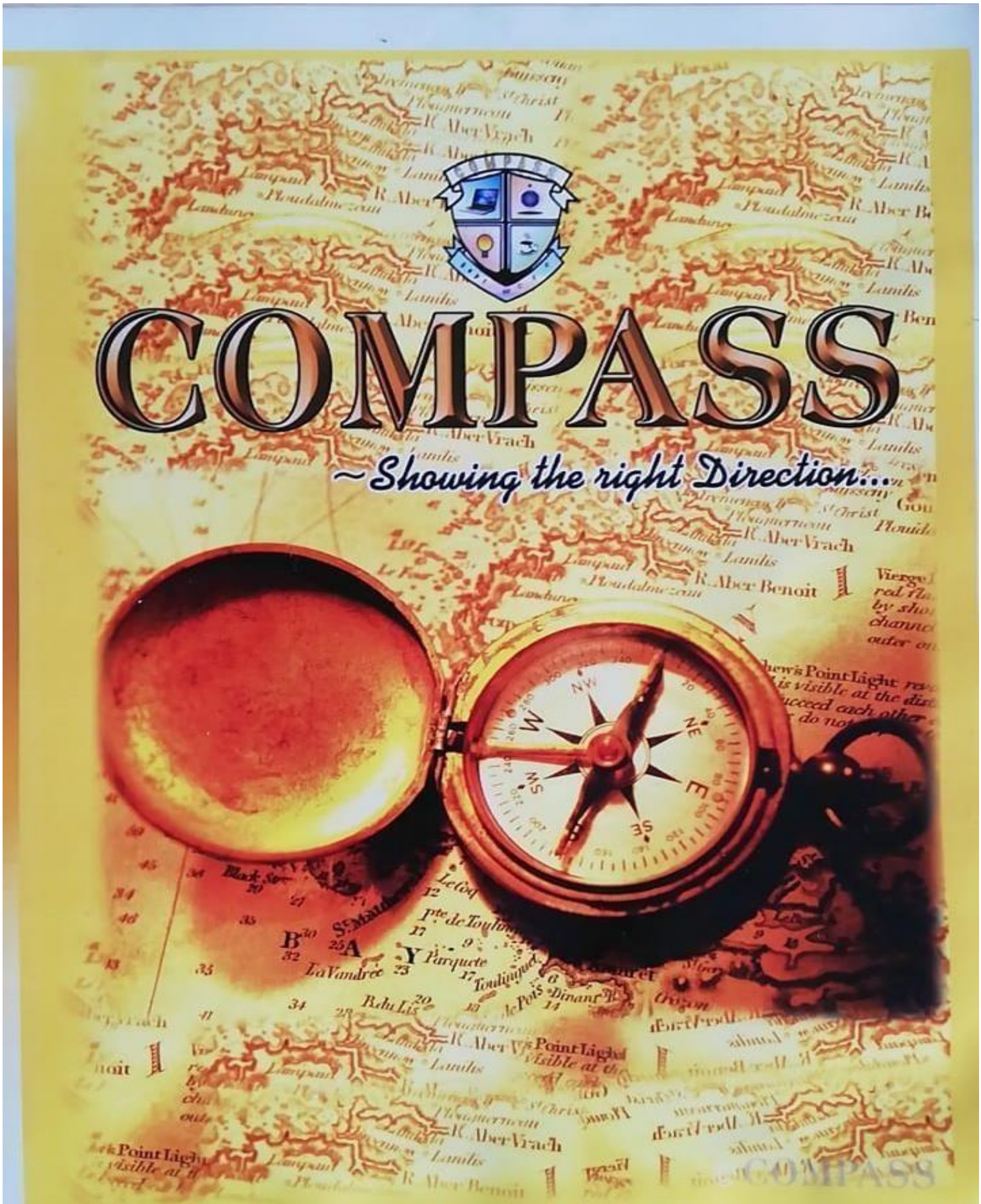
COMPASS
~Showing the right Direction...

RAJEEV GANDHI MEMORIAL COLLEGE OF ENGINEERING AND TECHNOLOGY

(AUTONOMOUS)
NANDYAL

(ESTD-1995)

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About RGMCET

Rajeev Gandhi Memorial College of Engineering and Technology was founded in the year 1995. It is located in a 32.04 acre sprawling campus on NH-40 (old NH-18) at Nandyal, Kurnool (Dist), Andhra Pradesh.

It is the dedicated commitment and efforts of our Chairman, the man with vision "Vidyarathna" Dr. M. Santhiramudu, who started the institution with a motto "EDUCATION FOR PEACE". RGMCET is a road of elegant educational journey, yet path breaking in different dimensions.

Rajeev Gandhi Memorial College of Engineering & Technology (Autonomous) is Ranked in the band of 201-300 in Engineering category as per National Institutional Ranking Framework (NIRF) - 2024, Ministry of Human Resource Development (MHRD), Govt. of India.

RGMCET Vision

- *To develop this rural based engineering college into an institute of technical education with global standards.*
- *To become an institute of excellence which contributes to the needs of society.*
- *To inculcate value based education with noble goal of " Education for peace and progress".*

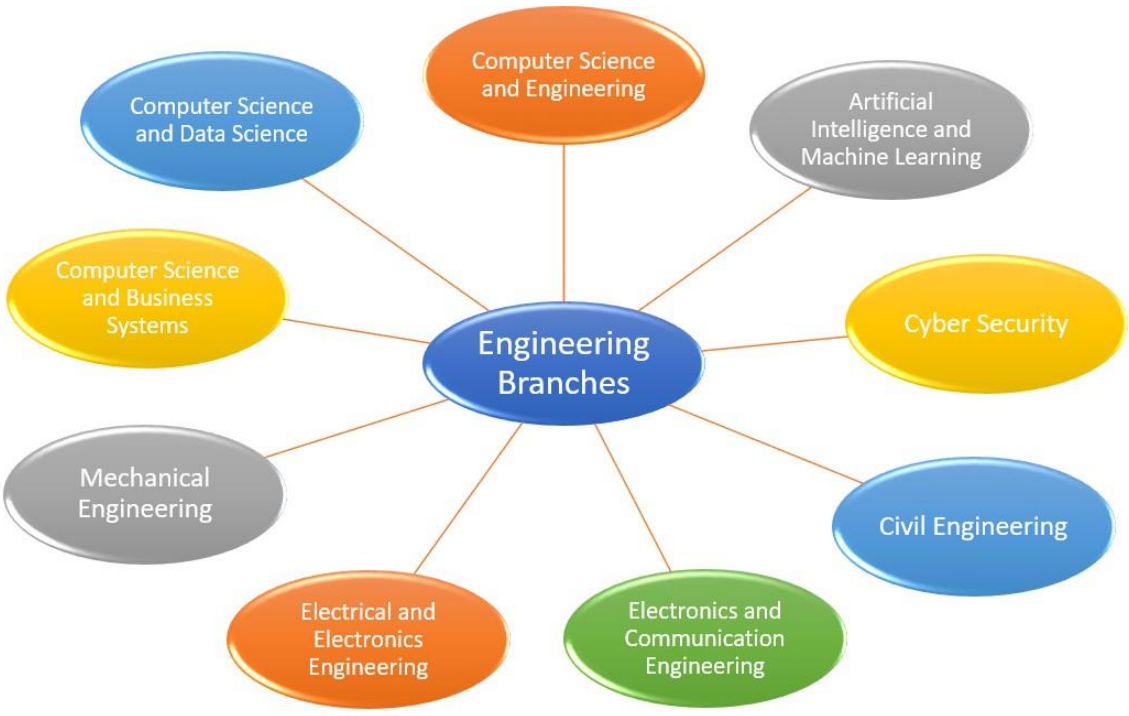
RGMCET Mission

- *To build a world class undergraduate program with all required infrastructure that provides strong theoretical knowledge supplemented by the state of art skills.*
- *To establish postgraduate programs in basic and cutting edge technologies.*
- *To create conductive ambiance to induce and nurture research.*
- *To turn young graduates to success oriented entrepreneurs.*
- *To develop linkage with industries to have strong industry institute interaction.*
- *To offer demand driven courses to meet the needs of the industry and society.*
- *To inculcate human values and ethos into the education system for an all-round development of students*

RGMCET Quality Policy

- *To improve the teaching and learning.*
- *To evaluate the performance of students at regular intervals and take necessary steps for betterment.*
- *To establish and develop centers of excellence for research and consultancy.*
- *To prepare students to face the competition in the market globally and realize the responsibilities as true citizen to serve the nation and uplift the country's pride.*

Engineering Branches offered in RGMCET



About COMPUTER SCIENCE AND ENGINEERING

CSE Department Vision

- *To empower students with cutting edge technologies in computer science and engineering.*
- *To train the students as entrepreneurs in computer science and engineering to address the needs of the society.*
- *To develop smart applications to disseminate information to rural people.*

CSE Department Mission

- *To become the best computer science and engineering department in the region offering undergraduate, post graduate and research programs in collaboration with industry.*
- *To incubate, apply and spread innovative ideas by collaborating with relevant industries and R & D labs through focused research groups.*
- *To provide exposure to the students in the latest tools and technologies to develop smart applications for the society.*

Program Outcomes (PO's) - Engineering Graduates will be able to:

1. *Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.*
2. *Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.*
3. *Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.*
4. *Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.*
5. *Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.*
6. *The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.*
7. *Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge , and need for sustainable development.*

8. *Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.*
9. *Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.*
10. *Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.*
11. *Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.*
12. *Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.*

Program Specific Outcomes (PSO's)

1. *Students will have the ability to understand the principles and working of computer systems to assess the hardware and software aspects of computer systems.*
2. *Students will have the ability to understand the structure and development methodologies of software system, that possess professional skills and knowledge of software design process.*
3. *Students will have the ability to use knowledge in various domains to identify research gaps and hence to provide solution to new ideas and innovations.*

Program Educational Outcomes (PEO's):

- *To Pursue a successful career in the field of Computer Science & Engineering or a related field utilizing his/her education and contribute to the profession as an excellent employee, or as an entrepreneur.*
- *To be aware of the developments in the field of Computer Science & Engineering; continuously enhance their knowledge informally or by pursuing graduate studies.*
- *To engage in research and inquiry leading to new innovations and products.*
- *To be able to work effectively in multidisciplinary and multicultural environments.*

To be responsible members and leaders of their communities, understand the human, social and environmental context of their profession and contribute positively to the needs of individuals and society at large.

