

NEWSLETTER

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

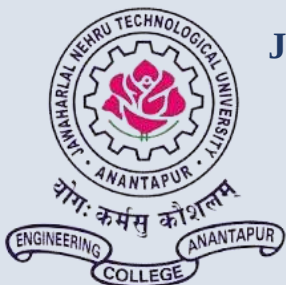
Volume - X

Jan. – March, 2025

Issue - I



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
COLLEGE OF ENGINEERING (AUTONOMOUS),
ANANTHAPURAMU – 515002,
ANDHRA PRADESH, INDIA



CONTENTS

Page No.

1. About the Department	2
2. Vision and Mission	3
3. POs of Department	4
4. PEOs & PSOs of Department	5
5. Events organized by the Department	6
6. Faculty Activities	26
7. Student Activities	27
8. Technology	30
9. Gallery	38

About the Department



The Department of Electrical Engineering was established in 1946 offering B.Tech course (Electrical and Electronics Engineering) with an intake of 30 students, which was enhanced to 50 in the year 1995 and subsequently to 60 in the year 2009. In 1946 the college was established at Guindy, Chennai and was shifted to Anantapur in 1948. The Electrical Engineering Department offers various M.Tech programs. M.Tech, with specialization in “Electrical Power Systems” was started in the year 1971 with an intake of 25. “Power and Industrial Drives” was started in the year 2001 with an intake of 25. “Control Systems” started in the year 2001 with an intake of 25 and “Reliability Engineering” started in the year 2009 which is an interdisciplinary area with an intake of 18. The Department is having research facilities for Ph.D Programme in Electrical Engineering Discipline.

Institutional Vision

- Committed to expanding the horizon and inspiring young minds towards academic excellence.
- Aims at scaling new heights through advanced research and innovative techniques to keep pace with the ever-changing needs of industry and society at large.

Institutional Mission

- To identify and implement, proven, prevention-oriented, forward-looking solutions to critical, scientific and technological problems.
- To make technology a principal instrument of economic development of the country and to improve the quality of life of the people through technological education, innovation, research, training and consultancy.

Department Vision

- Committed to expanding the horizon and inspiring young minds towards academic excellence.
- Aims at scaling new heights in Electrical and Electronics Engineering through advanced research and innovative technologies to keep pace with the changing needs of industry and society at large.

Department Mission

- To identify and implement, proven, prevention oriented, forward looking solutions to critical, scientific and technological problems in Electrical and Electronics Engineering.
- To make technology a principal instrument of economic development of the country and to improve the quality of life of the people through technological education, innovation, research, training and consultancy.

PROGRAM OUTCOMES

- 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 EDUCATIONAL OBJECTIVES

- PEO 1: To excel in professional career and/or higher education by acquiring knowledge in mathematics and Basic sciences, Basic Electrical Sciences, Power Systems, Power Electronics and Electrical Drives.
- PEO 2: To identify the problems in society and design electrical systems appropriate to its solutions using latest technologies that are technically sound, economically feasible and socially acceptable.
- PEO 3: To exhibit professionalism, ethical attitude, communication skills, team work in their profession and adapt to current trends in technology by engaging in continuous professional development.

PROGRAM SPECIFIC OUTCOMES

- PSO 1: The student can apply fundamental knowledge gained during the various courses of the program to analyse and solve the complex problems of Electrical Machines, Control Systems, Instrumentation System, Power Systems and Power Electronic systems.
- PSO 2: The student can design electrical, electronics and allied interdisciplinary projects to meet the demands of industry and to provide solutions to the current real time problems.
- PSO 3: The student can utilize the knowledge regarding recent techniques and sustainable technologies for developing the projects related to Control Engineering, Smart Grid, Power Quality and Advanced Power System protection to engage in lifelong learning

“Memorandum of Understanding (MoU)”
Between
Department of Electrical and Electronics Engineering
&
M/s Yathva Energy Solutions Pvt. Ltd., Hyderabad
on 25th January, 2025

The Department of Electrical and Electronics Engineering (EEE) at JNTA College of Engineering, Ananthapuramu, signed a Memorandum of Understanding (MoU) with M/s Yathva Energy Solutions Pvt. Ltd., Hyderabad, on 25th January 2025. This strategic collaboration aims to provide students with industry exposure through internships, technical training, and job orientation programs. The MoU establishes a framework for knowledge exchange between academia and industry, bridging the gap between theoretical learning and practical application in the field of energy solutions.

Under this agreement, students from the EEE department will have the opportunity to participate in hands-on internships at Yathva Energy Solutions, gaining valuable experience in emerging technologies related to renewable energy, power systems, and smart grid solutions. The training programs will focus on enhancing technical skills, including power electronics applications, energy auditing, and system design. Additionally, expert sessions and workshops conducted by industry professionals will ensure students are well-equipped with the latest advancements in the energy sector.

Furthermore, the MoU facilitates job orientation sessions, guiding students on career prospects in the energy industry and improving their employability. Yathva Energy Solutions will provide mentorship and placement support to eligible candidates, aligning academic knowledge with industry requirements. This collaboration is expected to create a strong industry-academia relationship, fostering innovation and preparing students for successful careers in the energy sector.



Exchange of MoU between Dept. of EEE & Yathva Solutions



**Group Photo of Dept. of EEE Teaching Staff and G. Ravi Maruthi Reddy,
Managing Director, Yathva Energy Solutions Pvt. Ltd., Hyderabad**

Brief Report of Online Faculty Development Programme (FDP) on “AI Based Technologies for Electrical Engineering Applications” Conducted during 10th – 20th, February 2025

The FDP was conducted for 10 days in 20 sessions. 16 no. of faculty members from various NITs, IITs, IIITDMs and CUs delivered their lectures in 19 sessions and one Industry expert from GE delivered lecture in one session.

A total of 65 participants's registered and attended for the FDP program. Out of which 61 are Faculty members, 3 are Research scholars and 1 Industry person.

ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP)
ON
AI based Technologies for Electrical Engineering Applications
(10th February – 20th February 2025)
Organized by
Electronics & ICT Academy (E&ICT), NIT Warangal
in association with
E&ICT Academy (Spoke), IIITDM Kurnool
and
Department of Electrical and Electronics Engineering
JNTUA College of Engineering (Autonomous), Ananthapuramu
Sponsored by
Ministry of Electronics and Information Technology (MeitY), GoI
Online Inauguration Session
ON
10/02/2025 (During 03.00 PM to 04.00 PM)

In the presence of



Prof. H. Sudarsana Rao
Vice-Chancellor (C) JNTUA, Ananthapuramu



Prof. P. Sreehari Rao
Chairman, E&ICT Academy, NIT Warangal



Prof. P. Chenna Reddy
Principal, JNTUA CE, Ananthapuramu



Dr. K. Krishna Naik
PI, E&ICT Academy, IIITDM Kurnool



Dr. Naresh Babu Muppalaneni
Co-I, E&ICT Academy, IIITDM Kurnool



Dr. M. Ramasekhara Reddy
Head of EEE Department, JNTUA CE, Ananthapuramu



Dr. Eeswaramoorthy K. V.
Co-ordinator, IIITDM Kurnool



Prof. E. Sujatha
Co-ordinator, JNTUA CE, Ananthapuramu

Day-1 (10/02/2025), from 03.00 PM to 04.00 PM Inaugural session of the program was conducted in online mode. Honourable Vice-Chancellor of JNTUA Prof. H. Sudarsana Rao and Chairman, E&ICT Academy, NIT Warangal Prof. P. Sreehari Rao attended as chief guests in online mode and provided best wishes to the organizing team and participants. Principal of the College Prof. P. Chenna Reddy, PI-E&ICT Academy, IIITDM Kurnool Dr. K. Krishna Naik, Co-I, E&ICT Academy, IIITDM Kurnool Dr. Naresh Babu Muppalaneni, Head of EEE Department, JNTUA CEA Dr. M. Ramasekhara Reddy, Coordinator of the FDP from IIITDM Kurnool Dr. K. V. Eeswaramoorthy and Coordinator from JNTUA CEA Prof. P.

