," they say.
But is it justified? Is it fair?
I overthink again,
Thinking I'm in pain
When I can end it all
In only one way!
Blaming the one who made it all happen
And taking a stand, winning the justice,
Only I can make it happen!

BY:
YANA MALHOTRA
2ND YEAR , CSE

CRISPR : THE ETHICAL FRONTIER OF GENE-EDITING

"The power to rewrite life is no longer science fiction—it's science fact" (by George Church).

Would you trust a future where your DNA could be altered before birth?

CRISPR-Cas9 allows precise editing of DNA, enabling breakthroughs in curing genetic diseases. However, it raises ethical concerns like creating 'designer babies' and altering human embryos, or unintended consequences.

News-Medical. (2024, April). DNA repair process key to memory formation, study finds. https://www.news-medical.net/news/20240328/DNA-repair-process-key-to-memory-formation-study-finds.aspx

Some examples of CRISPR applications in real life :

● Sickle Cell Anemia Treatment

Victoria Gray became the first person in U.S. to be treated for sickle cell anemia using CRISPR.
CRISPR was used to edit her bone marrow cells, enabling them to produce fetal hemoglobin to replace the defective adult hemoglobin .

● CRISPR-Edited Monkeys for Research

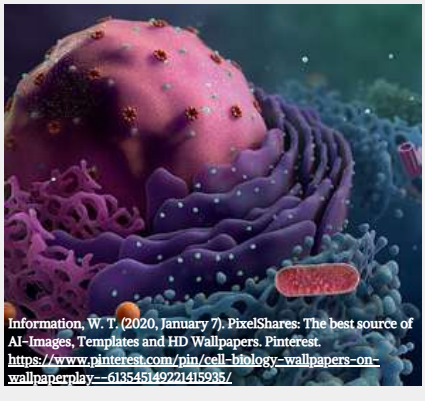
Researchers in China used CRISPR to edit genes in monkeys to study human diseases like cancer.
Genes were altered to replicate conditions like Rett syndrome and cancer susceptibility.
It improved understanding of disease mechanisms.

● CRISPR-Edited Pigs for Organ Transplants

EGenesis, a biotechnology company, used CRISPR to create pigs with organs safe for human transplantation.
CRISPR was used to remove harmful porcine endogenous retroviruses (PERVs) from pig DNA.
It opened the door for xenotransplantation(animal-to-human organ transplants) .

● 2018 , CRISPR-Gene editing case of China

The case of Dr. He Jiankui in 2018, who edited the genes of twin babies in China, for making the babies resistant to HIV by disabling the CCR5 gene, which the HIV virus uses to enter human cells and triggered global backlash due to ethical violations and lack of transparency.



Information, W. T. (2020, January 7). PixelShares: The best source of AI-Images, Templates and HD Wallpapers. Pinterest. https://www.pinterest.com/pin/cell-biology-wallpapers-on-wallpaperplay--618545149221415935/

