

VISION

Department of Electrical and Electronics Engineering is committed to produce high profile, **competent** and **disciplined** Engineers with **technical knowledge**, ethical leadership and **entrepreneurship** quality to contribute towards social transformation and nation building.

MISSION

M1: To make our graduates **highly competent** and experts in practical problem solving with abstract thinking skills.

M2: To endow students with high quality **technical knowledge** of electrical sciences through innovative teaching and research practices.

M3: To empower students with leadership and **entrepreneurship** quality, capable of providing their professional mettle with excellent communication skills.

M4: To encourage **cross border research** with innovative ideas and to impart the quality of life-long learning based on ethical values.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1 :Graduates will be able to use broad knowledge of basic sciences and electrical engineering for ongoing learning, and to become a pioneer in providing solutions for technical problems.

PEO2 :Graduates will be able to use creative and critical reasoning skills to solve technical problems, ethically and responsibly, as a service to society.

PEO3 :Graduates will be able to adapt themselves to the constantly evolving technologies by pursuing higher studies in engineering and management.

PEO4 :Graduates will be able to demonstrate commitment while working with diverse groups and lead the organization competitively.

PEO5 :Graduates will be able to become an entrepreneur or be part of product and service based industries pertaining to electrical engineering .

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Able to utilize the knowledge of Power Electronics and Drives, Embedded systems, and Power Systems in an innovative, dynamic, and challenging environment.

PSO2: Can explore the scientific theories, ideas, and methodologies in renewable energy engineering, and use this erudition in their professional development and gain sufficient competence to solve the present and future energy related issues globally.

PSO3: Can understand and apply modern software tools for design, simulation, and analysis of electrical and electronic principles to model, install, test, and maintain power system enterprise and electrical vehicle applications.

Knowledge and Attitude Profile (WK)

WK1: A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.

WK2: Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.

WK3: A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.

WK4: Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.

WK5: Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.

WK6: Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.

WK7: Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.

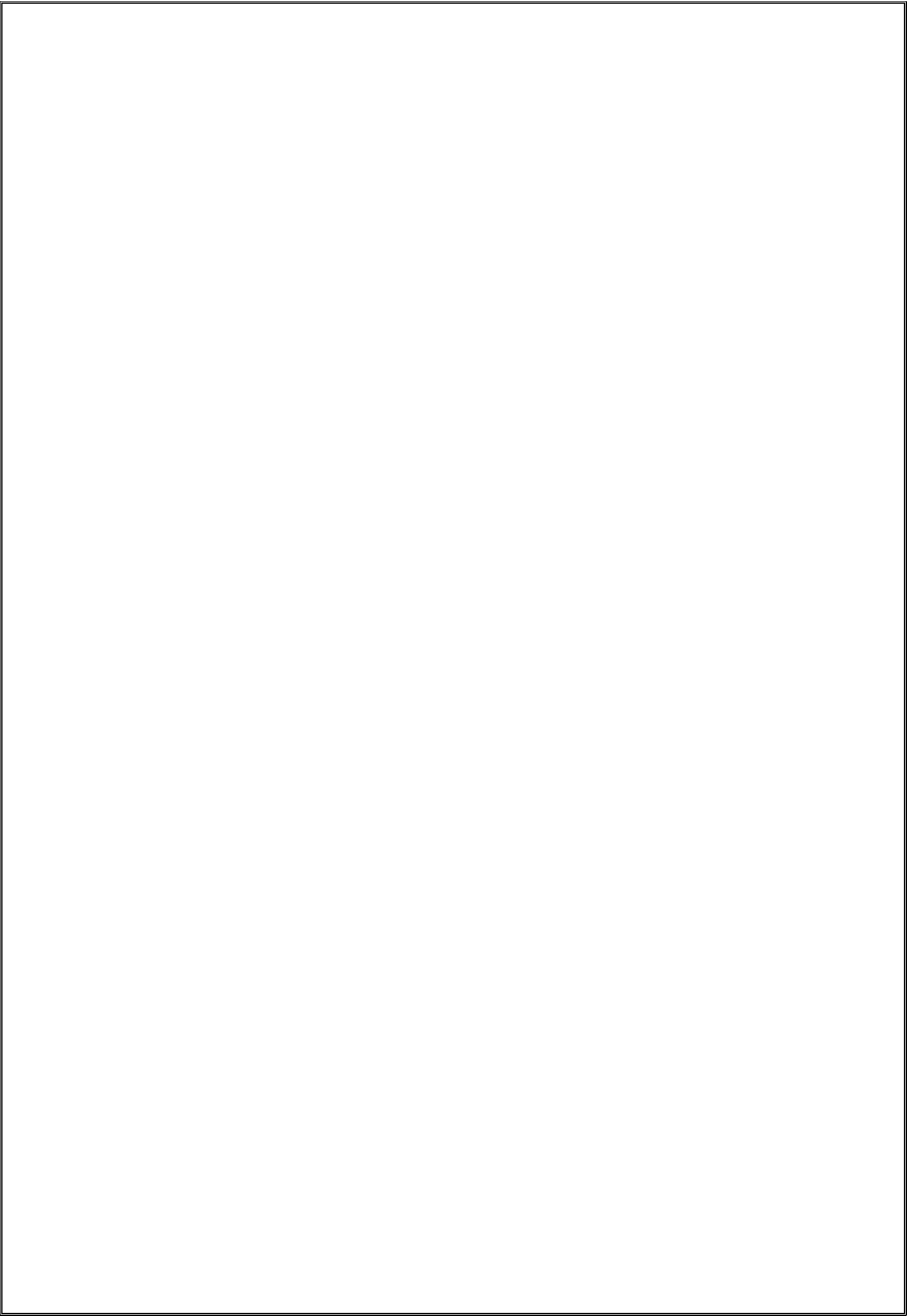
WK8: Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

