Volume: 1, Issue :1

# V.S.B. ENGINEERING COLLEGE,KARUR
## (AN AUTONOMOUS INSTITUTION)

## ELEXER'24

### Department of Electrical & Electronics Engineering

## CHAIRMAN'S MESSAGE

Our college was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set in the field of teaching and researches spur us on in our relentless pursuit of excellence.

In fact, it has become a way of life for us. The highly motivated youngsters on the campus are a constant source of pride. Electrical and Electronics Engineering (EEE) shapes its students' future by fostering a teamwork approach to instruction, encouraging interaction with faculty, providing access to high tech information, motivating them to develop new ideas and concepts, taking personal interest in students' career development and preparing them for success.

EEE has an ethos of its own, different from others. At a time when altruistic ideals and civic interests seem to have given way to power goals and heightened interest maintain status quo nor settle for observing change; they rather hope to be powerful instruments of change using their dynamic verve to make their contributions to the world. I look back with an enormous sense of pride, the amazing progress that the EEE department has made within a short span of time. This would not have been possible with-out the valuable support and contribution of faculty, student community, parents and my well wishers. I strongly believe that serious, sincere and systematic services, surely secure supreme success.


## PRINICIPAL'S MESSAGE

A Effective Source of Technical Manpower for the Nation and to contribute to the growth of the Nation by constantly upgrades the quality of Technical Education by meeting the challenges needs of the twenty first century and effectively coordinating and the activities of the Staff, Students and the Industry while keeping up the ethical and moral standards required.

EEE is a continuously evolving subject. As technology has advanced, so have the challenges facing the modern engineer. A silicon chip containing over 100 million transistors in an area no larger than a postage stamp is yesterday's news. EEE is a subject that naturally partners with other disciplines to open whole new engineering avenues. Examples include Mechatronics - with Mechanical Engineering, Bio-medical Sciences-with Medicine and Avionics-with Aeronautics. The EEE Department at V.S.B. Engineering College prepares students in this field using new-age information and computer-intensive technologies.

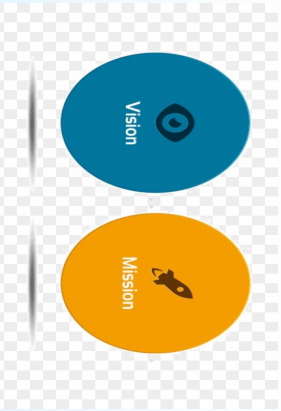
The undergraduate degree courses offered by the department provide a comprehensive foundation in the core topics of EEE coupled with an area of specialization relevant to emerging engineering challenges. The curriculum has been designed to create professional electrical and electronic engineers, who can serve in the fields of core electrical engineering, information and communication systems, and other related fields

The faculty in the department is a rich blend of personnel with industrial and professional experience. The dedicated staff members have sound knowledge in emerging areas like embedded systems, power electronics applications in power systems, expert systems, etc .

### Inside this issue:



# VISION AND MISSION




## Vision

- To create dynamic and challenging electrical engineers with social responsibilities.

## Mission

- To provide technical proficiency by adopting well defined teaching learning process.
- To create an environment to practice ethical codes.
- To prepare the graduates to be professionally competent to meet out the industrial needs.
- To motivate the students to pursue higher studies and research activities.

### Programme Educational Objectives (PEOs)

**PEO #1:** Have a successful career in core and allied engineering or associated industries or in higher education or as entrepreneurs or in research.
**PEO#2:** Provide the optimal solution for complex engineering problems in chosen Technical areas.
**PEO#3:** Exhibit continuous improvement in their profession through life-long learning.

### Program Specific Outcome (PSO)

**PSO1:** Provide optimal solution in the field of Power sector.
**PSO2:** Apply suitable Electronic controllers for Power conversion, Control and Automation.
**PSO3:** Make use of appropriate technique and modern tools to analyze and evaluate the performance of Electrical machines and Electronic circuits

# FACULTY ACHIEVEMENTS

## NPTEL

| S. No | Name of the staff | Designation | Result |
|---|---|---|---|
| 1 | Dr.G.Saravanan | Professor | Elite |
| 2 | Dr.R.Meenal | Associate Professor | Elite |