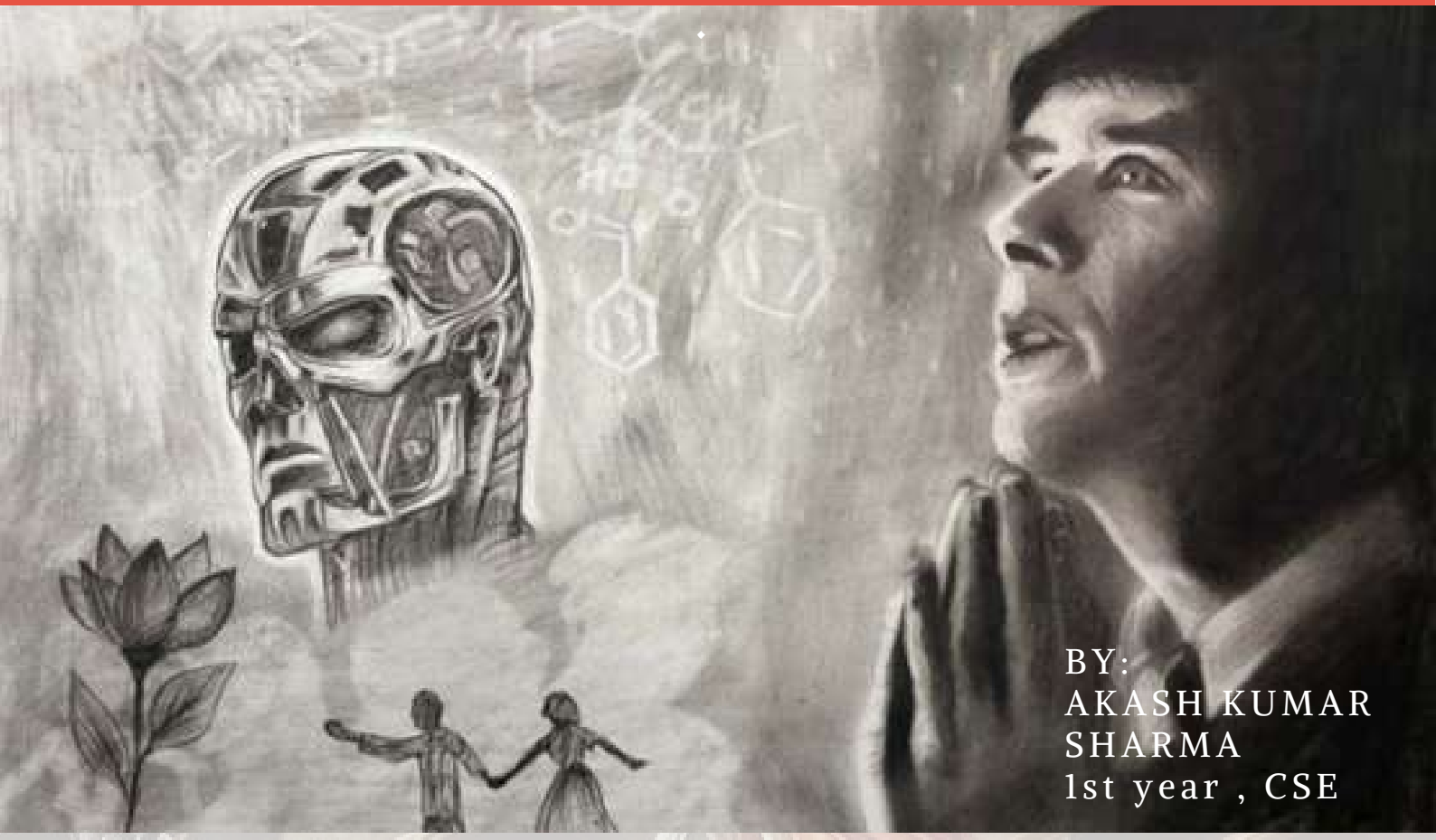
CONCLUSION

As CRISPR technology advances, it brings both exciting possibilities and complex ethical dilemmas. While it offers ground breaking potential in medicine and beyond, it also raises crucial questions about the future of humanity. For students and scientists alike, CRISPR sparks curiosity and debate, urging us to consider how far we should push the boundaries of genetic engineering—and what responsibilities come with such power.