WK9: Ethics, inclusive behavior and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

- PO1: Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.
- PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
- PO3: Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
- PO4: Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8)
- PO5: Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)
- PO6: The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7)
- PO7: Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
- PO8: Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
- PO9: Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.
- PO10: Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
- PO11: Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)



ELECTRICAL AND ELECTRONICS ENGINEERING



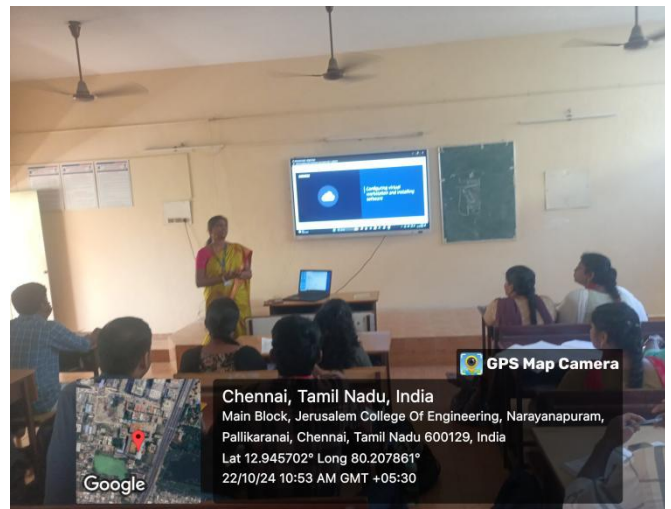
Inauguration of Association of EEE (AEEE) was conducted on 04.09.2024 at Auditorium. **Mr.S.Asokan**, Senior Manager, NTPC Ltd., was the resource person for the inauguration.



