

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.

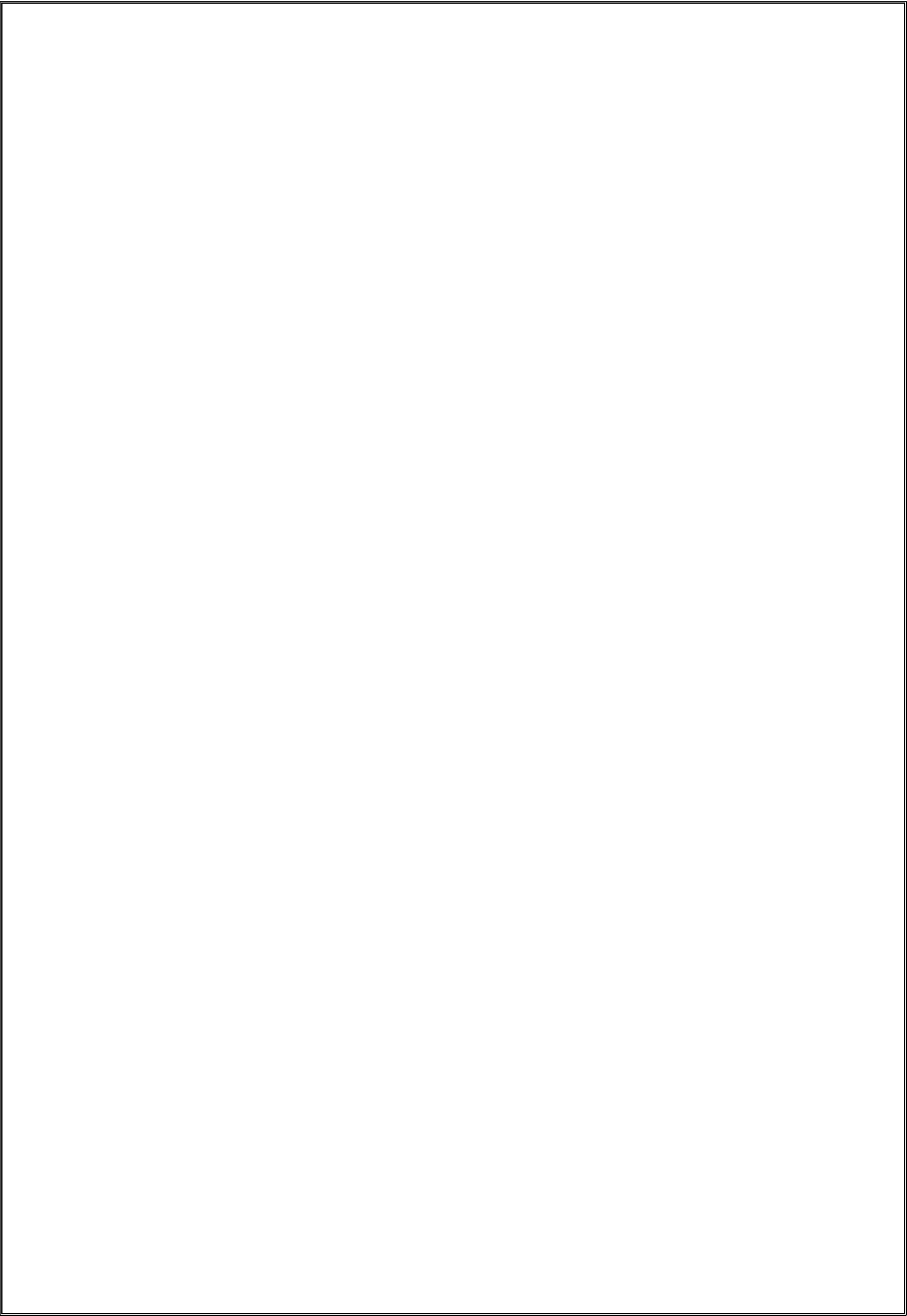
WK8: Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

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)



DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

JANUARY 2024 TO JUNE 2024



Inauguration of **IE(I) Student Chapters** was conducted on 05.03.2024 at Auditorium. **Dr.V.Karthikeyan, Chairmain,IE(I), TNSC** was the resource person for the inauguration.



