ANNUAL MAGAZINE

VOLTRIX

2022-23 EDITION

ELECTRICAL AND ELECTRONICS ENGINEERING

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

ANNUAL MAGAZINE 2022-23

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Department of Electrical and Electronics Engineering
Chettinad College of Engineering and Technology, Karur

The VOLTRIX Annual Magazine 2022-23 is a vibrant reflection of the academic spirit, innovation, and creativity that thrives within the Department of Electrical and Electronics Engineering. It serves as a platform for students and faculty to showcase their technical knowledge, research ideas, achievements, and creative flair.

The 2022-23 edition highlights the department's accomplishments over the year, including student project showcases, technical articles, workshop and event reports, placement records, and faculty achievements. It also features student poems, essays, artwork, and light-hearted segments that celebrate the unique experiences of being an EEE student.

VOLTRIX 2022-23 not only documents the academic year but also encourages intellectual curiosity and fosters a sense of community within the department. Through this magazine, readers can witness the dynamic growth of future engineers who are equipped to innovate, lead, and inspire.

With valuable contributions from students and staff, VOLTRIX 2022-23 stands as a symbol of collaboration, dedication, and excellence that defines the Department of Electrical and Electronics Engineering.

PRINCIPAL MESSAGE

I am immensely delighted to extend my warm greetings to all readers of *VOLTRIX 2022-23*, the annual magazine of the Department of Electrical and Electronics Engineering, Chettinad College of Engineering and Technology, Karur.

This magazine stands as a vibrant platform to showcase the intellectual capabilities, technical achievements, and creative expressions of our budding engineers. It is heartening to witness how the department consistently fosters innovation, academic excellence, and holistic development through such initiatives.

At Chettinad College of Engineering and Technology, we strive to cultivate a spirit of curiosity, integrity, and leadership among our students. The contributions featured in this edition reflect not only the depth of technical understanding but also the passion and commitment of our students and faculty towards their field.

I appreciate the editorial team, faculty members, and student contributors who have worked with dedication to bring out this edition of *VOLTRIX*. May this magazine continue to inspire and ignite minds in the years to come.

Wishing the Department of Electrical and Electronics Engineering continued success in all its future endeavors.

Dr. (Mrs.) A. Punitha
Principal
Chettinad College of Engineering and Technology, Karur

HOD MESSAGE

It gives me great pleasure to present VOLTRIX 2022-23, the annual magazine of the Department of Electrical and Electronics Engineering, Chettinad College of Engineering and Technology, Karur.

This magazine is a testament to the creativity, talent, and technical enthusiasm of our students and faculty. It brings together a collection of technical articles, project highlights, achievements, and student expressions that reflect the vibrant academic culture within our department.

As technology continues to evolve, our department remains committed to equipping students with the knowledge, skills, and values required to excel in the ever-changing field of Electrical and Electronics Engineering. We continuously strive to provide a platform where innovation, research, and holistic development are encouraged and celebrated.

I sincerely appreciate the efforts of the editorial board, contributors, and coordinators who have made this publication a reality. I hope VOLTRIX 2022-23 inspires its readers and continues to be a source of pride for the department. Wishing all students and faculty members continued growth, success, and excellence in their endeavors.

Mr. N. Vijayasarathi
Head of the Department
Electrical and Electronics Engineering
Chettinad College of Engineering and Technology, Karur

BOARD OF EDITORS MESSAGE

With immense pride and enthusiasm, we present to you VOLTRIX 2022-23, the annual magazine of the Department of Electrical and Electronics Engineering, Chettinad College of Engineering and Technology, Karur.

This magazine is more than just a collection of pages — it is a reflection of the vibrant energy, technical brilliance, and creative spirit that define our department. From insightful technical articles and innovative project highlights to poems, fun sections, and achievements, VOLTRIX captures the essence of our students' and faculty's journey throughout the academic year.

As editors, it has been a fulfilling experience curating content that showcases the diverse talents of our department. We have strived to strike a balance between technical depth and creative expression, offering something valuable and engaging for every reader.

We extend our heartfelt gratitude to our Principal, HOD, faculty members, and all contributors for their constant support and encouragement. A special thanks to the students whose enthusiasm and efforts gave life to this edition.

We hope VOLTRIX 2022-23 informs, inspires, and ignites new ideas among its readers.

Happy Reading!

Mr. P. Pandi
Sr. AP/EEE

Mrs. D. Pushpalatha
Sr. AP/EEE

ABOUT 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.

VISION OF THE INSTITUTE

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 OF THE INSTITUTE

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

COURSES

S.NO	COURSE	SEATS
1.	Artificial Intelligence & Data Science	60
2.	Information Technology	60
3.	Computer Science and Engineering	60
4.	Electronics and Communication Engineering	60
5.	Electrical and Electronics Engineering	60
6.	Mechanical Engineering	60
7.	Master of Business Administration	90

ABOUT E E E

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 Controls 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.

VISION OF THE DEPARTMENT

To create a thriving community where enduring student relationships flourish, fostering a culture of innovative idea development, socially responsible, and ethically driven engineers in the electrical industry.

MISSION OF THE DEPARTMENT

1. To nurture students, enabling them to effectively confront professional challenges and emerge as outstanding engineers and technocrats.
2. To provide a holistic and comprehensive education that ensures total quality, encompassing broad exposure and value additions.
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.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1 Find employment in Core Electrical and Electronics Engineering and service sectors.

PEO 2 Get elevated to technical lead position and lead the organization competitively.

PEO 3 Enter into higher studies leading to post-graduate and research degrees. Become consultant and provide solutions to the practical problems of core organization.

PEO 4 Become an entrepreneur and be part of Electrical and Electronics product and service industries.

PROGRAM OUTCOMES (POs)

PO 1 **ENGINEERING KNOWLEDGE:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO 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.

PO 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.

PO 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.

PO 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.

PO 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.

PO 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.

PO 8 **ETHICS:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO 9 **INDIVIDUAL AND TEAM WORK:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 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.

PO 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.

PO 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)

PSO 1 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.

PSO 2 Ability to apply mathematical methodologies to solve problems related with electrical engineering using appropriate engineering tools and algorithms.

PSO 3 Ability to use knowledge in various domains to identify research gaps and hence to provide solution which leads to new ideas and innovations.

DEPARTMENT FACULTY

Mr. N. Vijayasarathi
Head & Assistant Professor/EEE

Mrs. D. Pushpalatha
Assistant Professor/EEE

Dr. M. Senthilkumar
Professor/EEE

Mrs. P. Thenmozhi
Assistant Professor/EEE

Dr. P. Pounraj
Associate Professor/EEE

Mr. S. Ragul
Assistant Professor/EEE

Mrs. A. Bhuvaneswari
Assistant Professor/EEE

Mr. M. Vasanthprakash
Assistant Professor/EEE

Mr. P. Pandi
Assistant Professor/EEE

Mr. K. Boopathi
Lab Instructor/EEE

Mrs. S. Malarkodi
Assistant Professor/EEE

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Ms. D. SHOBANA RENI
IV-EEE

Programme Name: Student Orientation Programme

Date: 10-08-2022

Speaker: Mr. N. Vijayasarathi, AP/EEE

Class & No. of Participants: III Year - IV Year & 52 students

Venue: G Block Seminar Hall

Description:

As part of the orientation, the Department of Electrical and Electronics Engineering organized a **'Holistic Education'** for Third and Final Year EEE Students on 10-08-2022. 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 and vision, Disciplinary rules and regulations to be followed in the college, the subjects and faculty for the academic year 2022–2023, Department plans, and Placement training programmes for students in their 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.

Event Photos:

Programme Name: Industrial Training

Date: 08-08-2022 to 16-08-2022

Class & No. of Participants: III Year & 5 students

Venue: Chettinad Cement Corporation Limited, Karikkali Plant, Dindigul

Description:

Our 3rd Electrical and Electronics Engineering students are undergoing Industrial Training at Chettinad Cement Corporation Karikkali Plant, Dindigul from 08-10-2022 to 16-08-2022. This Industrial training includes the practical training session related to electrical power handling on heavy electrical equipment, controlling techniques used in cement manufacturing, Operation of electronic devices in cement factory, the movement of giant motors, arrangement of electrical disconnect switches, circuit breakers and safety electrical equipment in various section units and various controllers used to regulate power flow, temperature, pressure level, and many other industrial process variables. Through this Industrial Training students gained first-hand knowledge of the various electrical/electronic controllers and operation of modern heavy machinery at a large cement manufacturing plant. The skilled instructors from this factory guide the students every day. This Industrial Training helped students become technologically proficient professionals for electrical MNCs to meet the demands of technical experts.

Event Photos:


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Programme Name: Two days Workshop on "Real Time Applications of IoT"

Date: 22-08-2022 to 23-08-2022

External Trainer Name: Mr. M. Vignesh, Senior Technical Engineer, LiveWire India

Class & No. of Participants: III Year & 56 students

Venue: Chettinad Cement Corporation Limited, Karikkali Plant, Dindigul

Description:

Chettinad College of Engineering and Technology organized a two days workshop entitled "Real-Time Applications of IoT" for our EEE students from 22nd August 2022 to 23rd August 2022. This workshop was handled by external trainer Mr. M. Vignesh, Senior Technical Engineer, LiveWire India. The trainer initiated the session with the fundamentals of Internet of Things (IoT) and outlined the process of interfacing the Arduino controller with real time applications such as power saving module, LED blinking, Traffic light controller, Servo motor position, Real time temperature monitoring and Industrial robotics. The students were given hands-on training on interfacing the controller with the help of online simulator "https://www.tinkercad.com". The trainer gave a practical demonstration session of NodeMCU module with wifi 802.11n driver for home automation using smart phones. Totally 146 students attended this workshop.

Event Photos:


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2022/08/22 09:34


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2022/08/22 13:53

Programme Name: Movie Time

Date: 27-08-2022

Class & No. of Participants: II Year - IV Year & 71 students

Venue: G Block Seminar Hall

Description:

On 27-08-2022, the Department of Electrical and Electronics Engineering screened a film "The Pursuit of Happyness" for II, III, and IV year B.E-EEE students. As everyone shall have beautiful memories of their college days, especially when spent time together watching movies, we have made this arrangement. This movie is based on a true story about a man named Christopher Gardner. The main themes of this film are survival, determination, and never give up attitude. One of the fundamental themes in this film is determination: you can accomplish anything you need if you invest your time effort and refuse to surrender even when life hits you hard. Finally, Ms. P. Gayathiri, IV-EEE shared her movie's impact. She has shared with us the biggest lesson to take away from this inspirational movie. "The Pursuit of Happyness" can be summarised as, just having a dream is not enough, but also you need the courage and resilience to pursue it. It was such an enjoyable movie. All the students got inspired by good messages, presented in the movie.

Event Photos:

Programme Name: Engineers Day Celebration'2022

Date: 08-09-2022

Contest Name: Techno Mocker

Class & No. of Participants: II Year - IV Year & 38 students

Venue: G Block Seminar Hall

Description:

On behalf of the enrichment committee, the Department of Electrical and Electronics Engineering organized a Techno Mocker Events for the National Engineers Day Celebration on 08-09-2022. Mr. M. Vasanthprakash, AP/EEE coordinated the competition. Totally 38 students from II, III and IV year EEE students participated in Round I. The first round was conducted in written form. Thirty questions were asked, and those who scored the highest marks were selected for the second round. Round 2 was conducted digitally. Six students were selected for round 2. Students were allotted 30 seconds to answer each question in round 2. The students were awarded 10 points for every correct answer. The students showcased their brilliance by rapidly answering the questions. The 1st prize was awarded to Ms. T. Priyadharshini, IIIrd year EEE.

Event Photos:

Programme Name: Engineers Day Celebration'2022

Date: 08-09-2022

Contest Name: Coding Contest

Class & No. of Participants: II Year - IV Year & 25 students

Venue: G Block Seminar Hall

Description:

On behalf of Engineers Day, the Department of Electrical and Electronics Engineering hosted a "Coding-Contest" on 6th September, 2022 to all EEE students. The main objective of this event was to improve students' problem-solving skills relevant to software professions. The competition was conducted in two rounds. First round was objective type questions related to MATLAB, Python Coding. Then for the second round, eight students were short listed and they participated as four batches. Finally, the winners were shortlisted on time, based on simulation results taken in the given domain.

Event Photos:

Programme Name: Contest on “Hybrid Vehicles”

Date: 13-09-2022

Contest Name: Paper Presentation

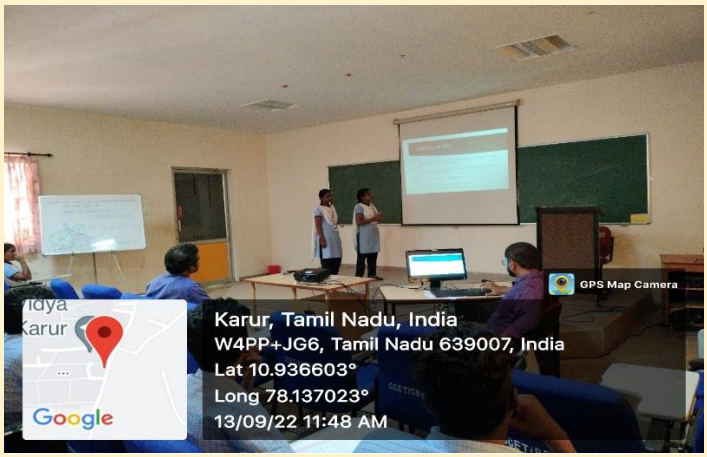
Class & No. of Participants: II Year - IV Year & 28 students

Venue: G Block Seminar Hall

Description:

On behalf of enrichment committee, the Department of Electrical and Electronics Engineering organized a technical paper presentation competition on September 13, 2022, themed "Hybrid vehicles" Students actively participated in the presentation, which helped them to improve their technical and presentation skills. The students are evaluated by Mr. P.Selvan and Mr. S.T.P.Senthilkumar.

