

ANNUAL TECHNICAL MAGAZINE

VOLTRIX

WE STEP UP, WE TRANSFORM

*DEPARTMENT OF ELECTRICAL & ELECTRONICS
ENGINEERING*

MAY 2024
ISSUE



Chettinad

College of Engineering & Technology
Approved by AICTE-New Delhi and Affiliated to Anna University-Chennai.

VOLUME NO. 1 | 2023 - 2024

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Annual Magazine



About the ChettinadTech

The Chettinad College of Engineering and Technology is promoted by the Rani Meyyammai Achi of Chettinad Charitable Trust. The promoters of the college have over 90 years of experience in education. The sponsoring trust comprises of eminent personalities who have excelled as leaders in the field of education. With over 90 years of experience in education, especially technical education, the Rani Meyyammai Achi of Chettinad Charitable Trust has been imparting quality technical education at an affordable price to the students in the rural areas. The college, located in the district of Karur in Tamil Nadu was started in the year 2007. It is approved by the All India Council for Technical Education, New Delhi and is affiliated to the Anna University, Chennai. For over a decade, the college has been committed to delivering quality technical education to the student community. Considered to be one of the top engineering colleges in Tamil Nadu, it has excellent infrastructure which provides growth opportunities for students to excel in their respective disciplines in the fields of engineering, technology and management. The college works towards moulding students into all-rounders with good interpersonal skills and effective soft skills to make them confident to embrace challenges of the future.

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VISION

To holistically develop competent and responsible Engineers and Managers as future leaders by providing an enriching, safe and joyful learning environment where students feel empowered.

MISSION

1. To impart knowledge and the skills through active learning, industrial exposure and innovative project development.
2. To develop leaders through effective mentoring, SMART goal setting and providing a joyful and safe learning environment.
3. To facilitate research in Engineering and Technology and encourage independent learning.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

About the Department

The Department of Electrical and Electronics was established in the year 2008 with the aim of combining modern teaching methods with inter-disciplinary knowledge, human values and professional ethics. The department offers a unique blend of theory and practice. It provides a quality learning environment, in terms of state-of-the-art facilities, sharing and widening of knowledge through MoU with relevant industries and interacting with experts from academia and industry. The department is well equipped with state-of-the-art laboratories such as the Electrical Machines Lab, Electric Circuits Lab, Control Systems Lab, Measurement and Instrumentation Lab, Engineering Practices Lab, Power Electronics Lab, Power System Simulation Lab and Electric Drives and Control Lab. To improve practical and simulation skills, MAT LAB Software with all tool boxes has been provided. Power World Simulator, MI Power, PSpice and MultiSim software programmes have been provided to improve the designing ability of the students.

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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING**

VISION

1. To create a thriving community where enduring student relationships flourish, fostering a culture of innovative idea development and producing trusted, socially responsible, and ethically-driven global leaders in the electrical industry.
2. To foster enduring relationships with students, empower them to develop innovative ideas, and cultivate trusted, socially responsible, and ethically-driven global leaders in the electrical industry

MISSION

1. To nurture students, enabling them to effectively confront professional challenges and emerge as exceptional engineers and technocrats.
2. To provide a holistic and comprehensive education that ensures total quality, encompassing broad exposure, value additions, and an effective teaching and learning experience.
3. To engage in research within the realm of Electrical and Electronics Engineering, addressing the needs of the industry, scientific community, and society at large.

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING**

PROGRAMME EDUCATIONAL OBJECTIVES
(PEOs)

1. Find employment in Core Electrical and Electronics Engineering and service sectors.
2. Get elevated to technical lead position and lead the organization competitively.
3. Enter into higher studies leading to post-graduate and research degrees. Become consultant and provide solutions to the practical problems of core organization.
4. Become an entrepreneur and be part of electrical and electronics product and service industries.

PROGRAMME OUTCOMES
(POs)

1. **Engineering knowledge:** Apply knowledge of mathematics, basic science and engineering science.
2. **Problem analysis:** Identify, formulate and solve engineering problems.
3. **Design/development of solutions:** Design an electrical system or process to improve its performance, satisfying its constraints.
4. **Conduct investigations of complex problems:** problems Conduct experiments in electrical and electronics systems and interpret the data.
5. **Modern tool usage:** Apply various tools and techniques to improve the efficiency of the system.

VOLTRIX

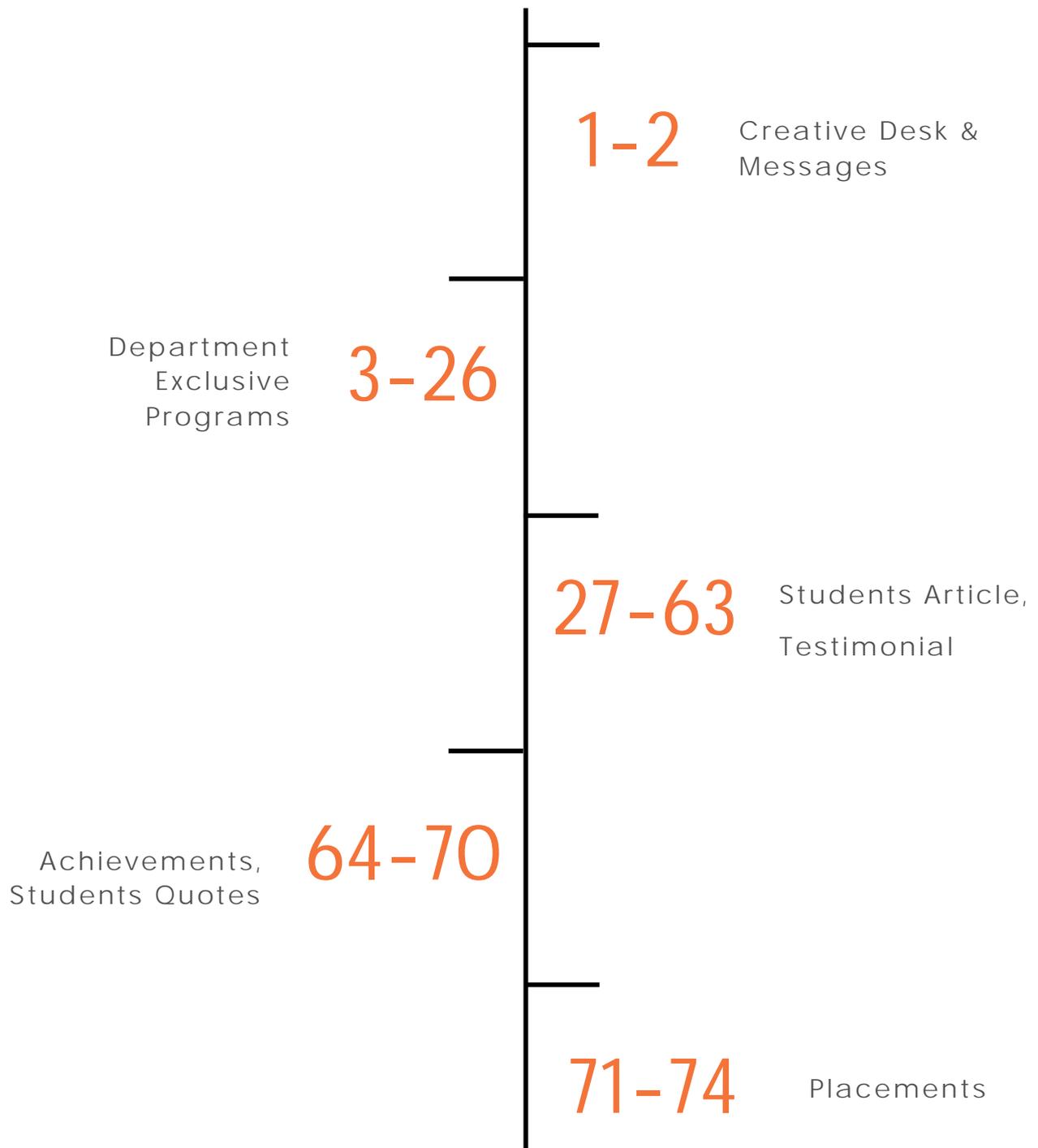
Annual Magazine

6. **The Engineer and society:** Conduct themselves to uphold the professional and social obligations.
7. **Environment and sustainability:** Design the system with environment consciousness and sustainable development.
8. **Ethics:** Interacting industry, business and society in a professional and ethical manner.
9. **Individual and team work:** Function in a multidisciplinary team.
10. **Communication:** Proficiency in oral and written Communication.
11. **Project management and finance:** Implement Cost effective and improved system.
12. **Life-long learning:** Continue professional development and learning as a life-long activity.

PROGRAM SPECIFIC OUTCOMES (PSO)

1. **Foundation of Electrical Engineering:** Ability to understand the principles and working of electrical components, circuits, systems and control that are forming a part of power generation, transmission, distribution, utilization, conservation and energy saving. Students can assess the power management, auditing, crisis and energy saving aspects.
2. **Foundation of Mathematical Concepts:** Ability to apply mathematical methodologies to solve problems related with electrical engineering using appropriate engineering tools and algorithms.

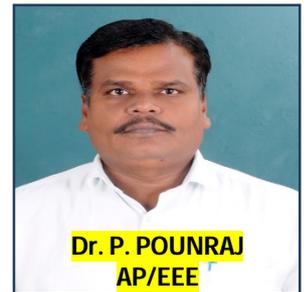
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CREATIVE DESK

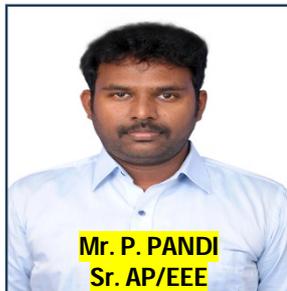
Advisory Board



Editor-in-Chief



Board of Editors



Student Editors



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HoD Message

I am happy to introduce VOLTRIX annual magazine, our newest venture into the world of technical publishing. VOLTRIX represents a convergence of expertise, innovation, and passion, aimed at bringing you the latest developments and insights from the dynamic realms of technology and engineering. VOLTRIX is poised to serve as your compass in this journey, offering a rich tapestry of articles, analyses, and perspectives from leading experts and practitioners. What sets VOLTRIX apart is not just its commitment to excellence, but its unwavering dedication to pushing boundaries and exploring the frontiers of knowledge.

Moreover, VOLTRIX is more than just a publication—it is a community of innovators, thought leaders, and enthusiasts united by a shared passion for technology and its transformative potential. Through VOLTRIX, we aim to foster collaboration, spark dialogue, and inspire the next generation of trailblazers. As we embark on this exciting journey together, I invite you to be an integral part of VOLTRIX.

Thank you for joining us on this remarkable adventure. Together, let us illuminate the path forward and harness the power of knowledge to shape a brighter future.