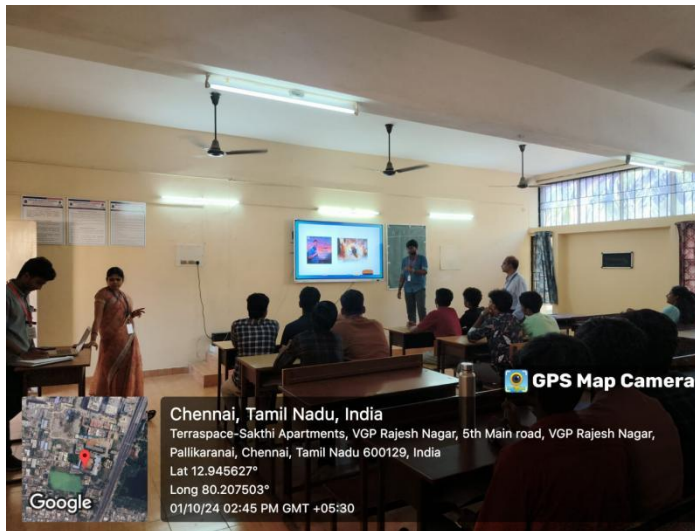
Workshop on “**Robotics & Automation**” for the EEE students from 03.10.2024 to 05.10.2024 at PSS Laboratory. **Mr.Arun Kumar**, Vice President , Retech Solutions Pvt Ltd., was the resource person.



Guest Lecture on “**Electric Vehicles and Battery Technology**” was organized for the EEE students on 06.08.2024 at Auditorium. **Mr.D.Vijayakumar** Head-Operations & Technology, Team Energy Electric Venture Pvt Ltd., and Rajkumar Dhananjayan, Director, Team Energy Electric Venture Pvt Ltd., was the resource person.



Hands on Training was organized for the EEE students on the topic “**Design of BDLC Motor for Electric Vehicle**” on 22.10.2024 at M209 and the resource person was **Dr.L.Kurinjimalar**, Associate Professor (EEE), Sri Sairam Engineering College was the resource person.



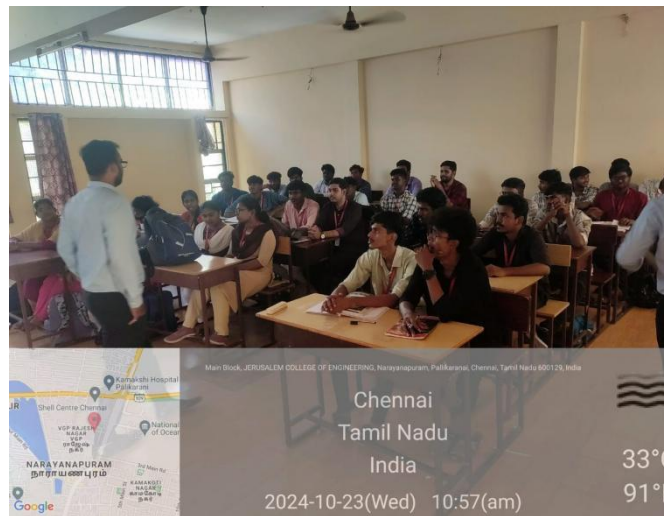
Interdepartmental Technical Event under Electronics Club “**Technical Connections**” was conducted by EEE students on 01.10.2024. The event was coordinated by **Ms.S.Rudhra** and **Ms.D.Usha**.



An Alumni Guest lecture was .organized for EEE students on “**Career Guidance for Higher Education**” on 02.09.2024 at LH 208. **Mr.Sriram** was the Resource Person.



Guest Lecture on “**Career Pathways and Guidance for Success in the Government Sector**” was organized for the EEE students on 04.09.2024 at Auditorium. **Mr.S.Asokan**, Senior Manager, NTPC Ltd., was the resource person.