Sujatha, other faculty members, participants from various organizations are participated in the inaugural session of the program.

Day-1 (10/02/2025), Session-1 (05.00 PM to 07.00 PM):

Resource Person: Prof. Thukaram D, Former Professor, IISc

Sir explained about the various important issues and happenings in the Indian Power sector and how the issues are addressed by the AI tools in the present day scenario.

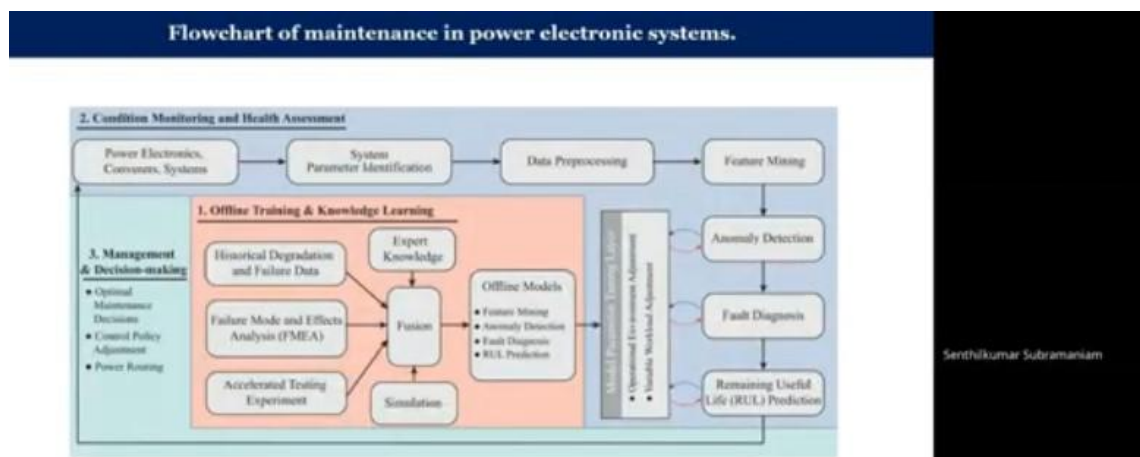
Day-1 (10/02/2025), Session-2 (07.15 PM to 09.15 PM):

Resource Person: Prof. Vinod Kumar. D. M, Former Professor, NIT Warangal

Sir explained about various AI techniques which are using by the researchers in Electrical Engineering Applications and provided complete view about the Artificial Neural Networks and its development in various Applications.

Day-2 (11/02/2025), Session-1 (05.00 PM to 07.00 PM):

Resource Person: Prof. S. Senthil Kumar, Professor, NIT Trichy

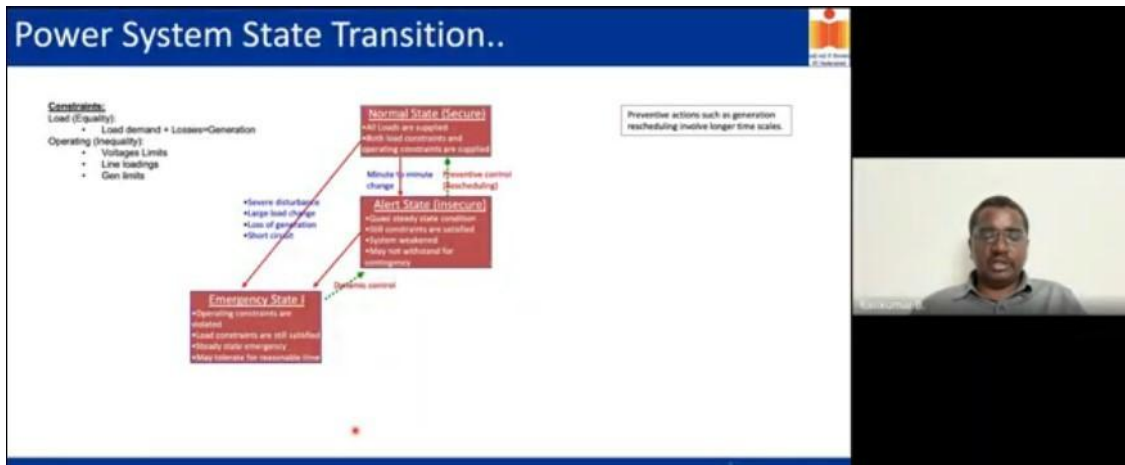


Sir presented complete overview about various Power Electronic Converters and Recent trends with respect to various Electrical Engineering Applications. Sir also provided the impact of AI techniques in Power Electronic Converters design over other conventional approaches along with case studies.

Day-2 (11/02/2025), Session-2 (07.15 PM to 09.15 PM):

Resource Person: Prof. B. Ravikumar, Professor, IIT Hyderabad

Sir presented about Power System Protection and various issues related to it. By considering a Research problem in the Power System Protection domain an extensive problem solving solution was given to the participants and provided complete solution with the help of AI techniques.



Day-3 (12/02/2025), Session-1 (05.00 PM to 07.00 PM):

Resource Person: Dr. Nawaz Hussain, Assistant Professor, IIT Bhubaneswar

PdM Objectives taking buck converter as an example

Condition Monitoring of Power Converters

Predictive Maintenance

1. **Anomaly Detection:** Switch open circuit fault.
2. **Remaining Useful Life (RUL) estimation:** Capacitor.
3. **Parameter Estimation:** Capacitance, Switch resistance etc.

Nawaz Hussain Condition Monitoring of Power Converters using AI ML 08/35

1. Anomaly Detection: Switch open circuit fault.

Sir presented the designing of Power Converters and condition monitoring of various Power Converter topologies using AI and ML. Sir explained the detailed analysis using simple examples and simulation studies.

Day-3 (12/02/2025), Session-2 (07.15 PM to 09.15 PM):

Resource Person: Prof. M. Sailaja Kumari, Professor, NIT Warangal

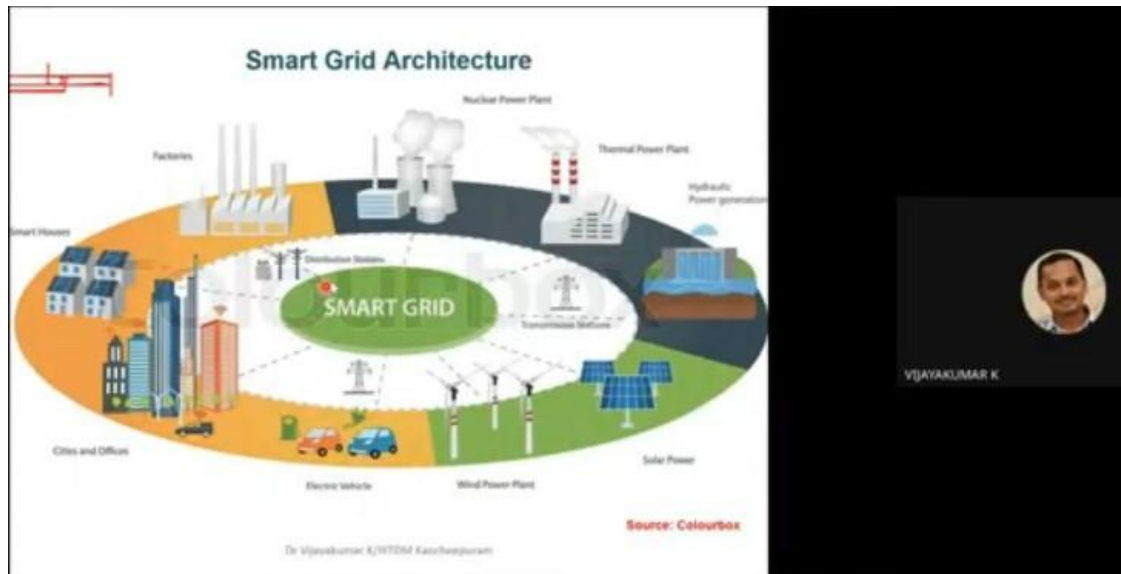
- ### Components of smart grid system
- **Smart Transmission**
 - Improve transfer capacity (Reduce congestion)
 - Reliability (avoid blackouts)
 - Use of Phasor measurement units (PMUs) to accurately measure the state of the system



Madam explained about Smart Electric Grids, its configuration and Challenges. She produced some case studies related to the Smart Grid issues and provided possible solutions with AI techniques.