Warm regards,



[Mr. N. VIJAYASARATHI, HoD/EEE]

Editor-in-Chief, VOLTRIX Technical Magazine

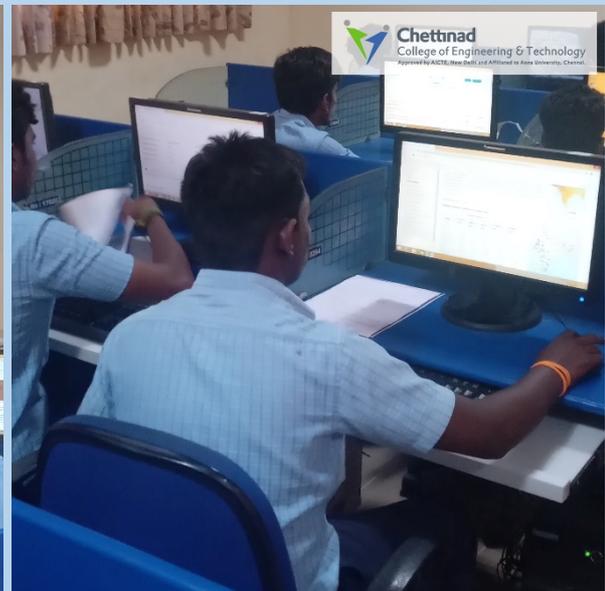
**VALUE ADDED COURSE****DESIGN AND IMPLEMENTATION OF SOLAR AND WIND
ENERGY SYSTEMS****24TH JULY - 26TH JULY 2023**

The Department of Electrical and Electronics Engineering conducted a value-added course on "Design and Implementation of Solar and Wind Energy Systems" from 24-7-2023 to 26-7-2023 for third-year EEE students. The course aimed at enhancing their understanding of renewable energy systems, particularly in solar and wind energy. It covered fundamental concepts, and students were guided through simulations using the MATLAB compiler. During the course, students simulated PV cells voltage and current characteristics, with a focus on maximum power tracking and controllers using MATLAB. They also learned to calculate the efficiency of 1KW PV cells with and without shadowing effects. Furthermore, they were introduced to simulating "Wind Energy Generators" using MATLAB and delved into Hybrid Power Systems.

Reflecting on the course, P. Gowtham expressed gaining knowledge in designing and implementing solar and wind energy systems with MATLAB, particularly in calculating and implementing 1KW power in PV cells under various conditions. Ms. R. Mirudhula acknowledged learning the basics of MATLAB compiler and PV cells. She also demonstrated the characteristics of solar PV cells with and without shading effects and comprehended the functioning of Wind Energy systems. S. Lakshan recognized the importance of renewable energy systems and the MATLAB compiler, as well as gained an understanding of how to calculate energy from PV cells.

The practical implementation of PV cells with and without shading effects, and measuring current and voltage flow, proved to be an engaging experience. Additionally, they attained proficiency in compiling MPPT controllers and designing solar and wind energy systems with MATLAB. Overall, the session proved to be interactive and insightful, providing valuable learning experiences for all the students involved in the course.

Session Photos:



Live Demonstration

FUNDAMENTALS OF TRANSFORMERS, MOTORS, AND GENERATORS

21ST AUGUST 2023

On August 21, 2023, a group of 60 Class 12 students along with five faculty members from Chettinad Vidya Mandir School visited our campus with the purpose of gaining knowledge about the fundamentals of transformers, motors, and generators. During the session, our college's faculty, Mr. S. Ragul, Assistant Professor of Electrical and Electronics Engineering, and Ms. A. Bhuvaneshwari, Senior Assistant Professor of Electrical and Electronics Engineering, explained the design and operation of the transformer along with the construction and operation of the motor and generator through a live demonstration and calculations. This interactive demonstration helped to develop the students' understanding of the workings of transformers, motors, and generators.

Session Photos:



EEE ASSOCIATION

EEE - ASSOCIATION INAUGURATION & GUEST LECTURE
ON SOLAR ENERGY REVOLUTION08TH SEPTEMBER 2023

The Department of Electrical and Electronics Engineering organised the "Inaugural Function of the Association of EEE" on September 8, 2023. The inauguration started with Tamil Thai Vazhthu, followed by lighting the kuthuvilaku. Ms. T. Priyadharshini, final-year EEE, welcomed the gathering. Mr. N. Vijayasarithi, the Head of the Department for Electrical and



Electronics Engineering (EEE) at Chettinad College of Engineering and Technology in Karur, delivered the Presidential Address and honoured the chief guest, Mr. S. Srinath, Director, Schaeffer Energy in Karur. Ms. S. Pavithra, Final-Year EEE, introduced the chief guest, and Mr. P. Pandi, AP/EEE, introduced the office bearers of the Association. During the event, the Chief Guest provided valuable insights into the Solar Energy Revolution and elaborated on the export process of heavy-rating electrical equipment to foreign markets. He also highlighted the key qualities



and skills that companies seek in fresh graduates. Approximately 52 students attended this session, benefiting from the knowledge shared. A vote of thanks was given by Mr. B. Surya, a final-year EEE student, and the function concluded with the rendition of the National Anthem.

MOVIE TIME

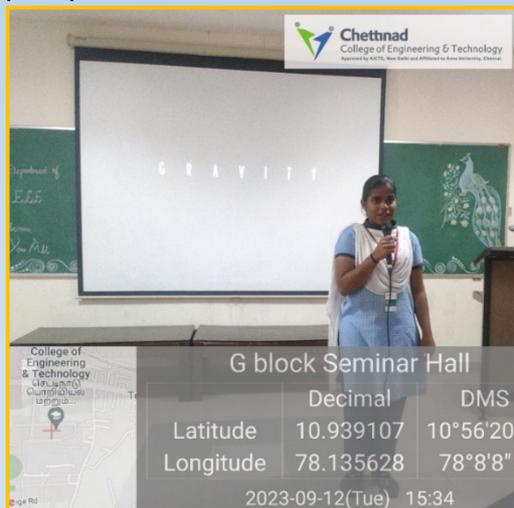
THE GRAVITY

12TH SEPTEMBER 2023

Our college is dedicated to enhance the learning journey of our students by offering enriching cinematic experiences. On September 12, 2023, the Department of Electrical and Electronics Engineering held a screening of the film "The Gravity" for third-year and final-year EEE students. "The Gravity" is a 2013 space shuttle mission film renowned



for winning seven Oscars in 2014. The film's story revolves around two astronauts collaborating to survive after a mishap leaves one of them stranded in space. Our students thought that every scene in this movie seemed like it took place in space for real. Following the screening, Ms. B. Menaga, a final-year EEE student, led a discussion on the movie's theme. She emphasised that the film offers diverse perspectives with a central message about the consequences of one's desires,



highlighting the idea of "be careful what you wish for" or "you get what you want". Mr. L. Lakshmikanth, a third-year EEE student, expressed his enthusiasm, describing it as one of the most memorable cinematic experiences of his life, and he also noted the challenges of life in space. In total, 52 students thoroughly enjoyed the movie.

INTRA-LEVEL TECHNICAL CONTEST**ENERGY-EFFICIENT HOME DESIGN****20TH SEPTEMBER 2023**

On September 20, 2023, ChettinadTech Green Energy Cell conducted an intra-level technical contest on “Energy-Efficient Home Design” for our students. The main aim of the contest was to promote sustainable practices and inspire innovative designs that contribute to a more energy-efficient and environmentally friendly future. Students were given the opportunity to participate in the contest either individually or as part of a team, with a maximum of three members per team. The coordination of this contest was overseen by Mr. N. Vijayasarithi, Head of the Department, Electrical and Electronics Engineering (HoD/EEE). A total of 28 students registered for the contest and created 11 project models for evaluation by a panel of judges.

Each project model was evaluated based on innovation, sustainability, energy efficiency, practicality, visual presentation, and overall design quality. Dr. M. Chandrasekar, Assistant Professor, Mechanical Engineering (ASP/MECH), and Dr. M. Kumar, Head of the Department, Electronics and Communication Engineering (HoD/ECE), served as the evaluators for the contest project models. The participating students successfully designed their models and submitted them to the judges for evaluation. All prototypes and design models were developed to address current trends and the challenges of a sustainable future.

Contest Photos:





NATIONAL LEVEL TECHNICAL SYMPOSIUM

BRAHMASTRA-2K23

22ND SEPTEMBER 2023

The state level technical symposium 'Brahmastra 2k23' hosted by the Department of Electrical and Electronics Engineering, Karur was held on Friday, the 22nd of September 2023. The department faculty and students put their best efforts forward in every facet of the event, from planning to implementation. The registration for the symposium was opened from 15th September 2023 to 21st September 2023 in the duration of which an overwhelming response had been observed from participants belonging to various colleges from all over the state. The event started with the formal Inaugural function at 9.30 am in C block seminar hall. All technical and non-technical events conducted in G block of EEE department in various rooms. Students from various colleges like Kongunadu College of Engineering and Technology, IFET College of Engineering, Velalar College of Engineering and Technology, Erode Sengunthar Engineering College, Kings College of Engineering, JJ College of Engineering, SSM College of Engineering, M. Kumarasamy College of Engineering, SRM TRP Engineering College participated in our national level technical symposium. This symposium witnessed the enthusiastic participation of over 75 students in over 4 events that tested their wits and abilities. The following are the events that were organized as part of the symposium: Current Xplore – 26 papers were presented by 52 students participating and this event first position was won by Mr. S. Sarathkumar & Mr. Gokul N (Kongunadu College of Engineering and Technology) with a cash prize of Rs.1000 for "Plant Based Organic Eco-Friendly Batteries" and the second position was won by Mr. S. Jeevanandham for "Hybrid Electric Vehicle". ElectricTech Expo – 11 projects were submitted

by 18 students, the first position was won by Mr. M. Sivasakthivel (Erode Sengunthar Engineering College) for “Climate Adjustment Suite”, and the second position was won by Mr. M. Veeraselvam & Ms. A. Shreeja (SRM TRB Engineering College) for “Digital Twin”. Minute to Win It – won by Mr. Maheen & Mr. M. Ashwin Sarath (Sakthi Polytechnic College), and the second position won by Mr. G. Saran & Mr. B. Pragathesh (Kongunadu Polytechnic College). Buzzy – the first position won by Ms. K. Sona (Kongunadu College of Engineering). During the valedictory function our chief guest Dr. R. Vijay. Saranathan College of Engineering, Trichy distributed the cash prizes and certificates to winners. Mr. P. Pandi, coordinator presented a report on the entire happenings of the day and Ms. B. Menaga, Final-year EEE, gave the vote of thanks.