Event Photos:



Programme Name: Technical Contest

Date: 12-09-2022

Contest Name: Artificial Intelligence Programming

Class & No. of Participants: II Year - IV Year & 35 students

Venue: G Block Computer Lab

Description:

The Department of Electrical and Electronics Engineering organized an interdepartmental competition on September 12, 2022, called "Artificial Intelligence Programming." Students actively participated in the competition, which helped them learn the fundamentals of programming for artificial intelligence (AI) and how to connect software and hardware. The projects given to the students are evaluated by Dr. T. Gobinath, AP/CSE and Dr. M. Kumar, HoD/ECE. Being a new programming challenge for electrical students, we hear that they are learning more about program modules, how to fix problems that arise during program execution, and how to connect electrical circuits with AI programming. The development of advanced projects focused on industrial applications is better served by contests.

Event Photos:

Programme Name: Energy Audit

Date: 19-09-2022 to 23-09-2022

Coordinator: 1. Mr. N. Vijayasarathi, AP/EEE, 2. Mr. N. Vijayasarathi, AP/EEE

Class & No. of Participants: IV Year & 5 students

Venue: Government Hospital, Kulithalai

Description:

The Energy Audit at the Government hospital in Kulithalai was successfully conducted by Mr. N. Vijayasarathi, Project Head; Mr. M. Vasanthprakash, Project Coordinator; K. Boopathi, Lab Instructor and project members from final-year EEE—Gayathiri, Bharath S, Yuvaraj, Sathasivam V, Devendran H, and Shobana Reni D—from 19-09-2022 to 23-09-2022.

Evaluating energy consumption is the first step engineers take when trying to reduce energy consumption, and the major goal of the energy audit is to gather and evaluate data, calculate the amount of energy consumption, and implement workable and accepted remedies.

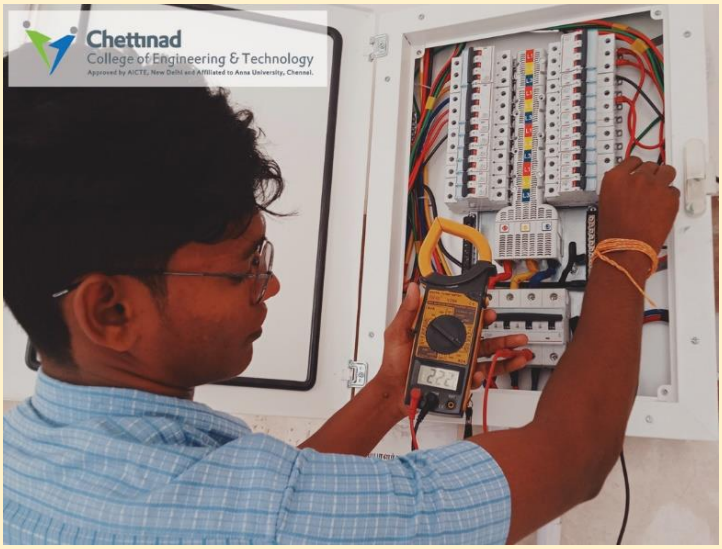
So, students measured the medical facility's electrical equipment power rating and estimated how much energy was utilised by each piece of equipment, which will show the energy consumption that could benefit from conservation or improved efficiency.

As per the Specific Energy Consumption (SEC) consideration, students calculated the hospital SEC, which was taken as reference for comparison which was calculated to be 186 kWh/day. Energy Conservation Measures (ECM) with and without investment were recommended for potential energy savings for the hospital.

Energy savings could be achieved by implementing the given proposals with around Rs 90,425 per annum. Finally, the energy audit report was submitted to the Chief Medical Officer and students received certificates and appreciation.

Mr. N. Vijayasarathi, HOD/EEE, thanked all of the students who took part in the energy audit.

Event Photos:



Programme Name: Industrial Training

Date: 08-10-2022 to 16-10-2022

Class & No. of Participants: III Year & 5 students

Venue: Chettinad Cement Corporation Limited, Karikkali Plant, Dindigul

Description:

Our 3rd EEE students are undergoing Industrial Training at Chettinad Cement Corporation Karikkali Plant, Dindigul from 08-10-2022 to 16-08-2022. This Industrial training includes the practical sessions related to handling electrical power in heavy equipment, controlling techniques used in cement manufacturing, Operation of electronic devices in cement factory, the movement of giant motors, arrangement of electrical disconnect switches, circuit breakers and safety electrical equipment in various section units and various controllers used to regulate power flow, temperature, pressure level, and many other industrial process variables.

Through this Industrial Training students could first-hand knowledge of the various electrical/electronic controllers and operation of modern heavy machinery at a large cement manufacturing plant. The skilled instructors from this factory guide the students every day. This Industrial Training helped prepare students to become technological professionals to electrical MNC's to meet the demands of technical experts.

Event Photos:

Programme Name: Alumni Guest Lecture

Date: 12-10-2022

Guest Speaker: Mr. D. Chandru, Automation Engineer, Saudi Arabia

Class & No. of Participants: II Year - IV Year & 78 students

Venue: C Block Seminar Hall

Description:

On 12-10-2022, The Department of Electrical and Electronics Engineering organised an alumni guest lecture on "Substation Automation System" for all ChettinadTech B.E-EEE students. Ms. S. Pavithra, 3rd year EEE, welcomed all the participants. Ms. R. Nikithalakshmi, 3rd year EEE introduced the chief guest to our participants. Mr. S. Ragul, AP/EEE honored the chief guest with a memento. In this alumni guest lecture, the chief guest Mr. D. Chandru, Automation Engineer in Saudi Arabia explained real-time monitoring and control software applications integrated with data acquisition and control hardware to operate the intuitive visualization and analyses through intelligent electronic devices (IED) to enhance control and automation capabilities within the substation, one-line diagram, geospatial view, and digital dashboards.

He referred to using ZENON software to run the substation in system configuration language as defined by IEC61850. Finally, he shared his work experience and discussed various opportunities in substation automation system (SAS) with our EEE students. Students actively participated in the questionnaire session and interacted with the chief guest. Ms. B. Menaga, 3rd year EEE, concluded the programme with a vote of thanks.

Event Photos: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2022/10/12 11:55

Programme Name: Movie Time

Date: 19-10-2022

Movie Name: Rocketry: The Nambi Effect

Class & No. of Participants: II Year - IV Year & 63 students

Venue: G Block Seminar Hall

Description:

On 19-10-2022, the Department of Electrical and Electronics Engineering organized a screening of the film "Rocketry: The Nambi Effect", for all EEE students. Our college is doing its part to provide our future generations with good, feel-good learning through movies. Movies have become everyone's favorite hobby; we made this arrangement to encourage our students to play their part in making and bringing smiles. "Rocketry: The Nambi Effect" is a 2022 Indian scientific biographical drama film, based on the life of Indian Space Research Organization scientist Nambi Narayanan, who was framed for being a spy and arrested in 1994. A biopic of ISRO scientist Nambi Narayanan, Rocketry is a formally conventional narration of the contributions of one of India's premier space scientists and the great personal cost that he is unfairly made to pay for the passion he had for his job and country. All the students internalized the good messages presented in the movie. This film encourages confidence, hard work, and goal-setting. Finally, Ms. S. Induma, Final-year EEE shared the movie reflection. She shared that "Rocketry: The Nambi Effect"is an emotional movie and how a country humiliates one of its finest citizens who has given everything for it. Ms. T. Priyadharshini, 3rd year EEE shared that, "it's about the development of ISRO and reveals how the Indian scientist is struggling to launch and to invent a missile.

Event Photos:

Programme Name: One Day Industrial Visit

Date: 20-10-2022

Class & No. of Participants: III Year - IV Year & 49 students

Venue: Walwhan Renewable Energy Ltd, Veeriyampalayam, Karur.

Description:

On 20-10-2022, The Department of Electrical and Electronics Engineering organized a one-day industrial visit exclusively for all 3rd and final-year EEE students to Walwhan Renewable Energy Ltd in Veeriyampalayam, Karur under the guidance of Mr. P. Pandi, SAP/EEE, Ms. A. Bhuvaneswari, SAP/EEE, Mr. M. Vasanthprakash, AP/EEE and Mr. S. Ragul, AP/EEE. The objective of the site visits is to explore and understand the real-time operation of a largest solar power plant. This solar power plant consists of around six thousand of solar panels distributed over a vast area of land 15 acres. The total power generated by this power plant is 50MW. The control room monitored the power output (DC to AC conversion) of 4MW * 13 units and the other control room monitored a power output of 110 kV (33kV to 110 kV Conversion). The participants will have a first-hand experience with the company that provides the production, collection, and distribution of electricity. Through this industrial visit, students are able to understand the concept of Solar energy, the working of photovoltaic cells, working of Solar panels, the conversion of DC to AC by using an Inverter unit, stepping up the voltage using a transformer unit, and the distribution of energy by a grid connection. Totally a batch of 49 students participated in this one-day industrial visit.

Event Photos:


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Programme Name: One-day Hands-on Training

Date: 29-10-2022

Course Instructor: Ms. A. Bhuvaneswari, Sr. AP/EEE

Class & No. of Participants: II Year & 26 students

Venue: EEE Computer Laboratory

Description:

The Department of Electrical and Electronics Engineering conducted a One-day Hands-on Training on "Introduction to MATLAB and Automotive Electrical System Simulation and Control" for second year EEE students in G-Block Computer Lab on 29-10-2022, in order to enhance the knowledge of students on MATLAB/Simulink software. The sessions were conducted by our department internal faculty members Mrs. A. Bhuvaneswari, Sr. AP/EEE & Mrs. D. Pushpalatha,Sr. AP/EEE, Chettinad college of Engineering and Technology, karur. This session was started by Mrs. A. Bhuvaneswari, Sr. AP/EEE who explained in detail about the Mathematical Functions, Library, Files, Commands, Matrix operation and its Functions and Tool blocks.

The hands-on training was given on simple math functions like matrices, matrix multiplication of matrix, transpose etc., and design of controllers like P, PI and PID controllers to be used in an electrical automation system and students learnt about simulating the simple math functions, elements, switching devices used in various electrical circuits. And this training helped the students gain an insight on Automotive Electrical Systems and we hope that it will help in their future project works.

Event Photos:

Programme Name: Fresher's Day Celebrations

Batch: B15

Date: 14-11-2022

No. of Participants: 36 students

Venue: G Block Seminar Hall

Description:

On 14th November 2022, the Department of Electrical and Electronics Engineering organised Fresher's Party to welcome the new comers, Batch 15. The Fresher's Day Celebrations were conducted very enthusiastically by our second year EEE students under the guidance of Mr. P. Pandi, Sr. AP/EEE, Mr. M. Vasanthprakash, AP/EEE, Mr. S. Ragul, AP/EEE, Ms. A. Bhuvaneswari, Sr. AP/EEE and Mr. N. Vijayasarathi, HOD/EEE.

Mr. P. Pandi, Sr. AP/EEE welcomed the Batch 15 students and EEE Department faculty members. The fresher's day was filled with excitement, joy, music, enthusiasm, laughter and happiness. It is the day where seniors and juniors finally bond and unite to celebrate being part of the college. Students were welcomed with great enthusiasm which was organized by our seniors. Freshers along with their seniors got chance to showcase their talent by Dancing, Singing, Drama. Later small games were organized to make the event more fun and challenging. The event was finally concluded with vote of thanks by Mr. S. Giri Prasath, second year EEE. Refreshments were served after the program.

Event Photos:

Programme Name: Movie Time

Date: 24-11-2022

Movie Name: HACHI: A Dog's Tale

Class & No. of Participants: I Year & 36 students

Venue: G Block Seminar Hall

Description:

On 24-11-2022, the Department of Electrical and Electronics Engineering organized a screening of the film “HACHI: A Dog's Tale”, for I year B.E-EEE students. Our college is doing its part to provide our future generations with good, feel-good learning through movies. As everyone has fond memories of their college days, when they spent time together, and movies have become everyone's favorite hobby, we made this arrangement to encourage our students to do our part in spreading joy. All the students internalized the good messages presented in the movie.

“HACHI: A Dog's Tale” is a 2009 American drama film, based on the real story. A spiritual reading of an immensely appealing drama about the extraordinary devotion of a dog for his beloved human companion. A professor finds an abandoned dog and takes him home. Over a period of time, he forms an unbreakable bond with the dog. Hachi's story is a beautiful testimony to loyalty, patience, and friendship. But it can also be seen from a spiritual perspective as a parable about the spiritual practice of yearning as a way we stay connected with the Divine. This film manages to keep the students confident, loyalty, patience, and friendship. Finally, Mr. K. Suren, I-EEE shared the movie reflection. He said "loyalty" which means "you should never forget anyone you have loved". Ms. V. RAMA, I-EEE shared the movie reflection. She shared that, “Like everyone, I love pet animals this movie about a dog’s love made the audience feel the same joy”.