NPTEL™

# PUBLICATION DETAILS

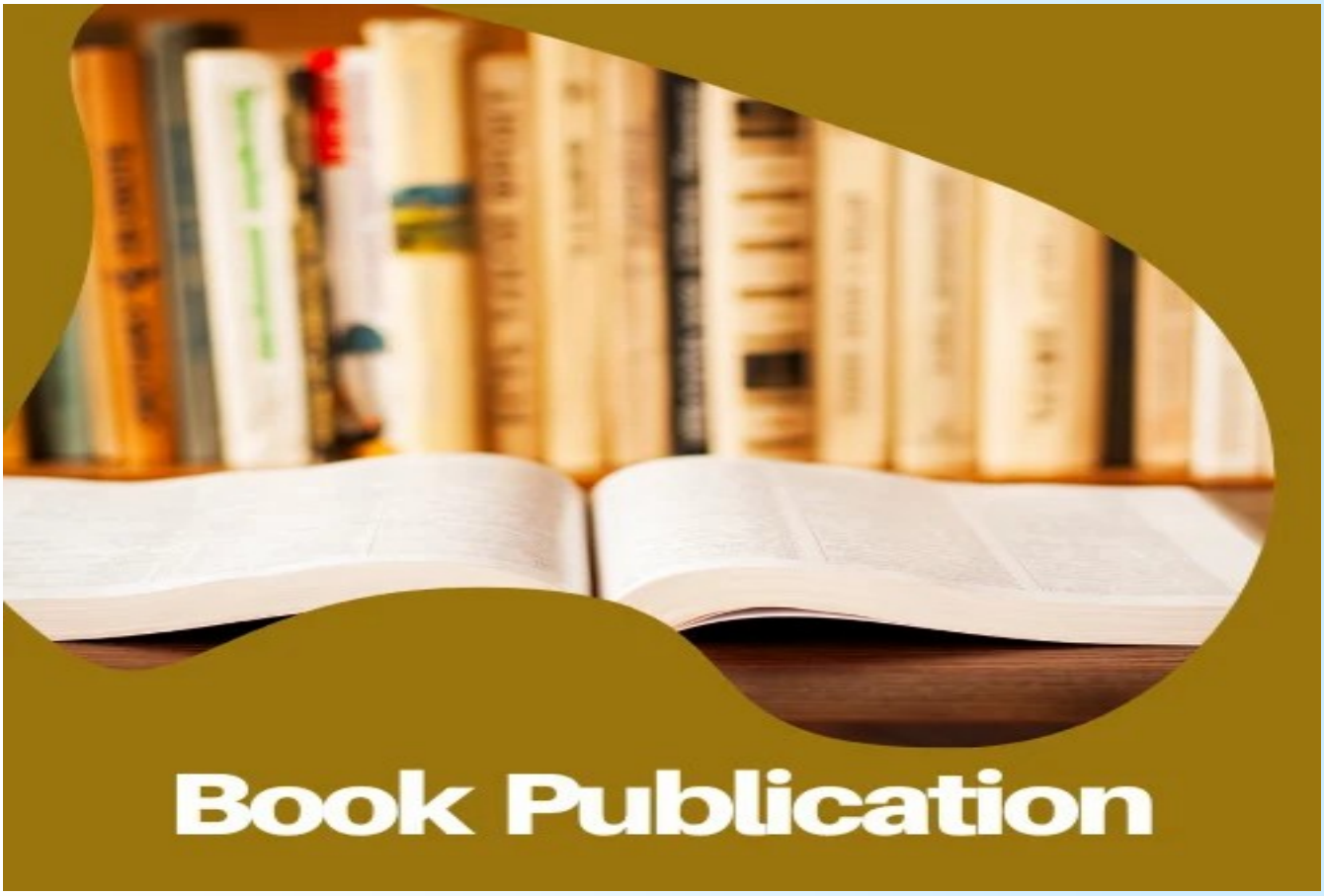
| S. No | Title of the Paper | Name of the Author | Name of the journal | Year |
|---|---|---|---|---|
| 1 | Efficient Reactive Power Control for Enhance Distribution Systems using Predictive Power Control Algorithm | Dr.K.Umamaheswari | IEEE Explore, International Conference on Electronics, Computing, Communication and Control Technology (ICECCC) | 2024 |
| 2 | A Comprehensive Design of Regulated Voltage Flow Control Mechanism using DC-to-DC Boost Converter | Dr.B.Senthilkumar | IEEE Explore, Fourth International Conference on Smart Technologies in Computing, Electrical and Electronics | 2024 |
| 3 | Experimental Analysis of Malware Detection and Classification System using Intelligent Deep Learning Methodology", | Dr.B.Senthilkumar | IEEE Explore, Fourth International Conference on Smart Technologies in Computing, Electrical and Electronics (ICSTCEE) | 2024 |
| 4 | Underwater wireless power transfer electric vehicle | Dr.P.Arulkumar | REDVET - Revistaelectrónica de Veterinaria | 2024 |
| 5 | Adaptive SMC for modified three phase bridgeless Vienna rectifier for Electric Vehicle Applications | Dr.P.Arulkumar | International Conference on Power, Energy, Control and Transmission Systems (ICPECTS) | 2024 |
| 6 | Performance enhancement of photovoltaic panels in solar energy systems using deep learning algorithm | Dr.G.Saravanan | Casiersmagellanes-NS | 2024 |
| 7 | Seismic Safeguard Based on Intelligent System and Power Management, | Dr.G.Saravanan | International Conference on Electronics, Communication and Signal Processing (ICECSP) | 2024 |
| 8 | Forecasting hourly short-term solar photovoltaic power using machine learning models | Dr.R.Meenal | International Journal of Power Electronics and Drive Systems (IJPEDS) IEEE Xplore | 2024 |
| 9 | Designing energy efficient dc robotic machines with advanced cyber security for a smart grid system | Mr.R.Sivakumar | Competes Rendus De I'Academiebulgare Des Sciences | 2024 |
| 10 | Interval type 2 fuzzy PI-enhanced state space model for battery management in battery electric utility vehicles operating in an indoor logistics environment | Mr.R.Arunkumar | Bulletin Of The Polish Academy Of Sciences Technical Sciences | 2024 |
| 11 | Reinforcing smart grid integrity: an enhanced cyber security framework for plug-in hybrid electric vehicles | Mr.R.Arunkumar | Electrical Engineering, Springer | 2024 |
| 12 | Diagnosis of Diabetic Retinopathy Using Hierarchical Feature Learning and Modified CNN with ACAF | Mr.R.Arunkumar | 4th International Conference on Sustainable Expert Systems (ICSES) | 2024 |
| 13 | Design and Implementation of Accident Prevention with Alert Messages and Motion Sensors for Mountain Road Safety | Mr.B.Prasanth | International Conference on Electronics, Communication and Signal Processing (ICECSP) | 2024 |
| 14 | Design and Implementation of seasonal based system using intelligent Controller | Mr.S.Rajesh | 2024,Ineternal Conference on innovative Computation Technologies (ICICT) | 2024 |