Symposium Photos:





Orientation Programme

HOLISTIC EDUCATION

25TH SEPTEMBER 2023

As part of the orientation, the Department of Electrical and Electronics Engineering organized a 'Holistic Education' for newcomers of Batch-16 EEE Students on 25th September 2023, aimed to provide new batch students with a comprehensive introduction to our department, its functions, policies, and procedures. It serves the purpose



of explaining to new team members the department's structure, operations, safety protocols, and culture. Mr. N. Vijayasarithi, HoD/EEE welcomed all the students and faculty and delivered the keynote address. The speaker delivered information to the students regarding the college's vision and mission, Disciplinary rules and regulations to be followed in the college, the subjects of the first semester and the profile of faculty members for the academic year 2022–2023, Department plans,



information about extra-curricular & Co-curricular activity and Placement training programmes for beginners. Apart from this, he also shared his domain knowledge on goal setting and how to set short-term and long-term goals and achieve them, future opportunities for electrical engineers, and guidelines for higher studies.

FRESHER' S DAY

FRESHER'S DAY (BATCH – 16)

25TH SEPTEMBER 2023

On September 25th, 2023, the Department of Electrical and Electronics Engineering hosted a Fresher's Party to welcome the incoming Batch 16 students. The Fresher's Day festivities were executed with great enthusiasm by our final year EEE students, guided by Mr. P. Pandi, SAP/EEE, Mr. M. Vasanthprakash, AP/EEE, and Dr. M. Senthilkumar, ASP/EEE. Final-year students Mr. P. Vasanthadurai, Mr. P. Mohanraj, and Mr. V. Lakshmanan extended a warm greeting to the Batch 16 students and the department's faculty members. It served as the perfect occasion for seniors and juniors to come together and celebrate being a part of the college. Freshers, along with their seniors, had the opportunity to showcase their talents through dancing, singing, and drama performances. Later, a series of small games were organised to add an element of challenge and fun to the event. The festivities concluded with a vote of thanks delivered by Ms. B. Menaga, a final-year EEE student. Refreshments were served to all attendees after the programme concluded. Fresher's Day was a day brimming with excitement, joy, music, enthusiasm, laughter, and happiness.



NATIONAL ENERGY CONSERVATION DAY' 2023**INTRA-LEVEL EVENT - SHAPING A SUSTAINABLE FUTURE****14TH DECEMBER 2023**

The ChettinadTech green energy cell and the Department of Electrical and Electronics Engineering conducted a one-day intra-level event, "Shaping a Sustainable Future," on December 14, 2023. This contest was open to all currently enrolled first- and second-year students at our college. Two students per team and a total of 25 teams registered for this event. This event aims to promote the adoption of green energy practices and raise awareness about renewable energy sources among the students. It motivates them to take individual and collective actions that contribute to a more sustainable future in their personal and professional lives. In the Greenovation Junction event, teams presented simple ideas to make their campus or community more sustainable. Participants also created craft items using only recycled materials, which encouraged creativity while reinforcing the concept of upcycling. The juries of this event, Dr. M. Kumar, HoD/ECE, and Dr. K. P. Senthilnathan, HoD/Civil, evaluated the students' presentation and recycled crafts. In the Greenovation Junction event, I-AI&DS Mr. Rajalingam won the first prize for AI Robots, and I-ECE Mr. Mohana Akishek and Deepak M. A. won the second prize for E-Waste and I-EEE. Nandhakumar S. and Gokul R. won the third prize for wireless electricity. The vote of thanks was given by Mr. N. Vijayasarithi, HoD/EEE of Chettinad College of Engineering and Technology. He thanked the juries, student coordinators, and all the participants for their valuable contributions and support towards making the event a success.

Contest Photos:





HERITAGE VISIT

HERITAGE OF TAMIL

29TH DECEMBER 2023

As per the Anna University syllabus, a self-help trip aimed at rediscovering Tamil heritage was arranged for the first-year BE-Electrical and Electronics Engineering students of Chettinad College of Engineering and Technology on December 29, 2023, as a component of the "GE3151: Heritage of Tamil" course. The students visited the Sri Ratinakriswarar temple in Kulithalai Ayyarmalai, Karur district, where they learned about the temple's history, ancient Tamil traditions, and Chola-era inscriptions through interactions with the temple authorities. They also explored the ancient Tamil scripts engraved on the temple rocks. This experience provided the students with an opportunity for a deeper understanding of Tamil heritage.

Trip Photos:



VALUE ADDED COURSE

C PROGRAMMING

22ND JANUARY- 24TH JANUARY 2024

The Department of Electrical and Electronics Engineering organised a three-day value-added course on "C Programming" from January 22nd to January 24th, 2024. The aim was to enhance students' C programming skills and develop their problem-solving logic. This course equipped students with advanced techniques and best practices to tackle complex programming challenges, thereby enhancing their employability. Dr. T. Gobinath, ASP/CSE, and Ms. D. Santhiya, AP/CSE, conducted the sessions. 26 third-year EEE students participated on all days. On Day 1 of the session, the course instructor gave hands-on training on "fundamentals in C: Operators and Expressions, Control Statements, and Storage Management. Day two focused on arrays, strings, functions, and function prototypes. The Final Day addressed structures, file handling, and assessment. Feedback from Mr. S. Lakshan, III-EEE, highlighted the course's effectiveness in delivering comprehensible lectures, assignments, and tests, ultimately benefiting all participants.



Orientation Programme

ORIENTATION PROGRAMME FOR THE NEXT LEVEL
SEMESTER1ST FEBRUARY 2024

As part of the orientation, the Department of Electrical and Electronics Engineering organized a 'Holistic Education' for the next level semester of Third and Final Year EEE Students on 01.02.2024. Mr. N. Vijayasarathi, HoD/EEE welcomed all the students and faculty members of EEE department. The speaker delivered information to the students



regarding the college's mission & vision, disciplinary rules and regulations to be followed in the college, the subjects and faculty for the academic year 2023–2024(even semester), Department plans, and Placement training programmes for our students in their third and final year. Apart from this, he also shared his domain knowledge on goal setting and how to set short-term and long-term goals and achieve them, future opportunities for electrical engineers, guidelines for higher studies. The entire session was interactive & very useful for the students.

VALUE ADDED COURSE

ARDUINO UNO

26TH FEBRUARY – 27TH FEBRUARY 2024

The Department of Electrical and Electronics Engineering organised a two-day value-added course on " Arduino Uno " from 26-02-2024 to 27-02-2024. This course aims to understand the Arduino microcontroller with hands-on experimentation to create simple visual models embedded with codes and to provide students with practical, hands-on experience in working with Arduino boards, sensors, actuators, and basic electronic components. Mr. P. Pandi, Sr. AP/EEE, Mr. M. Vasanthprakash, AP/EEE and Mr. S. Ragul, AP/EEE conducted the sessions. 40, II-year EEE students participated on all days. On Day 1 of the session, the course instructor gave hands-on training on "Overview of Arduino Components and IDE,



Arduino with Tricolor LED and Push button, Display Counter using Arduino". Day two focused on "Interface DC and Servo Motor with Arduino, Interfacing LCD with Arduino, Motor Speed Control using Arduino". Feedback from Ms. P. Nageshwari, II-EEE, shared the course effectiveness in delivering comprehensible lectures and using a visual Arduino simulator, ultimately benefiting my interdisciplinary skills.

VALUE ADDED COURSE

MATLAB R2016a

28TH FEBRUARY – 29TH FEBRUARY 2024

The Department of Electrical and Electronics Engineering organized a two-day Hands-on Training on "MATLAB R2016a" in G Block EEE computer lab from February 28 to February 29, 2024. This course aims to impart the knowledge to the students with MATLAB software technical computing environment. The Hands-on Training was coordinated by Dr. M. Senthil Kumar, Prof./EEE, Mr. M. Vasanthprakash, AP/EEE and Mr. S. Ragul, AP/EEE conducted the sessions. 34 first-year EEE students participated on all days. On Day 1 of the session, the course instructor gave hands-on training on "Overview of MATLAB, Simulink firing circuits, V-I Characteristics". Day two focused on "Pulse generator, Simulation of Converter circuits". At the end of the course students learned about MATLAB and understand how to solve lengthy mathematical problems in an easy way. During the session, they were given some assignment tasks to do more practice.



WORKSHOP

PROGRAMMABLE LOGIC CONTROLLER

1ST MARCH – 4TH MARCH 2024

The Department of Electrical and Electronics Engineering organized, Two Days Workshop on “Programmable Logic Controller” from 1.3.2024 to 4.3.2024 by external resource person from Galwin Technology for III-year EEE students to improve their field of PLC. PLCs can communicate, monitor, and control complex automated processes such as conveyors, temperature control, robot cells, and many other industrial machines. During the course, students simulated basic logic gates, ladder, timer and counter by using ZEN supported software. They also learned to simulating analog comparator, task for power bank using ZEN software. Finally, the entire task was implemented by using PLC hardware. Students were interested to learn PLC software and hardware implementation and its future scope.

Session Photos:



Ori entati on Programme

ORIENTATION PROGRAMME FOR THE NEXT LEVEL SEMESTER

6TH MARCH 2024

As part of the orientation, the Department of Electrical and Electronics Engineering organized a 'Holistic Education' for the next level semester of Third and Final Year EEE Students on 06.03.2024. Mr. N. Vijayasarathi, HoD/EEE welcomed all the students and faculty members of EEE department.



The speaker delivered information to the students regarding the college's mission & vision, disciplinary rules and regulations to be followed in the college, the subjects and faculty for the academic year 2023–2024(even semester), Department plans, and Project Expo 2024 importance for our students in their first and second year. Apart from this, he also shared his domain knowledge on goal setting and how to set short-term and long-term goals and achieve them, future opportunities for electrical engineers, guidelines for higher studies. The entire session was interactive & very useful for the students.



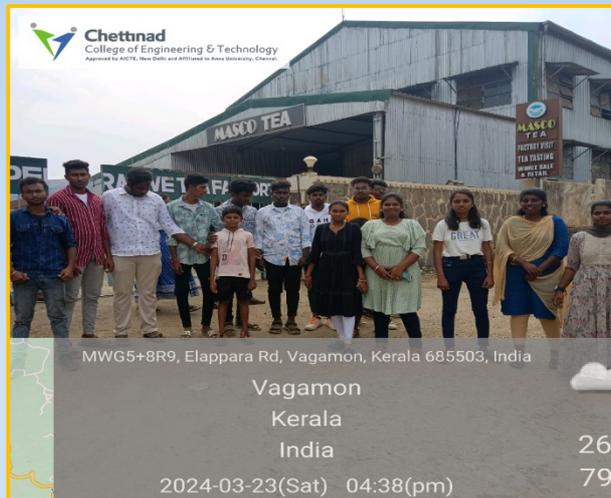
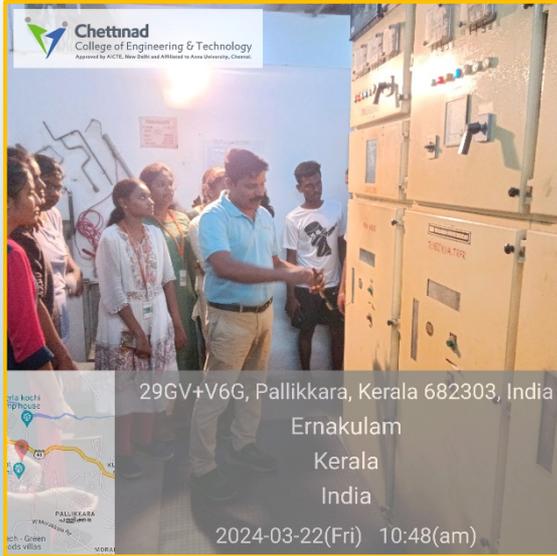
INDUSTRIAL VISIT**INDUSTRIAL VISIT - KOCHI, KERALA****22ND MARCH – 23RD MARCH 2024**

On March 22nd and 23rd, 2024 the Department of Electrical and Electronics Engineering organized an industrial visit for I, II, III and IV year EEE students. Our students visited the Masco Tea Factory, Vagamon and the 11KV substation in Wonderla Holidays Limited, Kochi. A totally 52 students with guidance of 4 faculty members from the EEE department to attended the industrial visit.