Event Photos:

Programme Name: National Energy Conservation Day'2022

Date: 14-12-2022

Chief Guest: Mr. K. Kumar, Assistant Executive Engineer, TANGEDCO

Class & No. of Participants: I Year – IV Year & 72 students

Venue: C Block Seminar Hall

Description:

On December 14th, 2022, National Energy Conservation Day was organised by the Department of Electrical and Electronics Engineering. This programme aims to raise awareness among students about energy efficiency and national energy conservation. With the guidance of Mr. P. Pandi, SAP/EEE, Mr. S. Ragul, AP/EEE, Ms. D. Pushpalatha, SAP/EEE and Ms. P. Thenmozhi, AP/EEE the Department of Electrical and Electronics Engineering conducted an energy pictionary activity for 1st year students as well as a free-gen activity for 2nd year students to make them aware of energy conservation. Students displayed artwork and models of free energy projects for the special guest to view. The activity allowed the students to gain a deeper understanding of energy conservation at home and in college. The chief guest of this session was TANGEDCO's Assistant Executive Engineer, Mr. K. Kumar, who spoke about the importance of saving energy and the ways to conserve it. You can conserve energy by turning off the lights when you leave the room, unplugging appliances when not in use, and walking instead of driving. The chief guest presented certificates to the winners of the Energy Conservation Day 2022. A pledge-taking ceremony concluded the event. In this, the students took a pledge to use electricity sparingly.

Event Photos:


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College of Engineering & Technology
2022/12/14 15:04


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2022/12/14 15:14


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2022/12/14 15:26


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Programme Name: Workshop on "Household Amenities and Appliances"

Date: 10-01-2023

Coordinator: Mr. M. Vasanthprakash, AP/EEE

Class: 1st Year B.E students

Description:

A one-day workshop on "Household Amenities and Appliances" was organised by the Department of Electrical and Electronics Engineering on January 10, 2023. Our EEE department's internal faculty member, Mr. M. Vasanthprakash, AP/EEE handled the full-day session. The forenoon session of the workshop started with the basics of fundamental electrical parameters and components, some basic working operations of an energy meter, fans, fluorescent lamps, types of wires and wiring connections, how to use a multimeter, and finally precautions about electrical safety. During the afternoon session, different experiments were performed as hands-on training with simple electrical wiring connections for fans, lamps, UPS, and staircase lamp wiring connections for our first-year students. Students learned how to connect electrical wiring connections for homes, protect household appliances from electrical faults, and become aware of electrical safety precautions during this one-day workshop.

Event Photos:


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2023/01/10 10:18


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2023/01/10 10:18


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2023/01/10 15:08


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2023/01/10 16:01


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College of Engineering & Technology
2023/01/10 15:12

Programme Name: Value-Added Course on “NI Multisim”

Date: 19-01-2023 to 21-01-2023

Course Instructor: 1. Mr. P. Pandi, AP/EEE, 2. Mr. S. Ragul, AP/EEE, 3. Ms. P. Thenmozhi, AP/EEE

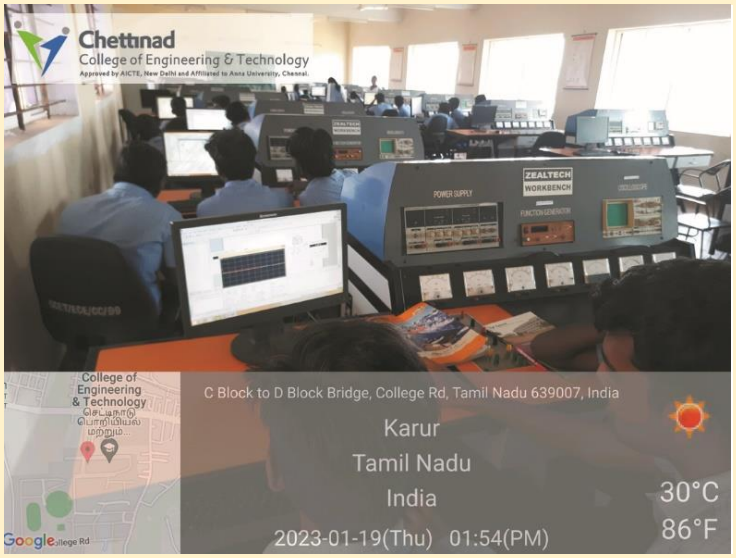
Class & No. of Participants: II Year & 29 students

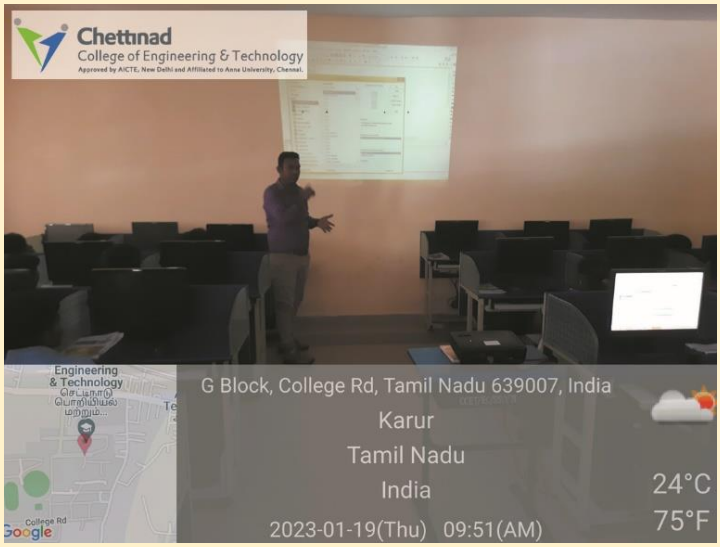
Venue: A Block Electronics Lab

Description:

The Department of Electrical and Electronics Engineering organised a value-added course on "NI Multisim" for 2nd-year EEE students from January 19 to 21, 2023. In-house EEE faculty members Mr. P. Pandi, AP/EEE, Ms. P. Thenmohzhi, AP/EEE, and Mr. S. Ragul, AP/EEE, led sessions on PCB design and implementations of electronic circuits using Multisim. Using NI Multisim Simulation and NI Ultiboard Software, the students received hands-on instruction in designing printed circuit boards for dual power supply voltage regulators (5 volts and 12 volts), bridge rectifiers, and continuity testers. A total of 29 students took this course. Leading the value-added course, Mr. N. Vijayasarathi, Head of the Department of Electrical and Electronics Engineering, thanked all those who supported the successful conduct of the program. Mr. B. Satish Kumar, Administrative Officer, made all the necessary arrangements.

Event Photos:

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College of Engineering & Technology
G Block, College Rd, Tamil Nadu 639007, India
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Programme Name: Movie Time - "Pele: Birth of a legend"

Date: 22-02-2023

Venue: G Block Seminar Hall

Description:

On 22-02-2023, the Department of Electrical and Electronics Engineering organized a screening of the film "Pele: Birth of a legend", for all EEE students. Our college is doing its part to provide our future generations with good, feel-good learning through movies. Movies have become everyone's favourite hobby; we made this arrangement to encourage our students to play their part in making and bringing smiles. "Pele: Birth of a legend" is a 2014 American biographical film about the early life of Brazilian footballer Pele and his journey with Brazil to win the 1958 FIFA World Cup. All the students internalized the good messages presented in the movie. This film manages to keep the students self-confident, hard work, and goal-setting. Finally, Ms. S. Induma, Final-year EEE shared the movie reflection. She shared that "Pele: Birth of a legend" because it is an inspiring story about a soccer legend. It is about the birth of Brazil's legend Pele. His life was full of soccer and he became one of the best soccer players ever. Mr. V. Ponshankar, IV year EEE said, honestly, this movie inspires me to play soccer. All the actors did well in this movie, I love the hype and the way they show his development in Soccer and Ginga style. This movie was my favourite out of all the movies I have seen.

Event Photos:

Programme Name: Industrial Guest Lecture on "Technologies used in power distribution"

Date: 23-02-2023

Class & No. of Participants: II year to IV year & 74

Venue: *C Block Seminar Hall*

Chief Guest & Speaker: Mr. R. Chitraj, Deputy General Manager, Chettinad Cement Corporation Pvt. Ltd., Karikkali Plant, Dindigul

Description:

On 23-02-2023, The Department of Electrical and Electronics Engineering organised an industrial guest lecture on "**Technologies used in power distribution**" for all ChettinadTech B.E-EEE students. Mr.V.Ponshankar, IV year EEE, welcomed all the participants. Ms. R.Kowsalya, 3rd year EEE introduced the chief guest to our participants. Mr.B.Satheeshkumar, Admin officer honoured the chief guest with a memento. In this industrial guest lecture, the chief guest, Mr. R. Chitraj, Deputy General Manager of Chettinad Cements, provided a clear explanation of the fundamental operation of power distribution and its subunits as well as the functioning of the power plant in Chettinad Karikkali. He also covered the fundamentals of transformer, control panel, circuit breaker, starter, and other devices. At the end of the lecture, certificates were given to the contest winners by Principal Dr.Mrs.A.Punitha. Ms. T.Priyadharshini, 3rd year EEE, concluded the programme with a vote of thanks.

Event Photos:


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Programme Name: Inaugural Function of SERB Sponsored Two Days National Level Seminar

Guest Speaker: Dr. S. Senthil Kumar, Asso. Prof./EEE, NIT Trichy

Title: Trends and Challenges in Electric Vehicles

Date: 17th and 18th March, 2023

Venue: 'G' Block Seminar Hall, CNCET

Description:

Chettinad College of Engineering and Technology, Karur, has organized a two days national-level seminar on "Trends and Challenges in Electric Vehicles" on 17th and 18th March 2023 under the Department of Science and Engineering Research Board (SERB). The inaugural function of two days technical seminar was inaugurated by Dr. S. Senthil Kumar, Associate Professor / EEE of NIT Trichy. The event was attended by 140 participants from various educational institutions.

The program began with a welcome address by Dr. M. Senthil Kumar, Associate Professor/EEE of Chettinad College of Engineering and Technology, Karur. He welcomed the guests and participants and thanked them for their presence at the seminar. The inaugural function was presided over by Dr. A. Punitha, Principal of Chettinad College of Engineering and Technology. She spoke about the importance of Electric Vehicle technology in today's world and the need for constant updates and innovations. She emphasized the role of technical seminars in creating a platform for knowledge sharing and learning.

Dr. S. Senthil Kumar, the chief guest of the event, then addressed the gathering. He spoke about the relevance of the seminar topic and its significance in the current scenario. He also highlighted the importance of continuous learning and upskilling in the field of technology.

The keynote speaker for the seminar was Dr. Shelas Sathyan, Assistant Professor/EEE, NIT Trichy and Dr. K. P. Pinkymol, Assistant Professor, NIT Trichy. Both of them delivered an informative and engaging speech on the seminar topic, providing valuable insights and sharing experiences from their professional career.

The inaugural function concluded with a vote of thanks by Mr. N. Vijayasarathi, HoD/EEE of Chettinad College of Engineering and Technology. He thanked the chief guest, keynote speaker, and all the participants for their valuable contributions and support towards making the event a success. Overall, the inaugural function of the technical seminar day 1 was a great success, providing an excellent platform for participants to gain knowledge and insights into Electric vehicles future scope. The administrative officer of ChettinadTech Mr. B. Sathish Kumar had made all the necessary preparations for the grand success of this function.

Event Photos:


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College of Engineering & Technology
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"TRENDS & CHALLENGES IN
ELECTRIC VEHICLES"
Azadi Ka Amrit Mahotsav
Organized by


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SERB Sponsored 2 Days National Seminar on
"TRENDS & CHALLENGES IN
ELECTRIC VEHICLES"
Organized by

Programme Name: Valedictory Function of SERB Sponsored Two Days National Level Seminar

Guest Speaker: Dr. V. Sureshkumar, Prof./EEE, TCE Madurai

Title: Trends and Challenges in Electric Vehicles

Date: 18th March 2023

Venue: 'G' Block Seminar Hall, CNCET

Description:

The valedictory function of the SERB-sponsored two-day technical seminar was held on March 18, 2023, to mark the successful completion of the event. The seminar was organised by the Department of Electrical and Electronics Engineering to provide a platform for professionals, researchers, and students to discuss the latest developments and challenges in the field of electric vehicles. The valedictory function began with a welcome address by the Chief Guest, Dr. V. Sureshkumar, Professor, /EEE-TCE Madurai. The ChettinadTech Principal Dr. (Mrs) A. Punitha, honoured the chief guest with a memento. The chief guest acknowledged the efforts of the organising committee and congratulated them for the successful completion of the seminar. He also highlighted the significance of such events in providing a platform for students to exchange ideas and learn from each other. This was followed by a brief summary of the technical sessions by Mr. P. Pandi, Sr. Assistant Professor. He provided an overview of the topics covered and the key takeaways from the various sessions. He emphasized the need for continuous learning and urged everyone to apply the knowledge gained from the seminar in their respective fields.