Day-4 (13/02/2025), Session-1 (05.00 PM to 07.00 PM):

Resource Person: Dr. Vijayakumar Krishnasamy, Associate Professor, IIITDM Kancheepuram



Sir presented different views about Smart Grid systems and its integration with Internet of Things. He discussed about various challenges and important solutions to the real time issues along with different research objectives. Sir also explained the role of AI in the integration of Smart Grid with IoT.

Day-4 (13/02/2025), Session-2 (07.15 PM to 09.15 PM):

Resource Person: Dr. Altaf Q H Badar, Assistant Professor, NIT Warangal

Evolutionary Optimization

An algorithm that searches different combinations of allowable input values to obtain an optimal objective function value.



Sir explained about Evolutionary Algorithms and its role in the Electrical Engineering Applications. He discussed about various optimization techniques like GA, PSO, Tabu Search, ACO and explained how to use them and where to use them. Sir also explained about various dimensionality reduction techniques like PCA normally used in Electrical Engineering applications.

Day-5 (14/02/2025), Session-1 (05.00 PM to 07.00 PM):

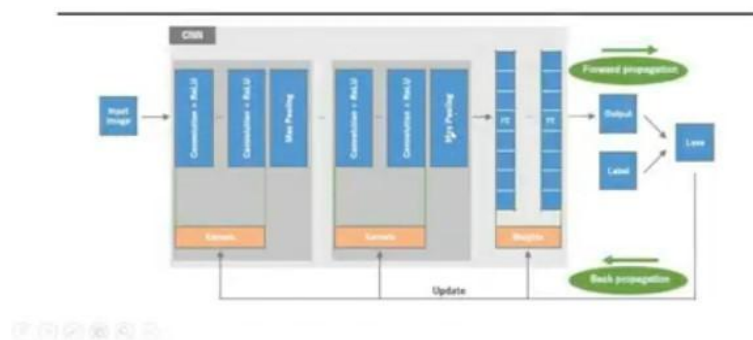
Resource Person: Dr. Balakrishna P, Senior Engineer, GE Grid Solutions, Hyderabad

Sir explained about current industry related issues pertaining to Transmission, Distribution and various challenges in Grid integration. He discussed about how to use AI technologies in the real time grid issues along with case studies.

Day-5 (14/02/2025), Session-2 (07.15 PM to 09.15 PM):

Resource Person: Prof. Vinod Kumar. D. M, Former Professor, NIT Warangal

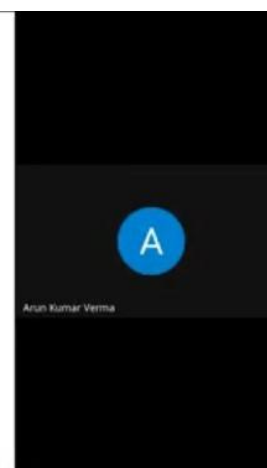
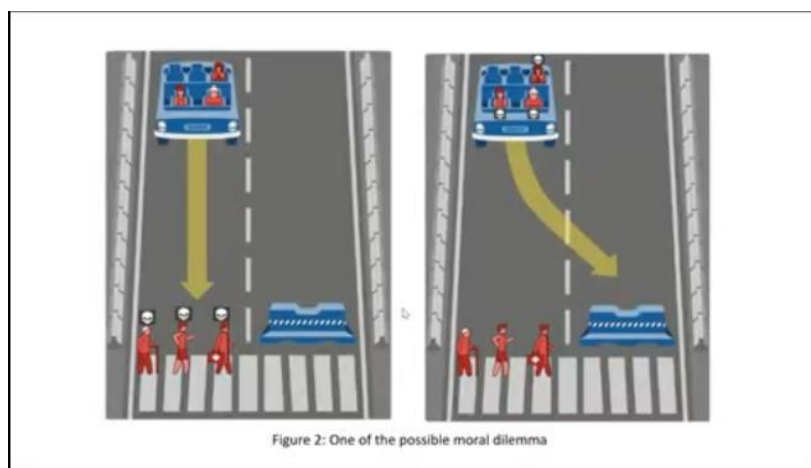
CNN architecture and training process



Sir discussed about the concept of Fuzzy Logic, how to design it and how to apply the concept for Electrical Engineering Applications. He had given the detailed explanation about the Fuzzy Logic Controller design with simple example. Sir also discussed about fundamentals of Quantum Computing and the role of it in Electrical Engineering.

Day-6 (15/02/2025), Session-1 (05.00 PM to 07.00 PM):

Resource Person: Dr. Arun Kumar Verma, Associate Professor, IIT Jammu

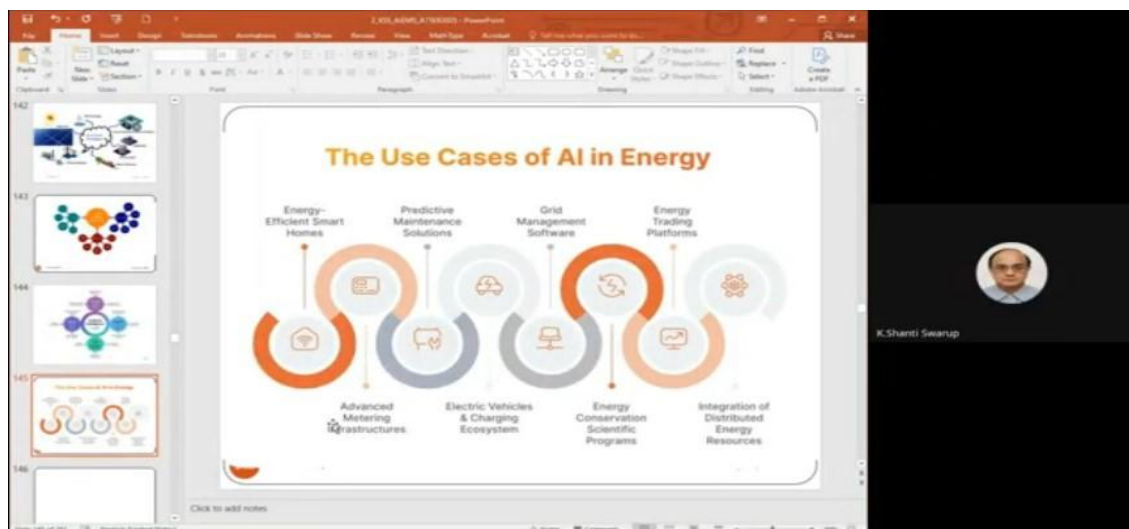


Sir explained about the fundamentals of Autonomous vehicles, EV and hybrid vehicles. He discussed about complete specifications, Mathematical modelling and Real time implementation of

Autonomous Vehicles with the integration of various AI tools. Sir provided case studies to understand the concept.

