USHA RAMA
COLLEGE OF ENGINEERING AND TECHNOLOGY
AUTONOMOUS

TECH BYTES

JUL-DEC   ACADEMIC YEAR:2021-22

NEWS LETTER

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DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING

TECHNOZOLA
A CSE Students Association

Institute Vision and Mission

Vision

To emerge as a Centre of excellence in technical education by imparting quality teaching learning practices and research for the transformation of society.

Mission

M1: Provide an ideal and the best class infrastructure to foster exploration in engineering and research

M2: Build dedicated faculty with student centric teaching, incorporating experiential, innovative skills.

M3: Encourage life-long learning, entrepreneurial thinking, and ethical responsibility in students to address societal challenges.

Department Vision and Mission

Vision

To emerge as a skilled Technocrats on global scale in Computer Science and Engineering through quality education, innovation, collaborative researchers and entrepreneurs with moral values.

Mission

DM1: To impart quality education to the students.

DM2: To pursue creative research and new technologies in Computer Science and Engineering.

DM3: To encourage entrepreneurship skills among students and inculcating moral and ethical values to serve for the society.

Program Educational Objectives Statements (PEOs)

PEO 1: Our graduates will establish themselves as effective professionals in industry, academia and entrepreneurship.
PEO 2: Our graduates will become profound researchers in multiple domains.
PEO 3: Our graduates will act as a leader in society.

Program Outcomes (POs)

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 modeling 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 of, 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 (PSOs)

PSO1: Illustrating a Comprehensive understanding of fundamental Computer system Principles encompassing both hardware and software components to cultivate strong conceptual skills in processing and assigning computation solutions.

PSO2: Demonstrate and design proficient and technical abilities in algorithms, networking, web design, Cloud Computing and data analytics enabling the development of innovative solutions to complex real-world problems while identifying and addressing emerging research gaps.

WHAT IS CSE...!??

At Usha Rama College, the Department of Computer Science and Engineering (CSE) offers a dynamic learning environment aimed at equipping students with technical expertise, creativity, and leadership skills essential for thriving in today's fast-evolving tech landscape. The department blends academic rigor with hands-on experience, ensuring students are proficient in areas such as artificial intelligence, data science, cybersecurity, and software engineering through lectures, workshops, and seminars.

To reinforce theoretical learning, the department emphasizes practical knowledge through lab sessions, research projects, and industry visits. These experiences help students apply concepts to real-world scenarios and stay updated with emerging technologies. Students are encouraged to develop problem-solving abilities by participating in coding competitions, hackathons, and technical quizzes that promote critical thinking and innovation.

Beyond the classroom, the department offers a wide range of co-curricular activities, including workshops on advanced programming languages, algorithms, and development tools. The annual technical fest provides a platform for students to showcase projects, participate in coding events, and interact with industry professionals. Partnerships with leading tech companies enable students to secure internships that offer valuable industry exposure and hands-on training.

The CSE department also promotes the overall development of students through extracurricular activities. Participation in sports, cultural events, and college fests nurtures teamwork, creativity, and confidence. Technical clubs and societies—such as those focused on coding, robotics, or cybersecurity—allow students to deepen their expertise, collaborate on projects, and build professional networks.

Career readiness is a major focus of the department. It offers placement training, resume-building workshops, mock interviews, and networking opportunities with industry leaders to prepare students for successful careers. These initiatives help students understand current job market trends and refine their professional skills. Close industry collaborations ensure that students gain exposure to real-world work environments and establish valuable connections.

The Department of Computer Science and Engineering at Usha Rama College of Engineering and Technology remains committed to nurturing the next generation of tech innovators and leaders. By integrating academic excellence with hands-on learning and holistic development, the department ensures that its graduates are well-prepared to face the challenges of the technological world and contribute meaningfully to the global tech community.