The highlight of the valedictory function was the distribution of certificates to the participants by the Chief Guest and the other dignitaries. This was followed by a vote of thanks by Dr. M. Senthil Kumar, Associate Professor/EEE, the convener of the event, who expressed gratitude towards the speakers, participants, and organising committee for making the event a grand success. The function concluded with the National Anthem and the participants left with a sense of accomplishment and inspiration to continue their academic pursuits. Lastly, all participants took a group photo with the Chief Guest and members of our organising committee. In total, 140 participants actively participated in this seminar.

Event Photos

Programme Name: Guest Lecture

Guest Speaker: Dr. Thi. Jayansenthilkumar, External Faculty, PCRA

Title: Petroleum Conservation

Date: 29th March 2023

Venue: 'G' Block Seminar Hall, CNCET

Description:

A guest lecture on petroleum conservation was organized by the Department of Electrical and Electronics Engineering held on 29th March 2023. The program began with a welcome address by Mr. N. Vijayasarathi, HoD/EEE. He welcomed the guest speaker Dr. Thi. Jayansenthilkumar, External Faculty, Petroleum Conservation Research Association(PCRA), and he introduced the guest speaker to our participants. The guest speaker then took the stage and delivered an informative and engaging speech on the topic of petroleum conservation. He began by defining petroleum conservation and its significance in reducing dependence on fossil fuels and promoting sustainable development.

He also spoke about the various petroleum conservation measures that can be implemented in households, industries, and transportation. He emphasized the role of technology in petroleum conservation and provided examples of innovative solutions that are being developed and implemented across the world. He also highlighted the economic benefits of petroleum conservation, such as reduced fuel bills and increased competitiveness for businesses. The guest speaker concluded with a Quiz session, where the participants had the opportunity to seek further information on the topic. The guest speaker provided insightful answers and encouraged the participants to take proactive measures towards petroleum conservation in their personal and professional lives.

The event was a great success, providing an excellent platform for participants to gain knowledge and insights into the latest developments in petroleum conservation. Mr. P. Pandi, SAP/EEE thanked the guest speaker for the informative and engaging speech. The guest lecture was attended by 67 participants from EEE and Mechanical final-year students.

Event Photos

Activity Name – REGIC – ERR

Date: 05-04-2023

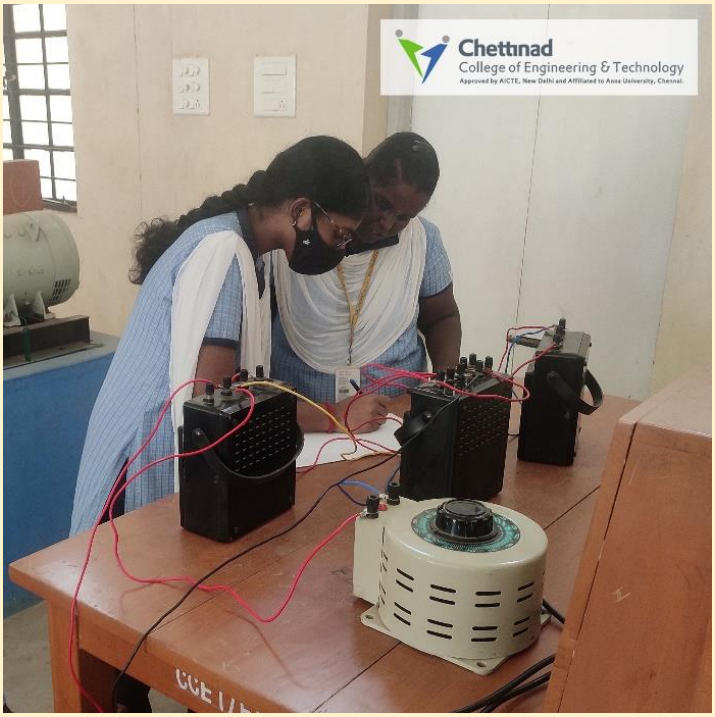
Activity Incharge – Ms. D. Pushpalatha, AP/EEE

Year/Semester – II/IV

Description:

On 5.4.2023, a technical activity called "REGIC-ERR" were conducted for second year EEE students to enhance their knowledge about meter calibration standards, including ammeters, voltmeters, and wattmeter's. Meter calibration involves verifying and adjusting the accuracy of meters used for measuring various physical parameters. During this activity, students will work in groups, with one student acting as the "calibrator" and the other as the "tester," to calibrate a meter by setting it to a known value and then making calibration adjustments if necessary based on the tester's readings. This activity promotes teamwork and communication skills while also reinforcing the importance of accurate measurement. Additionally, it encourages critical thinking and problem-solving skills.

Activity Photos: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Programme Name: Industrial Visit

Organizing Department: Electrical and Electronics Engineering

Date: 6th & 7th April, 2023

Venue: Bangalore

Description:

On April 6th and 7th, 2023 the Department of Electrical and Electronics Engineering organized an industrial visit for II, III and IV year EEE students. Our students visited the Kaynes Technology, Bangalore and the 11Kv substation in Wonderla Holidays Limited, Bangalore. A totally 51 students with guidance of 5 faculty members from the EEE department to attended the industrial visit.

Kaynes Technology is a leading end-to-end and IoT solutions-enabled integrated electronics manufacturer in India. In Kaynes Technology, Bangalore, our student lively seen the Conceptual Design, Process Engineering, Integrated Manufacturing and Life Cycle Support for major players in the Automotive, Industrial, Aerospace and Defence, Outer-space, Nuclear, Medical, Railways, Internet of Things ("IoT"), Information Technology ("IT") and other segments.

In Wonderla Holidays Limited, Bangalore, our students know the operation and commissioning of 33Kv/11Kv switching sub-station from where Kanjikode and other PBSs are controlled. 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.

Industrial Visit Photos:

Activity Name - PSCAD/EMTDC

Date: 12-04-2023

Activity In charge – Mr. S. Ragul, AP/EEE

Year/Sem – IV /VIII

Description:

Time domain simulation software called PSCAD (Power Systems Computer Aided Design) is used to study transients in electrical networks. It is a set of applications that provide an electromagnetic transients software with a graphical, Unix-based user interface (EMTP). It also goes by the name PSCAD/EMTDC. With PSCAD we can build, simulate, and model your systems with ease, providing limitless possibilities in power system simulation. Included is a comprehensive library of system models ranging from simple passive elements and control functions to electric machines and other complex devices. It helps students to solve problems related to power system and to improve their problem solving skills. The activity was handled by Mr. S. Ragul, AP/EEE on 12.04.2023 for final year students.

Activity Photos:

Programme Name: Natural Disaster Preparedness Awareness Programme

Guest Speaker: Mr. M. Yesudoss, Head Constable, National Disaster Response Force

Date: 17-04-2023

Venue: 'A Block Seminar Hall'

Description:

To educate and train the students for an unforeseen emergency like fire or any other natural calamity, Chettinad College of Engineering and Technology and National Disaster Response Force together conducted a Community Awareness Programme on 17th March 2023. The aim of this program is to encourage preparedness among individuals, communities, and organizations to minimize the loss of lives and property in the event of a disaster. This disaster awareness program was lectured by an expert in the field of disaster management and emergency response Mr. M. Yesudoss, Head Constable, National Disaster Response Force. On this occasion the Guest Speaker of the programme, Mr. M. Yesudoss and his teams said that Disaster Management is the organization and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters.

The speaker, Mr. M. Yesudas, Head Constable, National Disaster Response Force, conducted a hands-on session on the process of understanding the objectives, emergency, first aid, and first aid responder. He also promotes the aims of first aid, i.e., the 3Ps (Preserve life, promote speedy recovery and Prevent worsening of condition). He gave the audience an insight on the general principles of first aid Do not panic, do not harm, and Chain of survival. He further guided the participants on medical emergencies in various cases by including the cases of Asthma, Drowning, Amputation, Head spine injury, Burns, Electrocution, Snake bite etc. He concluded his talk by explaining about different types of bandages to be used for different kinds of injuries. Totally, 105 ECE and EEE department students attended the session and the session turned out to be successful and helped the students gain information on practical applications of first aid.

Events Photos:

Programme Name: Association Valedictory & Guest Lecture

Guest Speaker: Er. G. Gopi, Assistant Engineer, TANGEDCO Puliyur

Date: 15-05-2023

Venue: G Block Seminar Hall

Description:

On May 15, 2023, the Department of Electrical and Electronics Engineering organised a valedictory function and guest lecture on "Advancing Infrastructure for Energy Transition" under the EEE association. The Chief Guest at the event was Er. G. Gopi, Assistant Engineer from TANGEDCO Puliyur. Mr. N. Vijayasarathi, HoD/EEE, welcomed the Chief Guest and the participants, and Mr. P. Pandi, Sr. AP/EEE, read the annual report of the last academic year. The Chief Guest, Er. G. Gopi, Assistant Engineer, TANGEDCO Puliyur, distributed prizes and certificates to the winners.

The guest speaker, an expert in the field of energy infrastructure, provided valuable insights on the topic and provided a comprehensive overview of the challenges and opportunities associated with advancing infrastructure for an energy transition. He highlighted the need for a coordinated and multi-dimensional approach involving technology innovation, policy support, and financial investments. By focusing on grid modernization, transmission and distribution, electrification, energy storage, and decentralised energy systems, societies can create a more sustainable and resilient energy future. This guest lecture inspired the participants to recognise the importance of advancing infrastructure for an energy transition.

Event Photos:


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CCET/BB/SHC/3

Programme Name: EEE Batch 12 Farewell Day

Date: 15-05-2023

Organizers: Department Faculty Members & Third year Students

Venue: G Block Seminar Hall

Description:

On May 15, 2023, the Department of Electrical and Electronics Engineering organised a farewell day for our final-year students. It was a mix of emotions as we celebrated their achievements and bid them goodbye for their next journey. The day started with a warm welcome from junior students and faculty members. Mr. P. Pandi, Sr. AP/EEE, delivered a heartfelt speech, reflecting on the students' journey and expressing gratitude for their contributions to our college community. The cultural show put on by the students showcased their skills in music, dance, and drama, charming the audience with their performances. It was a vibrant display of talent and creativity that left a lasting impression on everyone present.

Messages and mementos were exchanged, symbolising the lasting bonds and unforgettable memories shared during their time in college. The farewell day served as a platform to strengthen the bond between the outgoing students and the college community. This farewell day strengthened the bond between our outgoing students and the college community, and we wish them the very best in their upcoming endeavours!

Events Photos:


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Value Added Course: NI Multisim – Design of Power Supply

Course Coordinators: Mr. P. Pandi, Sr. AP/EEE & Mr. M. Vasanthprakash, AP/EEE

Class: 1st Year EEE (Batch 15)