# PAPER PUBLICATION

| Sl. No. | Title of the Paper | Name of the Author | Name of the journal | Year of publication |
|---|---|---|---|---|
| 15 | Optimizing grid-connected solar PV-powered smart homes: IoT-based energy management systems using AOA-PHNN approach | Dr. P. Arulkumar | Electrical Engineering | 2024 |
| 16 | Advanced wastewater treatment using energy --Efficient fenton process optimised with deep learning | Dr.I.Kathir | Oxidation Communications | 2024 |
| 17 | Innovative Antenna Creations for Enhancing Accessibility and Telecommunication Effectiveness: Expanding Cellular Infrastructure Implementation | Dr.R. Meenal | IEEE Xplore | 2025 |
| 18 | Cloud-Iot framework for EV charge station allocation and scheduling:A A Spotted Hyena Jellyfish Search Optimization Approach | Dr.G.Saravanan | Sustainable Computing: Informatics and | 2025 |
| 19 | An extensive critique on advances in digital control techniques for smart grid and micro grid operation | Mr.R. Sivakumar | IEEE Xplore | 2025 |
| 20 | Decentralized and Distributed Control Strategies for Microgrids: A Review of Key Techniques and Applications | Mr.R. Sivakumar | IEEE Xplore | 2025 |
| 21 | Wireless Charging Technologies for Electric Vehicles: State of the Art and Future Outlook | Mr.R.Subramani rao | IEEE Xplore | 2025 |
| 22 | Enhanced electrical and thermal energy storage systems performance in smart building using FLHNN and BWOA approach | Mr.B. Prasanth | Journal of Energy Storage | 2025 |
| 23 | Research on the application of artificial Intelligencein cyber security:Integrating advanced technologies to improve threat detection and response: | Dr.R.Meenal | IEEE Xplore | 2025 |
| 24 | IOT based rover dustbin | Karthi K | AIP Conference Proceeding | 2025 |
| 25 | Haversine Method And Lora for Monitoring Entry of Fishing Vessel in Marine Protected Areas | Arulkumar.P | Journal of Technology | 2025 |
| 26 | Development of a Distributed Battery Management System with Active Balancing for Electric Vehicles | Dr.G.Saravanan | Journal of Technology | 2025 |