LEADING WITH INTEGRITY

Mr. Ramabrahmam Sunkara, Chairman of Usha Rama College of Engineering and Technology, is a visionary leader who is consistently striving to elevate the institution to new heights. With a deep commitment to academic excellence and innovation.Under Mr. Sunkara's guidance, the college has seen significant advancements in infrastructure industry partnerships, and technological integration. His efforts are dedicated to providing students with a robust platform to thrive academically and professionally, preparing them to be leaders in their respective fields. Through his relentless drive and vision, Usha Rama College continues to foster an environment of growth, opportunity, and success.

RAMABRAHMAM SUNKARA
CHAIRMAN

Dr. Kurra Rajasekhara Rao's remarkable career has been marked by a dedication to advancing the field of engineering education. Under his leadership, Usha Rama College of Engineering & Technology has become a beacon of excellence. Dr. Rao's commitment to shaping the next generation of engineers is further demonstrated through his active involvement in academic and professional communities, where he continues to mentor and inspire students and faculty.A passionate advocate for interdisciplinary research, Dr. Rao's work has bridged the gap between theoretical knowledge and practical application, empowering students and professionals to innovate and solve complex challenges.

VISIONARY LEADERSHIP

Dr. G.V.K.S.V.Prasad distinguished Principal of Usha Rama College of Engineering and Technology, known for his visionary leadership and academic excellence. Holding a Doctorate from NIT Warangal and an M.Tech from IIT Mumbai, he boasts over 28 years of experience in teaching, consultancy, and research. His expertise extends to successfully completing several AICTE-sponsored research projects, which reflect his commitment to advancing knowledge and technology. A recognized scholar and leader. His dedication to excellence and innovation makes him a driving force behind the success of Usha Rama College of Engineering and Technology.

Dr.G.V.K.S.V.PRASAD
PRINCIPAL

Dr. S.M. Roy Choudhri is the Head of the Department (HOD) of CSE at Usha Rama College of Engineering & Technology,he has played a key role in enhancing research, infrastructure, and student outcomes.Under his leadership, the CSE department has seen remarkable growth, particularly in research output and industry collaboration. His efforts have resulted in the establishment of state-of-the-art labs and research centers within the department, offering students valuable opportunities for experiential learning. His approachable nature and dedication to mentoring have made him highly respected by both students and faculty.

Dr.S.M.ROY CHOUDRI
HOD of CSE

Dr. K. P. N. V. Satya Sree is a distinguished Professor in the Department of Computer Science and Engineering at Usha Rama College of Engineering and Technology (URCET). With an academic career rooted in excellence, she brings a wealth of knowledge and experience in the domains of Data Mining, Machine Learning, Artificial Intelligence (AI), and E-Commerce. Her dedication to research and innovation is evident through her numerous scholarly contributions, which have garnered over 140 citations, reflecting her impact on the academic and research community. Dr. Satya Sree's commitment to advancing education and fostering a culture of continuous learning has been recognized through several prestigious accolades

Dr.K.P.N.V SATYA SREE
Professor

CODE CHALLENGE

The Department of Computer Science and Engineering organized CodeQuest 2021 Co-ordinated by **T.Naga Mounika**, an exciting coding challenge designed to test and enhance students' programming skills. Held on 29th January 2021, the competition attracted enthusiastic participants who tackled a series of problems ranging from basic logic-building to complex algorithmic challenges. Students showcased their expertise in various programming languages such as C, C++, Java, and Python, demonstrating their problem-solving abilities under time constraints. The event not only fostered a competitive spirit but also encouraged collaborative learning and innovation. CodeQuest 2021 was a resounding success, igniting a passion for coding among students and preparing them for future challenges in the world of technology.

Faculty members and senior students provided mentorship and guidance throughout the event, offering insights into coding best practices and industry-relevant problem-solving approaches. The final round presented participants with complex, real-world problems, challenging them to devise innovative solutions. The winners were awarded certificates and prizes, recognizing their outstanding performance and dedication.