Day-6 (15/02/2025), Session-2 (07.15 PM to 09.15 PM):

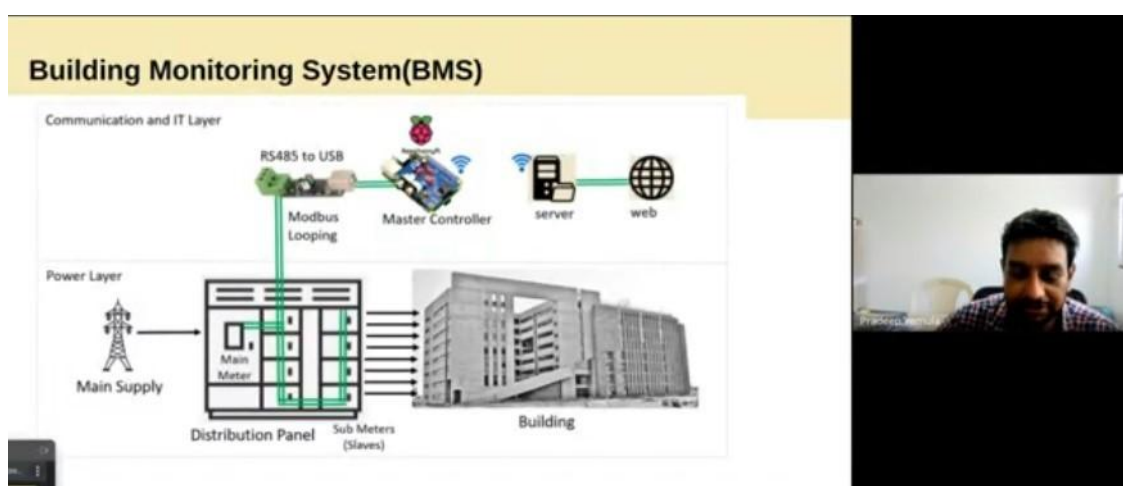
Resource Person: Prof. Shanti Swarup K, Professor, IIT Madras



Sir presented a lengthy presentation with the coverage of all the components come under the Energy sector. He had given the important research going on in IIT Madras in the Energy sector and also provided various problems addressed by the students under sir guide ship. Sir also explained how AI techniques are evolved for the Energy Applications and where the current trends are.

Day-7 (17/02/2025), Session-1 (05.00 PM to 07.00 PM):

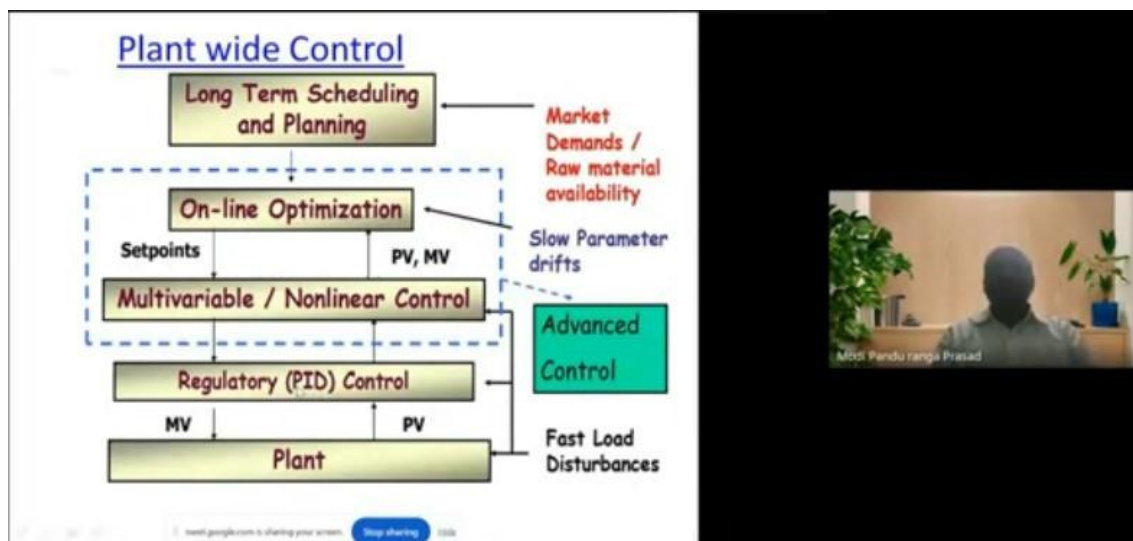
Resource Person: Dr. Pradeep Kumar Y, Associate Professor, IIT Hyderabad



Sir explained about the Building monitoring System and Smart Meter Data Analytics. He discussed about the important modules used in the monitoring systems in the current day scenario and explained about the various practical case studies carried out in the IIT Hyderabad. He also discussed about the use of 3D printing in the Building monitoring System and showed some of the designs.

Day-7 (17/02/2025), Session-2 (07.15 PM to 09.15 PM):

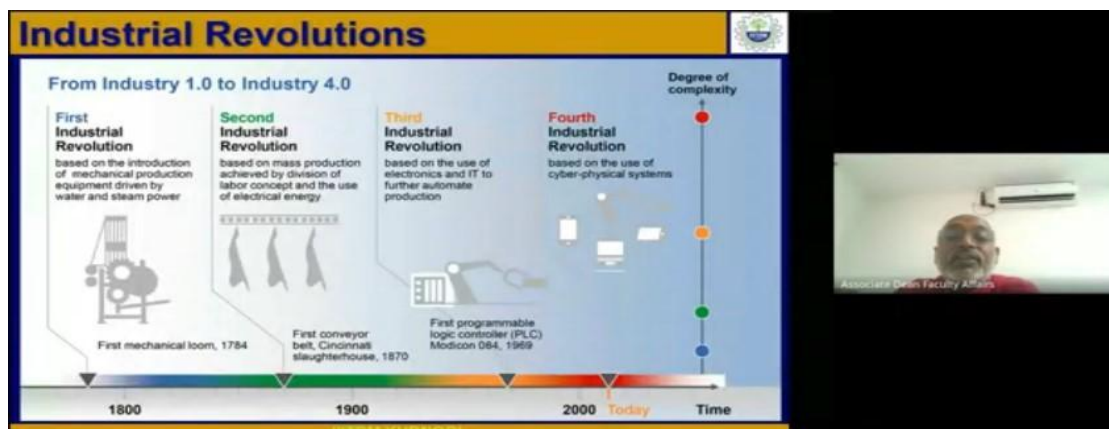
Resource Person: Dr. M. Pandu Ranga Prasad, Associate Professor, Central University of Karnataka



Sir explained about the use of AI technologies in Control Systems area. He explained about the fundamentals of Process Control, Its dynamics, Use of AI techniques for the Controller design, System Analysis. Sir also explained about the integration of IoT Technologies with Industrial Process Control applications and the use of AI in the integration process.