# BOOK PUBLICATION

| S. No. | Name of the Faculty | Title of the book/chapters published | ISBN | Name of the publisher |
|---|---|---|---|---|
| 1 | Dr.G.Saravanan | Book Chapter-AI Driven Real Time Stock Market Analysis Using IOE | 9798369373675 | IGI GLOBAL |
| 2 | Dr.R.Meenal | A Comprehensive Review of Advanced AI/ML Applications In Solar Radiation Prediction- Chapter 9 | 978-93-48388-48-3, Ebook: 978-93-48388-40-7 | BP INTER |
| 3 | Dr.I.Kathir | Basic Electrical and Electronics Engineering | 9788184721188 | Anuradha Publications |
| 4 | Mr.R.Sivakumar | Identification and Prevention of Cyber-attacks in Industrial Smart grid | 978-81-984820-9-9 | Engineering Horizons |



# PATENT PUBLICATION

| S. No | Inventor Name | Title of the Invention | Patent Number | Published Date |
|---|---|---|---|---|
| 1. | Dr.I.Kathir | Smart Vehicle Monitoring System | 202441056572 | 02.08.2024 |
| 2. | Dr.I.Kathir | Alexa Controlled Electric Vehicle | 202441043352 | 14.6.2024 |
| 3. | Dr.P.Arulkumar | Solar Energy Based Underwater Wireless Power Transfer System | 202441043764 | 14.6.2024 |
| 4. | Dr.G.Saravanan | Seismic Safeguard Based On Intelligent System And Power Management | 202441043784 | 14.6.2024 |
| 5. | Dr.G.Saravanan | PV Fed DC Micro Grid System For Integration of PMSM | 202441063037 | 30.08.2024 |
| 6. | Dr.G.Saravanan | Artificial Intelligence Based Cloud Security Detecting Device | 426674-001 | 25.09.2024 |
| 7. | Dr.R.Meenal | Wireless Charger For Electric Vehicle | 419008-001 | 02.08.2024 |
| 8. | Mr.R.Sivakumar | A Cyber Secure Smart Grid Configuration For DC Supply Industrial Load | 202441042956 | 14.6.2024 |
| 9. | Mr.B.Prasanth | Vehicle Accident Prevention In Hilly Areas | 202441041581 | 7.6.2024 |
| 10. | Mr.S.Rajesh | IOT Based Patient Health Monitoring System | 202441042672 | 14.6.2024 |
| 11. | Mr.R.Subramanirao | Smart Agriculture Monitoring Using Fuzzy System | 202441043765 | 14.6.2024 |
| 12. | Dr.P.Arulkumar | Enhancing Power Stability In EV Charging With Grid-Photovoltaic (PV) Hybrid Systems And Machine Learning | 202521018490 | 3.3.2025 |
| 13. | Dr.K.Umamaheswari | Sustainable Energy Management For Smart Homes With PV Inverters And Battery Health Optimization | 202541021233 | 10.3.2025 |
| 14. | Dr.R.Meenal | Automated Solar Panel Maintenance: Enhancing Efficiency By Tackling Dust And Moisture Challenges | 202541030072 | 28.3.2025 |
| 15. | S.Rajesh | Solar Prediction For Reliable DC Micro grid Energy Supply | 202541021586 | 11.3.2025 |