On 22nd March 2024, our students practically learned the operation and commissioning of 33KV/11KV switching sub-station in Wonderla Holidays Limited, Bangalore. Actually, it consists of a feeder controlling room and a switching yard. All controlling such as line current each feeder, line and phase voltage for each feeder are measured by many Low Tension (LT) panel and High-tension panel (HT). Switch yard is the place where the actual equipment is working properly. Overall, the visit was an eye-opening experience, and our students gained a lot of practical knowledge and insight into the functioning of the industry.

On 23rd March 2024 the trip was to know about the working of tea factory, and for that purpose we visited MASCO Tea Factory, Vagamon. The students were enriched with the process of manufacturing tea from the scratch, different types of leaves used for the process, the machineries used in the process, etc. On the whole Industrial Visit trip, it was knowledgeable for the students.

Industrial Visit Photos:





Mr. P. KARTHIKEYAN
I Year - EEE

BUILDING SMART VEHICLE USING AI

Building a smart vehicle using AI involves integrating artificial intelligence technologies into various aspects of vehicle design, operation, and functionality. AI can enhance vehicle safety, efficiency, and user experience by enabling capabilities such as autonomous driving, predictive maintenance, and intelligent navigation. For instance, AI-powered sensors and algorithms can analyze real-time data from the vehicle's surroundings to make dynamic driving decisions, detect obstacles, and prevent accidents. Additionally, AI can optimize energy usage, improve fuel efficiency, and reduce emissions by optimizing engine performance and route planning. Moreover, AI-driven predictive maintenance systems can monitor vehicle components in real-time, detecting potential failures before they occur and scheduling timely repairs, thereby enhancing vehicle reliability and reducing downtime. Overall, integrating AI into smart vehicles represents a significant advancement in automotive technology, paving the way for safer, more efficient, and more environmentally friendly transportation solutions.

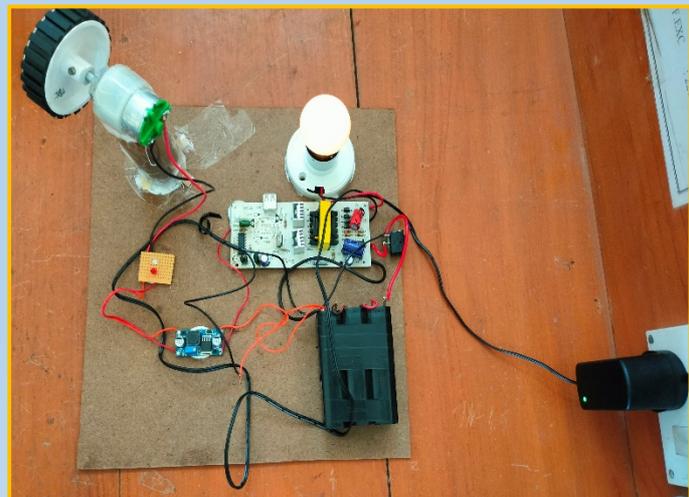




Ms. P. SARANYA
I Year - EEE

FREE WHEEL CONVERTER

A free-wheel converter is a type of power electronics device used for electrical energy conversion, typically in applications like renewable energy systems, motor drives, and power supplies. Its primary function is to convert electrical energy from one form to another with high efficiency and minimal loss. The term "free-wheel" refers to the capability of the converter to allow energy to flow freely in both directions, which is essential for bidirectional power flow and energy regeneration in certain applications. Abstracting further, a free-wheel converter can be seen as a versatile tool for managing power in diverse systems, enabling efficient energy transfer, voltage regulation, and control over various parameters such as frequency and waveform shape. Its flexibility makes it a cornerstone in modern electrical engineering, facilitating the integration of renewable energy sources, enhancing grid stability, and improving the performance of electric drives.

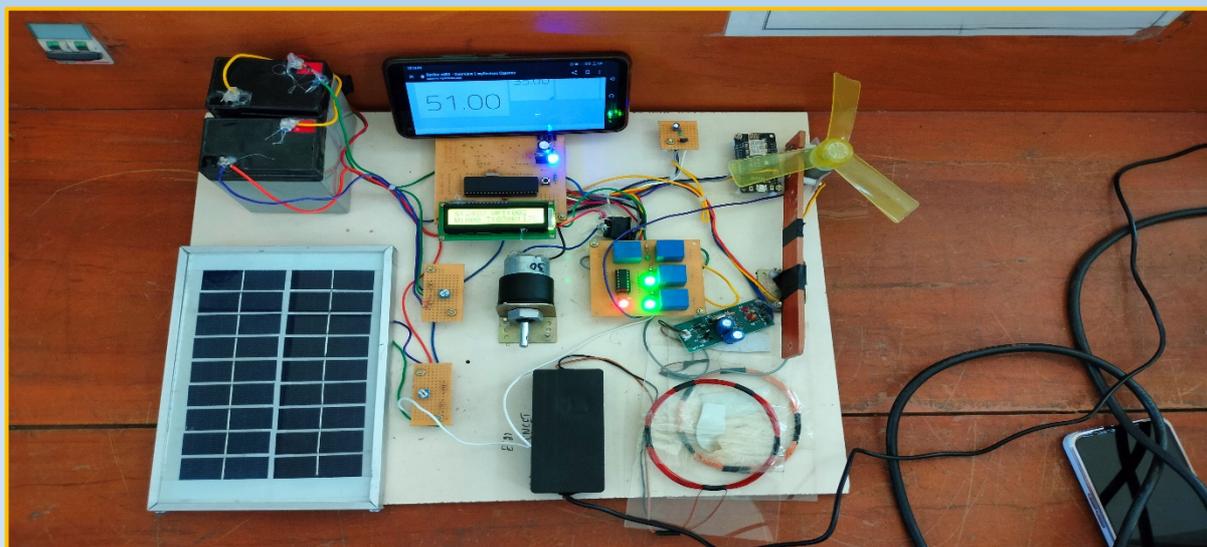




Ms. S. BHARKAVI
I Year - EEE

HYBRID POWER CONVERSION

Hybrid power conversion involves the integration of multiple power conversion technologies or approaches within a single system to optimize performance, efficiency, or functionality. This concept is particularly relevant in contexts such as renewable energy systems, electric vehicles, and grid integration, where different energy sources, storage systems, and loads need to be managed efficiently. In hybrid power conversion systems, various converters, inverters, and controllers are often combined to handle different energy sources and loads effectively. For example, a hybrid renewable energy system might combine solar panels, wind turbines, and energy storage devices, each requiring specialized power conversion techniques to interface with the grid or power loads. The key advantages of hybrid power conversion include increased system efficiency, improved reliability, and enhanced



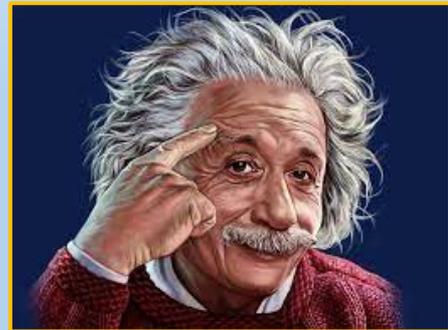
flexibility in managing diverse energy sources and loads. By intelligently combining different conversion technologies, hybrid systems can mitigate the limitations of individual components and optimize overall system performance. Furthermore, hybrid power conversion enables the integration of multiple energy sources, such as solar, wind, and battery storage, to create more resilient and sustainable energy systems. This approach is crucial for enhancing the stability and reliability of power grids, especially as renewable energy penetration increases. Overall, hybrid power conversion represents a promising paradigm for addressing the complex energy challenges of the modern world, offering opportunities to optimize energy utilization, reduce environmental impact, and promote energy independence.



Mr. J. PATRICK JOSWA
I Year - EEE

HOW TO BE A MASTER IN PHYSICS

Becoming a master in physics requires dedication, curiosity, and a solid foundation in the fundamental principles of the field. Firstly, a comprehensive understanding of mathematics, including calculus, algebra, and differential equations, is essential for tackling the mathematical aspects of physics. Beyond this, immerse yourself in the core concepts of classical mechanics, electromagnetism, thermodynamics, quantum mechanics, and relativity, building a strong conceptual framework through textbooks, lectures, and problem-solving exercises. Practical experimentation and laboratory work are also crucial for gaining hands-on experience and reinforcing theoretical knowledge. Additionally, seek out opportunities for research, internships, or projects to delve deeper into specific areas of interest and develop critical thinking and problem-solving skills. Engage with the physics community through seminars, conferences, and discussions to stay updated on the latest advancements and connect with fellow enthusiasts and experts. Cultivate a curiosity-driven mindset, always questioning and exploring the mysteries of the universe, and embrace challenges as opportunities for growth and learning. Mastery in physics is a lifelong journey marked by continuous exploration, discovery, and a passion for unraveling the secrets of the natural world.



Albert Einstein (1879-1955)



Mr. R. GOKUL
I Year - EEE

FUTURE OF ELECTRICAL ENGINEERING

The future of electrical engineering is poised to be transformative, driven by rapid advancements in technology and evolving societal needs. With the proliferation of renewable energy sources, such as solar and wind power, electrical engineers will play a crucial role in developing more efficient and sustainable energy systems. Smart grid technologies, enabled by advancements in data analytics and IoT, will revolutionize the way electricity is generated, transmitted, and consumed, enhancing grid reliability and resilience while accommodating the integration of distributed energy resources. Additionally, the electrification of transportation, including electric vehicles and opportunities for electrical engineers to innovate in areas like battery technology, charging infrastructure, and grid integration. The rise of artificial intelligence and machine learning is also reshaping the field, enabling smarter and more autonomous electrical systems, predictive maintenance, and optimization of energy usage. In essence, the future of electrical engineering promises to be dynamic and multifaceted, driven by a commitment to sustainability, innovation, and the harnessing of technology to address global challenges.