Incipience:

A short note for readers… We want to thank all of those who supported us in Compass Magazine. We will always be gratified to the faculty who supported us through this journey.

The essential purpose of Compass Magazine is to inform, engage, inspire and entertain a diverse readership including faculty, staff, students and other friends of RGMCET.

Our magazine glides you through a series of queries you get during the phase of B.Tech and we tried to possibly find answers and solutions for your queries and problems.

You will get to know how the scope of Computer Science and Engineering has in present society and what are the important guidelines you need to follow in order to embellish your success in stream of your choice. So we wish you a happy experience and good luck with your future.

Rajeev Gandhi Memorial College of Engineering & Technology

Offering B.Tech., & M.Tech., Courses: Accredited by NBA (UG Program)

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(ESTD – 1995)

PREFACE

I deem it a great honor to be vested with the responsibility of playing the role of Program Director for the compass magazine of the academic year 2024-25. Compass document for brilliant and budding engineers, has the objective of triggering ripples in their thought process of bringing forth innovative ideas in modern and emerging fields of technology.The heartening and overwhelming response, in the form of as many as **50** articles of super quality from all parts of the department, speaks volumes about the tremendous zeal and caliber of engineering students in the department. Profuse thanks to all these young boys and girls from the bottom of my heart. My hearty Congratulations to young authors of accepted articles. The articles are treasured in these magazine. All the work connected with this magazine could not have been successfully executed but for the active advice and wonderful support of the esteemed chairman, respected principal, dear Managing Director, able and ever-agile administrative officer, beloved colleague's dear student friends and non-teaching staff. Here is my grateful acknowledgement of their priceless support with sincere thanks.

Dr. K. SUBBA REDDY

PROGRAM DIRECTOR & HoD

A QUICK GLIMPSE

HUMAN EDGE OVER AI

What is Artificial intelligence?

- AI or artificial intelligence, refers to the field of computer science focused on creating systems that can perform tasks typically requiring human intelligence. These tasks include learning from data, recognizing patterns, understanding natural language, making decisions, and solving problems.
- AI systems can range from simple algorithms that make recommendations to complex systems like autonomous vehicles. The goal is often to create tools that can augment human abilities, automate tasks, and provide insights or solutions that might not be obvious otherwise.

What is Human Intervention?

Human intervention refers to the act of humans stepping in to influence or alter a process, system, or situation that might otherwise proceed on its own, In general, human intervention is often necessary when systems or processes require oversight, correction, or enhancement to ensure they function correctly, ethically, or safely.

It includes:

- Technology and AI.
- Health Care.
- Environmental Management.
- Emergency situations.

General description:

- As we all aware that human intelligence is the first step to creation and still developing the artificial intelligence.
- Artificial intelligence has no specific use without human interaction with the AI.
- The AI was developed to reduce the workloads that makes works easier with less human interaction but many of the people are in false belief that the AI will take all our jobs and the unemployment may increase, but if we think once if there are no human to provide the requirements to the AI it remains useless.
- Many innovations are created only by the human's intervention but not with the artificial intelligence and the errors occurred in the innovations can be solved by interacting with artificial intelligence.
- AI is a based-on computer science that can understand only languages but it can't deal with the emotions, self-awareness, social skills etc.,
- The AI always need to be monitored to improve the developments, updates in the present situations required so we still have a great importance of human requirement.

EX:

- If we look at the robotics that uses artificial intelligence, the robots can't itself may be produced and created it is done by human intervention and it can't perform any task by itself the work is decided by the humans and if any updates in the robots, improvements, developments, maintenance and the activities can't be performed by itself .

Crisis that prove Human Intervention is better than AI:

1. Complex Decision-Making and Ethics:

- Contextual Understanding: Humans have a deep understanding of context, nuance, and ethics that AI systems might lack.
- For example, in situations involving moral or ethical dilemmas, human judgment can better navigate the subtleties and complexities that AI might not fully grasp.
- Empathy and Compassion: Humans can apply empathy and compassion in their decision-making, which is crucial in fields like healthcare, counseling, or social work. AI lacks emotional intelligence and cannot truly understand or respond to human emotions.

2. Adaptability and Flexibility:

- Handling Novel Situations: Humans are generally better at handling unforeseen or novel situations that fall outside the scope of pre-defined rules or patterns. AI systems are often limited to the data and scenarios

they have been trained on.

- Creative Problem-Solving: Human creativity and ingenuity allow for innovative solutions and adaptations that AI might not be able to generate. Humans can think outside the box and consider unconventional approaches.

3. Understanding of Human Context:

- Cultural and Social Sensitivity: Human intervention can account for cultural, social, and personal contexts in ways that AI might struggle to understand. This is important in diverse and multicultural settings where sensitivity to different perspectives is crucial.

- Interpersonal Skills: In fields requiring personal interaction and relationship-building, such as education or customer service, human skills in communication, empathy, and rapport are often more effective than AI interactions.

4. Limitations of AI:

- Data Dependence: AI systems rely heavily on the quality and quantity of data they are trained on. Poor or biased data can lead to flawed or biased outcomes, whereas human judgment can sometimes compensate for incomplete or imperfect information.

- Technical Issues: AI systems can be susceptible to technical failures, errors, or unintended consequences. Human intervention can help identify and address these issues more effectively.

Artificial intelligence vs Human intervention:

S.NO	Artificial Intelligence	Human Intervention
1	Created by Human intelligence	Created by Divine intelligence.
2	Process information faster.	Process information slower.
3	Cannot adapt to the changes well	Adapt to changes easily
4	Cannot make multitasks much better.	Can make multi tasks better.
5	Low social skills.	Excellent social skills.

Conclusion:

In conclusion, while AI excels in processing vast amounts of data, automating tasks, and performing repetitive functions with precision, it lacks the depth of human intuition, creativity, and ethical reasoning. The human ability to innovate, empathize, and make nuanced decisions ensures that in many areas, human oversight and intervention remain irreplaceable by AI. Ultimately, the collaboration between AI and human intelligence creates the most effective outcomes, with humans providing the necessary insight that AI alone cannot achieve**.**

R. Sai Manoj

III CSE,

T. Sai Kumar

III CSE

BOUNDLESS LOVE FOR KRISHNA

The palace of Dwaraka ever twinkled with the presence of Krishna's many wives. Rukmini, Sathyabama, Jambhavathi and all the others went about their usual chores serving Krishna and all the others of the extended Yadava clan. With the blessings of the goddess of wealth, the treasuries of Dwaraka always overflowed with jewels and precious stones. Sathyabama was the beautiful daughter of Satrajith, the owner of the sacred Syamantaka jewel. She was haughty and proud of her royal lineage and good looks. She prided herself on her pure love for Krishna and yet she was jealous of Rukmini, the goddess of wealth incarnate. Rukmini on the other hand, being the first queen of Dwaraka was a very humble lady and a pious wife. She let nothing come in the way of her devotion to Krishna and served him with whole hearted love and devotion.

One day, the divine sage Narada, the creator of mischief, came to Dwaraka to offer his salutations to Sri Krishna. In the courtyard he met Satyabhama, beautifying herself with some flowers on her tresses. He walked up to her and with a voice of absolute innocence asked her, "Rani Satyabhama, don't doubt my intentions, but is it my old age or is it really true that Krishna loves Rukmini more than you?" Sathyabhama was thoroughly shaken and stood still, gaping at Narada." You, are far more beautiful and charming than her. You are the younger queen. Don't you think you deserve more attention?", prodded Narada again. Pulling herself together, Satyabhama looked inquisitively at Narada, "Tell me divine sage, what should I do to gain his undivided attention? You are my only hope now", she pleaded to him.

Narada, ever eager to cause confusion told, "That is my whole point of visit, mother. I have a first-class plan all hatched up to bring Krishna back to you." Satyabhama's eyes were twinkling and she listened to Narada with rapt attention." You will now make a vow, that you will hand over Krishna to me as a slave. Then to keep the sanctity of the vow but also to retain Krishna to yourself,

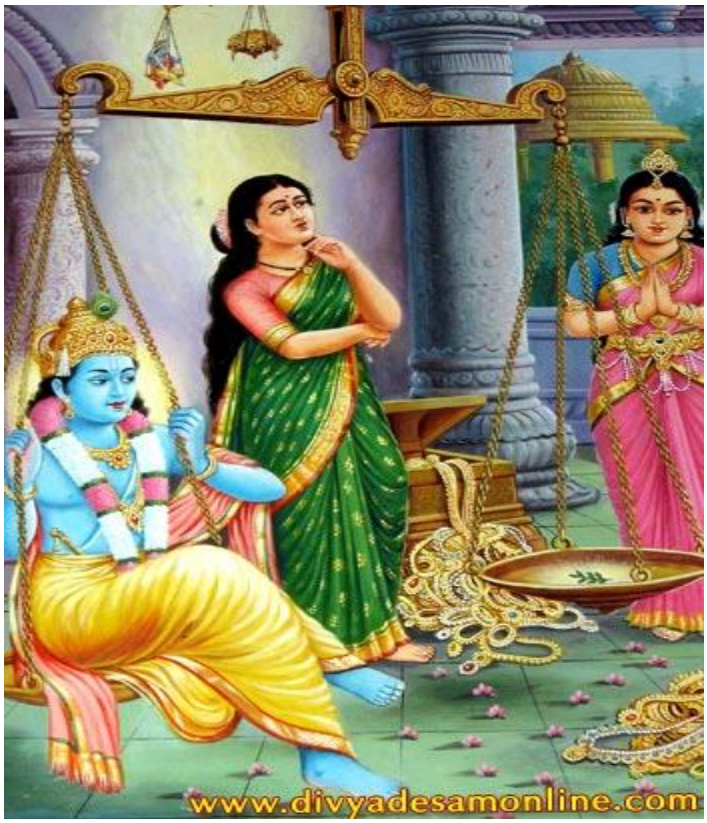
I will allow you to trade him in for an equivalent weight of your riches. Seeing that you are willing to trade in your wealth for him, Krishna will admire you for your sacrifice and will keep you close to him. The only hitch is that I do not know if your wealth will suffice to balance out Krishna's weight", Narada asked sceptically. Proud as ever, Satyabhama flared up, "I am the daughter of Satrajith. My wealth is limitless. I am sure that I have enough to balance Krishna. We will carry on with this plan of yours." And that, was exactly what Narada wanted.