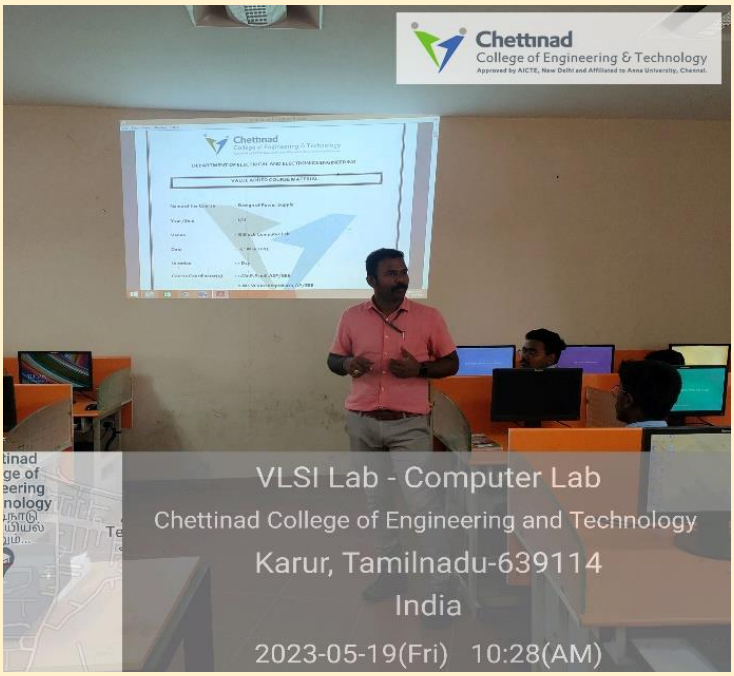
Date: 19-05-2023

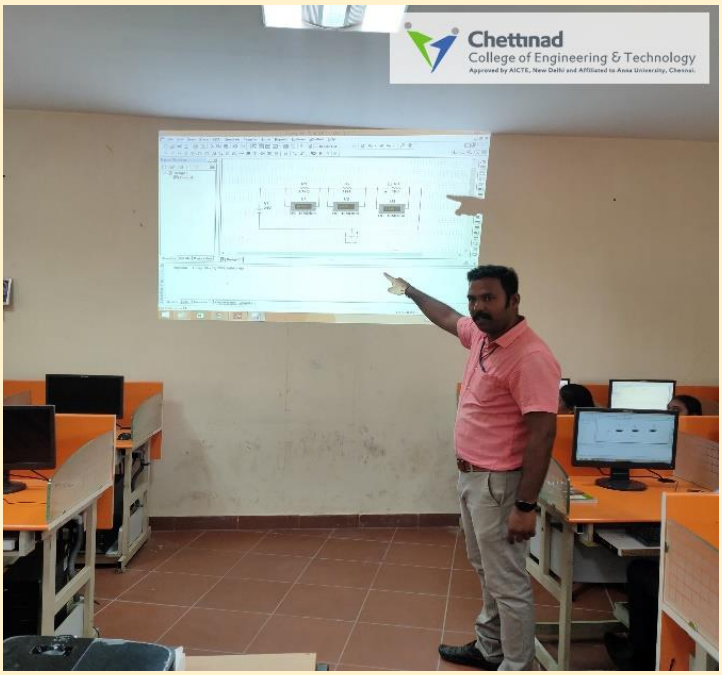
Venue: ECE VLSI Computer Lab

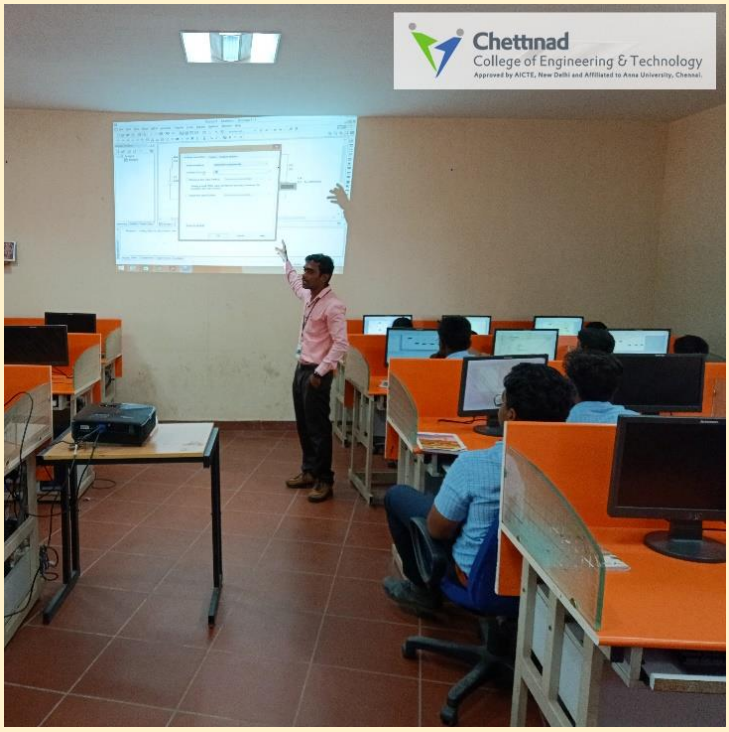
Description:

On 19th May 2023, the Department of Electrical and Electronics Engineering conducted a value-added course for 1st year EEE students entitled on "NI Multisim – Design of power Supply". The objective of the value-added course is to develop participants skills in designing and simulating electronic circuits using Multisim and to provide practical knowledge understanding of various electronic components and their behavior in circuits. This value-added course was delivered through a combination of lectures, demonstrations and hands-on exercises. Participants had trained in the NI Multisim software and were encouraged to apply their learning to real-world circuit design challenges like DC power supply, amplifiers, filters, and oscillators. The NI Multisim value-added course achieved several key outcomes, including the ability to design, analyze, and optimize various electronic circuits using Multisim and increased participants confidence in applying circuit design principles to real-world applications. The overall session was handled by Mr. P. Pandi, Sr. AP/EEE and Mr. M. Vasanthprakash, AP/EEE. 32 participants actively participated and trained well in this value-added course.

Event Photos:



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Contest Name: Re-Volt

Class & Participants: I Year- 36 Students

Date: 14-07-2023

Venue: Electrical Machines Lab

Coordinator: Mrs. A. Bhuvaneswari, Sr.AP/EEE

Description:

On July 14th, the Department of Electrical and Electronics Engineering held a "Re-Volt contest" for 1st-year EEE students to improve their concepts of Multisim and fabricate PCBs for prototyping as well as for the Industrial Production environment. A total of 15 batches registered, with each batch's students showcasing their Electronics Circuits' output in Multisim and demonstrating the circuit on the PCB model. Every participating batch produced flawless results, and the evaluation procedure included reviewing performances, the functionality of the working models, and accurate output. The honorable judges, Mr. P. Prakash, AP/MECH, and Ms. D. Ragavi, AP/ECE, will announce the winners. Dr. J. Kavitha, Professor/AI&DS, paid a visit on this auspicious occasion, and students described how each equipment worked. Madam praised the students for their achievements.

Contest Photos:


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Programme Name: College Campus Cleaning Activity

Date: 12-07-2023

Venue: CCET Campus

Description:

The Department of Electrical and Electronics Engineering organized a campus cleanup event conducted by first-year EEE students on July 17, 2023. The primary objective of this cleaning activity was to maintain a clean, safe, and healthy environment for students, faculty, and visitors. Certain areas, such as entrances, hallways, and common gathering spaces, tend to accumulate more dirt, dust, and debris. Increased attention was given to these areas to ensure cleanliness and tidiness throughout the day. While carrying out the cleaning activities, various maintenance issues were observed, including broken pipes, damaged lights, and furniture. These issues were reported to the maintenance department for immediate resolution to ensure a safe and functional environment. Students actively participated in cleaning the college premises. The dedicated cleaning efforts were overseen by Mr. P. Pandi, Sr. AP/EEE, who ensured that high standards of cleanliness were maintained in various areas and common spaces. Mr. N. Vijayasarathi, HoD/EEE, appreciated all the students for their vital contribution to this cleanliness initiative.

Event Photos:


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Karur
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2023-07-12(Wed) 12:55(pm)

Prgramme Name: Field Visit

Date: 20-07-2023

Venue: TANGEDCO-Puliyur Sub Station

Description:

Chettinad College of Engineering and Technology aims to provide active learning experiences to students, making them industry-ready and professionally trained. As part of their curriculum, our first-year B.E.-EEE students, along with two faculty members, went on a field trip to TANGEDCO, Puliyur, Karur (District), on 20.07.2023, to gain practical exposure and insights into a real working environment. This field trip included learning about various elements of a substation, as well as the stages of power transformation and the protection of power circuits from disturbances. The field visit was highly informative for the students, who gained valuable exposure to power transmission and distribution.

Event Photos:


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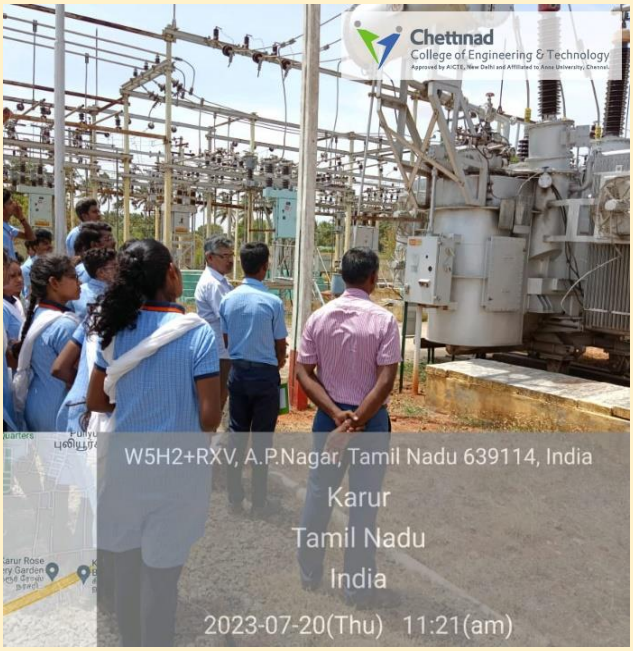
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College of Engineering & Technology
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ELECTRIC VEHICLES: DRIVING TOWARDS A GREENER TOMORROW

SHOBANA RENI D – IV EEE

As the world shifts its focus towards sustainable living, Electric Vehicles (EVs) are emerging as one of the most promising solutions to combat environmental pollution and dependency on fossil fuels. EVs represent a revolutionary change in the transportation industry—one that is cleaner, smarter, and powered by innovations in Electrical and Electronics Engineering (EEE).

⚙ The Technology Behind EVs

At the core of an EV lies a powerful electric motor that replaces the internal combustion engine. These motors are typically powered by lithium-ion battery packs that store electrical energy and supply it to the motor through power electronic circuits. Components like inverters, DC-DC converters, and motor controllers are vital in managing power flow and ensuring efficient operation.

🔋 Battery Management: The Heart of an EV

The efficiency and reliability of an electric vehicle heavily depend on its Battery Management System (BMS). The BMS ensures safe charging and discharging, monitors temperature, and prolongs battery life—making it a crucial area of research and innovation for EEE students and professionals.

🔌 Charging Infrastructure: A Growing Ecosystem

One of the main challenges facing widespread EV adoption is the availability of charging stations. Engineers are working on fast-charging technologies, wireless charging, and even solar-powered chargers to build an efficient and accessible EV charging network. This is creating new opportunities for electrical engineers in infrastructure development and grid integration.

🌱 Environmental Impact

EVs significantly reduce carbon emissions and air pollution. Unlike traditional vehicles, they emit no tailpipe pollutants, contributing to cleaner air and a healthier planet. When powered by renewable energy sources like solar or wind, the environmental benefits are even greater.

💼 Career Opportunities for EEE Students

With governments and industries investing heavily in EV technology, the career scope for EEE graduates is expanding. Roles in electric motor design, embedded systems, battery technology, and smart grid integration are in high demand. Many start-ups and established companies are also opening doors for interns and fresh graduates who bring innovative ideas.

🚀 The Road Ahead

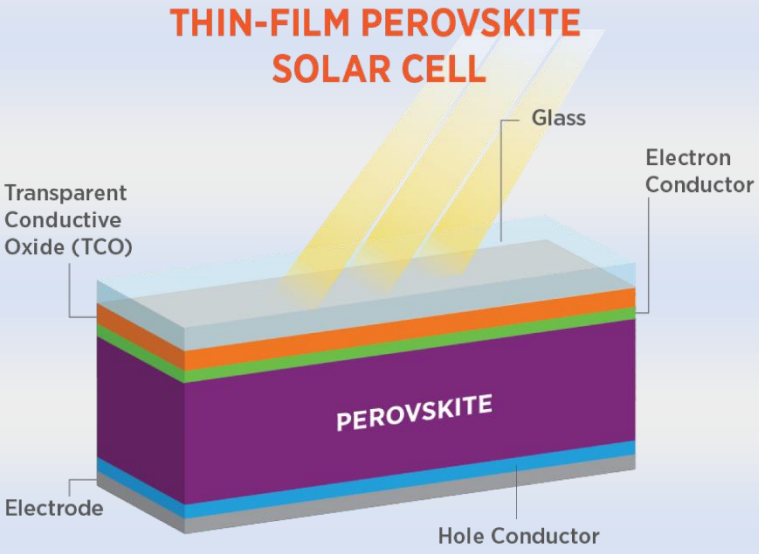
Electric Vehicles are more than just a trend—they're the future of mobility. As students of Electrical and Electronics Engineering, we are in a unique position to lead this transformation. By developing new technologies, improving energy efficiency, and creating sustainable solutions, we can drive the world towards a greener, cleaner tomorrow.

"The best way to predict the future is to invent it." – Alan Kay

PEROVSKITE SOLAR CELLS: THE NEXT LEAP IN PHOTOVOLTAIC EFFICIENCY

SURENDHAR G – IV EEE

Solar energy has long been dominated by silicon-based photovoltaic (PV) cells, but a new contender—**perovskite solar cells (PSCs)**—is rapidly emerging as a game-changer. With record-breaking efficiency improvements, low-cost manufacturing, and flexible applications, perovskites could redefine the future of solar technology.



What Are Perovskite Solar Cells?

Perovskites are a class of materials with a unique crystal structure (ABX_3), where:

- **A** = organic methylammonium or formamidinium ions (or inorganic cesium)
- **B** = lead or tin ions
- **X** = halides (iodide, bromide, chloride)

These materials exhibit exceptional **light absorption, charge mobility, and tunable bandgaps**, making them ideal for solar cells.

Why Are They Better Than Silicon?

Feature	Silicon Solar Cells	Perovskite Solar Cells
Efficiency	~22-24% (commercial)	**>33%** (lab record, tandem cells)
Manufacturing Cost	High (energy-intensive)	**Low (solution-processable)**
Flexibility	Rigid	**Flexible & lightweight**
Transparency	Opaque	**Semi-transparent options**

Breakthroughs in Efficiency

- **Single-junction PSCs** have surpassed **25.7% efficiency** (NREL, 2023).
- **Tandem cells** (perovskite + silicon) have crossed **33.7%**, outperforming pure silicon.
- **Stability improvements** now exceed **1,000 hours** under operational conditions.

Challenges to Overcome

1. **Stability Issues** – Degradation from moisture, heat, and UV exposure.
2. **Lead Toxicity** – Research into non-toxic alternatives (tin-based perovskites).
3. **Scalability** – Moving from lab-scale to mass production.

Future Prospects

- **Building-Integrated PV (BIPV)** – Transparent perovskite windows generating power.
- **Wearable & Portable Solar** – Ultra-thin, flexible solar films for IoT devices.
- **Space Applications** – High radiation tolerance for satellite power systems.

Conclusion

Perovskite solar cells are no longer just a lab curiosity—they are on the verge of commercialization. With further advancements in stability and scalability, they could soon **dethrone silicon** and lead the next solar revolution.