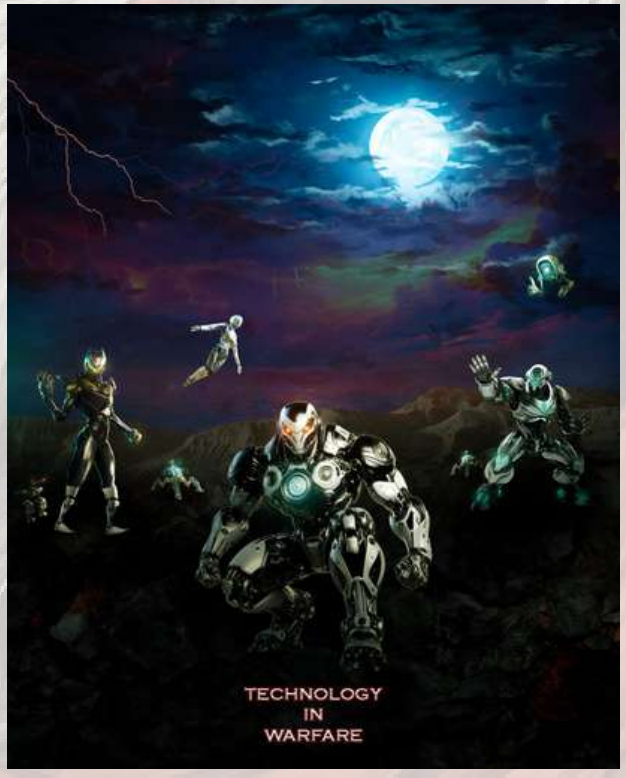
BY: MITALI
1ST YEAR , CSE

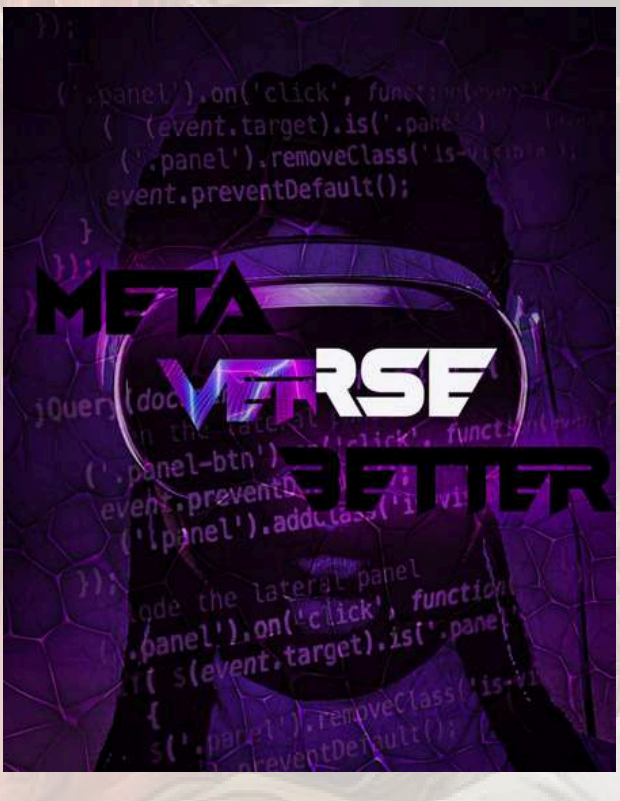
KALAKAAR'S CORNER

AESTHETIC TRANSCENDENCE IMMORTALITY



BY:
AKASH KUMAR SHARMA
1st year , CSE





BY: SATWIK PRUTHI - 1ST YEAR , ECE

DEAD BUT STILL ALIVE

AWARD WINNING POEM ANUGOONJ ZONAL PRELIMS

"HOW ARE YOU", MY FRIEND LOOKED AT ME AND SMILED
"I'M FINE", I LIED
OH SHE'S ALWAYS HAPPY- SMILING
AND EVERY NIGHT I SHUT UP MY HEART- NO WHINING
PUT UP A BRAVE FACE, ACT ALL TOUGH
YOU CAN'T COMPLAIN, IT'S NEVER TOO ROUGH
SOMETHING SO MINOR CAN'T POSSIBLY HURT YOU
STOP ACTING LIKE A VICTIM, THIS HABIT OF YOURS ISN'T NEW
IT ALL HAPPENED FOR A REASON, YOU KNOW
MAYBE IT WAS FOR YOUR OWN GOOD, WHO KNOWS