CodeQuest 2021 was a resounding success, leaving a lasting impact on students by strengthening their coding expertise and preparing them for future technical competitions, hackathons, and industry challenges. The event not only reinforced the importance of programming in today's digital world but also inspired students to continuously refine their skills and embrace the ever-evolving landscape of technology.

SEMINAR SPOTLIGHT

Our college takes immense pride in fostering a culture of innovation, research, and continuous learning by organizing regular seminars on cutting-edge technology topics, Co-ordinated by **M.Samba Siva Rao**. These sessions provide a vibrant platform for students, faculty, researchers, and industry professionals to explore advancements in Artificial Intelligence, Cybersecurity, Blockchain, Data Science, Cloud Computing, Edge Computing, and IoT.

One such seminar was conducted on 10th February 2021, marking another milestone in our commitment to academic excellence and industry collaboration. The event saw enthusiastic participation from students across departments. Distinguished speakers delivered engaging presentations that blended theoretical concepts with real-world case studies.


The sessions highlighted how modern technologies are transforming industries such as healthcare, finance, education, and manufacturing. Topics including AI-driven automation, cybersecurity challenges, blockchain systems, and data analytics were discussed in depth, along with the importance of continuous skill development.

An interactive discussion segment allowed students to engage with experts on career opportunities and emerging trends, helping them connect classroom learning with practical applications. The seminar also served as a networking platform, guiding students on internships, certifications, and research opportunities.

Overall, the seminar reflected our institution's dedication to preparing students for the evolving technological landscape and strengthening the connection between academia and industry. The event inspired participants to think creatively and explore innovative solutions to real-world problems. It also encouraged students to undertake research projects and collaborative initiatives in emerging technology domains. Faculty members gained valuable insights that can enrich curriculum design and classroom teaching. Such initiatives continue to strengthen our academic ecosystem and promote a forward-thinking mindset among learners. Through consistent efforts like these, our college remains committed to nurturing skilled professionals equipped to meet future technological challenges.