Workshop on the topic "**An Overview of MEP Service in Building industry**" for the EEE students on 17.02.2024. **Er. Imran Sheriff (MEP Project Manager)** and **Er. Mohammed Sajid S (Senior MEP Design Engineer)** **UNIQUE MEP Engineering Academic Pvt.Ltd Chennai** were the resource person for the workshop.



Guest Lecture on "**Kinematics of Industrial Robots**" was organized for the EEE students on 21.02.2024 at LH 27. **Mr.Sriram Nagarajan, CEO & Co-Founder - ROBORAM** was the resource person.



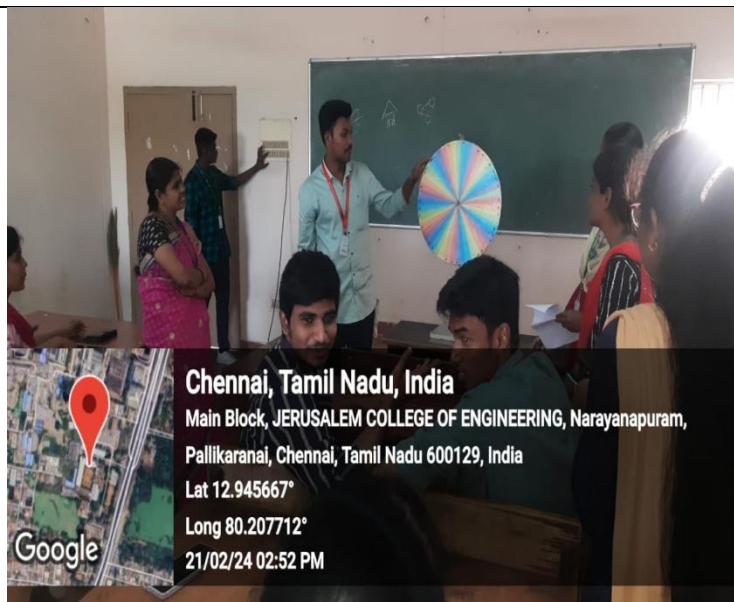
Guest Lecture on "**Solar Training**" was organized for the EEE students on 23.02.2024 at seminar hall. **Mr.M.J.Nagalingam, Centre Head, TNEWA Community College, Arumbakkam, Chennai** was the resource person.



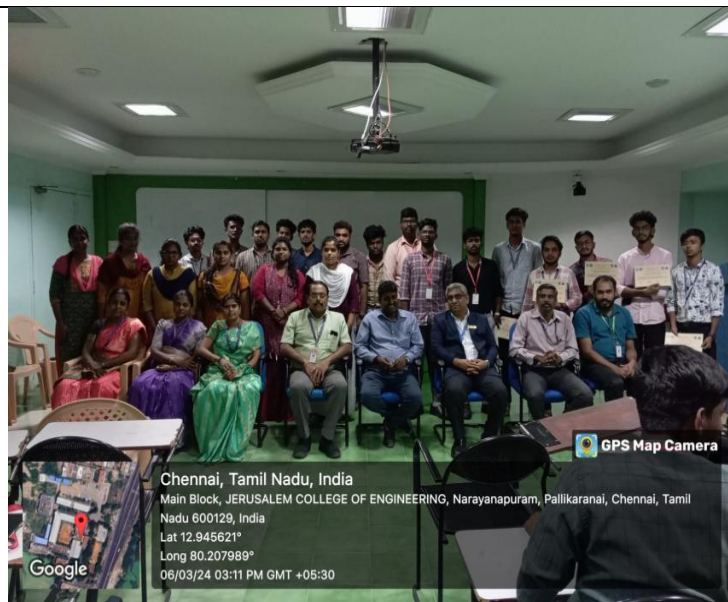
Guest Lecture on "**Career Guidance for Higher Education**" was organized for the EEE students on 26.02.2024 at LH-26. **Mr.Prithvin Rajendran, Proprietor, Prime Educators** was the resource person.