THIS IS THE STORY OF ME, THE STORY OF ALL OF US
WE CAN'T EXPRESS OWN TRUE FEELINGS, EVEN TO THE ONES WE TRUST
"I HAVEN'T BEEN FEELING WELL", I COULD HAVE SAID
BUT I JUST KEPT A LOW HEAD
SO MANY TIMES I WONDER, MAYBE THE PROBLEM IS ME
OR HOW ELSE IS EVERYONE SO CALM AND CAREFREE
LOOK AT THEM," ACHIEVING SO MUCH AT THIS TENDER AGE"
AND I? I AM STUCK IN THIS MENTAL CAGE
"YOU ARE WORTH NOTHING" ON THOSE SLEEPLESS NIGHTS I THINK
TRYING TO DRY MY TEARS IN BLINK

I USED TO SEE THE WORLD WITH ROSE TINTED GLASSES-
A GARDEN FULL OF ROSES
COMPLETELY FORGETTING ABOUT THE THORNS
MAYBE ROSES WERE PAINTED RED WITH BLOOD,
BLOOD- OF THOSE WHO LOST THEIR LIVES TO THEMSELVES
THOSE WHO STRUGGLED AND STRUGGLED AND STRUGGLED
BUT IN THE END, STILL LEFT WITHOUT A FUMBLE

WE NEVER KNOW, WHAT THEY HIDE BEHIND THAT PRETTY SMILE
WE NEVER KNOW, THE PAIN IN THOSE SHINING EYES
WE NEVER KNOW, THE LAST GOODBYES

IT'S BEEN ROUGHLY A FEW YEARS AND SOMETIMES I FEEL
THE BURDEN OF BEING ALIVE
MAYBE WE DON'T LIVE OUR LIVES, WE JUST SURVIVE
WE ARE THROWN IN A SEA OF SADNESS
"CIRCUMSTANCES", THEY SAY
WE ARE LEFT TO DROWN IN A POOL OF DOWN
"YOU WILL EVENTUALLY LEARN HOW TO SWIM", THEY SAY

AND WHEN YOU FIND YOURSELF ON A CLIFF END
DOUBTING EVERY DECISION YOU EVER MADE, EVERY STEP YOU EVER TOOK
WILL YOU DECIDE TO JUMP OFF ?
OR WILL YOU GO BACK TO THE SAME LIFE OF SAME REGRETS
ONLY TO BE ON A CLIFFHANGER AGAIN

AND I KNOW SOME WOULD SAY
"THESE PROBLEMS AREN'T EVEN REAL"
BUT WHEN YOU LOSE A LOVED ONE, IN A WAY THEY DIDN'T DESERVE
THE NEXT VICTIM IS PROBABLY "YOU"
MAYBE I DIDN'T SEE THE SIGNS
ONLY IF I PAID A LITTLE BIT OF MORE ATTENTION
ONLY IF I WAS THERE FOR THEM ,

THEY WOULD HAVE OPENED UP AND NOW FACE THIS TERRIBLE END
ONLY IF THEY TOLD THE ACHES OF THEIR HEARTS ,
THEY HAD BEEN CARRYING ALL ALONE , ALL ALONG