Day-8 (18/02/2025), Session-1 (05.00 PM to 07.00 PM):

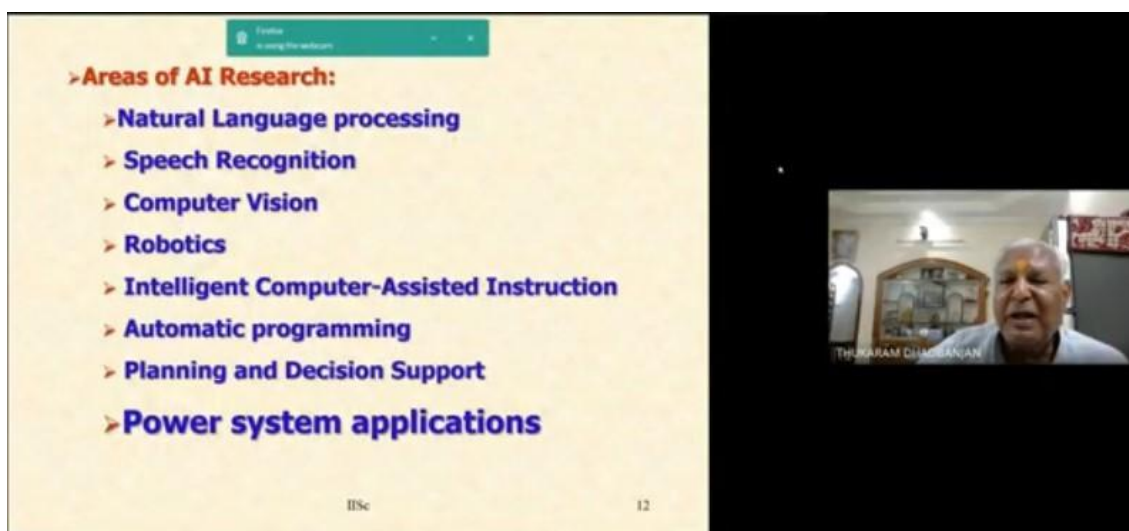
Resource Person: Dr. J. Krishnaiah, Associate Professor, IIITDM Kurnool



Sir explained about Industrial revolution from 1.0 to 4.0 and the important up gradations happening in the Industry along with the certain examples. He discussed about Digital Twinning concept which is using in the EV Technologies and how to use AI and ML algorithms for the Digital Twin design. He also explained various examples and algorithms which are using in the current day.

Day-8 (18/02/2025), Session-2 (07.15 PM to 09.15 PM):

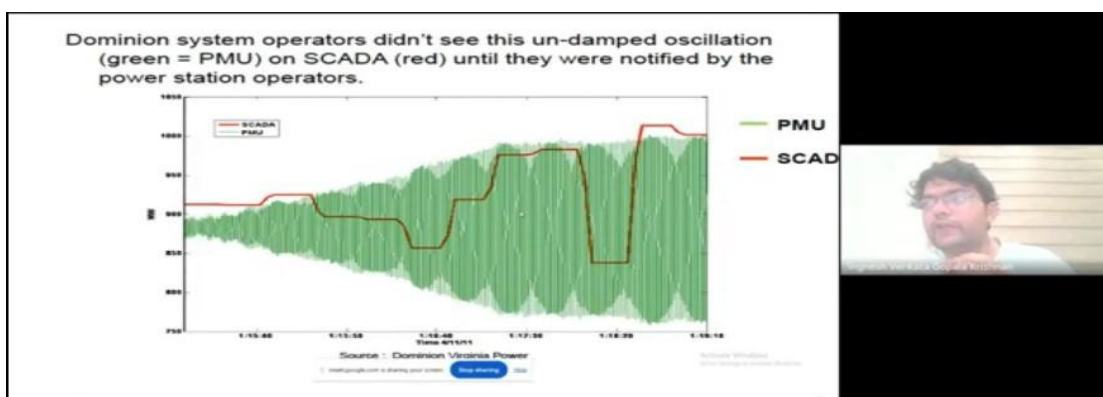
Resource Person: Prof. Thukaram D, Former Professor, IISc



Sir explained about the important issues in Power Systems addressed by the AI techniques and provided the available research gap in the literature. He discussed about various AI techniques using for the different Power System applications and their corresponding result analysis. He had given the comparative analysis between conventional and AI technologies.

Day-9 (19/02/2025), Session-1 (05.00 PM to 07.00 PM):

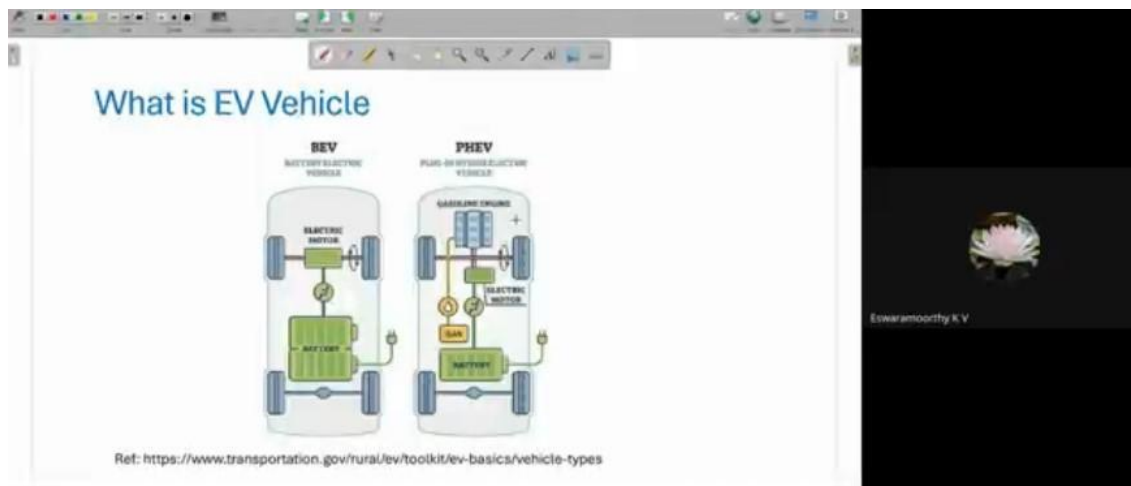
Resource Person: Dr. Vignesh. V, Assistant Professor, IIT Tirupati



Sir explained about the role of Cyber Physical systems in Power systems. Sir discussed about various cyber issues related to the Power Systems in transmission, distribution and grid integration. Sir also explained about how AI technologies are useful for the identification of Cyber issues. He explained various examples along with simulation studies.

Day-9 (19/02/2025), Session-2 (07.15 PM to 09.15 PM):

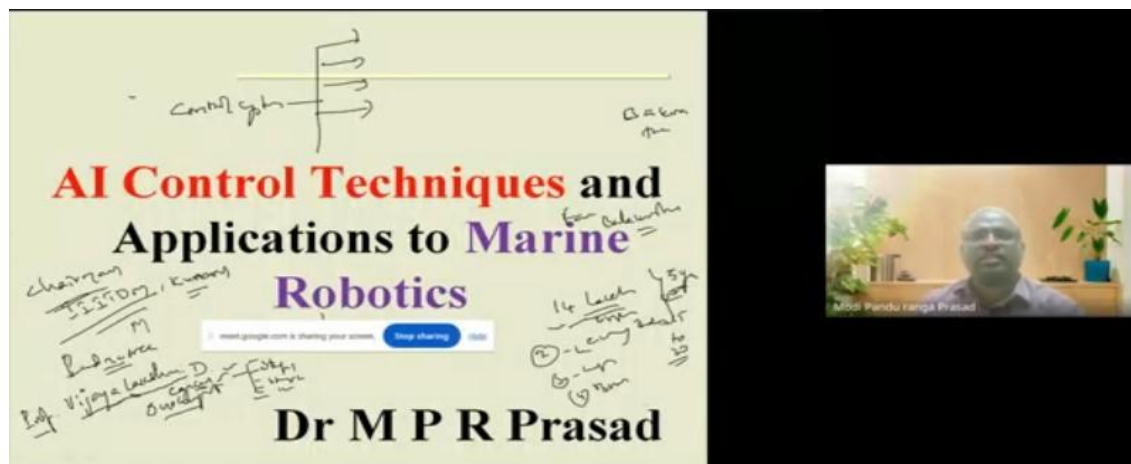
Resource Person: Dr. Eswaramoorthy. K. V, Assistant Professor, IIITDM Kurnool



Sir explained about the dynamics of EV, Prospective of Digital Twin Technology in Automotive industry, and Digital Twin in Smart Electric Vehicles, Design Process, and Battery related issues. He also discussed about Digital Twin simulation environment.