SLIDE STORIES
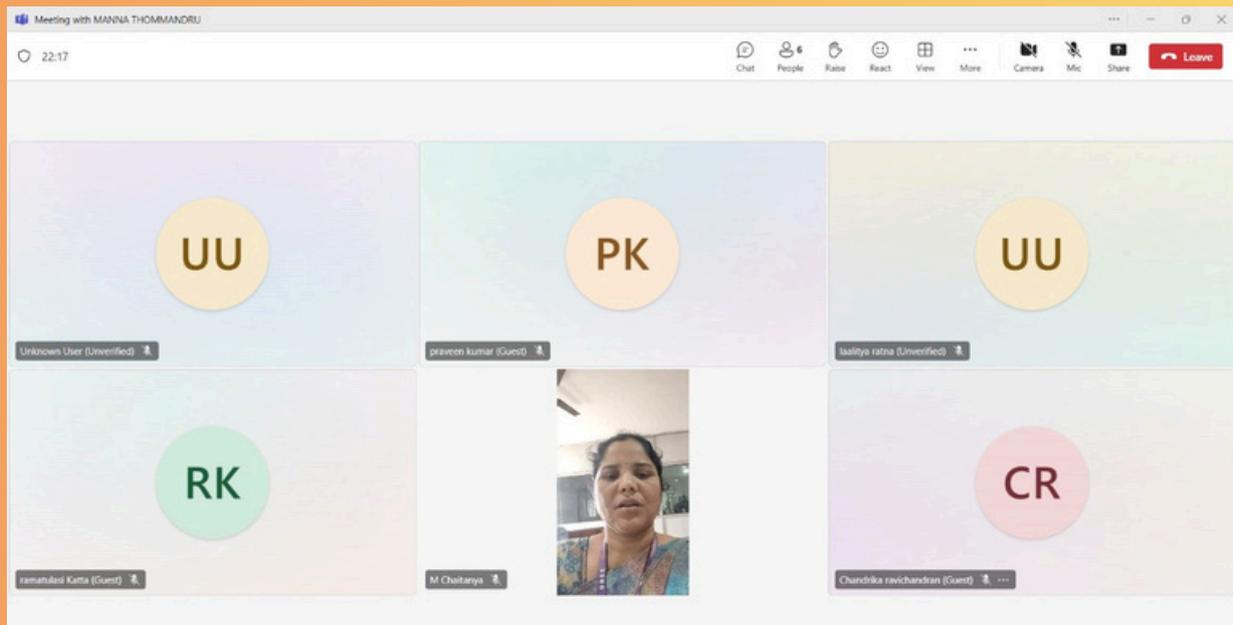
VIRTUAL VISION

The Computer Science and Engineering (CSE) Department of our college successfully conducted an online PPT presentation event named "Virtual Vision", coordinated by **M. Chaitanya**, on 9th March 2021. This event provided a platform for students to showcase their technical knowledge, creativity, and presentation skills on various emerging topics in the field of computer science. Participants delivered insightful presentations, demonstrating innovative ideas and research findings. The event encouraged knowledge sharing, critical thinking, and effective communication among students. A panel of faculty members evaluated the presentations based on content, clarity, and originality. "Virtual Vision" was a great opportunity for students to enhance their academic and professional skills in a competitive yet collaborative environment.

"Virtual Vision" not only encouraged academic excellence but also nurtured essential professional skills such as effective communication, research proficiency, and technical articulation. The event concluded with an interactive Q&A session, where students received constructive feedback from the panel, helping them refine their skills further. The success of "Virtual Vision" highlighted the department's commitment to promoting innovative learning experiences and preparing students for future challenges in the dynamic field of computer science.

The presentations covered diverse areas such as Artificial Intelligence, Machine Learning, Cybersecurity, Cloud Computing, Data Analytics, and Blockchain Technology. Students demonstrated strong analytical abilities by presenting real-world problem statements and proposing feasible technical solutions. The virtual mode of the event ensured smooth participation and effective coordination despite remote settings. The judges appreciated the originality of ideas and the confidence displayed by the participants. Winners were recognized and encouraged to continue their research and innovation efforts. The event also fostered teamwork and peer learning, as students exchanged ideas and perspectives. Faculty members expressed satisfaction with the overall quality of presentations and student engagement. Overall, "Virtual Vision" stood as a testament to the department's dedication to academic enrichment and holistic student development.

TECH FOR CHANGE

The world of technology continues to evolve at a breakneck speed, and our event, Tech Revolution 2021, coordinated by **Dr. K.P.N.V. Satya Sree**, proved to be a testament to this transformative era. Held over two days on 25th March 2021, the event brought together innovators, developers, and technology enthusiasts to explore groundbreaking advancements in AI, blockchain, IoT, and sustainable tech solutions. The highlight of the event was a series of interactive workshops and panel discussions featuring industry leaders, who shared their insights on shaping a smarter, more connected future. From showcasing cutting-edge gadgets to unveiling revolutionary software solutions, Tech Revolution 2021 inspired attendees to embrace the possibilities of tomorrow's technology. It wasn't just an event—it was a glimpse into the future!