Satyabhama rushed to Krishna and hurriedly told him about her unfortunate vow to Narada. Krishna patiently listened to her and very meekly nodded his head. Satyabhama then commanded one of the servants to bring out the large scales used to weigh grains and groceries. And gently leading Krishna, she went to the Courtroom. All the ministers stared at the scales that had been placed at the centre of the court. Their mouths further fell when they saw box after box of gold carried inside. Krishna was silent throughout the entire time.

Amidst all the courtiers and with Krishna himself as the witness, Satyabhama gave away Krishna in Dhaana to Narada. The other wives of Krishna were shocked at this, but being ever dutiful, they did not speak out in front of the assembled court. Narada then gave her the option of taking back Krishna but instead presenting him with an equivalent weight of riches. Amidst loud sighs of relief, Satyabhama agreed to it. She then placed Krishna on one plate of the Scales and with a smirk on her face started piling up the gold, jewels and gemstones on the other plate. She kept adding more and more of her wealth, but the pan with Krishna did not even budge. To top it all Narada kept giving her ominous warnings, "Remember devi, if you fail to supply me with sufficient wealth, Krishna will forever be a slave to me. I can even bid him out to anyone I want." Satyabhama freaked out and swallowing her pride, begged the other wives of Krishna to give her their jewels so that they could retain Krishna. Out of their devotion to their lord, the wives removed every gold ornament on their body until they were wearing only the Mangalsutra. But the scale showed no signs of

motion.

Krishna, always the sly cowherd, “Look Satyabhama, because of your stupid vow, I have to be a slave to this rishi. Oh, how I hate this”, he complained. Satyabhama was at a loss for words when Krishna continued, “Why don’t you ask Rukmini. She must be able to get us out of this predicament”, he suggested coyly. Satyabhama was in such a state that all her ill will towards Rukmini flew out of the window. Rushing to Rukmini’s private chambers she poured out the dire state of matters. Rukmini, ever calm, didn’t panic and came along with Satyabhama. On the way she passed the sacred Tulasi Madam and plucking a single leaf of Tulasi [Sacred Basil], she continued her way to the hall. She very quietly walked towards the balance and praying to Krishna, placed the single Tulasi leaf on all the piled-up wealth. Lo and behold.! The pan containing Krishna flew up and remained underbalanced. Shocked at this, Satyabhama looked to Krishna for explanation. “Try removing your riches, Bhama,” Krishna told her, all smiles.



With a very sceptical expression on her face, she removed all her riches

until nothing but the single Tulasi leaf sat on the pan. And yet, it weighed more than Krishna. She was stunned and humbled. Krishna jumped down from his high hanging pan and came to her, “Bhama, you gave all your riches to me, but there was no devotion in that offering. Just the feeling of possessiveness. When you made your offerings with such a thought in your mind, they lost their value and became mundane things. On the other-hand Rukmini offered just a single Tulasi leaf. But her intentions were noble. She made the offering with utmost love and devotion towards me. And that single leaf was sufficient to please me beyond expectations. Remember it is not the offering that matters, but the love and devotion with which you do it, that does.” Then leaving Satyabhama standing stunned in the court, Krishna returned to his chambers with his other wives. Turning to Narada, her eyes now shining bright with tears, Bhama said, “Devarishi, thank you for teaching me this hard learnt lesson today. I will Never underestimate the power of devotion and love towards the lord.” Narada nodded and with his characteristic Narayana-Narayana, he was gone.

Shanmukha Hari O

III CSE

Carrier Preparation and Internships

Advice on Securing Opportunities While in College

Securing internships and job opportunities while still in college is key to building a strong foundation for your future career. These experiences not only enhance your resume but also give you a chance to explore different industries, gain real-world skills, and make valuable professional connections. To help guide students, I've gathered insights from career services staff, successful alumni, and best practices to help you navigate this crucial phase of career development.

1. Start Early and Leverage Campus Resources

- Career services staff strongly emphasize the importance of starting your internship search early in your college career. Many students wait until their junior or senior years, but starting in your freshman or sophomore year can give you a significant edge.
- **Interview with Career Services Staff:** "The earlier students start preparing for internships, the more options they'll have," says Sarah Lewis, Director of Career Services at a major university. "We always encourage students to come in during their first year to explore career options, get their resumes in order, and practice interviewing. We also offer workshops on networking and using platforms like LinkedIn."

- **Actionable Tip:** Visit your career center as soon as possible to familiarize yourself with the services they offer. They often host career fairs, offer resume-building workshops, and provide mock interviews. Career services staff can also help you identify relevant internships and connect you with alumni in your field of interest.

2. Network with Professors and Alumni

Networking can be one of the most effective ways to secure an internship or job. Your professors and the alumni network are great resources that can help you connect with professionals in field of interest.

- **Interview with a Successful Alumnus:** John Carter, a software engineer at Google and a recent graduate, reflects on how networking helped him land his first internship. "I didn't get my first internship through a job board; it was actually through a professor who had connections at a tech company. I stayed after class one day, mentioned that I was looking for opportunities, and he introduced me to someone who ended up hiring me."
- **Actionable Tip:** Don't be afraid to approach your professors for advice and recommendations. They are often well-connected in their respective fields and can point you toward internship opportunities that may not be widely advertised. Additionally, take advantage of alumni events and platforms like LinkedIn to reach out to former students working in your area of interest.

3. Tailor Your Resume and Cover Letter

A well-crafted resume and cover letter are critical in securing an internship. You'll want to tailor these documents to each specific opportunity, highlighting relevant skills, coursework, and extracurricular activities.

- **Interview with Career Services Staff: "**We often see students submitting generic resumes and cover letters," says Lewis. "Employers are looking for candidates who can show that they've done their research and understand the company's needs. Tailoring your application shows that you're serious about the position."
- **Actionable Tip:** Before applying to any internship, thoroughly research

the company and role. Tailor your resume by highlighting relevant experiences and skills, and customize your cover letter to explain why you're a good fit for that specific position. Be sure to use action verbs and quantify your achievements where possible (e.g., "Increased club membership by 30% during my term as president").

4. Gain Experience Through Campus Involvement

If you're finding it difficult to secure an internship, consider getting involved in campus organizations or taking on leadership roles. Many employers value the skills gained from extracurricular activities, such as teamwork, leadership, and problem-solving.

- **Interview with a Successful Alumna:** Emily Tran, who now works in marketing for a major brand, shared how her campus involvement helped her land an internship. "I didn't have any formal internship experience when I applied for my first marketing role. But I was heavily involved in our student-run advertising club, where I led campaigns and worked on social media strategy. That experience was what ultimately helped me stand out to employers."
- **Actionable Tip:** Join clubs, student organizations, or even start your own if you're passionate about something. Whether it's leading a student group, organizing an event, or managing a budget, these experiences can demonstrate your initiative and leadership skills to potential employers.

5. Take Advantage of Online Job Boards and Internship Platforms

- While networking and campus resources are invaluable, many students also find internships and job opportunities through online platforms. Websites like LinkedIn, Handshake, and Indeed have dedicated sections for internships and entry-level positions.
- **Career Services Staff Insight:** "Platforms like Handshake are really helpful for students because they are specifically designed for college students and new grads," says Lewis. "Many of the companies posting on these platforms are actively looking for interns or entry-level employees

with little to no experience."

- **Actionable Tip:** Regularly check online platforms for internship opportunities and set up job alerts so that you're notified when new positions are posted. Keep your LinkedIn profile updated with your latest skills and experiences, and connect with professionals in your desired industry.

6. Prepare for Interviews by Practicing with Career Services

- **Interview with Career Services Staff:** "We offer mock interview sessions where students can practice answering tough questions and receive feedback on their responses," says Lewis. "It's really about building confidence and learning how to articulate your skills and experiences in a way that aligns with the job."
- **Actionable Tip:** Schedule a mock interview with your career services office or ask a mentor to help you practice. Research the company and prepare to answer common interview questions like "Tell me about yourself" and "Why do you want to work here?" Additionally, come prepared with questions to ask the interviewer, as this demonstrates your interest and engagement.

7. Consider Unpaid or Remote Internships

- **Interview with a Successful Alumnus:** Mark Rivera, who now works in finance, says his first internship was unpaid, but it paved the way for future success. "My first internship was with a small nonprofit. It was unpaid, but I gained so much hands-on experience and developed relationships that eventually helped me get a paid role at a larger company."
- **Actionable Tip:** If an unpaid internship offers substantial learning opportunities and networking potential, it can still be worth your time. Be sure to evaluate whether the experience will help you build the skills and connections you need for your long-term career goals.

Conclusion:

Securing internships and job opportunities in college is a strategic process that requires planning, networking, and persistence. By leveraging campus resources, tailoring your applications, gaining experience through extracurriculars, and seeking out opportunities through both personal connections and online platforms, you can set yourself up for career success. Start early, stay proactive, and don't be afraid to seek guidance from career services and alumni who have successfully navigated this process.

Ramanaboina Akhila

III CSE

CRICKET

Introduction:

Cricket, often refers to as a gentleman's game and England national sport, which is now played throughout the world, particularly in Australia, India, Pakistan, South Africa and West Indies. It is a globally recognized sport, known for its rich history and widespread popularity.

History and Evolution of Cricket:

Cricket is the world's second most popular spectator sport after football. The origin of cricket can be traced back to England in the late 16th century. Initially it was a children's game, it gradually gained popularity among adults, becoming the national sport of England by the 18th century. Cricket's global expansion began with the British Empire. Countries such as India, Australia, South Africa, and the West Indies embraced game in the 19th century making it a key part of their sports culture. The first cricket match was played in 1844 between the United States and Canada. Over the time cricket has seen so many innovations, including the introduction of One Day Internationals (ODIs) in 1970s and Twenty20(T20) cricket in the early 2000s.These formats have transformed the game, making it more accessible to the global audiences. Today, cricket is played and watched by millions worldwide, with major tournaments such as ICC Cricket World Cup and the Indian Premier League (IPL) showcasing the massive sport's appeal.