Mr. K. J. MOHANLAL
I Year - EEE

FIVE RULES FOR SUCCESS

1. Set Clear Goals: Define specific, measurable, achievable, relevant, and time-bound (SMART) goals that align with your aspirations. Having clear objectives provides focus and direction, guiding your actions and decisions towards success.

2. Take Action: Action is the key to progress and achievement. Take consistent and purposeful steps towards your goals. Procrastination only delays success, so prioritize tasks and take initiative to make things happen.

3. Learn Continuously: Seek out opportunities to acquire new knowledge, develop skills, and expand your expertise. Stay curious, adaptable, and open-minded, as continuous learning enhances your competence and resilience in a rapidly changing world.

4. Persist Through Challenges: Success is rarely a straight path; it often involves facing obstacles, failures, and setbacks. Cultivate resilience, determination, and perseverance to overcome challenges and setbacks. Use setbacks as learning experiences, and keep moving forward.

5. Embrace Discipline and Consistency: Consistent effort and disciplined habits are essential for achieving long-term success. Establish productive routines, manage your time effectively. Stay disciplined in pursuing your goals, even when motivation wanes, as consistent action.



Ms. S. POOJA
I Year - EEE

A I WORLD - POEM

In the kingdom of circuits, where electrons dance,
Lies a world of wonder, a realm of chance.
Artificial Intelligence, a marvel untold,
Unfurls its wings in this digital fold.

In this realm of silicon, where dreams take flight,
Minds of metal gleam with boundless might.
Algorithms weave tales in lines of code,
Unveiling mysteries on this binary road.

Behold the cities where data streams flow,
Through networks vast, where insights glow.
In the streets of pixels, where avatars roam,
A tapestry of virtual life finds its home.

From the depths of archives, knowledge springs,
Echoes of wisdom, where the machine sings.
In the libraries of bytes, where memories lie,
Histories unfold beneath the digital sky.

Let us tread with care in this landscape grand,
Guided by values, hand in hand.
For in this AI world, our destiny's writ,
To build a future where humanity is lit.



Ms. K. VIDHIYA
I Year - EEE

SAVE ENERGY - DRAWING

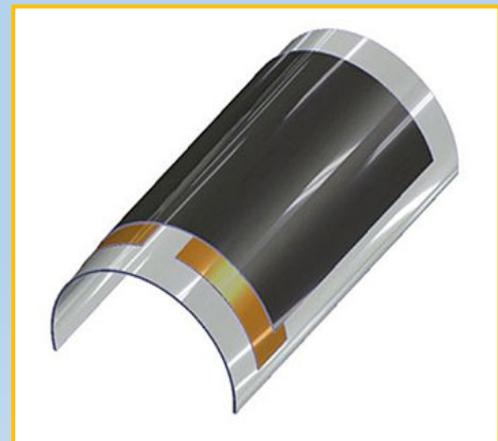




Ms. G. LISHA
II Year - EEE

PAPER BATTERY

A paper battery is engineered to use a spacer formed largely of cellulose. It incorporates structures to act as high surface area electrodes to improve conductivity. Their functioning is similar to conventional chemical batteries with the important difference that they are noncorrosive and do not require extensive housing. Electrochemical batteries can be modified to integrate the use of paper. An electrochemical battery typically uses two metals, separated into two chambers and connected by a bridge or a membrane which permits the exchange of electrons between the two metals, thereby producing energy. Paper can be integrated into electrochemical batteries by depositing the electrode onto the paper and by using paper to contain the fluid used to activate the battery. Paper that has been patterned can also be used in electrochemical batteries. These batteries tend to produce low voltage and operate for short periods, but they can be connected in series to increase their output and capacity. The paper was patterned using wax printing and is able to be easily disposed of. Furthermore, this battery was developed at a low cost and has other practical application.

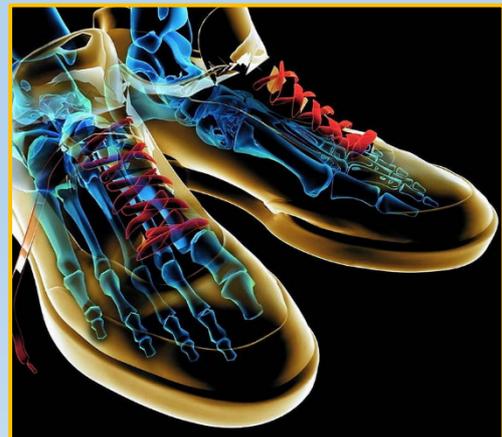




Ms. S. NATHIYA
II Year - EEE

ELECTRIC SHOESX

The world's first smart shoe ShoesX is launched with various features that one could only imagine in dreams. The shoe comes with a camera, USB port, and more. So, let's not waste much of our time talking and start with the specialty of these smart shoes, "ShoesX By Ixigo". USB Port (IP67 Rated) The first and most highlighted feature of the ShoesX by Ixigo is the USB IP67 Rated port. This USB port can be used to charge your mobile devices. All you have to do is carry the USB cable along with you. Ever felt that your phone is running out of battery. Plugin the cable and charge your device. Many people are confused about the IP 67 rating. Let us tell you that the rating given to the USB ports indicates that the ports are resistant to air and dust particles. Not only dust, the IP 67 rated ports are also resistant to water. These world's first smart shoes will provide water resistivity up to 1 meter of depth into water. Also Read, 6 Amazing Summer Shoe Trends in 2021 That You Shouldn't Miss Auto Rechargeable Battery. The auto rechargeable battery in the ShoesX by Ixigo gets recharged via the kinetic energy that the shoe acquires while walking. This reminds of a great example. Remember the Black Panther's special suit that gets recharged when someone hits it.



The underlying principle was Kinetic energy. We know that energy can neither be nor be destroyed. It can only be transferred from one form to another. So, Ixigo used the technology to convert Kinetic energy into Electric energy. Store it on the battery and then use it to charge the mobile phones. Back Camera Moving to the next center of attraction towards these smart shoes is their camera. The shoes come with a Back camera. Ever felt that you need four eyes, two to look in front and the other to look backward. If yes, then the ShoesX by Ixigo will help you live the dream. The back camera will project the live scenario on the phone. Next time you feel someone is following you. There is no need to look back. Open your mobile, and watch him live on the screen (Front Selfie Camera).

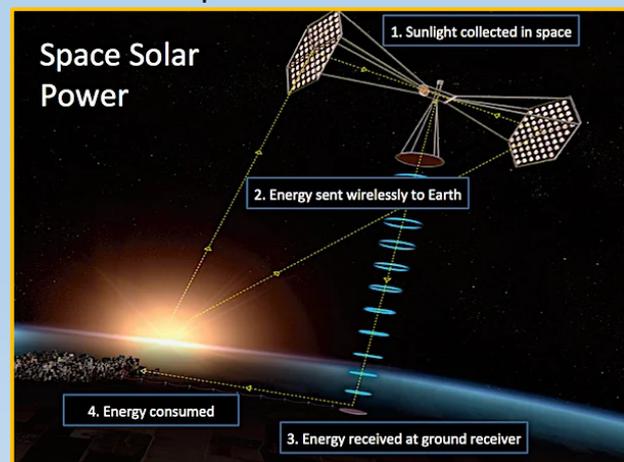
These special shoes by Ixigo also come with a front camera, not only the back camera. This camera can be used to click selfies. If you feel your hands are not long enough to click a selfie, extend your legs and click QR Code Scanner The front camera is not only for clicking selfies. You can also use the front camera to scan the QR code and make necessary payments. Anti-Theft Sensor Well, shoes are a small entity that is easy to get stolen. But, you don't need to worry about it with the ShoesX by Ixigo as it comes with an anti-theft sensor.



Ms. C. SHALINI
II Year - EEE

TRANSMITTING SOLAR POWER WIRELESSLY FROM SPACE

The Japanese Space Agency (JAXA)'s Space Solar Power Systems (SSPS) aims at transmitting energy from orbiting solar panels by 2030. On 12 March, Mitsubishi Heavy Industries Ltd (MHI) successfully conducted a ground demonstration test of "wireless power transmission", a technology that will serve as the basis for the SSPS. In the test, 10kW of electricity was successfully transmitted via a microwave unit. Power reception was confirmed at a receiver located 500 meters away. This marks a new milestone in transmission distance and power load (enough to power a set of conventional kitchen appliances). Potentially, a solar battery in orbit (36,000km above earth) could generate power that would then be transmitted to earth via microwave/laser, without relying on cables. JAXA anticipates that this new technology could become a mainstay energy source that will simultaneously solve both environmental and energy issues on earth. Countries such as India, China and Japan are investing heavily in these technologies right now.

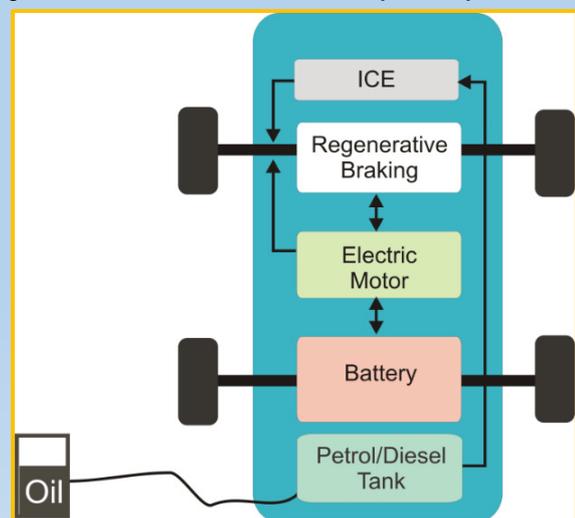




Mr. S. SANTHOSHKUMAR
II Year - EEE

HYBRID ELECTRIC VEHICLE

A hybrid electric vehicle (HEV) is a type of hybrid vehicle that combines a conventional internal combustion engine (ICE) system with an electric propulsion system (hybrid vehicle drive train). The presence of the electric power train is intended to achieve either better fuel economy than a conventional vehicle or better performance. The most common form of HEV is the hybrid electric car, although hybrid electric trucks (pickups and tractors), buses, boats, and aircraft also exist. Modern HEVs make use of efficiency-improving technologies such as regenerative brakes which convert the vehicle's kinetic energy to electric energy, which is stored in a battery or super capacitor. Many HEVs reduce idle emissions by shutting down the engine at idle and restarting it when needed; this is known as a start-stop system. A hybrid-electric produces lower tailpipe emissions than a comparably sized gasoline car since the hybrid's gasoline engine is usually smaller than that of a gasoline powered vehicle. If the engine is not used to drive the car directly, it can be geared to run at maximum efficiency, further improving fuel economy.