# DESIGN PATENT

| S. No | Inventor Name | Patent Number | Published Date | Patent Type |
|---|---|---|---|---|
| 1. | Dr.G.Saravanan | 410327-001 | 13.03.2024 | Design |
| 2. | Dr.P.Arulkumar | 410325-001 | 13.03.2024 | Design |
| 3. | Dr.R.Meenal | 419008-001 | 04.06.2024 | Design |
| 4. | Dr.G.Saravanan | 426674-001 | 13.08.2024 | Design |

# GRANT RECEIVED

| Sl. No | Faculty Name | Project Title | Funding Agency | Amount |
|---|---|---|---|---|
| 1 | Dr.P.Arulkumar | Recent Advances in Hybrid Energy Storage Management System for Electric Vehicle Applications | Council of Scientific & Industrial Research | Rs.20,000 |

# CONSULTANCY PROJECT

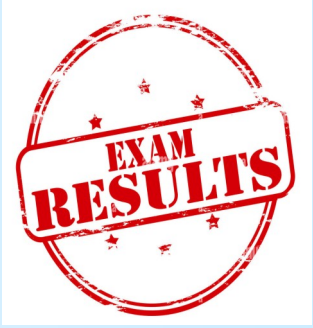
| Sl. No. | Name of the Faculty | Consultancy Agency | Revenue Generated in Rs. | Year |
|---|---|---|---|---|
| 1 | Dr.K.Umamaheswari<br>Mr.R.Sivakumar<br>Dr.I.Kathir<br>Mr.R.Arunkumar | Sky Solar Private Limited, Erode | 1,00,000 | 2024 |


# TOP RESULT

| Sl. No. | Name of the Faculty | Subject Name | % Result |
|---|---|---|---|
| 1 | Dr.K.Umamaheshwari | Renewable Energy Technologies | 100 % |
| 2 | Dr.R.Meenal | Human Values And Ethics | 100 % |
| 3 | Mr.R.Sivakumar | Power System Analysis | 100 % |
| 4 | Mr.K.Karthi | Special Electrical Machines | 100 % |
| 5 | Mr.R.Subramani Rao | Electric Vehicle Design Mechanics And Control | 100 % |
| 6 | Mr.R.Subramani Rao | Principle Of Management | 100 % |
| 7 | Mr.S.Rajesh | Energy Technology | 100 % |

# END SEMESTER RESULT

| Year | No. of Students Appeared | No. of Students Cleared | Pass (%) |
|---|---|---|---|
| I | 63 | 23 | 36.51 |
| II | 61 | 34 | 55.74 |
| III | 50 | 46 | 92.00 |
| IV | 66 | 66 | 100 |
| **Overall (%)** | | | **70.42** |



# STUDENTS ACHIEVEMENTS

## CO CURRICULAR ACTIVITIES

| Events | No. of Students Participated |
|---|---|
| Paper Presentation | 19 |
| Workshop | 9 |
| Project Presentation | 35 |
| International Conference | 11 |


## PRIZE WINNERS

| S. No | Name of the Student | Event | Organization | Prize Won |
|---|---|---|---|---|
| 1 | Hariharan C | Paper Presentation | KSR College of Engineering, Tiruchengode | Won II Prize |
| 2 | Prasanna S | Paper Presentation | KSR College of Engineering, Tiruchengode | Won II Prize |
| 3 | Raaj Suriya A S | Paper Presentation | KSR College of Engineering, Tiruchengode | Won I Prize |
| 4 | Ezhilarasan K | Paper Presentation | KSR College of Engineering, Tiruchengode | Won I Prize |
| 5 | Girinath M | Paper Presentation | Kongu Engineering College, Perundurai | Won II Prize and Received Cash prize Rs.1000 |
| 6 | Sanjay Esawaran | Paper Presentation | Kongu Engineering College, Perundurai | |
| 7 | Praneesh T | Paper Presentation | Kongu Engineering College, Perundurai | |
| 8 | Naveenkumar S | Paper Presentation | Kalaignar karunanidhi Institute of Technology, Coimbatore | Won III Prize |
| 9 | Nishanth P A | Paper Presentation | Kalaignar karunanidhi Institute of Technology, Coimbatore | Won III Prize |
| 10 | Barath S | Paper Presentation | Kalaignar karunanidhi Institute of Technology, Coimbatore | Won III Prize |


# NPTEL CERTIFICATION

| No. of Students Cleared | Elite | Elite + Silver |
|---|---|---|
| 14 | 4 | 2 |