Basic Rules of Cricket:

Cricket is a game between two teams of eleven players. These 11 players constitute batsmen, bowlers, and a wicket keeper. It is a passionate game played with bat and ball. The field is oval with a rectangular area in the middle, known as pitch, that is 22 yards by 10ft wide. At each end of the pitch is a set of three wickets with two wooden bails on top. The match is broken down into separate sections called balls. Six of these balls form an over. It is played for a very common aim of getting the maximum scores and number of runs by both the teams. The match will also have two on-filed umpires who makes the

decisions of the game. And there is also a third umpire who monitors the game through a screen and helps with uncertain decisions.

Types of Cricket Formats:

- **Test Cricket**

Test Cricket is the traditional form of the game, which has been played since 1877. All the players wear white tees and trousers for this format. A red ball is used to play. These players compete over a match that can last up to five days with six hours of play each day. It consists of four innings, maximum of 90 overs are scheduled to be bowled per day making it the longest playing time of any sport.

- **One Day Internationals**

One Day Internationals, also known as ODIs, are pacier format which has been played since 1971 but gained popularity from the 1980s. A limited-overs format played over a single day, with each team batting for a maximum of 50 overs, with the game lasting up to 7 hours. The first official One-Day International match took place on January 5, 1971 between England and Australia at the famous Melbourne Cricket Ground (MCG). The Cricket World Cup, generally held every four years, is played in this format of game.

- **T20 International**

Twenty20 Internationals are the newest, shortest and fastest form of the game. It was introduced by the England and Wales Cricket Board (ECB) in 2003. A T20 game is completed in about three and a half hours, with each innings lasting around 90 minutes and a official 10-minute break between the innings. The first T20 international was played in 2005 between Australia and New Zealand, and by the year 2007, the format had a global spotlight with the inaugural ICC T20 World Cup, won by India.

Famous Cricketers and their Contributions:

- **Sir Donald Bradman:**

Sir Donald Bradman from Australia, often referred to simply referred to as “The Don” is the greatest cricketer of all time. Bradman’s test batting average of 99.94 is unparalleled. His precision, technique, and consistency set a benchmark for excellence in batting. He also helped popularize cricket in Australia and Internationally.

- **Sachin Tendulkar:**

Sachin Tendulkar, from India, known as “Little Master” or “Master Blaster” whose career spanned over two decades. He holds numerous records, including the highest number of runs in both Test and ODI formats. He was the first player to score 100 international centuries. He played a crucial role in India’s 2011 ICC World Cup victory.

- **Sir Vivin Richard:**

Sir Vivin Richards, from West Indies, is one of the most destructive batsmen in the cricket history in the late 1970s and 1980s. Richards fearless approach changed the way of ODI batting. He won two World Cups (1975,1979) and captained the West Indies team successfully.

- **Imran Khan:**

Imran Khan is one of the Pakistan’s most celebrated cricketers and an inspiring leader. He is a world class all-rounder, led Pakistan to their first and only ICC Cricket World Cup victory in 1992. Imran is an exceptional all-rounder with significant contributions in both bowling and batting.

- **Sir Garfield Sobbers:**

Sir Garfield Sobbers, from West Indies is one of the greatest all-rounders in the history of cricket. Sobbers is known for being one of the best all-rounders, excellence in batting, bowling (both spin and pace) and fielding. He also wrote several books on cricket, including a novel, Bonaventure and the Flashing Blade (1967).

- **Kapil Dev:**

Kapil Dev, from India, is a cricketing legend who has left an incredible mark on the sport through his dynamic playing style, leadership and

contributions to Indian Cricket. He led India to win the World Cup in the year 1983. His innings of 175 not out against Zimbabwe was crucial in securing India's place in the final stages of the tournament.

- **AB de Villiers:**

  AB de Villiers, from South Africa, known for his innovative batting style, is regarded as one of the greatest cricketers of all time for his exceptional skills and sportsmanship. De Villiers earned the nickname "Mr.360" for his ability to play shorts all over the ground. He holds the record for the fastest century in ODIs, which he achieved in just 31 balls against West Indies in 2015.

- **Virat Kohli:**

  Virat Kohli, my favourite batsmen, also known as the **RUN MACHINE** is one of the modern cricketing-icon is renowned for his aggressive batting and consistency in scoring runs. Kohli's captaincy transformed Indian Cricket, leading the team to historic Test series victories. King Kohli has scored over 80 centuries, across all formats of the game making him one of the top run scorers in the cricket history, particularly as a master of chasing targets.

- **Brian Lara:**

  Brian Lara, from West Indies, one of the greatest batsmen in the cricket history, is famous for his stroke play and record-breaking performances. He holds the record for the highest individual score in Test Cricket (400). Lara's 153 against Australia in 1999 is considered as one of the finest innings in the Test History.

- **Rohit Sharma:**

  Rohit Sharma, the Captain of Indian Cricket Team, often called as the "Hit-man" of Indian Cricket, is one of the stylish batsmen in the modern cricketing era. Rohit is the only player to score three double centuries in One-Day Internationals, with his highest score being a record-breaking 264. As the captain of MI in the IPL, he led the team to five titles.

Cricket and Technology:

Technology has revolutionized cricket in various ways, enhancing the game, improving accuracy. Here are some advanced technologies in cricket.

1. **Decision Review System (DRS)**

DRS includes Hawk-Eye, Ultra Edge and ball tracking technology. It allows the players to challenge the umpire decisions. Hawk-Eye tracks the ball's trajectory, Ultra Edge detects edges and deflections, and ball-tracking shows potential ball paths.

2. **Drones**

Drones captures the aerial footage of the game, providing unique angles for analysis and review. These are useful for both live coverage of the match and detailed post-match analysis.

3. **High Speed Cameras**

These High-Speed Cameras captures the detailed slow-motion footage of ball deliveries and shots. These are mostly useful for understanding technique and execution of the game.

4. **Ball Tracking**

Ball tracking provides us with a visual representation of the ball's trajectory and its impact with the stumps. It is very useful in the LBW decisions and analysis.

5. **Artificial Intelligence**

AI analyses large datasets to predict the match outcomes, player performance, and the team strategies. It assists in the strategic decision making and also enhances coaching by providing the highlights of the game.

Milestones of INDIAN Cricket:

The Indian Cricket team, also known as Men in Blue, is the most popular cricket team in the world. It is governed by the Board of Cricket in India (BCCI). This team played its first international match in 1932 and has produced some of the most talented cricketers in the world. Here are some milestones in the history of Indian Cricket:

- **ICC Cricket World Cup:** India's victory in 1983 Cricket World Cup was a historic moment. Under the captaincy of Kapil Dev, the team defeated the West Indies in the final by 43 runs securing their first-ever World Cup title. Again in the year 2011, under the captaincy of MS Dhoni, India reclaimed the title after 28 years defeating Sri Lanka in the finals. The 2011 win was special as it came on the home soil and fulfilled the dreams of many cricket fans.
- **Asia Cup:** India's cricketing prowess is highlighted by its Asia Cup victories across various years.
    - **1984:** India won its first inaugural Asia Cup against Sri Lanka under the captaincy of Sunil Gavaskar.
    - **1988:** India won the Asia Cup for the second time against Sri Lanka under the captaincy of Dilip Vengsarkar.
    - **1990-91:** The Fourth Asia Cup was held between India and Sri Lanka. India defeated the opponents under the captaincy of Mohammad Azharuddin.
    - **2010:** Under the leadership of MS Dhoni India secured another victory against Sri Lanka by 81 runs.
    - **2016:** India won the Asia Cup in the T20 format against Bangladesh under the captaincy of MS Dhoni.
    - **2018,2023:** The 2018 Asia Cup was won by India, who defeated Bangladesh by 3 wickets in a thrilling final. In 2023, India claimed the title again, beating Sri Lanka by 10 wickets. Both victories solidified India's dominance in the Asian Cricket.
- **ICC Champions Trophy:** India has won the ICC Champions Trophy twice. The first win came in 2002, shared with Sri Lanka due to rain. India claimed its second title in 2013 under MS Dhoni's captaincy, defeating England by 5 runs.

- **Border Gavaskar Trophy:** The Border-Gavaskar Trophy is a prestigious Test Cricket series played between India and Australia. It was named

after legendary cricketers Allan Border (Australia) and Sunil Gavaskar (India), it was first contested in 1996. India won the inaugural series. Memorable series include India's historic 2-1 victory in Australia in 2018-19, and the thrilling 2-1 triumph in 2020-21.

- **ICC T20 World Cup:**
  1. **2007:** India has had a significant presence in the ICC T20 World Cup since the tournament inception in 2007. The inaugural ICC T20 World Cup in 2007, held in South Africa, marked India's first major victory in the shortest format of the game under the captaincy of MS Dhoni.
  2. **2024:** India's victory in the 2024 ICC T20 World Cup marked a historic moment, by securing it's second title after a 17-year gap. Under the leadership of Hit-man, India played a dominant cricket throughout the tournament defeating South Africa in the finals by 7 runs.

Conclusion:

Cricket for me is more than just a sport, it is a game which I admire the most. Cricket always holds a special place in my heart. This sport offers every emotion: love, joy, happiness, tears and laughter. Cricket is not a just a sport I follow, it's a passion that brings me immense joy and sheer excitement.

"The great thing about cricket is that it brings people together from all parts of the world"- Sir Vivin Richards

S. Sai Deekshitha

III CSE

Generative AI: The Future of Innovation

Introduction

Imagine if you had a tool that could create new music, write stories, or even design artwork—just like a human artist, but powered by technology. This is exactly what Generative AI does. It's an exciting and rapidly evolving field that can make new things by learning from existing ones. In this article, we'll break down Generative AI into easy-to-understand pieces so you can see why it's so important and how it might change the world!

What is Generative AI?

Generative AI refers to artificial intelligence that can produce new content. Unlike regular AI, which follows rules to complete specific tasks, Generative AI can create something original based on what it has learned from existing data.

Example: If you give a Generative AI many pictures of cats, it can create new, unique images of cats that never existed before.

Various Types of Generative AI Models:

1.Generative Adversarial Networks (GANs):

GANs consist of two neural networks—a generator and a discriminator—that work in opposition. The generator creates data, while the discriminator evaluates its authenticity. Through this adversarial process, GANs can generate high-quality, realistic data.

Ex: The Flux model is an advanced Generative Adversarial Network (GAN) that is renowned for its ability to generate high-fidelity images and other creative outputs.