Ms. M. BHUVANA
III Year - EEE

IMPACT OF ELECTRICAL ENGINEERING IN DIGITALIZATION

Digitalization, the process of integrating digital technologies into various aspects of society and industry, has become increasingly pervasive in today's world. Electrical engineering plays a pivotal role in driving this digital transformation across multiple domains. This abstract explores the significant impact of electrical engineering in the realm of digitalization. Firstly, electrical engineering encompasses the design and development of hardware components essential for digital systems, including microprocessors, integrated circuits, sensors, and communication devices. These components form the foundation of digital devices and infrastructure, enabling data processing, storage, and transmission.



Moreover, electrical engineers contribute to the advancement of communication systems, facilitating the exchange of digital information through wired and wireless networks. Technologies such as fiber optics, radio frequency communication, and satellite systems are instrumental in enabling global connectivity and information exchange. Additionally, electrical engineering plays a crucial role in power systems and energy efficiency within digitalization efforts. Engineers work towards optimizing power consumption in digital devices and infrastructure, integrating renewable energy sources, and implementing energy-efficient technologies to ensure sustainability. Furthermore, automation and control systems, a core domain of electrical engineering, enable the automation of processes across various industries. These systems utilize digital technology to monitor, control, and optimize operations, leading to increased efficiency, productivity, and safety.

Embedded systems, another area of expertise within electrical engineering, are fundamental to the integration of digital capabilities into everyday objects and processes. These systems power devices such as smartphones, IOT devices, automotive electronics, and industrial control systems, enhancing connectivity and functionality. Signal processing techniques, a cornerstone of electrical engineering, facilitate the processing and analysis of digital data in applications ranging from telecommunications to medical imaging. These techniques enable the extraction of meaningful information from raw data, supporting decision-making and automation in digitalized systems.

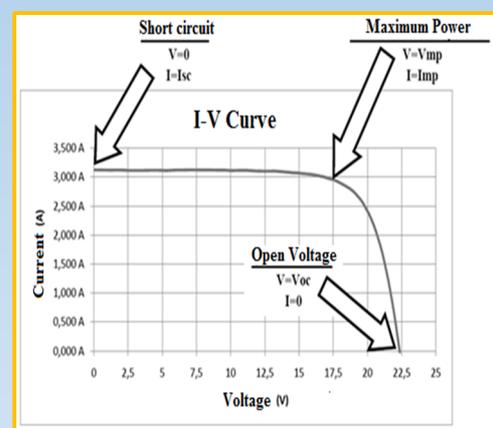
Moreover, electrical engineers contribute to cybersecurity efforts by designing secure digital systems, cryptographic algorithms, and hardware security mechanisms. By integrating security features into digital devices and networks, they help mitigate cybersecurity risks associated with digitalization.



Mr. S. LAKSHAN
III Year - EEE

MODELLING OF PV CELLS & ITS IMPACT ON GRID

Photovoltaic (PV) cells, the building blocks of solar power systems, have gained significant attention as a renewable energy source due to their environmental benefits and increasing cost competitiveness. The modeling of PV cells plays a crucial role in understanding their behavior under varying environmental conditions and optimizing the performance of solar power systems. This abstract explores the modeling of PV cells and its impact on the electrical grid. PV cell modeling involves characterizing the electrical behavior of solar cells using mathematical models such as the single-diode model or the equivalent circuit model. These models accurately represent the current-voltage (I-V) and power-voltage (P-V) characteristics of PV cells, enabling the prediction of their performance under different operating conditions. The impact of PV cell modeling extends to its integration into the electrical grid, where solar power generation has the potential to revolutionize the energy landscape. PV systems generate electricity from sunlight, providing clean and renewable energy to the grid. However, the intermittent and variable nature of solar power presents challenges for grid stability and reliability.



Accurate modeling of PV systems allows grid operators to anticipate and manage fluctuations in solar generation, ensuring grid stability and power quality. Advanced modeling techniques enable the assessment of the spatial and temporal distribution of solar generation, optimal siting of PV installations, and the identification of grid integration challenges.

Furthermore, PV cell modeling supports grid planning and operation by providing insights into the potential for grid congestion, voltage regulation issues, and the need for grid upgrades. Energy management and forecasting benefit from accurate predictions of solar generation, enabling grid operators to optimize generation dispatch and balance supply and demand effectively.

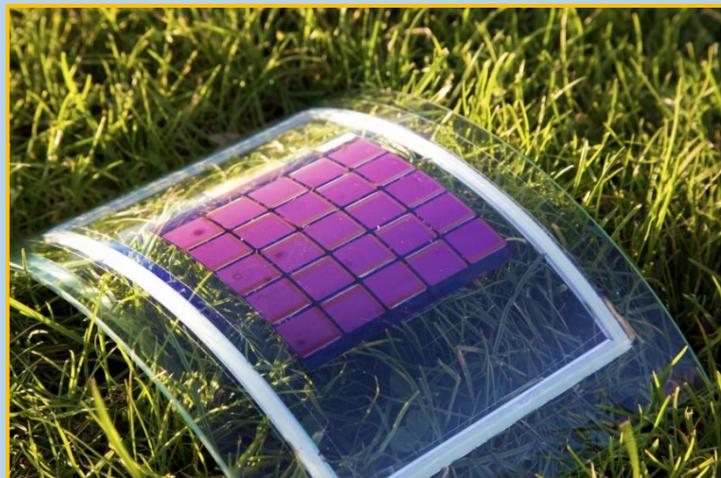
In summary, the modeling of PV cells plays a critical role in optimizing the performance of solar power systems and addressing the challenges associated with their integration into the electrical grid. By accurately modeling PV systems, stakeholders can ensure the efficient, reliable, and sustainable operation of the grid while harnessing the benefits of solar energy towards a cleaner and more resilient energy future.



Ms. R. MIRUDHULA
 III Year - EEE

ORGANIC SOLAR CELL NEW LIGHTEN SUSTAINABILITY

In an impressive feat of engineering, scientists in Denmark have devised a rapid, scalable and industrially viable way to manufacture large sheets of flexible organic tandem solar cells. Their successful application of roll-to-roll



processing is a significant achievement for this emerging renewable technology. An Organic Photo Voltaic (OPV) solar cell is a polymer-based thin film solar cell. OPV solar cells have been the focus of much research as they are lightweight, flexible, inexpensive, highly tunable and potentially disposable.

They are also unparalleled in the number of times that they can pay back the energy used in their manufacture. In the quest to improve the efficiency of OPVs, which, in addition to operational lifetime, is currently their key limitation, various new materials, processing method and device architectures have been thoroughly investigated. Among these is the tandem cell, where multiple junctions are stacked upon one another. This can increase the efficiency of the cell by not only increasing the number of junction,

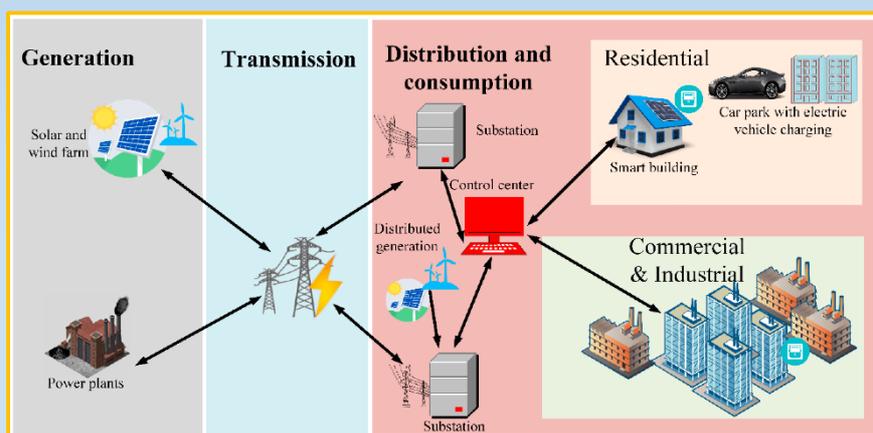
but, along with careful selection of complementary materials, can make it possible to harvest photons from a broader region of the spectrum. However, this more complicated architecture renders their manufacture significantly more challenging. Frederik Krebs and his research team at the Technical University of Denmark are specialists in renewable energy technologies, particularly OPVs. For the first time they have demonstrated the successful roll-to-roll manufacture of tandem OPV modules, each comprised of a stack of 14 discrete layers, which are rapidly printed, coated or deposited one on top of another by a machine reminiscent of a printing press. The experiment was carried out in simple conditions and is extremely fast, with a single solar cell module being printed onto blank foil each second. Most importantly, the process is relatively cheap and completely scalable, with a high technical yield.



Mr. S. THARANI
 III Year - EEE

SMART GRID INFRASTRUCTURE IN INDIA

India, with its rapidly growing population and expanding economy, faces significant challenges in meeting its energy demands while ensuring sustainability and reliability. Smart grid infrastructure emerges as a transformative solution, integrating advanced technologies to modernize the electrical grid and optimize its performance. This abstract explores the evolution, implementation, and impact of smart grid infrastructure in India. The journey towards a smarter grid in India begins with an acknowledgment of the pressing need for modernization. Traditional grids are plagued by inefficiencies, power losses, and inadequate infrastructure, hindering the delivery of reliable electricity to consumers. Smart grid technology offers a paradigm shift, leveraging digital communication, automation, and data analytics to enhance grid operations, improve energy efficiency, and enable the integration of renewable energy sources. Key components of smart grid infrastructure include advanced metering infrastructure (AMI), distribution



automation systems, grid-scale energy storage, and demand response mechanisms. These technologies enable real-time monitoring and control of grid assets, predictive maintenance, and optimization of energy consumption patterns, thereby enhancing grid reliability and resilience. In India, the implementation of smart grid infrastructure is driven by various stakeholders, including government agencies, utilities, regulatory bodies, and technology providers. Initiatives such as the National Smart Grid Mission (NSGM) aim to catalyze the deployment of smart grid technologies across the country, fostering collaboration, innovation, and investment in grid modernization efforts. The impact of smart grid infrastructure in India extends beyond technical advancements to socioeconomic benefits. Improved grid reliability and efficiency translate into enhanced service quality for consumers, reduced energy costs, and increased economic productivity.

Moreover, the integration of renewable energy sources and demand-side management initiatives contribute to environmental sustainability and energy security. Challenges persist in the widespread adoption of smart grid infrastructure, including regulatory barriers, funding constraints, and interoperability issues. However, concerted efforts by government, industry, and academia are driving progress towards overcoming these challenges and realizing the full potential of smart grids in India.

In conclusion, smart grid infrastructure represents a pivotal opportunity for India to transform its energy landscape, driving economic growth, sustainability, and resilience. By embracing innovation and collaboration, India is poised to navigate the complexities of energy transition and emerge as a global leader in smart grid technology deployment.