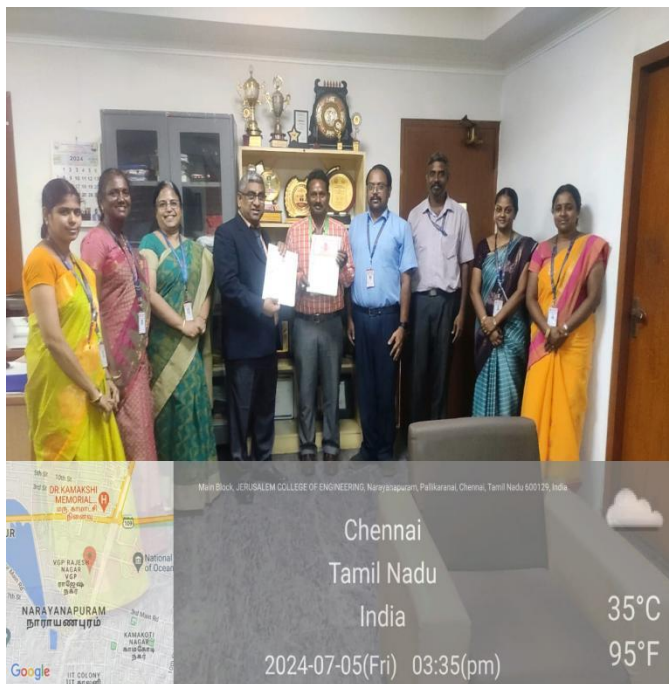
Seminar on “**GD & T- Geometric Dimensioning & Tolerancing**” was organized for the EEE students on 23.10.2024 at LH 207. **Mr.Senthil.K**, CADD Centre was the resource person.



Five Days **Value Added Course** was conducted for the second year EEE students on **Solar Panel Installation and Commissioning** in association with Tamilnadu Electrician Welfare Association (**TNEWA**), Community College, Arumbakkam, Chennai from 07.08.2024 to 11.08.2024.



The **Parent-Teacher's Meeting** was conducted for the second, third and the final year EEE students on 14.09.2024. All the parents attended the meeting.



Memorandum Of Understanding MOU was signed between **EEE Department, JCE and TEEV- Team Energy Electric Ventures Pvt Ltd.,** Chennai on 05.07.2024. Mr.D.Vijayakumar, Operations and Technical ,Team Energy Electric Ventures Pvt Ltd.,(TEEV) was the resource person.



On July 26, the Department of Electrical and Electronics Engineering signed a Memorandum of Understanding with TNEWA (Tamil Nadu Electrician Welfare Association).



Memorandum Of Understanding MOU was signed between **EEE Department, JCE and TNEWA-TamilNadu Electrician Welfare Association-Arumbakkam,Chennai** on 26.07.2024. Mr.M.J.Nagalingam, Centre Head, TNEWA Community College, Arunbakkam, Chennai was the resource person



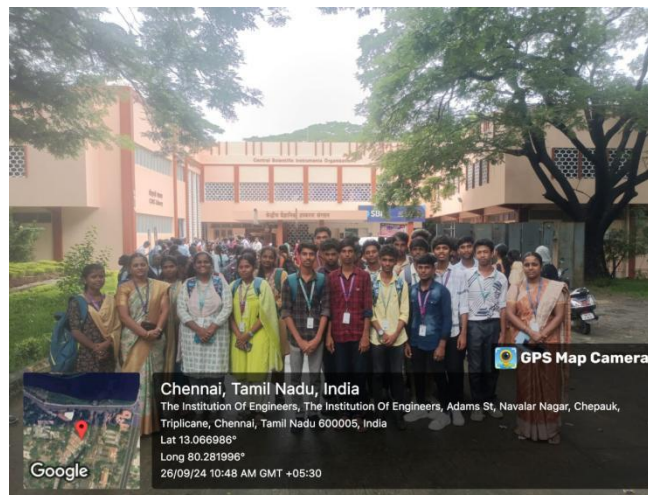
Counselling Session was given to final Year EEE Students to get motivated for their placement was conducted on 08.08.2024 at LH 24. **Mr.Riyaz** , Internal Counselor was the resource person.



Guest Lecture on the topic "**Power BI**" was conducted for the students on 30.09.2024. **Mr. Vivek Suresh**, Co-founder and CEO, Ylogx Private Ltd-Kochi, India was the resource person.



An Industrial Visit to CIIC-Crescent Innovation & Incubation Council 2024 in Chennai Crescent University , Chennai on 05.08.2024.