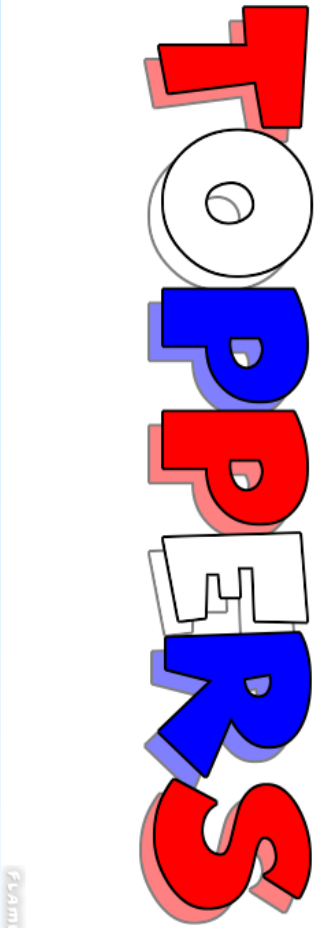
VANJINAYAKI V - III EEE
ELITE + SILVER

JOTHIS B - III EEE
ELITE + SILVER

# 25'BATCH PLACEMENT

| COMPANY NAME | OFFERS RECEIVED |
|---|---|
| CAPGEMINI | 24 |
| NISSI | 14 |
| KPIT | 3 |
| MAXOP | 3 |
| LTI | 2 |
| QUEST GLOBAL | 2 |
| HEXAWARE | 1 |
| PROPEL | 1 |
| COGNIZANT | 1 |
| ASAHI | 1 |
| SCHNIDER ELECTRIC | 1 |
| SPIC | 1 |
| OTHERS | 10 |