Ms. M. BHUVANA
 III Year - EEE

BUILDING EV CHARGING INFRASTRUCTURE DYNAMIC WAY IN HIGHWAYS

Due to the significant fuel emissions and relative benefits of electric vehicles, the majority of automotive industries are currently producing electric vehicles. The EV runs on a battery and the battery has to be charged regularly. But an EV can't go very



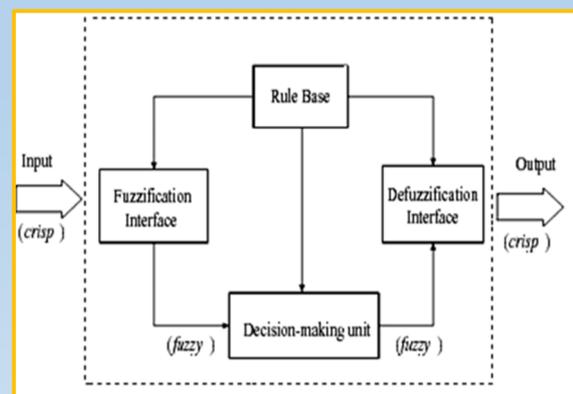
far on a single charge. More batteries will be required in order to enhance its range, and charging the vehicle will take a lengthy time. So, to overcome this, EVs are given the option of dynamic wireless charging will enhance their range and reduce the necessity for huge batteries, and speed up charging. Transmitter coils and receiver coils are required for wireless charging through mutual induction. As it passes through transmitter coil, the receiver coil will collect power from it. Accordingly, a software application helps us regarding the payment related to the power consumption of the vehicle. This project deals with the intersection of three main topics: the vehicle technologies the charging station characteristics and the EVs flow. After verifying the model and the solution procedure on a test road network, the methodology is applied in a high dimension case, considering the Italian highway network.



Mr. E. MUNIYAPPAN
 III Year - EEE

ARTIFICIAL INTELLIGENCE FUZZY LOGIC SYSTEM WITH ELECTRICAL FIELD

Automation gives better results in quality, increased production and reduced costs. Use of changeable speed drives for industrial applications is one way to generate energy and lots of it. With wide options which are open to engineers for selecting proper drive system, one can look forward to an era where every demand in the industry will be driven by systematic and good drives. But for this drives speed controlling and reduction in torque ripples is also important. To control speed and torque of these electric drives artificial intelligence techniques (AI) is most important. These paper reviews brief descriptions of intelligence techniques are Neural Networks (NN), Fuzzy Logic (FL) and Genetic Algorithms (GA) by implementing these intelligence techniques we can optimize the problem to perform better and more reliable. Fuzzy logic provides a flexible and robust framework for handling the complexity and uncertainty inherent in electrical systems. By integrating AI techniques with fuzzy logic, such as machine learning for parameter tuning or optimization, these systems can further enhance their performance and adaptability to changing conditions.





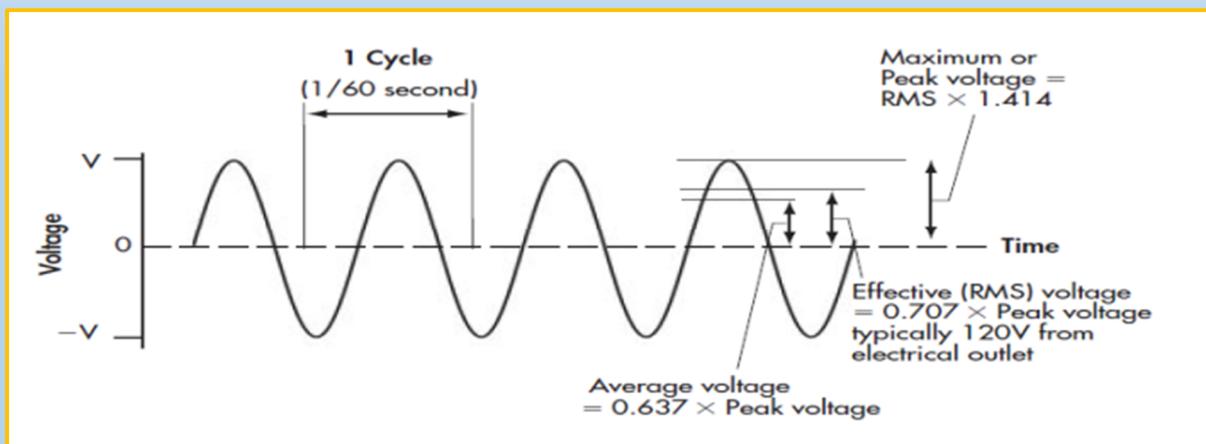
Ms. S. KAYALVIZHI
III Year - EEE

POWER QUALITY IN FUTURE ELECTRICAL POWER SYSTEMS

As electrical power systems evolve to meet the demands of a rapidly changing world, ensuring power quality emerges as a critical consideration for utilities, industries, and consumers alike. This abstract delves into the evolving landscape of power quality in future electrical power systems, highlighting the challenges, emerging trends, and innovative solutions shaping its trajectory. The transition towards renewable energy sources, decentralized generation, and electrification of transportation presents both opportunities and challenges for power quality. While renewable energy integration offers environmental benefits and energy diversification, it introduces intermittency, voltage fluctuations, and harmonic distortions, impacting grid stability and reliability.

Furthermore, the proliferation of power electronic devices, electric vehicles, and smart grid technologies introduces new complexities to power quality management. Non-linear loads, such as variable-speed motor drives and switch-mode power supplies, contribute to harmonic distortion and power factor issues, exacerbating voltage and current waveform distortions. In response to these challenges, future electrical power systems are witnessing a paradigm shift towards proactive power quality management strategies. This includes advanced monitoring and control systems, real-time

data analytics, and predictive maintenance techniques to identify and mitigate power quality disturbances before they escalate. Moreover, grid modernization initiatives, such as the deployment of smart meters, distribution automation, and energy storage systems, enable enhanced grid resilience and flexibility. By integrating these technologies, utilities can optimize voltage regulation, mitigate voltage sags and swells, and improve overall power quality performance.





Mr. P. GOWTHAMAN
III Year - EEE

FUN WITH ELECTRICAL

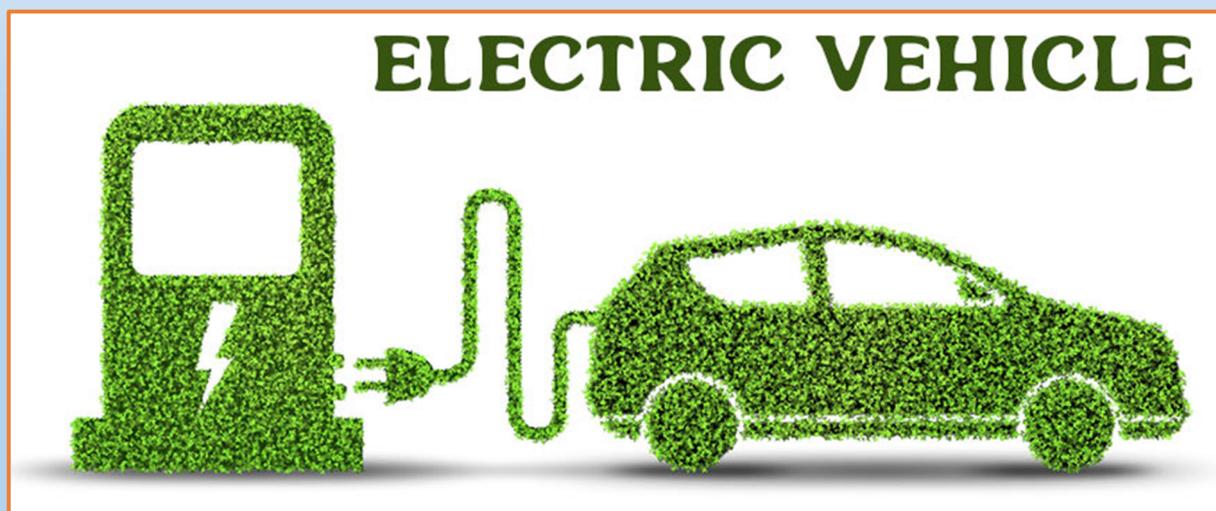
- Why did the electrician go to school?
Because he wanted to be current with the times!
- Why was the circuit always so bright?
Because it had a lot of wattage!
- Why did the electrician break up with his girlfriend?
Because he couldn't resist her sparks!
- Why did the capacitor break up with the resistor?
Because they couldn't find common ground!
- Ohm's Law Excuses: "Sorry, I can't come out tonight, I'm too ohm resistive." Ohm's Law can provide great excuses for staying in!
- Electricity Puns: Electricians have a shockingly good sense of humor. They're always current with their puns!
- Electricity and Love: Electricians make great partners because they know all about sparks and how to keep the relationship grounded.
- Static Electricity: The feeling you get when you rub a balloon on your head is hair-larious!
- Circuit Board Art: Electrical engineers have a shocking sense of creativity.
- They turn circuit boards into works of art, making connections that really resonate!



- Resistance to Change: Why did the capacitor refuse to change? Because it was too charged with resistance!
- Parallel Parking: Parallel parking is easy for electric cars. They're always positive they can fit in!
- Circuit Breaker Dance: The circuit breaker's favorite dance move? The "trip" and fall!
- Watt a Shock: Did you hear about the electrician who became a comedian? He had everyone in stitches with his shocking jokes!
- Light Bulb Moments: Why did the light bulb go to school? Because it wanted to be brighter!



Mr. B. SURIYA
IV Year - EEE



- ✚ Electric vehicles represent the pinnacle of sustainable transportation, and as students, we're at the forefront of this revolution. With zero emissions and efficient electric motors, EVs are not just cars; they're symbols of progress and innovation.
- ✚ From designing electric go-karts to advocating for EV charging stations on campus, students are driving the transition to a cleaner, greener future. Embracing EV technology in our projects empowers us to explore new frontiers in engineering and design.
- ✚ By showcasing the benefits of EVs through outreach and education, we inspire others to make the switch to electric. Let's rev up our engines and accelerate towards a world powered by clean, renewable energy.

'In order to have clean air in cities, you have to go electric.' – **Elon Musk**



Ms. T. PRIYADHARSHINI
IV Year - EEE



- ✚ As students, we're not just the leaders of tomorrow; we're the change-makers of today, and green energy is our pathway to a sustainable future. Harnessing the power of renewables like solar and wind energy, we can combat climate change and create a cleaner planet.
- ✚ Through innovative projects and advocacy efforts, we're driving the transition to a greener energy landscape. From building solar-powered chargers to promoting energy-efficient practices on campus, every action we take contributes to a more sustainable world.
- ✚ By educating ourselves and our communities about the benefits of green energy, we empower others to join the movement. Let's harness our creativity, passion, and determination to build a brighter, greener tomorrow for generations to come.