Day-10 (20/02/2025), Session-1 (05.00 PM to 07.00 PM):

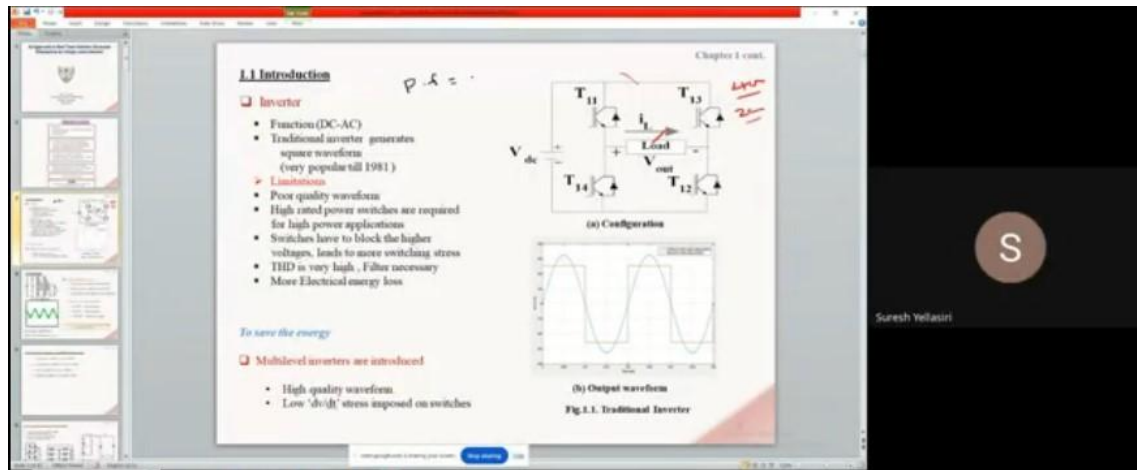
Resource Person: Dr. M. Pandu Ranga Prasad, Associate Professor, Central University of Karnataka



Sir explained about basics of Marine Robotics, Design process and Simulation strategies. He also discussed about the design of controller to the Marine Robotic Application through conventional and AI techniques. He also provided the real time model demo and the comparative analysis of simulated and real time model.

Day-10 (20/02/2025), Session-2 (07.15 PM to 09.15 PM):

Resource Person: Dr. Y. Suresh, Associate Professor, NIT Surathkal



Sir explained about the Voltage Source Multi level Inverters and their design, switching strategies. He discussed about different levels of Inverters and their simulation along with the harmonic elimination methods. Sir provided the complete picture about the switching logic design using various AI approaches. Finally, the FDP provided good amount of knowledge to the participants about the fundamentals; AI technologies using in the current day Electrical Engineering Applications and also provided solutions to the various challenges related to AI technologies in Electrical Engineering domain.

“Swatcha Andhra” on 15th February, 2025

The Swatcha Andhra program was successfully conducted on February 15, 2025, with enthusiastic participation from all faculty members and students of the department. This initiative, launched by the Government of Andhra Pradesh, designates every third Saturday of the month as Swatcha Andhra Day, encouraging citizens to engage in cleanliness and environmental sustainability activities. As part of this effort, faculty and students worked together to clean the department premises, nearby surroundings, and common areas, promoting awareness of hygiene, waste management, and eco-friendly practices. The event also included a brief seminar on the importance of maintaining cleanliness and its impact on public health and sustainable development.

The program fostered a strong sense of responsibility among students and faculty, reinforcing the importance of community-driven initiatives for a cleaner and greener environment. Participants actively removed waste, planted saplings, and educated others about the significance of proper waste segregation and disposal. The event concluded with a pledge to uphold cleanliness in everyday life and contribute to the broader vision of Swatcha Andhra Pradesh. The department's participation in this initiative not only strengthened teamwork and environmental consciousness but also set an inspiring example for others to follow.



Swatcha Andhra, participation of all faculty members and students of the department

“EYE 2K25” Poster and Brochure Release on 12th March, 2025

The official poster and brochure for “EYE 2K25”, the much-anticipated technical fest of the Department of Electrical and Electronics Engineering, JNTA College of Engineering, Ananthapuramu, were released on March 12, 2025. The fest is scheduled to take place on April 4th and 5th, 2025.

The poster and brochure unveiling ceremony was graced by the presence of **Dr. Ramasekhara Reddy, Head of the Department (HoD)**, who addressed the gathering and highlighted the significance of “EYE 2K25” in fostering technical knowledge and innovation among students.

The event was coordinated by **Dr. S. Sridhar**, with **Dr. M. Rathaiah** and **Smt. Y. Manasa** serving as co-coordinators. Several faculty members, along with student coordinators **L. Rajesh Kumar Reddy** and **P. Kavya Sree**, actively participated in organizing the release event.

During the ceremony, the coordinators elaborated on the various technical events, workshops, and competitions planned for the fest. They emphasized the opportunities EYE 2K25 would provide for students to showcase their technical skills, interact with industry professionals, and enhance their knowledge in the field of electrical and electronics engineering.

The poster and brochure design were highly appreciated for their vibrant presentation, encapsulating the spirit of the fest. The faculty members and student organizers expressed their enthusiasm and commitment to making EYE 2K25 a grand success.

With meticulous planning and dedicated efforts, EYE 2K25 is expected to be an excellent platform for students to engage in knowledge-sharing and innovation. The entire department is looking forward to an exciting and enriching experience during the two-day fest.



“EYE 2K25” Poster and Brochure Release



JNTUA COLLEGE OF ENGINEERING(AUTONOMOUS), ANANTHAPURAMU

DEPARTMENT OF EEE

EYE 2K25
ELECTRIFY YOUR EDUCATION

4th & 5th APRIL 2025

www.eyek25.in

+91 8977269983

eye2k25

EYE Electrify Your Education

EYE2K25

eye2k25@gmail.com

EEE Department

ARKANCE

Workshop on Neuro-Fuzzy Applications in Electrical Engineering by using Matlab & Python

Hackathon

Registrations open!

Poster & Paper Presentation

Circuit Hunt

EYE 2K25 CONVENOR
Dr. M. Ramasekhara Reddy
Head of the Department

FACULTY COORDINATOR
Dr. S. Sridhar
Asst. Professor

FACULTY CO-COORDINATORS
• Dr. M. Rathaiah
• Smt. Y. Manasa

STUDENT COORDINATORS
• L. Rajesh Kumar Reddy
• P. Kavya Sree

A NATIONAL LEVEL TECHNICAL SYMPOSIUM

“EYE 2K25” Poster



SCHEDULE

Day 1 - April 4

09:30 am - 10:30 am Inaugural

10:00 am - 01:00 pm Paper and Poster Presentation

11:00 am - 01:00 pm Workshop

01:00 pm - 02:00 pm Lunch Break

02:00 pm - 04:00 pm Technical Quiz

02:00 pm - 04:00 pm Circuit Hunt

Day 2 - April 5

09:30 am - 10:30 am Workshop

10:30 am - 12:30 pm Hackathon

10:30 am - 12:30 pm Project Expo

12:30 pm - 01:30 pm Valedictory, Prize & Certificate Distribution

01:30 pm - 02:30 pm Lunch

Organizing committee

Chief Patron:
• Prof. H. Sudarsana Rao
Vice-Chancellor, JNTUA

Patrons:
• Prof. S. Krishniah, Registrar, JNTUA

Chair:
• Prof. P. Chenna Reddy
Principal, JNTUA CEA

Prof. K. Madhavi
Vice-Principal, JNTUA CEA

Convener:
• Dr. M. Ramasekhara Reddy
HOD-EEE, JNTUA CEA

Faculty Co-ordinators:
• Dr. S. Sridhar
Asst. Professor, EEE, JNTUA CEA

Faculty Co-ordinators:
• Dr. M. Rathaiah
Asst. Professor (Adhoc), EEE, JNTUA CEA
• Smt. Y. Manasa,
Asst. Professor (Adhoc), EEE, JNTUA CEA