6G NETWORKS: BEYOND SPEED—THE ERA OF INTELLIGENT CONNECTIVITY

INDHUMA S – IV EEE

While 5G is still rolling out globally, researchers are already laying the groundwork for **6G**—the next generation of wireless technology. Expected to debut around **2030**, 6G won't just be about faster speeds; it will revolutionize connectivity with AI-driven networks, hyper-low latency, and seamless integration of the physical and digital worlds.

Feature	**5G**	**6G (Projected)**
Peak Speed	10-20 Gbps	**1 Tbps (1000 Gbps)**
Latency	1-5 ms	**0.1 ms (sub-millisecond)**
Frequency Bands	Sub-6 GHz, mmWave (24-100 GHz)	**THz (100 GHz – 3 THz)**
AI Integration	Limited	**Fully AI-optimized networks**
Energy Efficiency	Moderate	**Ultra-low power consumption**

Key Technologies Driving 6G

1. Terahertz (THz) Communication

- 6G will tap into terahertz frequencies (100 GHz – 3 THz), enabling ultra-high-speed data transfer (imagine downloading 4K movies in milliseconds).
- Challenges: Signal attenuation (weaker penetration through obstacles) requires advanced repeaters and beamforming.

2. AI & Machine Learning in Networks

- **Self-optimizing networks (SONs)** will use AI to:
  - Predict traffic congestion and reroute data.
  - Optimize energy use for sustainability.

- Detect and counter cyber threats in real time.

3. Holographic & Extended Reality (XR) Communication

- 6G will enable real-time holographic calls and immersive XR experiences (think AR/VR without lag).
- Applications: Telemedicine, virtual workspaces, and next-gen gaming.

4. Quantum Communication & Sensing

- **Quantum encryption** for unhackable networks.
- **Environmental sensing**—6G could monitor air quality, weather, and infrastructure health via wireless signals.

5. Internet of Everything (IoE)

- Beyond IoT, 6G will connect smart cities, autonomous drones, brain-computer interfaces (BCIs), and nanorobots.
- Smart surfaces (reconfigurable intelligent surfaces, RIS) will act as programmable signal reflectors for seamless coverage.

Potential Applications of 6G

✓ **Smart Factories** – Real-time robotic control with zero latency.

✓ **Precision Agriculture** – AI-driven drones monitoring crops at microscopic levels.

✓ **Remote Surgery** – Haptic feedback + holographic imaging for doctors.

✓ **Autonomous Flying Vehicles** – Instant V2X (vehicle-to-everything) communication.

6G isn't just an upgrade—it's a **paradigm shift** toward **intelligent, ubiquitous connectivity**. By merging AI, THz waves, and quantum tech, 6G will blur the lines between the digital and physical worlds, unlocking possibilities we're only beginning to imagine.

EDGE AI: BRINGING MACHINE LEARNING TO MICROCONTROLLERS

PON SHANKAR V – IV EEE

Artificial Intelligence (AI) is no longer confined to cloud servers and high-end GPUs. With the rise of Edge AI, machine learning models can now run on microcontrollers (MCUs)—enabling smart, low-power, and real-time decision-making in everyday devices. From wearable health monitors to predictive maintenance in factories, Edge AI is revolutionizing how we deploy intelligent systems.\

Edge AI refers to running AI algorithms locally on hardware devices (like microcontrollers) instead of relying on cloud servers. This offers:

✓ Ultra-low latency (real-time processing)

✓ Reduced bandwidth usage (no need for constant cloud connectivity)

✓ Enhanced privacy (data stays on-device)

✓ Energy efficiency (critical for battery-powered IoT devices)

Factor	Cloud AI	Edge AI
Processing	Remote servers	On-device (MCUs, CPUs, FPGAs)
Latency	High (depends on internet)	**Ultra-low (ms-level)**
Power Use	High (data centers)	**Low (optimized for MCUs)**
Privacy	Data sent to cloud	**Local processing**

Real-World Applications

1. Smart Agriculture

Soil moisture prediction using TinyML on solar-powered sensors.

2. Predictive Maintenance

Vibration analysis in motors to detect failures before they happen.

3. Wearable Health Tech

Real-time ECG anomaly detection on a low-power MCU.

4. Voice-Controlled Devices

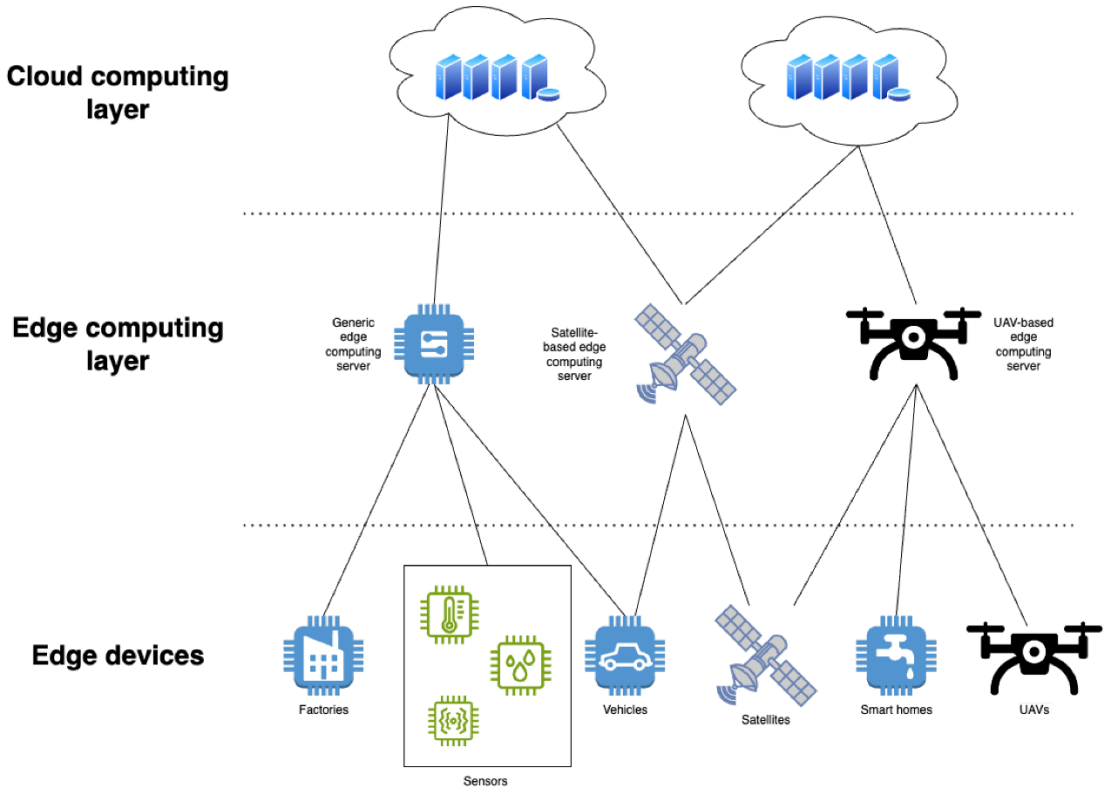
Keyword spotting (e.g., "Hey Siri" on a $2 microcontroller).

5. Industrial Automation

Object detection for quality control using Raspberry Pi Pico + camera.

The Future of Edge AI

1. Neuromorphic chips (mimic the human brain for ultra-efficient AI).
2. Federated Learning (MCUs learn collaboratively without sharing raw data).
3. AI-powered smart dust (microscopic sensors with embedded ML).



ENERGY HARVESTING FROM VIBRATION AND MOTION: POWER FROM THE INVISIBLE

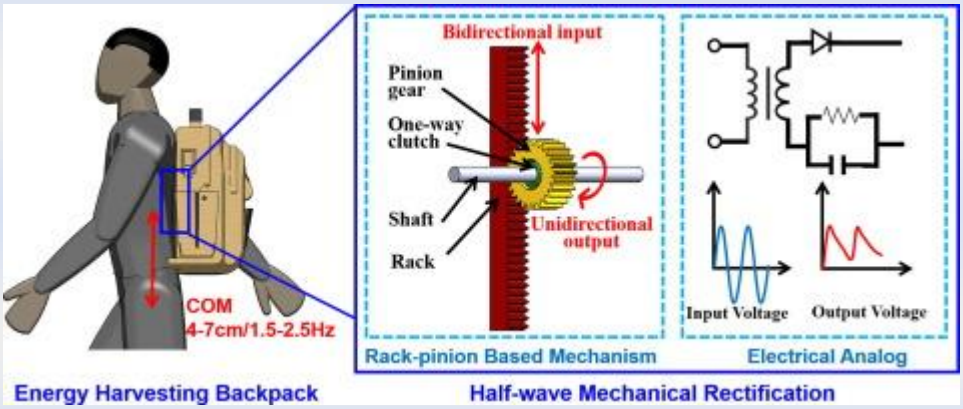
DEVENDRAN H – IV EEE

In a world moving toward smart, sustainable, and self-powered technologies, one fascinating innovation stands out — **Energy Harvesting from Vibration and Motion**. Imagine devices that never need to be plugged in or have their batteries replaced, yet they work reliably just by capturing energy from ambient movements around them. That's the magic of motion-based energy harvesting.

Vibration energy harvesting refers to the **conversion of mechanical energy** from movements (like shaking, walking, or vibrating machines) into **electrical energy** using specialized components such as:

- **Piezoelectric materials**
- **Electromagnetic generators**
- **Electrostatic harvesters**

When subjected to motion or mechanical stress, these systems generate electricity — often small but sufficient for **low-power applications**.



🔋 Where Is It Used?

This technology is rapidly gaining traction in areas where replacing or charging batteries is difficult or impractical. Real-world applications include:

- Wireless sensor networks **in remote locations**
- Wearable devices **powered by body movement**
- Smartwatches **that charge through wrist motion**
- Bridge and railway monitoring sensors
- Medical implants **that use the body's own motion**

🔬 Common Technologies Used

1. **Piezoelectric Materials:**
   These materials produce voltage when deformed. Common in shoe soles, roadways, and structural monitoring.
2. **Electromagnetic Induction:**
   Using a moving magnet and coil to generate electricity — similar to how a dynamo works.
3. **Electrostatic Generators:**
   Rely on variable capacitance systems and are common in MEMS (Micro-Electro-Mechanical Systems).

🚧 Challenges and Future Outlook

While promising, energy harvesting faces limitations like **low power output**, **efficiency losses**, and **cost of materials**. However, with advancements in **nano-generators**, **MEMS devices**, and **material science**, the field is evolving fast.

In the near future, your **smartphone may charge while you walk**, and **streetlights may power themselves** just from the rumble of passing vehicles.

NANOTECHNOLOGY IN ELECTRICAL ENGINEERING

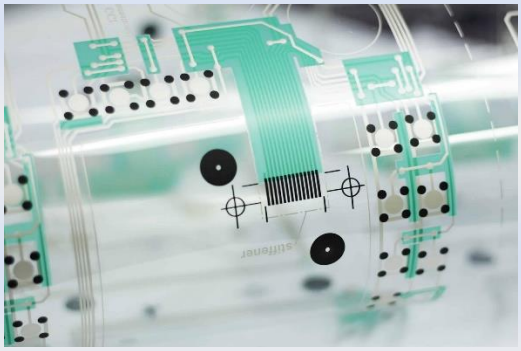
KOWSALYA R – III EEE

In the vast world of Electrical and Electronics Engineering, a microscopic revolution is underway — Nanotechnology**.** Despite being measured in billionths of a meter, nanotechnology is reshaping how we think about materials, components, and the future of electronics.

⚛ What is Nanotechnology?

Nanotechnology is the science of **manipulating materials at the nanoscale** (1 to 100 nanometers). At this scale, materials exhibit **unique physical, chemical, and electrical properties** that differ from their bulk forms.

For electrical engineers, this opens up a new dimension for developing **faster, smaller, and more efficient** devices.



🔌 Applications in Electrical Engineering

1. **Nanoelectronics:**

   Shrinking transistors and semiconductors to nanometer sizes allows for **faster processing**, **lower power consumption**, and **high-performance computing** — driving Moore's Law further.

2. **Nano Batteries and Supercapacitors:**

   Nanomaterials like graphene and carbon nanotubes enhance **battery life**, **charging speed**, and **energy density**, promising smaller yet more powerful energy storage systems.

3. **Flexible and Wearable Electronics:**
   Nanoscale conductive inks and materials are used in **bendable displays**, **smart fabrics**, and **skin-mounted sensors**.
4. **High-Efficiency Solar Cells:**
   Quantum dots and nanostructures improve **light absorption** and **energy conversion**, making solar panels more compact and cost-effective.
5. **Sensors and MEMS/NEMS:**
   Nanotech-based sensors offer **ultra-sensitivity** in detecting changes in pressure, temperature, motion, and even biochemical changes — ideal for automation and healthcare.

🌟 Benefits of Nanotechnology

- **Miniaturization**: Enables smaller devices with greater functionality.
- **Increased Efficiency**: Better performance in terms of speed, sensitivity, and energy use.
- **Material Strength**: Nanomaterials are often stronger, lighter, and more flexible.
- **Eco-Friendly Solutions**: Nanotech supports green energy and sustainable designs.

🔮 Future of Nanotech in EEE

The integration of nanotechnology is not just a trend — it's the future. From **quantum computing** to **neuromorphic chips**, nanotech is laying the groundwork for devices that mimic human cognition, consume ultra-low power, and operate at previously unimaginable speeds.