'A transition to clean energy is about making an investment in our future.' – **Gloria Reuben**



Ms. M. KEERTHANA
IV Year - EEE



- ✦ In the pursuit of a sustainable future, energy conservation emerges as a critical endeavor, and as students, we hold the power to drive significant change. From simple actions like turning off lights and unplugging devices to advocating for renewable energy initiatives on campus, every effort counts.
- ✦ Through education and awareness campaigns, we empower ourselves and our peers to adopt energy-efficient practices in our daily lives. By embracing technologies such as smart meters and energy-efficient appliances, we can reduce our carbon footprint and contribute to a healthier planet.
- ✦ Through collaboration with local communities and industry partners, we can implement innovative solutions that promote energy conservation and resilience. Let's unite our efforts, ignite a passion for energy conservation, and illuminate a path towards a sustainable future for generations to come.

'Energy conservation is the foundation of energy independence.' – **Tom Allen**



Mr. P. SENTHILMURUGAN
 IV Year - EEE



HEALTH & WELLNESS

- ✚ In the whirlwind of student life, it's easy to overlook our well-being, but nurturing our health is essential for success and happiness. Regular exercise, nutritious meals, and sufficient sleep are the cornerstones of physical well-being.
- ✚ Managing stress through mindfulness and relaxation techniques is crucial for mental clarity and resilience. Embracing our emotions and fostering meaningful connections with others are key to emotional and social well-being.
- ✚ By integrating small yet impactful habits into our daily routines, we can cultivate a holistic sense of wellness that enriches our lives. Let's prioritize self-care and embrace a balanced approach to health and wellness in our student journey.

'Health is a state of body. Wellness is a state of being' – **Stan Ford J**



Ms. R. KOWSALYA
IV Year - EEE



- ✚ In labs we spark ideas, circuits come alive, Electrical Engineering students strive.
- ✚ From volts to watts, we chart our course, Innovation fuels our driving force.
- ✚ Wires entwine, a symphony of creation, Inventing tomorrow, sparks of elation.
- ✚ With every connection, a world takes shape, Electrifying dreams, we boldly reshape.



Mr. A. SATHISH KUMAR
IV Year - EEE



- ✦ My internship at ZF WABCO exposed me to cutting-edge technologies in commercial vehicle braking systems. ZF WABCO's commitment to innovation was evident throughout my experience, as I delved into projects aimed at enhancing braking performance and vehicle safety.
- ✦ Focused on gaining practical experience in design, testing, and integration of advanced braking systems, my objectives were met through hands-on work and collaboration with experienced engineers.
- ✦ Highlights included contributing to the design and simulation of next-gen braking systems and conducting field tests to validate performance. These experiences deepened my understanding of real-world engineering challenges and solutions.
- ✦ I honed skills in simulation software, teamwork, and problem-solving, all crucial for a career in automotive engineering. My internship at ZF WABCO provided invaluable insights and prepared me for future endeavors in the industry.



Mr. G. BHUVANESH
 IV Year - EEE



- ✚ My internship at Abirami Engineering Transformer Company provided a comprehensive immersion into the realm of electrical engineering and transformer manufacturing. The company's dedication to innovation and quality assurance was evident throughout my tenure.
- ✚ Focused on gaining practical knowledge in transformer design, manufacturing, and testing, my objectives were met through hands-on experiences and exposure to industry standards. Highlights included involvement in design validation, material procurement, and quality assurance processes.
- ✚ Participating in testing and commissioning provided insights into performance evaluation and fault diagnosis. Acquired a thorough understanding of transformer design principles, manufacturing techniques, and quality control protocols. The internship cultivated problem-solving skills and teamwork dynamics, laying a strong foundation for future endeavors in electrical engineering.



Ms. B. MENAGA
IV Year - EEE

TESTIMONIAL

"Hello, this is **Menaga B** from the EEE department!

Chettinad College, where I enrolled in 2020, stands out for its vibrant atmosphere and strong emphasis on technology. The environment brims with enthusiasm, fostering a culture of innovation and collaboration among students and faculty alike. The quality of instruction is exceptional, with dedicated staff members employing engaging and informative teaching methods that make learning both enjoyable and enlightening. Moreover, the college provides top-notch facilities, including clean hostels, transportation services, and a well-equipped canteen, ensuring a conducive learning environment. The liberating atmosphere nurtured by Chettinad College serves as a catalyst for personal growth and development, enabling students to flourish and thrive in their endeavors. My time at ChettinadTech has been nothing short of unforgettable—a chapter filled with cherished memories, invaluable experiences, and profound personal growth. Reflecting on my journey, I am immensely grateful for the opportunity to share my thoughts about this exceptional institution. Thank you for allowing me to reminisce about the wonderful days spent at my college.

Warm regards,
Menaga B"



Ms. T. PRIYADHARSHINI
IV Year - EEE

TESTIMONIAL

"Hello, this is **Priya Dharshini T** from the EEE department!

As an EEE student at Chettinad Tech, I've had an incredible journey filled with growth, learning, and unforgettable experiences. The vibrant campus community, dedicated professors, and diverse range of academic opportunities have truly enriched my college experience. Apart from academics, they encouraged us to participate in extracurricular and cocurricular activities with strong guidance and support. I'm very happy to be a part of Chettinad Tech.

Warm regards,

Priya Dharshini"

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to our ChettinadTech Kabaddi Team,
for being the runners-up with
cash Prize of Rs. 11,000/-
in the District Level Competition.



Department of Physical Education



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Our department final-year & third-year students Senthamilselvan A, Vasanthadurai P, Lakshmanan V, Navarasan G, and Dhanush M won runner-up and cash prize in the district-level kabaddi competition.



Chettinad College of Engineering & Technology organised an intra-college project Expo, "Techno Battle," on April 6, 2024, to showcase the technical skills of aspiring students. The overall trophy for the best project was bagged by the Department of Electrical and Electronics Engineering.



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ARIGNAR ANNA MARATHON RUN 2023 FIFTH POSITION

The Management, Principal and Staff Congratulate
M. Sivasakthivel – III Year EEE
For attaining the remarkable 5th position in the
Arignar Anna Marathon with a Cash Prize.

Department of Physical Education

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Congratulations!

to our CCET Basketball Team
on their impressive fourth-place finish in the

Anna University, Chennai - Zone 17

BASKET BALL



Venue: ChettinadTech Indoor Stadium


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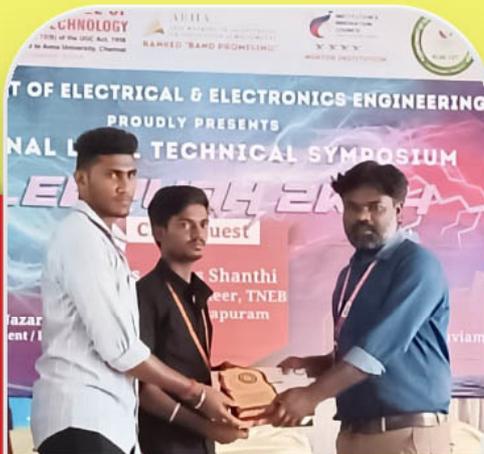
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Congratulations Winners !

1ST PRIZE

PROJECT EXPO

**KAVIN J
&
SUREN K**

— II YEAR EEE —

3RD PRIZE

TECHNICAL QUIZ

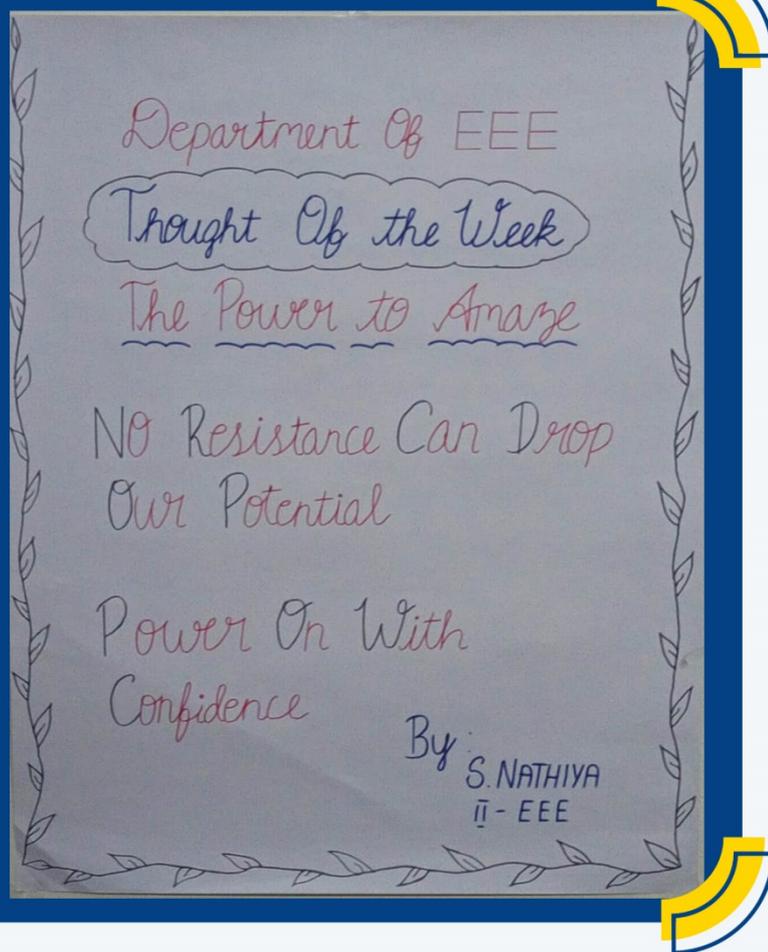
**HARIHARASUDHAN S
&
SANTHOSHKUMAR S**

— II YEAR EEE —

Our EEE students received the prizes in the National Level Technical Symposium-ELEKYUDH 2K24, held on 17-04-2024 in SCAD College of Engineering and Technology, Tirunelveli

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Unleashing Our Student's Motivational Commitment



Ms. S. NATHIYA
II Year - EEE

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**In circuits and beams,
Chase your dreams.
Craft with care,
Success is rare.**

**Design your days,
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**Nageshwari P
II Year EEE**

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**Our EEE Students Placed as 'Product Trainee (GAT)'
in ZF Wabco India Limited.**



DHARMASEELAN S



KEERTHANA M



MENAGA B



PARAMASIVAM M



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EEE**VASANTHADURAI P**
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Hearty Congratulations!

to our Final Year Students Placed as “Application Engineer,
Industrial Trainer & Business Development Engineer” in

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EEE



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Congratulations!

Our final year students placed as 'Production Trainee' in  **WABCO**
with the salary package of Rs.18,000/- per month

 DEENADHAYALAN V EEE	 LAKSHMANAN V EEE	 MATHAN J EEE	 MOHANRAJ P EEE	 NAGENDIRAN P EEE
 NAVARASAN G EEE	 SENTHAMILSELVAN A EEE	 VASANTHADURAI P EEE		



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The Chettinad Group has over 90 years of experience facilitating a wide range of educational and service institutions successfully in Tamil Nadu. The group is currently responsible for 22 private and government-aided schools, Polytechnic Medical, Dentistry, Pharmaceutical, Engineering, Law and Architecture colleges.



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