The event featured live demonstrations that allowed participants to experience emerging technologies firsthand. Students actively engaged in technical challenges, presenting innovative solutions to real-world problems. Experts emphasized the importance of sustainable and ethical technology development in the digital age. The collaborative environment encouraged networking between students and industry professionals. Participants gained insights into current industry trends and future career opportunities in advanced technology domains. Overall, Tech Revolution 2021 reinforced our institution's commitment to nurturing innovation, creativity, and technological excellence.
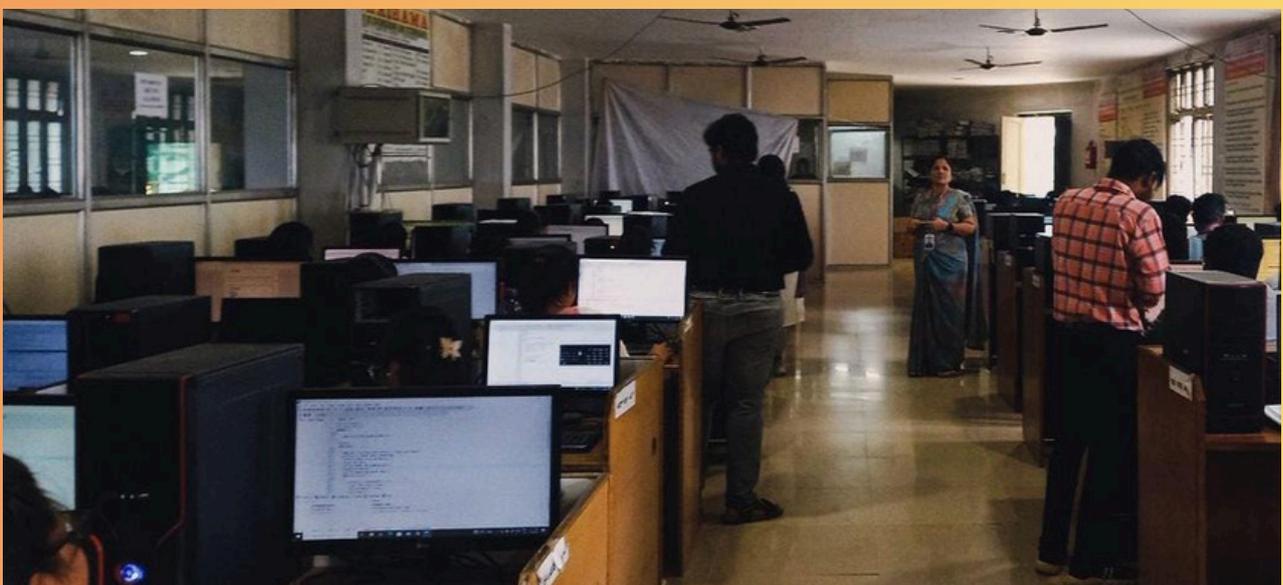
VISION VIEWS

TECH VISION-2021

The Department of Computer Science and Engineering successfully organized TechVision 2021 on 1st April 2021 Co-ordinated by **B.V. Praveen Kumar**, a PowerPoint presentation competition aimed at fostering innovative thinking among students. Held in 2021, the event provided a platform for budding technologists to showcase their groundbreaking ideas in various domains, including artificial intelligence, cybersecurity, IoT, and sustainable computing. Participants demonstrated their creativity and problem-solving skills by presenting novel solutions to real-world challenges. The competition not only encouraged students to think beyond conventional boundaries but also enhanced their presentation and communication abilities. TechVision 2021 was a remarkable success, inspiring young minds to explore and contribute to the ever-evolving world of technology.

The event witnessed enthusiastic participation from students across different academic years. A panel of faculty members evaluated the presentations based on innovation, technical depth, clarity, and feasibility of implementation. The interactive feedback session helped participants refine their ideas and gain valuable insights from experienced mentors. Winners were recognized and appreciated for their outstanding performance and originality. Overall, TechVision 2021 reflected the department's commitment to nurturing talent, creativity, and academic excellence among students.

The competition also promoted healthy academic rivalry and teamwork among participants. It encouraged students to stay updated with emerging technological trends and advancements. Faculty members appreciated the dedication and research efforts shown by the students. Such initiatives continue to strengthen the department's vision of developing skilled and innovative future professionals.

Computer Intelligence

Computer Intelligence refers to the capability of computers and machines to simulate human intelligence. It enables systems to perform tasks such as learning from experience, reasoning, problem-solving, understanding natural language, and making decisions. This field is commonly known as Artificial Intelligence (AI) and is one of the most important areas of computer science today.