# DEPARTMENT TOPPERS




**NITHIS H A**
**I EEE**
**CGPA - 8.90**

**KURUPRASATH K C**
**II EEE**
**CGPA - 8.72**

**VANJINAYAKI V**
**III EEE**
**CGPA - 9.12**

**RAMYA R**
**IV EEE**
**CGPA - 9.28**

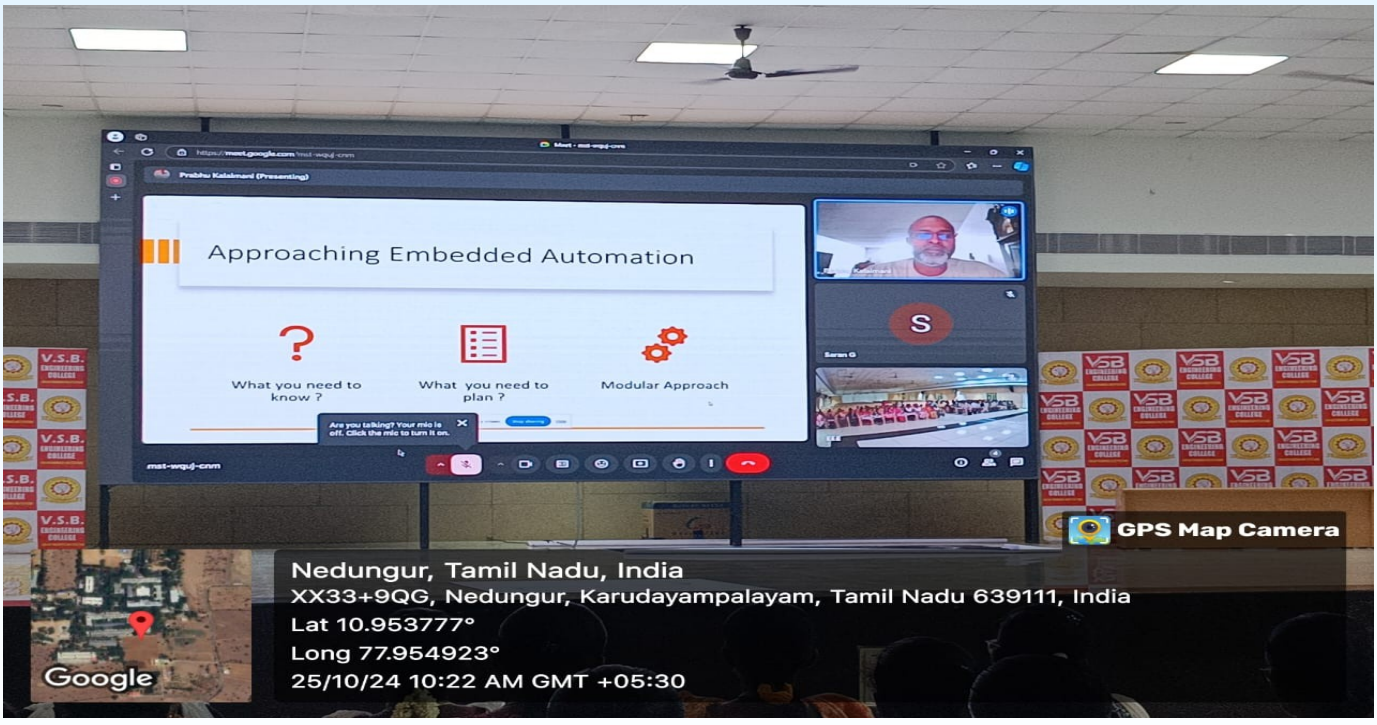
# INDUSTRIAL VISIT



**Industrial Visit of II EEE year students to Power Grid, K.Paramathi during 05.09.24 & 06.09.24**

# INNOVATIVE SESSION

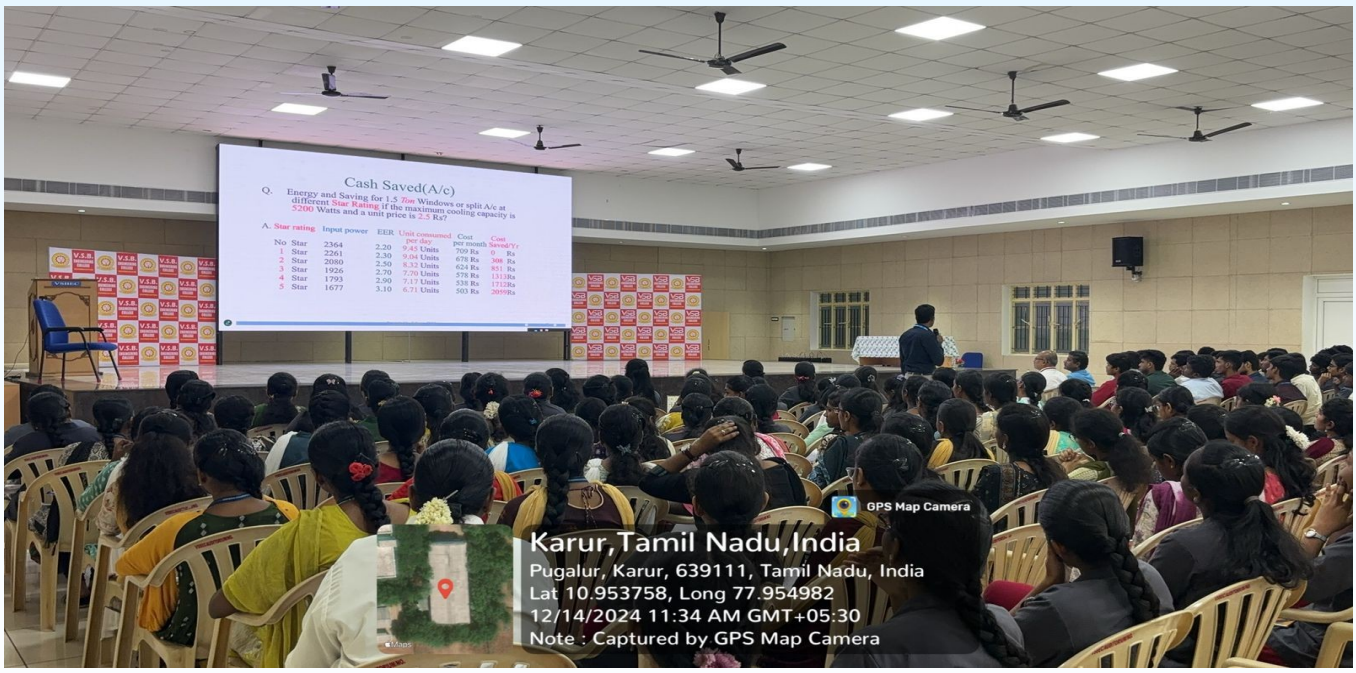

Innovative session was delivered on the topic of **"Data Analytics"** by guest speaker **Mrs.Saranaya Palanisamy**, Senior developer, Cognizant Technology Solutions , Chennai on 31.08.24.