Text to Realistic Image:

Prompt:

A young woman confidently speaking onstage at a Khaleel Al tech conference, smiling warmly. She stands against a clean, white background with blurred corporate logos, keeping the focus on her as a presenter

2. **Transformers**: Transformers use self-attention mechanisms to process sequences of data, such as text. They excel at understanding context and generating coherent, contextually relevant content.

Applications: Text generation and completion**,** Conversational AI and chatbots

Example: GPT-3 (Generative Pre-trained Transformer 3)—used for generating human-like text and content creation.

3. **Diffusion Models Overview:** Diffusion models generate data by iteratively refining noisy data. They start with random noise and gradually apply learned patterns to generate high-quality data.

Applications: Generating high-quality images from noise**,** Image synthesis and restoration**,** Creating art with fine details

Example: DALL-E 2—creates detailed and diverse images from textual descriptions.

4. **Autoregressive Models**: Autoregressive models generate data sequentially, with each new data point being conditioned on previous points. They are

often used for tasks involving sequences where each step depends on the prior steps.

Applications: Sequential text generation, Music generation, Speech synthesis

Example: OpenAI's GPT models—generate text by predicting the next word in a sequence.

- **How Does Generative AI Work?**

  Here's a step-by-step look at how Generative AI works:

  - **Learning from Data:** Generative AI systems are trained on large amounts of data. For instance, if it's learning to write stories, it reads many different stories to understand how they are structured.
  - **Generating New Content:** After learning from the data, the AI can create new content. This might be a story, an image, or a piece of music, using patterns and styles it learned from the training data.
  - **Refinement:** The AI often goes through a process of refinement to make sure the new content is high-quality and useful.

- **Practical Applications of Generative AI:**

  - **Creating Art:** Artists use Generative AI to explore new styles and create unique pieces of art. Tools like Midjourney, DALL-E, and Artbreeder help artists generate visually stunning artworks.
  - **Writing and Content Creation:** AI can assist in writing articles, generating marketing copy, or even crafting poetry. Examples include tools like ChatGPT, Jasper, and Copy.ai.
  - **Designing Products:** Designers use AI to come up with innovative product designs or fashion ideas, speeding up the design process and enhancing creativity.
  - **Entertainment**: Video games and movies use AI to create characters and stories, making experiences more engaging and interactive.

- **Marketing and Advertising:** AI generates compelling ad copy and creative visuals tailored to target audiences, enhancing marketing campaigns. Tools like Copy.ai and Writesonic are used for creating marketing content.
- **Product Development:** Companies use AI to design new products and test concepts rapidly, reducing development time and costs.
- **Customer Service:** AI-powered chatbots and virtual assistants handle customer inquiries and provide personalized support, improving customer experiences. Tools such as Drift and Intercom are popular in this space.

- **Generative AI in Health:**

  In the healthcare sector, Generative AI offers several promising applications:

  1. **Drug Discovery:** AI models predict how different compounds interact with biological targets, speeding up the discovery of new medications. Tools like Atomwise and Exscientia assist in this process.

- **Concerns in Generative AI**

  1. **Misinformation Concern:** AI can create fake images, videos, or audio that look real, leading to false information being spread.
  2. **Privacy Issues Concern:** AI might use personal data without permission to generate content Impact. This can invade privacy and misuse personal information.
  3. **Ethical Use Concern:** AI can be used to create harmful or misleading content. This includes spreading fake news or harmful messages.
  4. **Copyright Problems:** AI might create content that looks too similar to existing works, causing legal issues.
  5. **Security Risks:** AI can be used to create convincing phishing scams or other security threats.
  6. **Content Quality**: AI-generated content might not always be accurate or reliable. This can lead to the spread of incorrect information.

- **The Future of Generative AI**

  The future of Generative AI looks bright with many potential developments:

Conclusion:

Generative AI is a tool that uses advanced algorithms to create new content, such as images, text, and audio. It works by learning from existing data and generating new, original outputs based on that learning. This tool has a wide range of applications, from generating art and writing to enhancing business processes and solving complex problems. While it offers exciting possibilities, it's important to use Generative AI responsibly, addressing concerns like misinformation and privacy to maximize its benefits.

Chetturu Khaleel

III CSE

Human Computer Interaction: Interface between Users and Systems

Introduction to Human Computer Interaction (HCI):

Human-Computer Interaction (HCI) is a multidisciplinary field that focuses on the design and use of computer technology, emphasizing the interaction between people (users) and computers. HCI combines principles from computer science, cognitive psychology, design, and social sciences to create systems and interfaces that are intuitive, efficient, and enjoyable for users.

Evolution of HCI:

The evolution of Human-Computer Interaction (HCI) reflects advancements in technology and changes in how people interact with computers. Here's a broad overview of key phases in the evolution of HCI:

a. **Early Computing (1950s-1960s): Command-Line Interfaces:**
   i. **Batch Processing:** Early computers were used primarily for batch processing with punched cards, where users submitted jobs for processing without direct interaction.
   ii. **Command-Line Interfaces (CLI):** Users interacted with computers via text-based commands. Examples include the

early mainframe systems and early personal computers with DOS.

b. Graphical User Interfaces (1970s-1980s): The Rise of GUIs

i. **Xerox PARC:** The development of the Alto computer at Xerox PARC introduced the concept of a graphical user interface (GUI), featuring windows, icons, and a mouse-driven interaction model.

ii. **Apple Macintosh:** In 1984, Apple popularized GUIs with the Macintosh, making computers more accessible to the general public through its intuitive interface.

iii. **Microsoft Windows:** Windows 1.0, released in 1985, brought graphical interfaces to the IBM PC, furthering the spread of GUI-based computing.

c. The Internet Age (1990s): Web and Multimedia:

i. **Web Browsers:** The creation of web browsers like Mosaic and Netscape Navigator opened up new ways for users to interact with information online through hyperlinked documents.

ii. **Multimedia and Rich Interfaces:** The rise of multimedia capabilities, including graphics, audio, and video, allowed for richer and more interactive web experiences.

d. Mobile Computing and Touch Interfaces (2000s): The Mobile Revolution:

i. **Smartphones and Tablets:** The introduction of devices like the iPhone (2007) and the iPad (2010) marked a shift to touch-based interfaces, enabling gestures like pinching and swiping.

ii. **App Ecosystem:** The proliferation of mobile applications transformed how users interact with technology, emphasizing simplicity and efficiency in interface design.

e. **Ubiquitous Computing and Context-Aware Systems (2010s): Seamless Integration:**

i. **Wearables and IoT:** The emergence of wearable devices (like smartwatches) and the Internet of Things (IoT) introduced new interaction paradigms, with context-aware systems adapting to users' environments and activities.

ii. **Voice and Conversational Interfaces:** Technologies like Amazon Alexa, Google Assistant, and chatbots enabled voice-based interactions, making computing more natural and hands-free.

f. **Advanced Interaction Paradigms (2020s and beyond): Immersive and Intelligent Interfaces:**

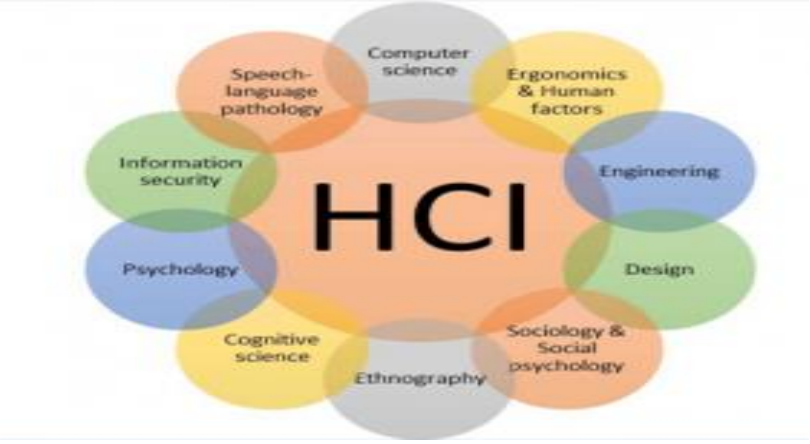
i. **Augmented Reality (AR) and Virtual Reality (VR):** AR and VR technologies create immersive experiences, allowing users to interact with digital content in 3D spaces. Examples include Oculus Rift and Microsoft HoloLens.

ii. **Artificial Intelligence (AI):** AI-driven systems and algorithms enhance user interactions through personalized recommendations, adaptive interfaces, and natural language understanding.

iii. **Brain-Computer Interfaces (BCIs):** Emerging technologies are exploring direct brain-to-computer communication, aiming to enable users to control through thoughts.

- **Applications of HCI:**

1. **Software Development:** Designing user-friendly applications and websites.
2. **Hardware Design:** Creating intuitive devices and controls.
3. **Virtual and Augmented Reality:** Crafting immersive experiences and interactions.
4. **Assistive Technology:** Developing tools that help people with disabilities access technology.



Future of Human Computer Interaction (HCI):

The future of Human-Computer Interaction (HCI) is set to be transformative, driven by advancements in artificial intelligence, immersive technologies, and brain-computer interfaces. AI and machine learning will enable highly personalized and context-aware interactions, where systems anticipate and respond to user needs in real time. Augmented Reality (AR) and Virtual Reality (VR) will offer increasingly immersive experiences, blending digital content seamlessly with the physical world, while Mixed Reality (MR) will create new ways to interact with both environments simultaneously. Brain-Computer Interfaces (BCIs) will push boundaries by allowing direct communication between the brain and computers, potentially revolutionizing accessibility and communication. Natural User Interfaces (NUIs), including voice and gesture controls, will become more refined, providing more intuitive ways to interact with technology. The integration of the Internet of Things (IoT) and ubiquitous computing will embed smart devices into our everyday lives, creating environments that respond

intelligently to our presence and actions.

Conclusion:

Human-Computer Interaction (HCI) stands at the intersection of technology and human experience, driving the evolution of how we interact with digital systems. As technology advances, HCI continues to play a crucial role in shaping intuitive, accessible, and personalized user experiences. The integration of artificial intelligence, immersive environments, and brain-computer interfaces promises to redefine interaction paradigms, making technology more adaptive and responsive to individual needs. Future developments in natural user interfaces and the Internet of Things will further enhance seamless and meaningful interactions.