Computer intelligence is based on several core technologies. Machine Learning (ML) allows computers to learn from data without being explicitly programmed for every task. Deep Learning, a subset of machine learning, uses artificial neural networks inspired by the human brain to process large and complex data. Natural Language Processing (NLP) helps computers understand and respond to human language, while Computer Vision enables machines to interpret images and videos.

There are different types of computer intelligence:

- Narrow AI: Designed to perform a specific task, such as voice recognition or online recommendations.
- General AI: A theoretical form of intelligence where machines can think and learn like humans.
- Super AI: A hypothetical level where machine intelligence surpasses human intelligence.
- Reactive Machines: Respond to specific inputs but do not store memories.
- Limited Memory Systems: Learn from historical data to make decisions.
- Self-learning Systems: Improve performance continuously using feedback.
- Natural Language Processing: Allows computers to understand, interpret, and respond to human language.
- Expert Systems: Computer programs that simulate the decision-making ability of human experts

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Computer intelligence is widely used in real-world applications. In education, it supports smart learning systems and online tutors. In healthcare, it helps doctors diagnose diseases and analyze medical images. In banking, it is used for fraud detection and customer support chatbots. In transportation, it powers self-driving vehicles and traffic management systems. In entertainment, it personalizes content for users.

Despite its benefits, computer intelligence has limitations and challenges. It depends heavily on quality data and may show bias if the data is biased. It cannot think creatively or emotionally like humans. There are also concerns related to privacy, job displacement, and ethical use.

Furthermore, ensuring transparency and accountability in AI systems is a major challenge for developers and policymakers. Security risks such as data breaches and misuse of intelligent systems must also be addressed. Continuous research is being conducted to make AI systems more reliable, fair, and explainable. Governments and organizations are working to establish ethical guidelines and regulations for responsible AI development. As technology advances, collaboration between humans and intelligent systems will become increasingly important. Computer intelligence is expected to play a vital role in smart cities, climate prediction, and space exploration. With proper management and innovation, it has the potential to greatly enhance human life and productivity. Therefore, understanding computer intelligence is essential for shaping a smarter and more sustainable future.

In addition, AI-powered robotics is transforming industries such as manufacturing, logistics, and agriculture by automating repetitive and labor-intensive tasks, increasing efficiency and precision. Predictive analytics powered by computer intelligence helps businesses and governments make data-driven decisions, improving outcomes and reducing risks. Personalized healthcare, including AI-driven diagnostics, treatment recommendations, and patient monitoring, is improving the quality of life and accessibility of medical services. In the creative domain, AI is enabling the generation of music, art, literature, and even virtual worlds, expanding human expression. Ethical AI frameworks are being developed to prevent misuse, discrimination, and social harm. Education systems are integrating AI tutors and adaptive learning platforms to cater to individual student needs.

AI is also instrumental in environmental conservation, assisting in monitoring wildlife, predicting natural disasters, and managing resources efficiently. Collaboration between human intelligence and AI systems is paving the way for hybrid decision-making models that leverage the strengths of both. The future of work will increasingly involve humans working alongside intelligent machines, requiring new skills, continuous learning, and adaptability.

Governments, academia, and industry are investing heavily in AI research and talent development to prepare the workforce for these transformations. AI-powered virtual assistants and chatbots are revolutionizing customer service by providing quick and accurate responses. Autonomous systems in transportation, drones, and delivery services are creating new business models and efficiencies. Cybersecurity AI tools are increasingly crucial in identifying and mitigating complex threats. Overall, computer intelligence is not only a technological innovation but a societal transformation, influencing how we live, work, and interact with the world. The responsible and ethical adoption of AI will determine whether its impact benefits humanity on a global scale.