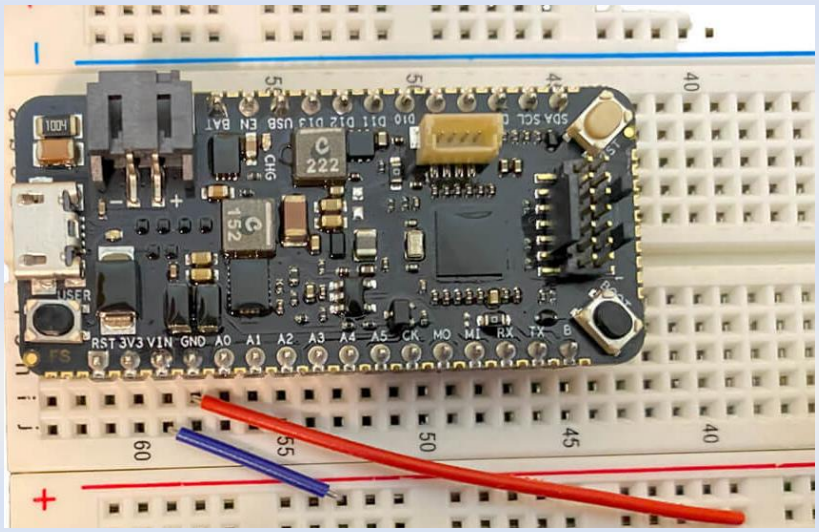
📌 Conclusion

Nanotechnology proves that even the **smallest particles can spark the biggest changes**. For Electrical and Electronics Engineers, it represents a thrilling frontier — a place where science, imagination, and innovation collide at the nanoscale.

THE EVOLUTION OF CIRCUIT DESIGN: FROM BREADBOARDS TO SIMULATION

SURIYA B – III EEE

Electrical and Electronics Engineering is a field defined by innovation, and at the heart of it lies the **circuit** — the fundamental building block of every electrical system. Over the years, how we design, build, and test circuits has undergone a significant transformation. What started with wires and resistors on a breadboard has now evolved into sophisticated simulation tools running on our laptops.



The Breadboard Era

For decades, circuit design began at the hands-on level — using **breadboards**. These boards allowed students and engineers to build circuits by physically plugging in components like resistors, capacitors, transistors, and ICs. Breadboards were perfect for learning:

- Component placement
- Wiring logic
- Real-time testing

However, physical circuits had limitations. A wrongly placed wire could lead to smoke or component damage. Additionally, complex circuits became messy and hard to troubleshoot.

💻 The Rise of Simulation

With the growth of computer-aided design (CAD), software simulation changed the game. Tools like **Multisim**, **LTspice**, **TINA-TI**, and **Proteus** allowed users to:

- Design virtual circuits
- Analyze behavior in real-time
- Modify and test without physical components
- Visualize voltage and current waveforms

Simulation brought **efficiency, accuracy, and safety**. Mistakes could be corrected with a click — not with a soldering iron.

🔄 The Hybrid Approach

Today's engineering curriculum blends the best of both worlds. Students simulate circuits to verify theoretical concepts and then implement them physically to gain practical insight. This dual approach:

- Builds strong fundamentals
- Enhances debugging skills
- Prepares students for industry-ready design practices

Platforms like **Arduino**, **ESP32**, and **Raspberry Pi** bridge the gap between simulation and real-world application, letting students move from design to deployment.

🚀 What the Future Holds

The future of circuit design is moving toward:

- **Cloud-based design collaboration**
- **AI-assisted circuit optimization**
- **Virtual reality (VR) based testing labs**
- **Integration with IoT and embedded systems**

As technology advances, students will increasingly rely on intelligent tools that **design, test, and improve circuits automatically**.

SUPERCONDUCTORS: THE POWER OF ZERO RESISTANCE

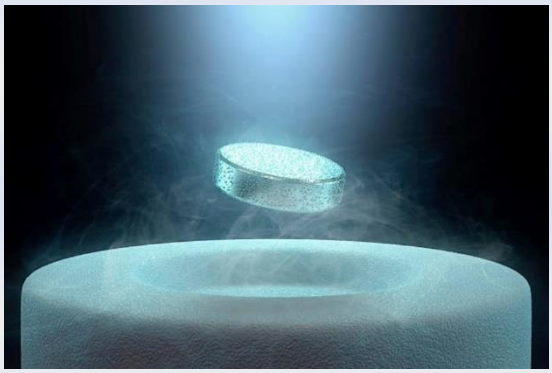
PAVITHRA S – III EEE

Imagine a world where electricity flows endlessly without any loss. No heat, no energy waste — just pure, uninterrupted current. This is not science fiction; it's the reality of **superconductors**, a revolutionary class of materials with **zero electrical resistance**.

⚡ What Are Superconductors?

Superconductors are materials that can conduct electricity **without any resistance** when cooled below a certain critical temperature. Discovered in 1911 by Dutch physicist **Heike Kamerlingh Onnes**, this property allows electrical current to flow **indefinitely** without power loss.

Unlike regular conductors (like copper or aluminum), superconductors don't convert electrical energy into heat, making them **100% efficient** conductors under specific conditions.



How Do They Work?

When certain materials are cooled — usually to cryogenic temperatures (close to absolute zero) — their atomic structure allows electrons to pair up in what's called **Cooper pairs**. These pairs move through the lattice without scattering, resulting in **zero resistance**.

- **Critical temperature (Tc):** The temperature below which the material becomes superconductive.
- **Meissner effect:** A superconductor will **expel magnetic fields** from its interior, allowing it to **levitate magnets** — a key concept in maglev trains.

🚄 Real-World Applications

Though operating at extremely low temperatures is still a challenge, superconductors are already transforming various industries:

1. **Magnetic Levitation (Maglev) Trains:**
   Trains like the SCMaglev in Japan use superconducting magnets for **frictionless, high-speed travel** over 600 km/h.
2. **MRI Machines:**
   Superconducting magnets produce strong, stable magnetic fields required for **high-resolution imaging** in healthcare.
3. **Power Cables and Transformers:**
   Superconductors can carry large currents without energy loss, improving **grid efficiency** and reducing the size of **electrical components**.
4. **Quantum Computers:**
   Superconducting circuits form the basis of **qubits**, enabling powerful quantum processing at ultra-low temperatures.

⚠ Challenges and Future Scope

- **Cooling Requirements:** Most superconductors need cooling with **liquid helium** or **liquid nitrogen**, which is costly.
- **Material Limitations:** Many superconductors are brittle ceramics, making them hard to shape into wires or devices.
- **Cost Efficiency:** Large-scale adoption is limited by production and maintenance costs.

However, research into **high-temperature superconductors** (HTS) is advancing. Materials that work closer to room temperature could revolutionize power grids, computing, and transportation.

🌟 Conclusion

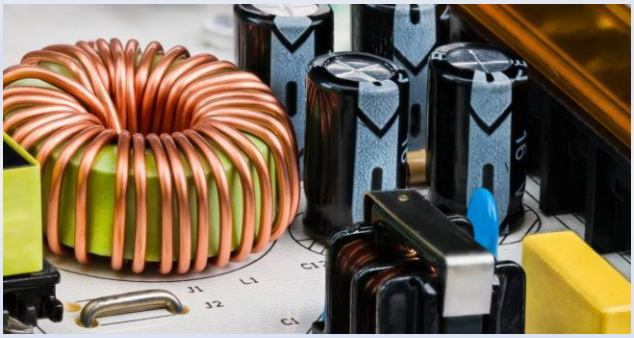
Superconductors demonstrate the beauty of physics and the power of engineering. With the promise of **zero resistance, infinite efficiency**, and futuristic applications, superconductors are not just a topic in textbooks — they are the **cornerstone of next-gen electrical innovation**.

ROLE OF POWER ELECTRONICS IN DAILY LIFE

BHUVANA M – II EEE

In the age of smart devices and renewable energy, there's a silent force working behind the scenes — Power Electronics. Often unnoticed, it plays a critical role in the functioning of our modern lifestyle, acting as the bridge between **electrical energy** and useful output.

From your mobile charger to electric vehicles, power electronics makes things efficient**,** compact**,** and controllable.



⚡ What Is Power Electronics?

Power electronics is a field that deals with the conversion**,** control**,** and conditioning of electric power using solid-state electronics like diodes**,** MOSFETs**,** IGBTs**,** and thyristors. It enables the transformation of electrical energy from one form to another — with high efficiency and precision.

🔌 Everyday Examples of Power Electronics

1. **Mobile Phone Chargers & Adapters**
   Switching-mode power supplies (SMPS) convert AC from the wall into low-voltage DC for safe and fast charging — all thanks to compact power electronics circuits.
2. **Inverters & UPS Systems**
   Power inverters convert DC (from batteries or solar panels) into AC to run household appliances during power outages.
3. **Electric Vehicles (EVs)**
   Power electronics manage battery charging, motor control, and regenerative braking, making EVs energy-efficient and responsive.

4. **Washing Machines & Air Conditioners**
   Variable Frequency Drives (VFDs) and power converters allow motors to run at variable speeds**,** improving energy savings and performance.
5. **LED Lighting**
   LED drivers regulate voltage and current, enhancing brightness, lifespan, and power efficiency in modern lighting.
6. **Solar Power Systems**
   Power electronics in solar charge controllers and inverters manage energy flow from solar panels to batteries and the grid.

Why Is Power Electronics Important?

- **Energy Efficiency:** Reduces energy wastage during conversion
- **Precise Control:** Helps in controlling speed, torque, and voltage levels
- **Compactness:** Enables miniaturization of devices
- **Reliability:** Ensures safe and stable power flow
- **Renewable Integration:** Key enabler for solar, wind, and hybrid energy systems

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Power Electronics in the Future

The growing demand for sustainable energy, electrification of transportation, and smart grids puts power electronics at the core of innovation. Future trends include:

- **Wide-bandgap semiconductors** (like SiC and GaN) for faster switching and higher efficiency
- **Wireless power transfer systems**
- **AI-integrated energy management**
- **Modular and compact power converters**

Conclusion

Though rarely seen, power electronics is the heartbeat of modern electrical systems. As Electrical and Electronics Engineering students, understanding and innovating in this field equips us to power the future - efficiently**,** sustainably**,** and intelligently.

WOMEN IN ELECTRICAL ENGINEERING: BREAKING BARRIERS

KAYALVIZHI S – II EEE

Introduction

Electrical and Electronics Engineering (EEE) has long been perceived as a male-dominated domain. However, times are changing. Today, women are not just participating in EEE—they are leading, innovating, and transforming the industry**.** From powering smart grids to designing cutting-edge microchips, women are proving that talent knows no gender.

Trailblazers Who Lit the Path

Throughout history, several inspiring women have made remarkable contributions to electrical engineering:

- **Edith Clarke** – The first female electrical engineer in the U.S., who invented the Clarke Calculator and helped advance power system analysis.
- **Ginni Rometty** – Former CEO of IBM, who brought a powerful mix of engineering expertise and leadership to the tech world.
- **Karen Panetta** – A professor and advocate who has helped thousands of women enter STEM fields.

These women remind us that engineering is for everyone — and that diversity fuels innovation.

👩‍💻 Women in EEE Today

In recent years, we've seen more women enrolling in EEE programs, taking leadership roles in academia, and becoming entrepreneurs in tech. In labs, startups, and classrooms, women are:

- Leading **robotics and automation** projects
- Developing **renewable energy systems**
- Designing **VLSI and embedded systems**
- Driving **smart city innovations**

Many women from our own college are involved in projects, paper presentations, internships, and core placements**,** standing tall among the brightest minds.

🚧 Challenges Still Exist

Despite progress, women in EEE face:

- **Gender stereotypes**
- **Workplace bias**
- **Balancing family and career expectations**
- **Lack of mentorship in core technical fields**

But with support, awareness, and inclusive policies, these challenges are being steadily overcome.

💡 Creating a Supportive Ecosystem

Here's how we can empower more women in Electrical Engineering:

- Encourage female participation in technical clubs and competitions
- Create mentoring programs with successful alumni
- Promote awareness about career opportunities in core industries
- Highlight achievements of female role models in newsletters and seminars

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🔋 Conclusion

Breaking barriers is not just about entry — it's about rising, leading, and inspiring**.** Women in Electrical Engineering are doing just that. As students of Chettinad College of Engineering and Technology, we take pride in being part of a department that supports equal opportunity and champions excellence—regardless of gender. Let's build circuits, not stereotypes. Let's spark change, one engineer at a time.

POEM: The Spark Within

Priyadharshini T – III Year EEE

In circuits wide and wires thin,
Flows the spark that lies within.
From tiny chips to towers tall,
We build, we dream, we power all.

A glowing bulb, a silent hum,
A motor's spin, a beating drum.
Through volts and amps our journey goes,
Where knowledge lights and wisdom grows.

In labs we learn, in class we strive,
To keep the future's hopes alive.
With every switch, with every code,
We walk the engineer's proud road.

So here we stand, with hearts so bright,
EEE's spark — our guiding light.
Let's charge ahead, let's rise, let's win —
The world is ours to light within!

POEM: Life of an EEE Student

Karthick Raja P S – IV Year EEE

Ohm my God, exams are near,
The circuit's wrong — that's my fear!
Resistors here, capacitors there,
Why's this wire hanging in air?