Resource person **Er.Prabhu Kalaimani** ,Automation Engineer at Bose corporation , west borough, Massachusetts, United states delivering the innovative session on the topic of **"Embedded automation in higher education :Enhancing students Engagement "** on 25.10.24 at seminar hall.

# INNOVATIVE SESSION


Resource person **Er. Manonmani Narayanan**, Guidewire Consultant , Capgemini, United kingdom delivering the innovative session on the topic of **"IOT Application in electrical Industries"** on 06.12.24




Resource person **Er.Gopi** , Assistant Engineer, TNEB, Karur delivering the Special session on the topic of **"National Energy Conservation Day 24"** on 14.12.24

# INNOVATIVE SESSION


Resource person **Mr.Natrajan Thangaraju**, General Manager, Digital Enterprise Delivery, Australia delivering the session on **"Effective Sales and marketing Strategies"** on 20.02.25 at Seminar Hall


Resource person **Er.A.Sivaraman**, Assistant Executive Engineer ,Electrical TNEB, Kallakurichi Delivery, the session on "**Modern power transmission and distribution system** " on 10.5.2025 at Seminar Hall

# STUDENT ARTICLES

## Electric vehicle

An electric vehicle (EV) is a motor vehicle whose propulsion is powered fully or mostly by electricity. EVs encompass a wide range of transportation modes, including road and rail vehicles, electric boats and submersibles, electric aircraft and electric spacecraft.Early electric vehicles first came into existence in the late 19th century, when the Second Industrial Revolution brought forth electrification and mass utilization of DC and AC electric motors. Using electricity was among the preferred methods for motor vehicle propulsion as it provided a level of quietness, comfort and ease of operation that could not be achieved by the gasoline engine cars of the time, but range anxiety due to the limited energy storage offered by contemporary battery technologies hindered any mass adoption of private electric vehicles throughout the 20th century. Internal combustion engines (both gasoline and diesel engines) were the dominant propulsion mechanisms for cars and trucks for about 100 years, but electricity-powered locomotion remained commonplace in other vehicle types, such as overhead line-powered mass transit vehicles like electric trains, trams, monorails and trolley buses, as well as various small, low-speed, short-range battery-powered personal vehicles such as mobility scooters.

**By Suganth R—IV EEE**

## ChatGPT

ChatGPT is a generative artificial intelligence chatbot developed by Open AI and released on November 30, 2022. It uses large language models (LLMs) such as GPT-4o as well as other multimodal models to create human-like responses in text, speech, and images. It has access to features such as searching the web, using apps, and running programs. It is credited with accelerating the AI boom, an ongoing period of rapid investment in and public attention to the field of artificial intelligence (AI). Some observers have raised concern about the potential of ChatGPT and similar programs to displace human intelligence, enable plagiarism, or fuel misinformation. It is built on Open AI's proprietary series of generative pre-trained transformer (GPT) models and is fine-tuned for conversational applications using a combination of supervised learning and reinforcement learning from human feedback. Successive user prompts and replies are considered as context at each stage of the conversation. ChatGPT was released as a freely available research preview, but due to its popularity, Open AI now operates the service on a freemium model. Users on its free tier can access GPT-4o but at a reduced limit. The ChatGPT subscriptions "Plus", "Pro", "Team", and "Enterprise" provide increased usage limits and access to additional features or models. Users on the Pro plan have unlimited usage, except for abuse guardrails.

**By Logesh S—III EEE**

A door is much smaller compared to the house, a lock is much smaller compared to the door and a key is the smallest of all, but a key can open entire house.
Thus a small, thoughtful solution can solve major problems.

**CHIEF EDITOR**:

*Dr.K.Umamaheswari HoD/EEE*

**EDITORS:**

*Mr.R.Sivakumar AP/EEE*
*Mr.K.Karthi AP/EEE*

**Student's Editor**

**IV EEE**

*Nandhakumar T*
*Ramya R*

**III EEE**

*Kaviya N*
*Bhuvanesh T*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