Shaik Poluru Farida Banu

III CSE,

Velpula Harshitha

III CSE

The Story of the Two Villages

In a fertile valley surrounded by rolling hills, there were two neighboring villages. Greenfield and Harveston. Both villages were known for their beautiful landscapes and fertile soil, making them ideal for farming. The villagers in both communities were passionate about agriculture, but their approaches to farming were very different.

In Greenfield, the villagers followed traditional farming practices passed down through generations. They worked diligently, planting crops with care, rotating their fields to maintain soil fertility, and using natural methods to protect their crops from pests. The Greenfield farmers believed in taking the time to nurture their land and maintain its health. Harveston, on the other hand, embraced new technologies and shortcuts. The farmers used advanced machinery, chemical fertilizers, and pesticides to boost their crop yields. They focused on maximizing their output in the shortest time possible, often neglecting the long-term health of their soil and environment. Years passed, and the harvests in both villages initially seemed to reflect their respective methods. Greenfield had consistent, though moderate, yields and their fields remained lush and fertile. Harveston enjoyed impressive harvests, with bountiful crops that amazed onlookers.

One year, however, a severe drought struck the valley. The fields in Greenfield, having been well-maintained and nurtured, managed to survive the drought with careful water conservation and the resilient health of their soil. Although the yield was reduced, the fields still produced enough to sustain the village.

In contrast, the fields in Harveston, having been heavily reliant on chemical inputs and neglecting soil health, began to suffer drastically. The soil, depleted of its natural nutrients and damaged by chemicals, could not retain water. The crops withered, and the villagers faced a severe food shortage. Desperate for help, the Harveston villagers turned to their neighbours in Greenfield. The Greenfield farmers, despite their own challenges, welcomed the Harveston villagers with open arms. They shared their knowledge about sustainable farming practices, taught them methods to conserve water, and even provided seeds and resources to help them recover.

The Harveston villagers learned the importance of taking care of their land, not just for immediate gains but for long-term sustainability. They began to adopt more environmentally friendly practices and gradually saw improvements in their soil and crop yields.

Over time, both villages adapted and thrived. Greenfield continued to enjoy steady, healthy yields, while Harveston rebuilt their fields and embraced a balance between modern techniques and traditional wisdom. The two villages learned from each other and grew stronger together.

The valley flourished as both communities contributed to a sustainable and

harmonious agricultural system. The once-separate approaches to farming blended into a balanced practice that benefitted everyone.

Moral of the story: The key to long-term success and prosperity lies in balancing immediate gains with sustainable practices. Embracing traditional wisdom, caring for the environment, and sharing knowledge with others fosters resilience and growth for everyone.

V. Chaitanya Kumar Reddy

III CSE

IMPORTANCE OF EDUCATION

Education is a valuable tool for gaining learning and wisdom. Though books are essential to education, the notion encompasses more than just books and bookish knowledge. It isn't required for education to be only based on books.

The most important goal of education is to help people with how to read and write. The first step toward literacy is reading and writing. Education provides a person with endless opportunities for growth and advancement. People who have had an education tend to be more calm and self- assured. People who have been educated are disciplined and understand the importance of time. Education allows a person to be more expressive and opinionated. H/She was able expressive and opinionated. H/She was able to readily communicate his/her viewpoints, which were supported by a clear aim and rationale.

An educated individual possesses competent skills and is more capable than someone who is uneducated. However, it is incorrect to think that education alone ensures success. Indeed, success necessitates a solid education, as well as devotion, attention, and hard effort.

Education benefits not just the individual but also the community. The most important aspect of education is that it goes from one individual to another, then

throughout society, and eventually throughout the country. An educated individual makes an effort to teach and inspire everyone with whom he or she comes into contact. Education brings one up to speed on technological advancements as well. A well- educated person can easily adjust to technological developments. Education, more than anything else, is a source of hope. The desire for a better life; the desire for a wealthy and poverty-free existence.

Human education is a critical instrument in their lives. It is a significant distinction between a civilized and an undisciplined individual. Even if the country's literacy rate has increased in recent years, more individuals need to be made aware of the importance of education. Every child, whether a male or a girl, must attend school and not drop out. Education is beneficial not just to the individual but also to society.

Education makes a person productive, allowing him or her to contribute to society in a positive way. It teaches us how to face many challenges and conquer them. A well-educated individual understands how to act in a polite and non-offensive manner. It shows us how to live a disciplined life while yet making a respectable living.

Conclusion: Education makes you a better person and teaches you various skills.

Yeltharla Pavani

III CSE

Swift (Programming Language)

Introduction:

Swift is a powerful and intuitive programming language developed by Apple for iOS, mac OS, watch OS, and tv OS development. Introduced in 2014, Swift is designed to be both easy to learn and highly performant. It combines the performance of compiled languages with the safety and simplicity of modern language features. Swift's syntax is clean and expressive, which makes it more approachable than its predecessor, Objective-C. It also offers features like optional types, type inference, and powerful error handling, making it a great choice for both new and experienced developers working in the Apple ecosystem.

History:

Swift was created by Apple Inc. and officially introduced on **June 2, 2014**, at the Apple Worldwide Developers Conference (WWDC). The team behind Swift was led by **Chris Lattner**, who was Apple's Director of the Developer Tools group at the time. Swift was designed to be a modern, high-performance language that could replace Objective-C for Apple ecosystem development, offering improved safety, performance, and expressiveness.

Basics Features: Swift, created by Apple and introduced in 2014, is a modern programming language known for:

- **Safety**: Features like optional and type safety to prevent common errors.
- **Performance**: Fast execution with automatic memory management via ARC.
- **Readability**: Clean, expressive syntax and type inference.
- **Error Handling**: Robust mechanisms for managing errors.
- **Protocol-Oriented**: Emphasis on flexible, reusable code with protocols and extensions.

- **Interoperability**: Seamless integration with Objective-C and other platforms.
- **Interactive Development**: Swift Playgrounds for real-time code experimentation.
- **Concurrency**: Async/await for easier asynchronous programming.

Advantages:

Swift is a fast, modern programming language developed by Apple, known for its performance and safety features. Its concise syntax makes it easy to read and write, while strong typing and error handling help prevent crashes. Swift uses Automatic Reference Counting (ARC) for efficient memory management, and its interoperability with Objective-C allows it to integrate into existing projects. The language is open-source, extending its use beyond Apple platforms. Swift's real-time feedback through Playgrounds and powerful type inference further enhance development efficiency, making it a popular choice for iOS, mac OS, and server-side applications.

Conclusion:

In conclusion, Swift offers a compelling combination of speed, safety, and ease of use, making it a top choice for developers in Apple's ecosystem and beyond. Its modern features, such as concise syntax, automatic memory management, and strong error handling, streamline the development process while ensuring reliable and efficient code. With ongoing support from Apple and a growing open-source community, Swift continues to evolve, solidifying its place as a versatile and powerful language for both app and server-side development.

Pruthvi B

III CSE,

SMD Naseer

III CSE

RATAN TATA: THE MAN OF HUMANITY

The man who was born in the family of Tata group on 28 December 1937. He was raised by his grandmother Navajbai Tata, because of his parents Naval Tata and soon Tata divorced and lived at the family estate in Mumbai, India. coming to his education he studied at Campion School, Mumbai until 8th grade. He then continued his studies at the Catherdral and Jhon Connon School in Mumbai, the bishop cotton school in Shimla. Tata graduated from High school Tata graduated from High school Riverdale Country School in New York City in 1955.He completed his bachelor's degree in architecture in 1962 at Cornell University, he completed an Advanced Management Program in 1975.He awarded Padma Bhushan (2008), Padma Bhushan (2000). Tata was the Chairman of Tata Sons, the holding company of the Tata Group, from 1991 until his retirement in 2012.He died on 9th October 2024.

Ratan Tata was more than just an industrialist --he was a symbol of humanity

Ratan Tata established the Tata Education and Development Trust (TEDT) to support numerous scholarships and educational initiatives. His $28 million endowment to the prestigious Cornell University allows Indian students from financially weak backgrounds to study at the prestigious institution. In 2010, Tata Group and its charities donated $50 million to Harvard Business School to build an executive centre for mid-career education. Four years later, Tata Group endowed the Indian Institute of Technology Bombay (IIT Bombay) with ₹950 million to establish the Tata Center for Technology and Design (TCTD), the largest donation in IIT Bombay's history.

Tata's Nano

Once in Bangalore a Ratan tata saw a two-wheeler slid in front of his car. The family was all over the road. He felt that to do something and that something gave birth to Tata Nano car. In 2009, the Tata Group launched the Tata Nano, a car that aimed to change the fate of the widening middle class in India. It offered

affordable personal transport to a family of four-five, particularly to those eyeing a shift from two-wheeler to four-wheeler. The car soon after its launch became a sensation not just in India but worldwide for its low price and compact design. But the journey from an idea to reality was not an easy ride for Ratan Tata. It faced some controversy. The bigger dream of Ratan Tata to cater to the traveling needs of the wider middle class, didn't result in sales. Hence, the real blow came not from the government or the Indian court but from the people, whose needs Tata was trying to fulfill. The marketing team positioned the Tata Nano as the cheapest car priced at around Rs 1 lakh. The idea of affordability and safety took a backseat and eventually drove Nano out of business.

Tata's Love towards Animals

Tata was known for his love of animals, dogs in particular. In 2018 he dropped out of an event in his honor that was to be hosted by British monarch King Charles III Buckingham palace, London. Tata, who was to receive an award for lifetime achievement, opted to cancel his trip when his pet dog fell ill some days before the ceremony.

At Conclusion I want to say that even though sir Ratan Tata was not with us his services towards people, his love towards animals and his business strategies will give us lessons to learn. His humanity will live longer in our hearts. He lost in love but gained the love of many people. India lost a titan.

B. Lakshmi Sruthi

III CSE

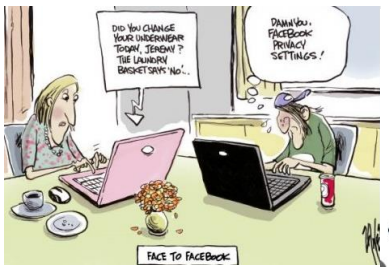
A TALE OF TWO GENERATIONS

Introduction:

The world has undergone significant changes over the past few decades, and these changes have had a profound impact on the way people live, interact, and perceive the world. One of the most notable differences between the old and present generations. From the way they communicate to their cultural values and educational priorities , these two generations are worlds apart.