I dream of volts, I sleep with amps,
My desk looks like a workshop camp.
Oscilloscopes that blink and beep,
Even in dreams, I lose my sleep!

Power cuts when I need the light,
But LEDs glow at 2 a.m. bright.
Assignments due, but I still chill —
"Copy paste" is a hidden skill!

From labs to class, we run, we race,
EEE life — it's a shocking place!
But still with pride, we all declare:
"We're the ones who light the air!"

DID YOU KNOW?

Bhuvana M – II Year EEE

☞ **The speed of electricity is almost the speed of light!**
Electricity travels through copper wires at around **96% the speed of light** — that's nearly 2,80,000 km per second!

☞ **The first practical battery was made in 1800.**
Italian scientist **Alessandro Volta** created the *Voltaic Pile*, the first device to provide a steady electric current — that's why the unit of voltage is named after him!

☞ **Lightning is nature's giant electrical discharge.**
A single bolt of lightning can carry up to **1 billion volts** and reach temperatures of **30,000°C** — five times hotter than the sun's surface!

☞ **Your body can produce electricity.**
The human heart runs on bioelectricity — each heartbeat is triggered by electrical impulses. The brain also generates about **20 watts** of electrical power when awake — enough to light a small bulb!

☞ **The world's first power plant was built by Edison.**
In 1882, **Thomas Edison** built the first power station (Pearl Street Station) in New York City, which supplied electricity to 85 customers.

☞ **The longest transmission line in the world...**
The longest high-voltage transmission line is over **2,500 km long**, in Brazil — carrying electricity from hydro plants deep in the Amazon!

☞ **The humble resistor was patented in 1959!**
Though resistors existed in circuits long before, the carbon composition resistor as we know it was formally patented only in 1959.

☞ **A potato can power a clock!**
A potato, or even a lemon, can act as a battery in a simple circuit because of the electrolytes inside it.

PUZZLES & BRAIN TEASERS

Pratheesha Vardhini K – I Year EEE

❖ **Riddle me this!**

I have no moving parts,
Yet I open and close with ease.
Without me, your lights won't glow-
Tell me, what device am I though?
(Hint: I'm on your wall!)
✓ ***Answer:*** *A switch*

❖ **Circuit Mystery**
You have a **5 ohm resistor**, a **10 ohm resistor**, and a **15 ohm resistor**.
☞ How can you connect them to get an overall resistance of **30 ohms?**

✓ *Answer:* Connect the 5 and 10 ohm resistors in series (5 + 10 = 15 ohms), then connect this combination in series with the 15 ohm resistor: 15 + 15 = **30 ohms**

❖ **Fill in the Blank (Ohm's Law)**
V = _____ × R
(I am sure even at 2 AM, you know this one!)
✓ *Answer: I (Current)*

❖ **Logic Puzzle**
Three bulbs are connected to three switches in another room.
You can go into the room with the bulbs only *once*.
☞ How will you figure out which switch controls which bulb?

✓ *Answer:*

- Turn on switch 1, leave it on for a minute.
- Turn off switch 1 and turn on switch 2.
- Go into the bulb room:
  ☞ The bulb that's on = switch 2
  ☞ The bulb that's off but warm = switch 1
  ☞ The bulb that's off and cold = switch 3

EEE App: Every Student Should Have

Keerthana M – III Year EEE

⚡ **EveryCircuit**
☞ *Simulate circuits and see how they behave in real time.*
💡 Great for understanding concepts visually!

⚡ **ElectroDroid**
☞ *Handy reference for resistors, capacitors, wire gauges, and more.*
💡 Like having an EEE toolkit in your pocket!

⚡ **CircuitLab / Tinkercad Circuits**
☞ *Create and test circuits online — no hardware needed.*
💡 Ideal for project planning and quick testing.

⚡ **All About Circuits**
☞ *Access tutorials, formulas, and community discussions.*
💡 Perfect for clearing concepts or last-minute revision.

⚡ **Arduino Science Journal**
☞ *Record experiments, take measurements using phone sensors.*
💡 Fun for DIY projects and basic IoT experiments.

⚡ **Wolfram Alpha**
☞ *Solve complex equations, unit conversions, and formulas.*
💡 A smart calculator for serious problem-solving.

⚡ **Electrical Calculations (by LELY Electricals)**

☞ *Instantly calculate power, voltage drop, current, etc.*

💡 Saves time during design and analysis.

⚡ **MATLAB Mobile**

☞ *Run MATLAB code and view results on the go.*

💡 Useful for simulations, plotting graphs, and matrix work.

⚡ **AutoCAD Electrical Mobile / DWG FastView**

☞ *View and edit electrical diagrams.*

💡 Helpful for design and documentation tasks.

⚡ **Google Keep / Notion**

☞ *Organize project notes, formulas, and classwork.*

💡 Stay organized with diagrams, photos, and checklists!

COMIC STRIP: THE CIRCUIT HERO

Sathish Kumar M – I Year EEE

🎬 **Panel 1:**
(Student in lab, looking at a messy breadboard with wires everywhere)
🗨️ *Student thinking:*
"Okay, today I'll build the perfect circuit... No mistakes!"

🎬 **Panel 2:**
(He connects wires confidently. Friend watching suspiciously.)
🗨️ *Friend says:*
"Bro, are you sure that's the ground?"
🗨️ *Student:*
"Trust me. 100% sure."

🎬 **Panel 3:**
(They switch on the supply. Next frame: smoke rising, LED explodes!)
🗨️ *Student and friend together, shocked:*
"SHORT CIRCUIT!"

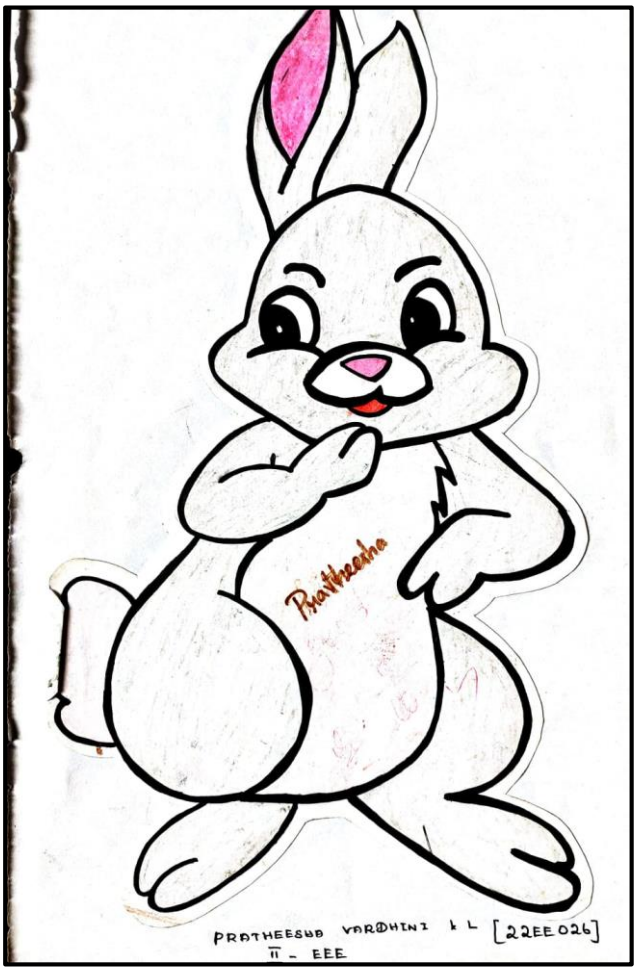
🎬 **Panel 4:**
(Faculty enters the lab looking angry. Student holds up a burnt wire like a trophy.)
🗨️ *Student says:*
"Sir, we just invented a heater!"

🎬 **Panel 5:**
(Faculty face palms. Caption at bottom says:)
☞ *"EEE Life: Where every failure is a new invention!"*

✓ *"Based on 100% true EEE lab incidents!"*

My Sketch

Pratheesha Vardhini K – I Year EEE



My Sketch

Kowsalya R – III Year EEE

POEM: The Heart's Hope

Mahalakshmi P – I Year EEE

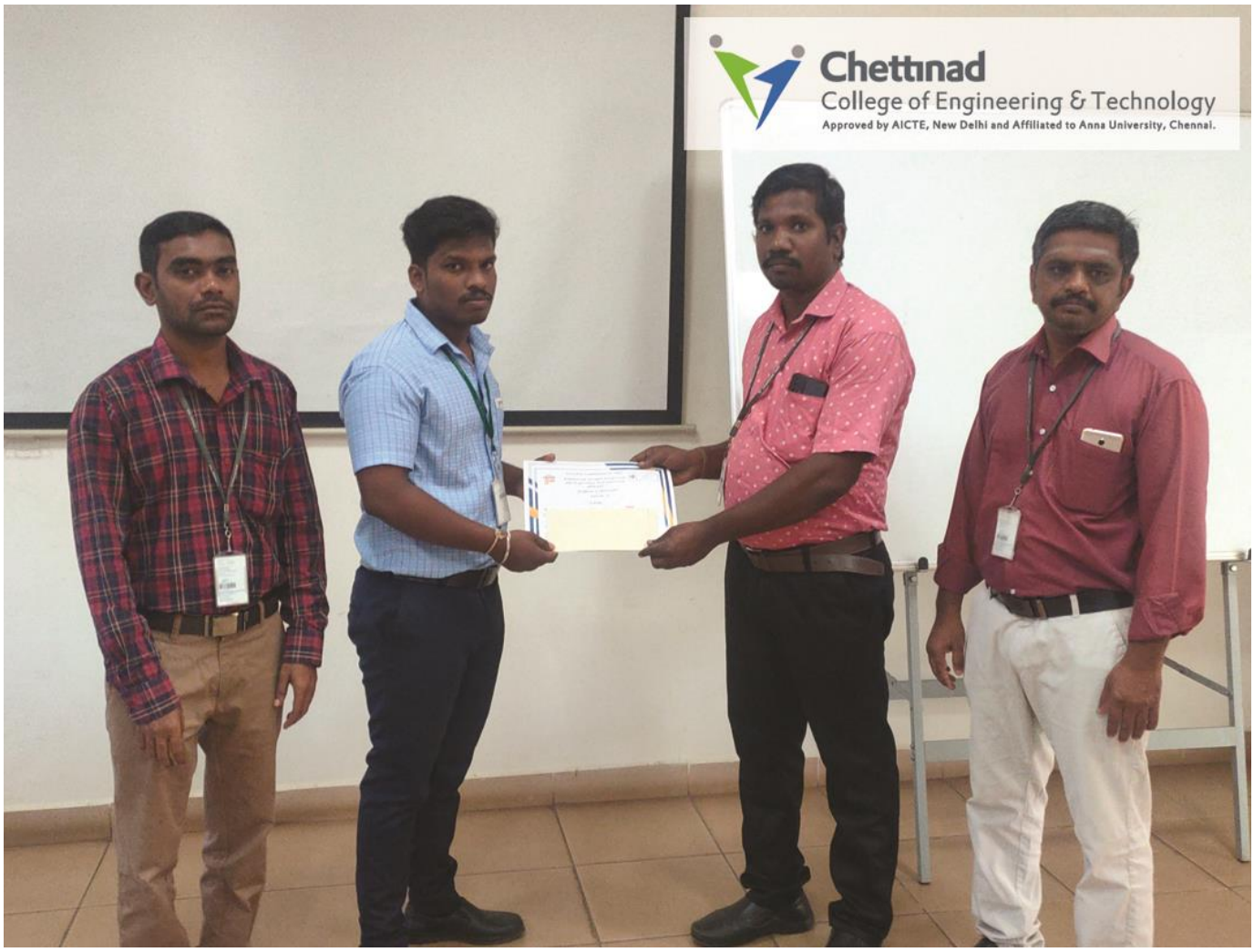
காலத்தின் ஒவ்வொரு
துன்பத்திற்கு
பிறகும் நிச்சயமாக
ஏதோ ஒரு
மகிழ்ச்சி ஒளிந்து
இருக்கும் !!

பெண்ணே நீ இரும்பு
எந்த சூழ்நிலையிலும்
நீ - நீயாகவே இரு
உன் வாழ்க்கையின் பாதையில்
துணிந்து செல் !!

உன் முயற்சிக்கு
முற்றுப்புள்ளி வைக்காதே
ஏனென்றால் வாழ்க்கையின்
உயரம் முடிவில்லாத ஒன்று.

By
MAHALAKSHMI.P

STUDENTS ACHIEVEMENTS



Our student Mr. Nivas S, IV Year EEE received prize for Vote Awareness Contest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KOWSALYA R
EEE
PRIYADHARSHINI T
EEE

⚡ Thank You for Flipping the Switch with Us! ⚡

As we bring this edition of VOLTRIX 2022-23 to a close, we extend our heartfelt gratitude to all the contributors, staff, students, and well-wishers who helped turn this idea into a vibrant reality.

This magazine is a testament to the passion, creativity, and determination of the Electrical and Electronics Engineering Department. Every article, poem, artwork, and innovation featured here reflects the energy that powers our department — not just in circuits, but in spirit.

May this issue ignite curiosity, spark new ideas, and continue to connect minds through the shared joy of learning and discovery.

Stay inspired. Stay charged. See you in the next edition!

With warm regards,

Team VOLTRIX

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