Advisory Committee:
• Prof. M. Vijaya Kumar, EEE, JNTUA CEA
• Prof. P. Sujatha
Director of FABAM, JNTUA CEA
• Prof. R. Kiranmayi
Director of FIBPLACEMENTS, JNTUA CEA
• Prof. N. Visal, EEE, JNTUA CEA
• Dr. K. Jithendra Goud
Associate Professor, EEE, JNTUA CEA
• Dr. M. Anirao
Assistant Professor, EEE, JNTUA CEA
• Dr. V. Sankar
Assistant Professor, EEE, JNTUA CEA

Students Co-ordinators:
• L. Rajesh Kumar Reddy
• P. Kavya Sree

About Institution

JNTUA College of Engineering stands aloft on a solid foundation of past glory and prestige. This college was started in the year 1946, under the post war reconstruction program and functioned at Guindy campus, Madras for two years and was shifted to Anantapur in 1948. It was in the year 1958 that the college was shifted to the present permanent buildings accommodating the Administrative block, Laboratories, the Engineering Departments, Library and the Hostel blocks. During the first 25 years of its experience, it was affiliated to the Madras and S.V. University and produced distinguished alumni, who are holding high positions in India and abroad. It has great tradition to be proud of. Fortified with traditional values and dedicated spirit of the staff and the students, it would rise up to any occasion or meet any challenge confidently.

About EYE

EYE Electrify Your Education is a National Level Technical Symposium organized by the Department of Electrical and Electronics Engineering JNTUA CEA. It gives a chance to the students across the nation to explore their talent and win exciting prizes. This is a Two-Day Technical Symposium that includes various events such as Workshops, Paper Presentation and Poster presentations, Project Expo, Circuit Hunt, Hackathon and Quiz.

EYE 2K25
Summy the Elephant

Electrify Your Education
A National Level Students Technical Symposium
On 4th & 5th April 2025
www.eyek25.in

Mark Your Calendar
4th & 5th April 2025

CONNECT TO US

+91 8977269983

www.eyek25.in

eye2k25

EYE2K25

eye2k25@gmail.com

EYE Electrify Your Education

EVENTS

- 1 Workshop
- 2 Project Expo
- 3 Technical Quiz
- 4 Poster & Paper Presentation
- 5 Circuit Hunt
- 6 Hackathon

About EEE Department

The Department of Electrical Engineering was established in 1946 along with the inception of the Institute. Department offering B.Tech Programme in Electrical & Electronics Engineering since 1946. M.Tech Programs with specialization in "Electrical Power Systems" which was started in the year 1971 and "Power and Industrial Drives" which was started in the year 2002. The department also provides Ph.D. in full time and part time. The department has well furnished laboratories. The department accredited by NBA in the years 2005, 2012, 2015 and 2022. The faculty in the department are highly qualified in the diversified areas. The department has MoU with Yashra Energy Systems etc. The departments has notable alumni who occupied various prestigious positions around the globe.

“EYE 2K25” Brochure

Academic Audit on 20th March, 2025

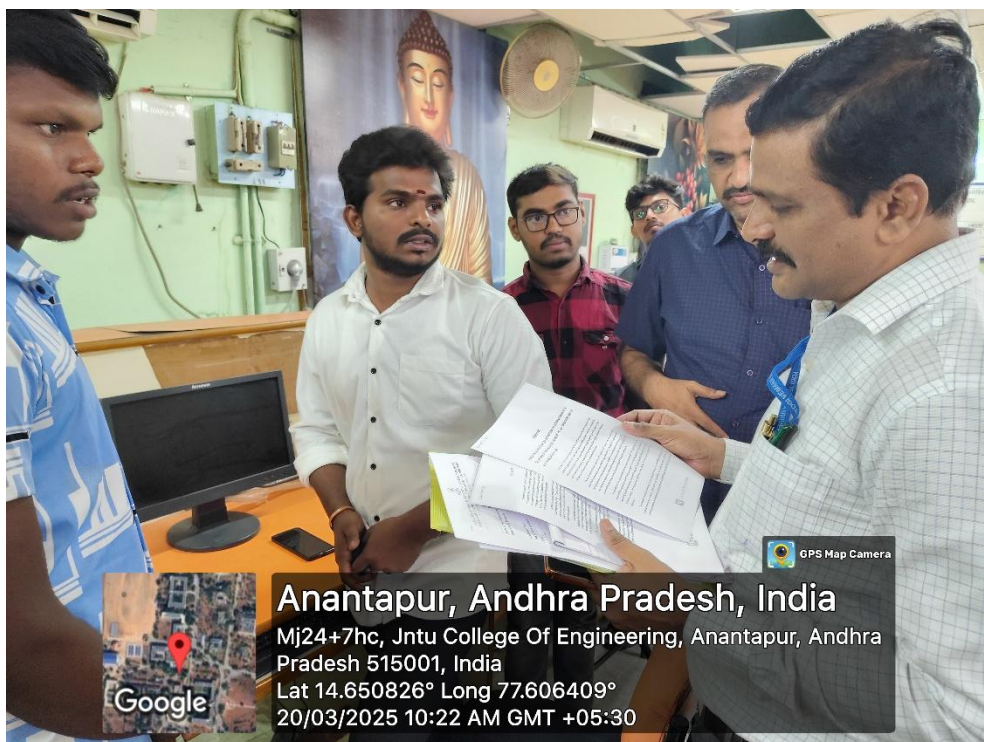
The academic audit of the Department of Electrical and Electronics Engineering (EEE) at JNTUACEA, Ananthapuramu, was conducted to evaluate the overall academic structure, teaching-learning process, student performance, and research contributions. The audit, led by Prof. P. Chandra Obul Reddy from Yogi Vemana University, Kadapa, assessed various key aspects such as accreditation compliance, faculty development, laboratory infrastructure, and industry collaborations. The objective was to ensure the department maintains high educational standards and fosters continuous improvement.

The audit focused on institutional and departmental compliance, academic planning and execution, research and development activities, and student support systems. Key areas assessed included syllabus coverage, teaching methodologies, ICT integration, student performance in exams, research projects, internships, and faculty participation in faculty development programs. Additionally, industry interactions, laboratory maintenance, and student employability were reviewed to enhance the department's overall effectiveness.

Based on the findings, the department received positive ratings in several areas, including teaching-learning processes, laboratory facilities, and industry interactions. However, recommendations were provided for further improvement, such as increasing research initiatives, enhancing ICT-based teaching, and strengthening industry collaborations. The department has shown a strong commitment to academic excellence, and by addressing the suggested improvements, it can further enhance the learning experience and career opportunities for students.



Prof. P. Chandra Obul Reddy, Yogi Vemana University, Kadapa verifying the Audit Files



Prof. P. Chandra Obul Reddy, Yogi Vemana University, Interacting with Students

“Memorandum of Understanding (MoU)”
Between
Department of Electrical and Electronics Engineering, JNTUA CEA
&
Malla Reddy Turbine Generator Power Diagnostics Testing Private Limited,
Hyderabad
on 26th March, 2025

A Memorandum of Understanding (MoU) was formally established on 26th October 2024, at Ananthapuramu, between Malla Reddy Turbine Generator Power Diagnostics Testing Private Limited (MRTGPDTPPL), Hyderabad, and the Jawaharlal Nehru Technological University Anantapur College of Engineering (JNTUA CEA), Department of Electrical and Electronics Engineering. The collaboration aims to strengthen academic and industrial ties through mutual cooperation in training, research, and skill development, fostering a productive relationship between the two institutions. Both parties have recognized the importance of practical learning, technical exposure, and industry-relevant education in shaping future-ready engineers.