Pasam Chaitanya Lakshmana Kumar
18NG1A0534

Digital Economy

The digital economy refers to economic activities that rely on digital technologies such as the internet, computers, and mobile devices. It includes services like e-commerce, digital payments, online education, digital communication, and remote work. By using technology, businesses can operate faster and reach customers across the world with ease. This has made markets more competitive and accessible.

The digital economy plays an important role in modern economic growth. It helps create new job opportunities in areas such as information technology, app development, digital marketing, and freelancing. Small businesses and startups can use digital platforms to expand their reach without needing large investments. This encourages innovation and entrepreneurship.

Another key benefit of the digital economy is convenience and efficiency. Consumers can shop online, pay digitally, attend virtual classes, and access services from anywhere at any time. Digital systems also reduce paperwork, save time, and increase transparency in transactions, especially in banking and government services.

The digital economy continues to expand as technology becomes a central part of everyday life. Governments and businesses use digital platforms to deliver services more efficiently, such as online banking, e-governance, and digital health services. These systems improve transparency, reduce costs, and make services easier to access for people in both urban and rural areas.

Digital technologies also encourage innovation through tools like artificial intelligence, big data, and cloud computing. Companies use data to understand customer needs, improve products, and make better decisions. At the same time, the digital economy supports flexible work options like freelancing and remote jobs, changing traditional work patterns and creating new career paths for the younger generation.

The digital economy also plays a major role in global connectivity and trade. Businesses can now operate across countries using online platforms, allowing even small firms to reach international customers. Digital marketplaces, online advertising, and social media help companies promote their products at low cost, increasing competition and consumer choice. This global reach strengthens economic integration between nations.

In addition, the digital economy supports sustainable development by reducing the need for physical resources such as paper and travel. Online meetings, digital records, and e-learning help save time, energy, and costs. As technology continues to advance, the digital economy will remain a key driver of economic transformation, shaping how people work, learn, and interact in the future.

The digital economy refers to an economic system that is based on digital technologies such as the internet, computers, mobile devices, and software. It includes activities like online shopping, digital payments, e-learning, e-banking, and online communication. These technologies have changed the way people buy goods, access services, and interact with businesses, making economic activities faster and more convenient.

One of the main advantages of the digital economy is its contribution to economic growth and employment. It creates new job opportunities in fields such as information technology, data analysis, digital marketing, and app development. Small businesses and startups can easily enter the market using digital platforms, reducing the need for large investments and encouraging entrepreneurship.

The digital economy also improves efficiency and productivity. Businesses use digital tools to manage operations, communicate with customers, and analyze data for better decision-making. Consumers benefit from easy access to products and services anytime and anywhere. Digital payments and online services reduce paperwork, save time, and increase transparency.

Pavuiuri Trivikramrao
18NG1A0535

STUDENT ARTS

Channam Lavanya
9NG1A0508

Bhimisetty Aasritha
19NG1A0506

Together Against COVID: Vaccinating Our Campus Family

The NSS Unit of our college successfully organized an in-campus COVID-19 vaccination drive to ensure the safety and well-being of students, faculty, and staff. By arranging the drive within the college premises, the NSS team made it more convenient and accessible for everyone to get vaccinated without the need to travel. This initiative was carried out in coordination with local health authorities, ensuring all guidelines and safety protocols were strictly followed. The effort demonstrated our institution's proactive approach to health and safety during the pandemic

Hands That Help

Hearts That Care

The in-campus vaccination program saw the active participation of NSS volunteers who managed everything from registration desks and queue management to guiding individuals throughout the process. The volunteers also helped in spreading awareness about vaccine safety and encouraged hesitant individuals to take part. Their dedicated efforts helped create a safe and organized environment within the college, making the drive a smooth and impactful experience for all involved.

A JOURNEY OF A THOUSAND MILES MUST BEGIN WITH A SINGLE STEP

LAO TZU

TECHNOZOLA
A CSE Students Association

COMPUTER SOCIETY OF INDIA

ESTD. 1965

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