Communication:

In terms of communication, the old generation relied heavily on face-to-face interactions, written letters, and landline phones. In contrast, the present generation is all about digital communication. They prefer texting, emailing, and social media messaging, and they expect quick responses. This shift has not only changed the way people communicate but also the way they express themselves.



Values and Traditions:

Culturally, the old generation was stepped in tradition and valued conformity. They respected authority, prioritized family and community, and observed formal etiquette. The present generation, on the other hand celebrates diversity and individuality. They are more likely to question authority, challenge traditional norms, and prioritize self-expression. This cultural shift has led to a more inclusive and accepting society.

Education:

When it comes to education, the old generation prioritized core subjects like math, science, and language. They valued formal education and often pursued traditional careers. The present generation however, takes a more holistic approach to education.

Conclusion:

Despite these differences, both generations have valuable lessons to offer each other. The old generation can teach the present generation about the importance of tradition, respect for authority, and formal communication. Ultimately, understanding and embracing these differences is key to building bridges between the old and present generations. By learning from each other, we can create a more inclusive, compassionate, and innovative society.

G Jahnavi
II CSE

Unravelling The Mysteries of Mahabharata: The Kurukshetra War

Introduction To Mahabharata (Kurukshetra):

Mahabharata is not only an epic, it is representation of wisdom &philosophy. It aims to the **Timeless** lessons and **Mysteries,** where we explore the specific characters, events, philosophical themes, cultural significance, lessons and reflections, etc.

Kurukshetra War: The Kurukshetra War is not just a battle, it symbolizes the struggle between dharma and adharma. The consequences of unchecked ambition, choices and greed.

Road to Kurukshetra War: Introduction to leading to the War

Shakuni, Duryodhana's uncle, manipulated Yudhishthira (Dharmaraj) into a game of dice, which the Pandavas lost, resulting in:

- Loss of kingdom (Hastinapura), Loss of wealth and possessions, Draupadi, the Pandavas' wife, being humiliated and disrobed by Dhushasanin the court of Kauravas.
- The Pandavas were forced into a 13-year exile, including:
  - 12 years in the forest ,1 year in disguise (Agnyathavasam).
  - During this period, they faced numerous challenges, including:
  - Bhima's encounters with demons, Arjuna's journey to Indra's realm Yudhishthira's test of wisdom by the Yaksha.

After their exile, the Pandavas sought to reclaim their rightful share of the kingdom. Lord Krishna, as their emissary visited the Kaurava court and proposed a peace treaty**, offering 5 villages** (including Indraprastha) , Recognition of **Yudhishthira as king** , but Krishna's final attempt at diplomacy, visiting the Kaurava court is failed because, Duryodhana refused to give the 5 villages. Which has lead to the war.

The Armies Assemble - A detailed analysis of the warriors and their alliances

Pandavas Army:

Commanders: Dhristadyumna (Panchala prince and Draupadi's brother), Sikhandi (Panchala prince and Dhristadyumna's brother), Satyaki (Yadava warrior and Krishna's cousin), Bhima (Pandava brother and formidable warrior), Arjuna (Pandava brother and skilled archer)

Warriors: Panchalas (Dhristadyumna, Sikhandi, and others), Matsyas (Virata and his sons) Yadavas (Satyaki, Krishna, and others), Rakshasas (Ghatotkacha and his followers).

Kauravas Army:

Commanders: Bhishma (Grandsire and veteran warrior), Drona (Teacher and skilled archer) , Karna (Skilled warrior and Duryodhana's friend) , Duryodhana (Kaurava prince and leader) , Shakuni (Kaurava uncle and strategist)

Warriors: Kauravas (Duryodhana, Dushasana, and others), Trigartas (Susharma and his brothers), Samshaptakas (Sudakshina and his followers), Narayani sena (Krishna's own army, fighting for Kauravas), Other allies (Kambojas, Sindhus, etc.)

Notable Warriors:

Arjuna (Pandava): Skilled archer and wielder of the Gandiva bow, Karna (Kaurava): Skilled warrior and wielder of the Vijaya bow, Bhima (Pandava): Formidable warrior and wielder of the mace, Bhishma (Kaurava): Veteran warrior and wielder of the bow, Drona (Kaurava): Skilled archer and teacher of both Pandavas and Kauravas

Alliances:

Pandavas: Krishna's support (as charioteer and strategist), Panchala and Matsya kingdoms' alliance, Yadava and Rakshasa support.

Kauravas: Bhishma's leadership and experience, Drona's military expertise, Karna's skill and loyalty, Trigarta and Samshaptaka support.

The Chakravyuha Conundrum (Padmavyuham):

"The Chakravyuha Conundrum" refers to the intricate and formidable battle formation employed by the Kauravas during the Mahabharata war.The battle formation remains an iconic symbol of ancient Indian warfare and strategic thinking**.**

It is a complex and multi-layered battle formation resembling a wheel or labyrinth which is designed by Dronacharya, the kaurava commander, to neutralize the Pandava army's strength.:

Layers of Defense:

1. **Outer Circle**: Infantry and cavalry, absorbing initial attacks.
2. **Middle Circle**: Archers and spear-wielders, weakening enemy formations.
3. **Inner Circle**: Elite warriors (Bhishma, Drona, Karna), delivering decisive blows.
4. **Central Command**: Drona, directing the formation and responding to threats

Key features &Weakness:

Entrance and exit points were carefully controlled by skilled warriors. Each layer was designed to weaken and disorient the enemy. The formation was flexible, allowing warriors to move between layers. Entrance and exit points were vulnerable to targeted attacks. Complexity made it difficult to maintain and coordinate. Leadership was crucial; Drona's direction was essential.

Teachings of Krishna: Lord Krishna serves as a divine guide, representing the inner voice of reason and wisdom. His teachings in the Bhagavad Gita emphasize the significance of self awareness and understanding one's purpose. Krishna's role illustrates the need for guidance in our personal battles.

Conclusion:

The conflict in Kurukshetra reveals the paradox of unity and division. While the war pits the conflict in Kurukshetra reveals the paradox of unity and division. While the war pits families against each other, it also emphasizes the need for

families against each other, it also emphasizes the need for unity in diversity. This serves as a reminder of the unity in diversity. This serves as a reminder of the fragility of relationships and the importance of harmony.

The characters in the Kurukshetra War provide profound lessons on leadership. From Yudhishthira's righteousness to Duryodhana's ambition, each leader embodies different qualities. These narratives teach us about the responsibilities and challenges inherent in leadership roles

The legacy of the Kurukshetra War extends beyond the battlefield. It continues to inspire The legacy of the Kurukshetra War extends beyond the battlefield. It continues to inspire philosophical discussions and spiritual teachings. The lessons learned from this epic remain relevant, guiding individuals in their quest for philosophical discussions and spiritual teachings. The lessons learned from this epic remain relevant, guiding individuals in their quest for discovery's.

Y Rani

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S Bhanusree

II CSE

Cloud Computing

What is cloud computing?

Nowadays, Cloud Computing is adopted by every company, whether it is an MNC or a startup many are still migrating towards it because of cost-cutting, lesser maintenance, and the increased capacity of the data with the help of severs maintained by cloud providers.

One more reason for this drastic change from the On-Premises servers of the companies to the cloud providers is the **"pay as you go"** principle.

The Exact Meaning of Cloud Computing:

Cloud Computing means storing and accessing the data and programs on remote servers that are hosted on the internet instead of the computer's hard drive or local server. Cloud Computing is also referred to as Internet-based computing, it is a technology where the resource is provided as a service through the internet to the user. The data that is stored can be files, images, documents, or any other storable documents.

- There are some of the operations that can be performed with cloud computing
  - Storage, backup, and recovery of data.
  - Delivery of software on demand
  - Development of new applications and services
  - Streaming videos and audios.

Cloud Computing provides a variety of services categorized into three main models:

a. Infrastructure as a Service (IaaS)

b. Platform as a Service (PaaS)

c. Software as a Service (SaaS)

Infrastructure as a Services: It is a cloud computing model that provides virtualized computing resources over the internet. In Iaas, the underlying infrastructures, such as servers, storage, and networking. The customer, on

other hand, has control over the operating system, applications, and data.

Platform as a Service: It is a cloud computing model that provides a complete platform for developing, running, and managing applications without the need for underlying infrastructure. In PaaS the cloud provider manages and maintains the underlying infrastructure, including servers, storage, and networking, as well as the platform itself, including the operating system, middleware, and development tools.

Software as a Service: It is a cloud computing model that provides software applications over the internet, eliminating the need for users to install, configure, and maintain software on their own devices. In SaaS the software application is hosted, managed, and maintained by the provider, and users access the application through a web browser or mobile application app.

Benefits of Cloud Computing:

Scalability: Cloud Computing resources can be scaled up or down to match changing business needs, ensuring that users have access to the resources they need, when they need them.

Cost-effectiveness: Cloud Computing eliminates the need for upfront capital expenditures on hardware and software, reducing costs and improving budget predictability.

Increased flexibility: Cloud computing enables users to access resources from anywhere, on any device, at any time, making it easier to work remotely and collaborate with colleagues.

Improved reliability: Cloud computing providers typically offer high level of redundancy and failover, ensuring that resources are always available and minimizing downtime.

How is the technology before the Cloud Computing?

Before cloud computing, organizations relied on physical on-premises infrastructure, requiring significant upfront costs and maintenance. Scaling was slow, data was stored locally, and disaster recovery was complex. Collaboration was limited, and accessing resources remotely was cumbersome. Software

updates were manual, and development environments were resource-intensive. Overall, the technology landscape was less flexible, less accessible, and more expensive compared to the scalable, on-demand solutions introduced by cloud computing.

Conclusion: The advent of cloud computing has revolutionized the way organizations manage and utilize technology, offering unparalleled levels of scalability, flexibility, and cost-effectiveness. Compared to the on-premises infrastructure of the past, cloud computing is undoubtedly the better option, as it eliminates the need for costly hardware and software investments, reduces maintenance and management burdens, and enables business to quickly adapt to cloud computing has transformed the technology.