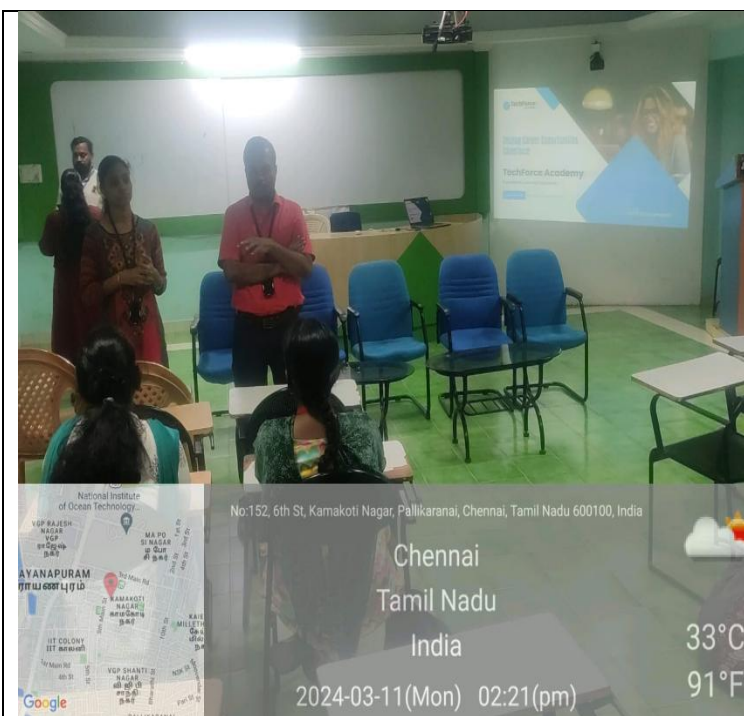
EEE Department has organized a **DST Sponsored Two Days Workshop** on "**Empowering School Teachers with Science Teaching Skills**" on 08.02.2024 and 09.02.2024. **Dr.R.Srinivasan, Member Secretary, TNSCST** was the resource person.



Interdepartmental Technical Event under Electronics Club titled "**Resolve and Revolve**" was conducted by EEE students on 21.02.2024. The event was coordinated by **Ms.S.Rudhra and Ms.D.Usha**.



Two Days All India Workshop on "**Grid Integrated Renewable Energy Systems**" from 05.03.2024 to 06.03.2024 at Seminar Hall. **Mr.S.Singaravelan, Scientific Officer (Retd), Kudankulam Power Plant** **Dr. J.Arivudainambi, Council member, TNSC** were the resource Person.



Guest Lecture on “**Career Guidance**” was organized for the EEE students on 11.03.2024 at LH 27. **Mr.Vijay, Career Coach and Sales, Tech Force Academy** was the resource person.



Seminar on “**Embedded Systems and IOT**” was organized for the EEE students on 18.03.2024 at LH 27. **Mr.D.A.Anand, Regional Technical Head, IPCS Global** was the resource person.



Five Days **Value Added Course** was conducted for the second year and third year EEE students on **Solar Panel Training** in association with **Tamilnadu Electrician Welfare Association (TNEWA), Community College, Arumbakkam, Chennai** from 12.03.2024 to 16.3.2024.



The **Parent-Teacher’s Meeting** was conducted for the second, third and the final year EEE students on 16.03.2024. All the parents attended the meeting.



Memorandum Of Understanding MOU was signed between **EEE Department, JCE and CADD INFOTECH #02, 1st Floor, Rangasamy Street, Chennai-44** on 27.03.2024. **Mr.S.Ananthan, Business Development Manager** was the resource person.