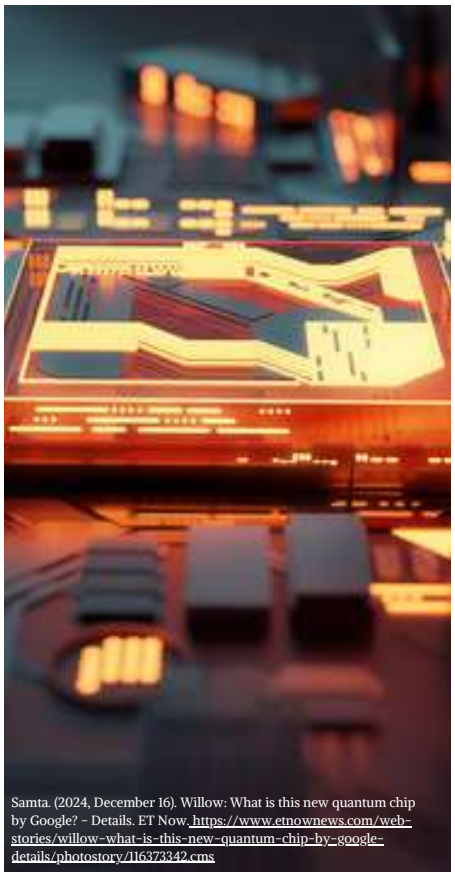
SO WHEN SHE TELLS YOU "I'M FINE" WITH A SMILE
MAYBE JUST ASK HER AGAIN
CAUSE WE ARE EXPERTS IN PRETENDING WHAT'S NOT TRUE
CAUSE WE JUST OVERSEE THE SIGNS
THEY WE LITERALLY JUST IN FRONT OF YOU

TELL HER IT'S OKAY TO FEEL
TELL HER WITH TIME SHE WILL HEAL
SHOW HER YOUR SCARS TOO
SHOW HER YOU FOUGHT THOSE WARS TOO
SO THAT SHE TELL THOSE WORDS DIRECTLY AND NOT IN A LETTER
SO THAT SHE CAN SHUT THOSE VOICES IN HER HEAD, TELLING THAT SHE DON'T MATTER

BY :
KANIKA RAJPUT
2ND YEAR , CSE

Cano, T. (2024, February 8). Everything Black and White! Pinterest. https://www.pinterest.com/pin/mochifacom--351912465016953/

THE QUANTUM HORIZONS



Samta. (2024, December 16). Willow: What is this new quantum chip by Google? - Details. ET Now. https://www.etnownews.com/web-stories/willow-what-is-this-new-quantum-chip-by-google-details/photostory/116373342.cms

1 Fundamental Concepts

1.1 Qubits: The Core of Quantum Computing
Unlike classical bits (0 or 1), qubits exist in superposition—0, 1, or both simultaneously—enabling immense parallelism.
Analogy: A spinning coin represents both heads and tails, just as a qubit embodies multiple states until measured.
1.2 Quantum Gates and Circuits

Quantum Computing: Breaking Barriers into the Future

Quantum gates manipulate qubits, enabling superposition and entanglement, much like classical logic gates but governed by quantum principles.
Example: The Hadamard gate creates superposition, while the CNOT gate entangles qubits.
1.3 Entanglement: A Unique Phenomenon
Entangled qubits remain instantly linked, no matter the distance.
Fun Fact: Einstein called it "spooky action at a distance."

China Tech firm Baidu Unveils Quantum Computer Qianshi. (n.d.). Asiabusinessoutlook. https://www.asiabusinessoutlook.com/news/china-tech-firm-baidu-unveils-quantum-computer-qianshi-nwid-897.html

2 Recent Breakthroughs

Google's Sycamore Processor: In 2019, Sycamore achieved quantum supremacy, solving a problem in 200 seconds that would take classical supercomputers millennia.
IBM's Quantum Roadmap: IBM plans to develop 1,000+ qubit systems, enabling real-world applications.
Their Quantum Network fosters global research.Quantum Teleportation: Scientists have successfully transmitted quantum information, paving the way for a quantum internet with ultra-secure communication.
Advancements in Quantum Algorithms:

- Shor's Algorithm: Breaks encryption by factoring large numbers.
- Grover's Algorithm: Speeds up search operations.
- Hybrid Algorithms: Combine quantum and classical computing for optimisation problems.

3 Real world applications

Healthcare: Simulates molecular interactions, accelerating drug discovery.
Finance: Optimizes portfolios, risk analysis, and fraud detection.
Environment: Models climate change and improves renewable energy solutions.
AI: Enhances machine learning for NLP and image recognition.
Cryptography: Enables quantum-safe encryption like QKD.
Fun Fact: Quantum computers function near absolute zero for qubit stability.