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II CSE

Psychological Facts

Definition:

Psychology is a scientific study of mind and behaviour. Its subject matter includes the behaviour of humans and nonhumans, both conscious and nonconscious phenomena, and mental process such as thoughts, feelings, and motives. A professional practitioner or researcher involved in the discipline is called a ***Psychologist.***

Sleep:

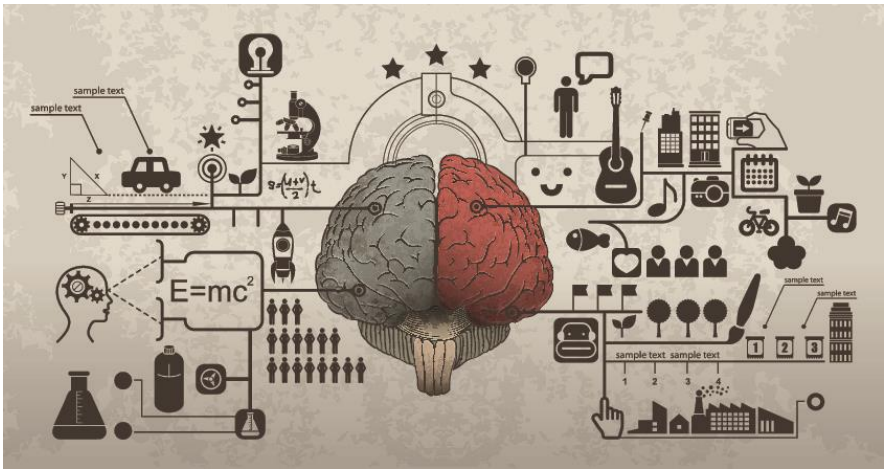
✓ Sleeping after learning, helps boost memory and allows brain to process and recall information more efficiently.

✓ The happier you are, the less sleep you require in everyday life. Sadness increases the urge to sleep more.

✓ The inability to fall asleep at the night means you are awake in someone's dream.

✓ Eating less at night may help to reduce the mental problems caused by lack of sleep.

✓ Before sleeping, 90% of your mind begins to imagine stuff you'd like to happen facts that will blow your mind.



Travel:

✓ According to psychology, there is always something new to learn from each place and every sound that hear from nature, pushes the person into new silence.

✓ Travelling decreases the risk of heart attack, depression and boosts brain's health. Increased number of mental and physical problems are also because people are just packed in their homes.

✓ Travelling can make you smarter, more creative and improve problem-solving.

Music:

✓ Listening to 5 to 10 songs a day can improve memory, strengthen immune system and reduce depression risk by 80%

✓ People who listen to music more than one genre tend to be intelligent, more creative, open-minded and honest.

✓ 81% of people use music as an escape from all the negative things in their life.

✓ You might learn more by listening to music when you study. Listening to music helps you to engage the parts of your brain that keeps you focus.

People:

✓ When a person dies, they have 7 minutes of brain activity left. It's the mind playing back the person's memories in a dream sequence.

✓ If a person laughs too much, even at stupid things, the person is lonely deep inside.

✓ The average person tells 4 lies a day or 1460 a year; a total of 87,600 by the age of 60. And most common lie is "I'm fine".

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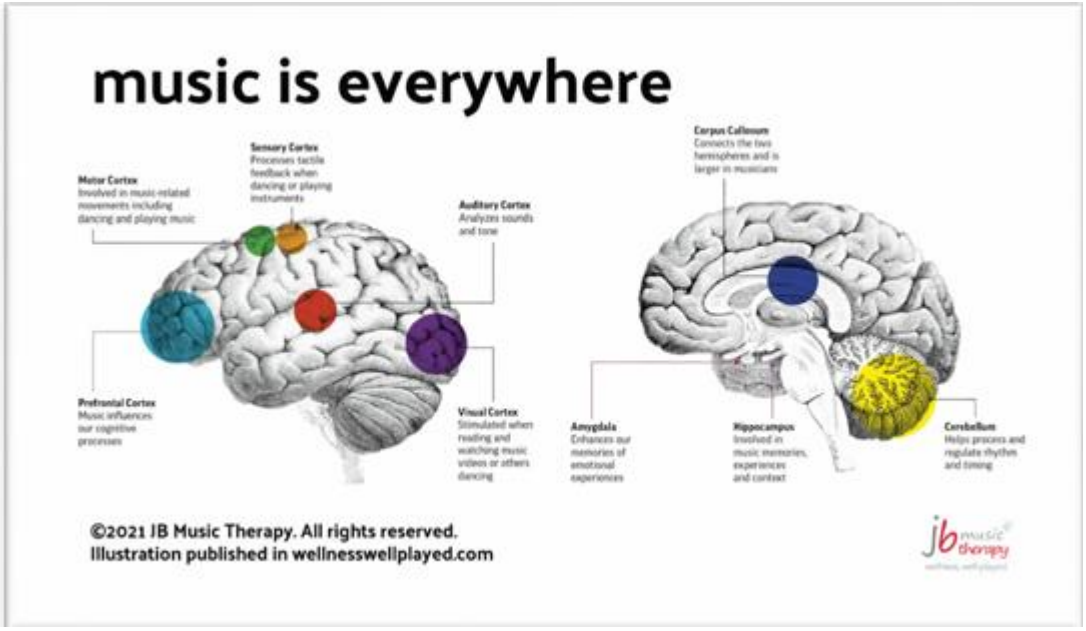
How Music Shapes Memory - The Soundtrack of Our Lives

Music has always been more than just a source of entertainment. It is a deeply ingrained part of the human experience, influencing everything from our emotions to our cognitive functions. But one of the most fascinating ways music impacts us is through memory. Whether it's the first song we danced to, a childhood lullaby, or a tune that instantly takes us back to a specific moment in time, music has a profound ability to shape and trigger our memories. But how does this happen?

The Science Behind Music and Memory



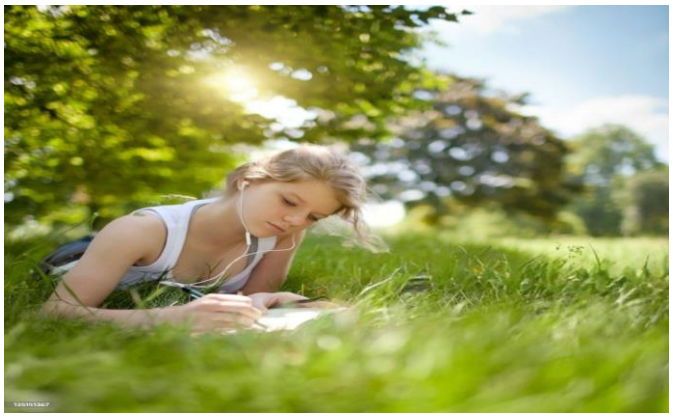
To understand how music influences memory, we must first take a look at how the brain processes both music and memory. At the center of this interaction is the hippocampus, a region of the brain crucial for forming new memories. Music, with its emotional and rhythmic elements, has the unique ability to engage several regions of the brain simultaneously, making it one of the most effective

tools for memory recall.

Studies have shown that the brain processes music in both hemispheres, engaging areas that govern emotions, movement, and even language. When we listen to music, the auditory cortex interprets the sound, while the limbic system—responsible for our emotional responses—activates memories and feelings associated with the music. This multi-sensory experience explains why music can evoke such strong memories, whether they're happy, sad, nostalgic, or transformative.

The Role of Emotion in Memory

One reason music has such a powerful influence on memory is its ability to evoke emotions. Memories that are associated with strong emotions tend to be more vivid and easier to recall. This is known as the emotion-memory connection. When we hear a song tied to a particular event or time in our lives—such as a wedding, a road trip, or a loss—the emotional weight of the music helps anchor that memory in our minds. For example, think of the last time you heard a song that reminded you of a past relationship. Chances are, you didn't just remember the song—you also remembered how you felt during that time. Music acts as a sort of emotional trigger, linking feelings and events to specific songs. This phenomenon is so powerful that researchers have even found that music can help patients with Alzheimer's and dementia recall lost memories by activating the emotions connected to their past.



Music and Personal Memory: The Nostalgia Effect

Music doesn't just shape our memories—it also shapes how we experience them. The concept of nostalgia is deeply connected to music. Certain songs can transport us back in time, allowing us to relive moments from our past with clarity. Whether it's a song from your high school years, a tune that played during a significant event, or an album that was the soundtrack to a particular phase of your life, music has the power to act as a time machine. Research has found that listening to familiar music from our past can activate areas of the brain associated with autobiographical memory, allowing us to relive specific moments in time with remarkable detail. This is why a song can trigger a flood of memories, from the sights and sounds of a particular place to the people we were with. Music doesn't just jog our memory—it can completely transport us back to the emotional experience of a moment, often with startling vividness.

The Soundtrack of Learning and Memory

Beyond therapeutic uses, music can also enhance memory retention in everyday life. From learning a new language to memorizing a speech, the brain responds positively to the rhythm and melody of music. Music can help encode information in long-term memory, making it easier to recall when needed. For instance, when studying, students often use instrumental music to focus and enhance their

concentration. The right type of music, such as classical or ambient soundscapes, can help block distractions, improve focus, and make learning more efficient by tapping into the brain's natural rhythm.

Conclusion

Music's ability to shape and trigger memory is a testament to its power. Whether it's through evoking emotions, reinforcing repetition, or sparking nostalgia, music becomes more than just sound—it becomes a bridge to our past, a tool for learning, and a source of emotional connection. The next time you hear a familiar song, pay attention to the memories it stirs up. You might be surprised at how much music shapes your world—and your mind.

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OBJECTIVES OF COMPASS

- INVOLVE STUDENTS IN DIFFERENT FORMS OF PEER-LEARNING
- ENCOURAGE STUDENT PARTICIPATION IN ACTIVITIES THAT REQUIRE THEM TO ACQUIRE AND DEMONSTRATE RATIONAL THINKING, COMMUNICATION SKILLS AND LOGICAL ABILITY.
- BRING OUT THE LEADERSHIP SKILLS AMONG INDIVIDUALS BY PROVIDING THEM SUFFICIENT EXPOSURE TO UTILIZE THE SKILLS ACQUIRED.
- HELP STUDENTS RECOGNIZE THE IMPORTANCE OF SMART-WORK & THINKING OUTSIDE THE BOX, THUS INCULCATE CREATIVE THINKING.
- CONTRIBUTE TO ALL ROUND DEVELOPMENT OF INDIVIDUALS THROUGH LEARNING OUTSIDE THE CLASSROOM.