Five Days **Value Added Course** was conducted for the third year and second year EEE students on **REVIT CADD** in association with **CADD INFOTECH, Chrompet** from 03.04.2024 to 07.04.2024.



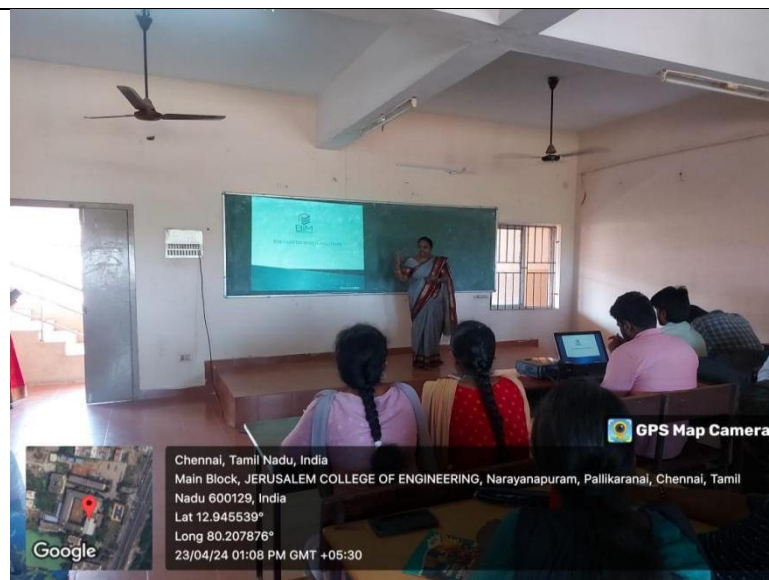
Expert Talk & Demo Day on the topic “**Technology Transformation**” for the EEE Students on 12.04.2024 at seminar hall. **Mr.Lokesh Aravindan, Tech-iera Innovations Pvt., Ltd.,** was the resource person. Ms.S.Sivajothi Kavitha, Assistant Professor, EEE Dept,JCE was the staff coordinator.



Internal BOS Meeting was conducted on 28.05.2024 in the board room. The syllabus was framed.



An **Project Expo** was organized for the EEE students on 17.04.2024 at Machines Laboratory. **Dr.S.Ramesh, Principal, JCE, Dr.Sundaramoorthy, HOD-IT** were the resource person for the project expo.



Guest Lecture on the topic "**BIM Impact, Scope and Benefits on Engineering Industry**" was conducted for the EEE students on 23.04.2024 at LH-27. **Mrs. Jayanthi Arumugam, Managing Director, BIM Cadd Centre** was the resource person.



An Industrial Visit to **Renewable Energy Expo 2024** in Chennai Trade Centre, Nandhambakkam, Chennai. was organized for EEE students on 08.02.2024.



The third year EEE students **Vasanth.K, Dharun.A, A.Visten Povas Solomon and S. Divyalakshmi** demonstrated a project titled **Power Rover** in **IITPals Innawah in Intercollegiate Innovative Product Development Contest** in IIT, Madras.

Publications of Papers in Journals

Sl. No	Name of the Author	Title	Name of the Journal	Date
1	Jamuna Venkatesan, Rekha Yoganathan T.V.Narmadha, I.Williams Christopher	Performance Comparison of a DC-DC Boost Converter with conventional and -linear SMC Controller in Dual loop Structure	Electric Power Components and Systems	10.1080/15325008.2024-2340744
2	S.Rudhra, S.Vinod, M.Balaji, J.Arul Prakash	An Initiative towards Efficient and Sustainable V2G Technology Fed STATCOM for Grid connected Wind Energy System	The Journal of Electrical Systems	1052783/jes40872024-2340744
3	Femi.R, Valatina Stephen, S.Vinod, Rampresad Reddy	Improving Performance of Solar Array Fed BLDC Drive using Firefly Algorithm Based High Gain Converter	The Journal of Electrical Systems	1052783/jes40872024-2340744