BY:
SATYABRAT SAHU
1ST YEAR , ECE

Quantum computing is evolving with fault-tolerant systems, AI integration, and cloud platforms. As researchers tackle challenges, this technology is set to transform industries, education, and society in unprecedented ways.

anugoonj prelims

Flamingo
THE CULTURAL SOCIETY

Diksha Giri & Nakul (Guitarist)
WESTERN VOCAL (SOLO)

Komal Joshi
CARTOONING

Isha Jain
CLASSICAL DANCE

FOLK DANCE

Priyanshi Brar & Rupal Mittal
RANGOLI

Madhav Sharma & Nitika Rathee
NACH BALIYE

Arjun Dev Arora & Ramit
DEBATE(HINDI)

Mayank Chauhan
MR. ANUGOONJ

FOOTLOOSE

chaos, culture and glory!!

STREETPLAY

Khushi Kalra
ENGLISH POETRY

Ramit Aggarwal
DEBATE(HINDI)

Nancy Raj Singh
MONO ACTING & POETRY RECITATION (HINDI)

Shweta and Devansh
LIGHT AND CLASSICAL VOCAL(SOLO)

Utkarsh Mani Tripathi
STORY TELLING(HINDI)

Yana Gujral
STORY TELLING(ENGLISH)

winner section

Vanshika - CSE-AIML,1st yr
DEBATE(ENGLISH)

Kavya Bisht - CSE , 1st yr
DEBATE(ENGLISH)

Bhumika Joshi - ECE , 1st yr
JUST-A-MINUTE(ENGLISH)

Komal Joshi - CSE , 1st
CARTOONING

GGSIPU SPORTS MEET '24

FIERCE FALCONS
THE SPORTS SOCIETY OF GTB4CEC

TRIUMPHANT VICTORY!

Heartfelt congratulations to the ***Boys' Kho-Kho Team!***

The team has brought immense pride to the college by securing an admirable **third position** in the prestigious main campus tournament.

This remarkable achievement stands as a testament to the team's unwavering commitment, diligence,and exceptional synergy on the field. Your collective efforts have not only inspired all of us but also set an elevated standard for future competitions.

Kudos to the entire team for this extraordinary accomplishment.

The Girls' Kho-Kho Team has brought immense pride to the college by securing the gold medal at the main campus tournament.

This victory is a testament to the team's unwavering dedication, exceptional skill, and remarkable sportsmanship. Your determination and teamwork have set an inspiring example for all.

Congratulations to the entire team on this extraordinary accomplishment.

Wall, Q. (2024, February 9). So you want to run a hackathon? https://www.linkedin.com/pulse/so-you-want-run-hackathon-quinton-wall-lsbcc

SURVIVAL OF THE SMARTEST, VICTORY OF THE BOLDEST

CodeZen Hackathon 2025, the flagship 36-hour coding marathon by CodeGeeks, GTB4CEC, is from February 28 to March 1, 2025. This year, the event takes on a Squid Game-inspired theme, blending high-stakes competition with groundbreaking innovation.

Why CodeZen 2025?

More than just a hackathon, CodeZen is a platform for bold thinkers, problem-solvers, and tech innovators. Participants will collaborate, compete, and push technological boundaries while tackling real-world challenges.

Tracks to Explore

- Web3 & Blockchain – Build decentralized applications.
- AI & Machine Learning – Develop intelligent solutions.
- IoT & Automation – Optimize everyday processes.
- Game Development – Create immersive experiences.
- Supply Chain & Logistics – Solve complex logistical challenges.

Who Can Join?

Open to students, professionals, and tech enthusiasts, CodeZen welcomes everyone, from seasoned developers to first-time hackers, fostering a space to learn, innovate, and grow.

Why Participate?

- Innovate – Develop real-world solutions.
- Learn – Access expert mentorship.
- Network – Connect with industry leaders.
- Win – Compete for cash prizes, internships, and recognition.