An Industrial Visit to CSIR-Centre for 2024 in CSIR,Taramani , Chennai on 26.09.2024

Faculties as Resource Persons in Conferences

Sl. No	Name of the Resource Person	Title	Name of the Institution	Date
1	Dr.V.Jamuna	39th National Convention of Electrical Engineers and National Conference on "Green Hydrogen, Electric Vehicles and Energy Storage Systems"	Institution of Engineers, TamilNadu	25.10.2024 to 26.10.2024
2	Dr.S.Vinod	International Conference- ICPECC-2024	New Prince Shri Bhavani College of Engineering and Technology	04.08.2024

Conference Attended by Faculties

Sl. No	Name of the Faculty	Title	Name of the Institution	Date
1	Dr.S.Vinod and Mr.J.Arul Prakash	A Single Phase Double Boost Minimum Components Switched Capacitor Inverter.	ICEES 2024- Sri Sivasubramaniya Nadar College of Engineering, Chennai	22.08.2024 to 24.08.2024
2	Dr.S.Vinod and Mr.J.Arul Prakash	Minimum Switch Double Boost Switched Capacitor Inverter with Phase Disposition PWM Control	ICEES 2024- Sri Sivasubramaniya Nadar College of Engineering, Chennai	22.08.2024 to 24.08.2024
3	Dr.S.Vinod and Ms.S.Rudhra	Investigation of Space Vector Controlled Multi-Level Induction Motor Drive for Electric Vehicle Application	ICPECTS-2024- Sri Sairam Engineering College	08.10.2024 to 09.10.2024
4	Dr.V.Jamuna, Ms.D.Usha, Ms.Sivajothi Kavitha	Linear and Non-Linear Controllers for Dc-Dc Converter-A Comparative Study	National Conference- Institution of Engineers, TamilNadu	25.10.2024 to 26.10.2024

FDPs Attended by Faculties

Sl. No	Name of the Faculty	Title	Name of the Institution	Date
1	Mr.J.Arul Prakash	ATAL FDP on "Recent Trends in Power Engineering and Electric Vehicle Technologies"	Chennai Institute of Technology	21.10.2024 to 26.10.2024
2	Ms.S.Rudhra and Ms.D.Usha	FDP on "Power Electronics for Renewable Energy Systems"	St.Joseph's Institute of Technology, Chennai	01.07.2024 to 08.07.2024

Workshop Attended by Faculties

Sl. No	Name of the Faculty	Title	Name of the Institution	Date
1	Mr.J.Arul Prakash	Two Days I&E Training & Exposure Visit- IIC Mentor-Mentee Scheme	Vinayaka Missions Kirupananda Variyar Engineering College, Salem.	18.07.2024 and 19.07.2024

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Sanctioned Funded Projects

Sl. No	Name of the Investigator	Title	Amount	Year applied
1	Dr.V.Jamuna and Ms.S.Bhavanisankari	Women Entrepreneurship Development Programme(WEDP)	Rs.2,00,000/-	DST-NIMAT-2024

Patent Filed:

Sl. No	Name of the Investigator	Title	Year applied
1	Dr.V.Jamuna, S.Sivajothi Kavitha, D.Usha	SMART AIR QUALITY MONITORING SYSTEM	2024
2	Dr.S.Vinod,Ms.S.Rudhra, Mr.J.Arul Prakash	SMART IRONBOX	2024
3	Dr.S.Vinod,Ms.S.Rudhra, Mr.J.Arul Prakash	SOLAR BASED HILL AND STEP CLIMBING CHAIR	2024

Project Presentation

Sl. No	Name of the Student	Year	Event/Institution
1	Ms.R.Grishma	III	Project Presentation- Solar Water Heater/ Institution of Engineers- Adhiyamaan College of Engineering
2	Ms.R.Grishma and B.Aravinth Balaji	III	Paper Presentation/ SRM Valliammai Engineering College
3	Visten Povas Solomon, T.Dhanalakshmi, S.Divyalakshmi	IV	Project Presentation-Phishing URL detector based on Machine learning- Institution of Engineers, Hosur.