Faculties as Resource Persons in Conferences

Sl. No	Name of the Resource Person	Title	Name of the Institution	Date
1	Dr.S.Vinod, Associate Professor, Jerusalem College of Engineering	Chief Guest and Session Chair- International Conference -ICPECC - 2024	New Prince Shri Bhavani College of Engineering and Technology	04.05.2024

FDPs Attended by Faculties

Sl. No	Name of the Faculty	Title	Name of the Institution	Date
1	Dr.S.Vinod and Ms.S.Rudhra	FDP on ICT Integrated Evalaution in Outcome based Education	AMET University	05.01.2024-12.01.2024
2	Ms.D.Usha	PALS VLAB DOMAIN SPECIFIC SESSION	Online	10.04.2024

Worshop Attended by Faculties

Sl. No	Name of the Faculty	Title	Name of the Institution	Date
1	Dr.S.Vinod, Ms.S.Rudhra and Mr.J.Arul Prakash	DST Sponsored Four Weeks Technical Entrepreneurship Development Program on "Tech Fusion Ventures;The Accelerated Path to Entrepreship Success"	AMET	29.01.2024 to 23.02.2024

Conference Attended by Faculties

Sl. No	Name of the Faculty	Title	Name of the Institution	Date
I n d i a n U n i v e r s i t y o f E n g i n e e r i n g T e c h n o l o g y	1 Dr.V.Jamuna, S.Sivajothi Kavitha, D.Usha, P.Madhu	“ Solar- Powered Boost-flyback Converter for efficient Warehouse Monitoring with Flack Droid”	International Conference on Informatics and Smart Engineering Systems (INSES 2024) LOYOLA - ICAM COLLEGE OF ENGINEERING AND TECHNOLOGY (LICET) Chennai, India	21.03.24/ FN
	2 Dr.V.Jamuna, S.Sivajothi Kavitha, D.Usha,S.Divyalakshmi	“Weed-wise Precision Flora cutter Bot”	National Level Conference on Emerging Trends in Electronics, Communication and Computing Technology (NCETECCT 2024) Jerusalem College of Engineering	07.05.2024
	3 Dr.S.Vinod, Ms.S.Rudhra, Mr.J.Arul Prakash, Mr.A.Joshwa Solomon	“ Control of Traffic Light with Security Authentication”	National Level Conference on Emerging Trends in Electronics, Communication and Computing Technology (NCETECCT 2024) Jerusalem College of Engineering	07.05.2024
	4 Dr.S.Vinod, Ms.S.Rudhra, Mr.J.Arul Prakash,B.Hemalatha	Series Resonant based neural network controlled Full Bridge High Frequency inverter for induction heating applications	Fifth National Conference on "Recent Trends in Power and Energy Engineering - 2024 - SSN	March 2024
	5 Dr.S.Vinod, Ms.S.Rudhra, Mr.J.Arul Prakash, R.S.Herlin Shaba	Design and development of RELIFT converter with artificial neural fuzzy based MPPT for EV charging station	Fifth National Conference on "Recent Trends in Power and Energy Engineering - 2024 - SSN	March 2024
	6 Dr.S.Vinod, Ms.S.Rudhra, Mr.J.Arul Prakash, V.Wesley Christo	Artificial neural network based power quality improvement using bi - directional three phase inverter for EV based grid connected system	Fifth National Conference on "Recent Trends in Power and Energy Engineering - 2024 - SSN	March 2024

Industrial Visit/ Educational Tours

Sl. No	Name of the Department	Name of the Company	Year	No of Students
1	EEE	Renewable Energy Expo 2024 in Chennai Trade Centre , Nandhambakkam, Chennai.	II,III and IV Year	54

Project Presentation

Sl. No	Name of the Department	Name of the Student	Year	Event/Institution
1	EEE Department	Mr.K Vasanth, Mr.A.Dharun, Mr. Visten Povas Solomon, Ms.S. Divyalakshmi	III Year	23.03.2024- Project Expo - INNOWAH- Intercollegiate Innovative Product Development Contest-IIT Madras