Event Highlights

- Workshops & Mentorship – Pre-hackathon sessions with industry experts.
- Keynote Talks – Insights from top tech leaders.
- Networking Opportunities – Meet sponsors, judges, and fellow participants.
- Exciting Challenges – Work on cutting-edge technologies.

How to Register?

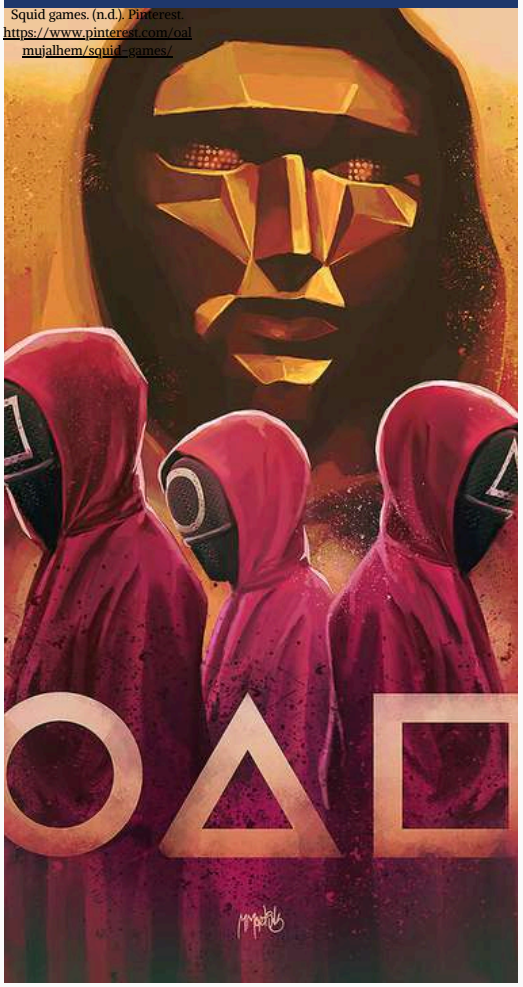
Form a team of 2-4 or compete solo—spots are limited!

Be part of CodeZen Hackathon 2025 and take on the challenge where bold minds shape the future.

OUR COLLEGE MOUs COLLABORATION:

CODE GEEKS

CodeZen 2025: Forge, Conquer, and Redefine Technology



Squid games. (n.d.). Pinterest. https://www.pinterest.com/oalmujalhem/squid-games/

UNDER THE PATRONAGE OF:

S. Gurmeet Singh Bali	S. Bhupinder Singh Ginny	S. Harjeet Singh (Pappa)
Director	Manager	Chairman

MEET THE TEAM!

FACULTY IN-CHARGE : DR. MANJOT KAUR
STUDENT LEAD : VIDHI CHAUHAN
STUDENT COORDINATOR : KANIKA RAJPUT

CONTENT TEAM

1. Mitali (1st year CSE)
2. Ridhima (1st year CSE)
3. Sachin (1st year ECE)
4. Abhigyan (1st year CSE)
5. Arjun Dev Arora (2nd year CSE)
6. Ramit (2nd year CSE)

DESIGNING TEAM

1. Kavyaa Singhal (2nd year CSE)
2. Vanshika (1st year CSE-AIML)
3. Diksha (1st year ECE)
4. Yuvia (1st year ECE)
5. Yashika Prashar (1st year ECE)
6. Aryan (1st year ECE)

EDITING TEAM

1.Arjun Dev Arora (2nd year CSE)
2.Kavyaa SInghal (2nd year CSE)

ABOUT US

We're the team behind The GTB4CEC Times, a group of passionate individuals dedicated to bringing you the latest stories, updates, and ideas. From writers to designers, we work together to deliver fresh, engaging content right to your inbox. Thanks for being a part of our journey!

WORDSMITH.WORKGTB4CEC@GMAIL.COM
@wordsmith_gtb4cec