Under this MoU, the Department of EEE, JNTUA CEA, has committed to facilitating various academic and professional activities such as seminars, workshops, and conferences within its premises using its infrastructure. These events aim to benefit students, faculty, researchers, and industry professionals, and honorarium for resource persons will be paid as per university norms. Additionally, the Second Party will allow students and faculty members to attend skill development and training programs conducted by the First Party, which can be considered part of the mandatory internship component in the curriculum. Provisions are also included to recognize MRTGPDTPPL as an authorized Skill Oriented Course (SoC) center, subject to formal approval.

The First Party, MRTGPDTPPL, will contribute by providing experienced resource persons for the aforementioned academic events and extend internship opportunities for UG, PG, and research scholars. These internships may vary from short-term one-week engagements to longer-term 6–16-week programs aligned with academic schedules. Furthermore, MRTGPDTPPL will collaborate in developing elective and skill-oriented courses and offer training to faculty, laying the groundwork for future collaborative research and consultancy services. This partnership is expected to bridge the gap between academia and industry, enhancing student employability and technical competence through hands-on experiences and knowledge exchange.

Visit of Dr. Prasad Raju, Research Advisor to Department on 28th March, 2025

On March 28, 2025, the Department had the privilege of hosting Dr. Prasad Raju, an esteemed Research Advisor, for an insightful session on research project applications. The visit aimed to provide guidance on applying for research grants, discuss ongoing research project applications, and address queries from faculty members and research scholars. Dr. Prasad Raju elaborated on the various funding opportunities available from national and international agencies, the key aspects of drafting a strong research proposal, and the significance of aligning research objectives with funding body requirements. His discussion also emphasized the importance of interdisciplinary collaboration, industry partnerships, and innovative methodologies to enhance the success rate of project approvals.

During the interactive session, faculty members and research scholars actively engaged in discussions, seeking clarification on eligibility criteria, documentation, budgeting, and proposal submission guidelines. Dr. Prasad Raju provided valuable insights into common pitfalls in research proposals and suggested best practices for improving the quality of submissions. He also reviewed some of the ongoing research applications within the department and provided constructive feedback for improvement. The visit proved to be highly beneficial, equipping the department with practical knowledge and strategic direction to enhance its research endeavors. The department expressed its gratitude to Dr. Prasad Raju for his valuable time and expertise and looked forward to continued collaboration for future research opportunities.



Anantapur, Andhra Pradesh, In...

Mj24+7hc, Jntu College Of Engineering, Anantapur,

Andhra Pradesh 515001, India

Lat 14.650823° Long 77.60643°

28/03/2025 03:19 PM GMT +05:30



Dr. Prasad Raju, Research Advisor discussing with Faculty members and Research Scholars about Research Projects

FACULTY ACTIVITIES

Workshops/Conferences/ FDP's Attended:

- **Sri. K. Nagabhushanam** has participated in a 10 day Online Faculty Development Program on **“Empowering the Future Advancements in Power Electronics for Electric Vehicles and Renewable Energy”**, during 17th – 27th March, 2025 organized by E & ICT Academy & Department of Electrical Engineering, NIT Warangal in association with Department of Electrical & Electronics Engineering, NIT Karnataka, Surathkal.
- **Smt. Y. Manasa** has participated in a 10 day Online Faculty Development Program on **“Empowering the Future Advancements in Power Electronics for Electric Vehicles and Renewable Energy”**, during 17th – 27th March, 2025 organized by E & ICT Academy & Department of Electrical Engineering, NIT Warangal in association with Department of Electrical & Electronics Engineering, NIT Karnataka, Surathkal.
- **Sri. P. Rizwan** has participated in a 10 day Online Faculty Development Program on **“Empowering the Future Advancements in Power Electronics for Electric Vehicles and Renewable Energy”**, during 17th – 27th March, 2025 organized by E & ICT Academy & Department of Electrical Engineering, NIT Warangal in association with Department of Electrical & Electronics Engineering, NIT Karnataka, Surathkal.
- **Smt. S. Anusha** has participated in a 10 day Online Faculty Development Program on **“Empowering the Future Advancements in Power Electronics for Electric Vehicles and Renewable Energy”**, during 17th – 27th March, 2025 organized by E & ICT Academy & Department of Electrical Engineering, NIT Warangal in association with Department of Electrical & Electronics Engineering, NIT Karnataka, Surathkal.
- **Ms. D. Kalyani** has participated in a 10 day Online Faculty Development Program on **“Empowering the Future Advancements in Power Electronics for Electric Vehicles and Renewable Energy”**, during 17th – 27th March, 2025 organized by E & ICT Academy & Department of Electrical Engineering, NIT Warangal in association with Department of Electrical & Electronics Engineering, NIT Karnataka, Surathkal.
- **Smt. N. Swathi** has participated in a 10 day Online Faculty Development Program on **“Empowering the Future Advancements in Power Electronics for Electric Vehicles and Renewable Energy”**, during 17th – 27th March, 2025 organized by E & ICT Academy & Department of Electrical Engineering, NIT Warangal in association with Department of Electrical & Electronics Engineering, NIT Karnataka, Surathkal.

STUDENT ACTIVITIES

Farewell of IV B.Tech Students

on 28th March, 2025

On March 28, 2025, the Department organized a grand farewell ceremony for the outgoing IV B.Tech students, hosted by their juniors from III, II, and I B.Tech. The event was a heartfelt tribute to the graduating batch, celebrating their journey, achievements, and contributions to the department. Faculty members and students gathered to bid an emotional and memorable farewell, making it a special occasion filled with joy, nostalgia, and gratitude.

The program commenced with an inaugural speech by faculty members, who appreciated the final-year students for their dedication, hard work, and active participation in both academic and extracurricular activities. They encouraged the students to embrace new opportunities and challenges in their professional careers while upholding the values and knowledge they acquired during their time at the institution. This was followed by students from the IV B.Tech batch sharing their experiences, expressing gratitude to their professors, and recalling memorable moments from their academic journey.

To make the occasion more lively and entertaining, a variety of cultural performances, including dance, music, and skits, were organized by the juniors. These performances reflected the strong bond shared among the students and created an atmosphere of celebration and camaraderie. Fun-filled games and interactive sessions added to the enthusiasm of the event, making it a truly enjoyable and unforgettable experience for everyone present.

As the event concluded, tokens of appreciation were presented to the outgoing students, marking a gesture of remembrance and best wishes for their future endeavors. The farewell ended on an emotional note, with students and faculty members exchanging warm wishes and parting messages. The IV B.Tech students expressed their gratitude for the love and respect shown by their juniors and faculty, promising to carry forward the legacy of the department with pride.





Group Photo of Out Going IV B.Tech Students with Faculty



Faculty Attending Cultural

GATE 2025 – All India Ranks



David Keerthan
Admin. No.: 20001A0241
EE AIR – 716



G Lokesh Reddy
Admin. No.: 20001A0261
EE AIR - 755



K Ameer Basha
Admin. No.: 22005A0204
EC AIR – 875
EE AIR - 6347



C Sai Vardhan Reddy
Admin. No.: 21001A0204
EE AIR - 1284



S Md Vajid Ul Haq
Admin. No.: 21001A0241
EC AIR – 1489
EE AIR - 4400



Aditya Ram
Admin. No.: 22005A0206
EC AIR – 1759

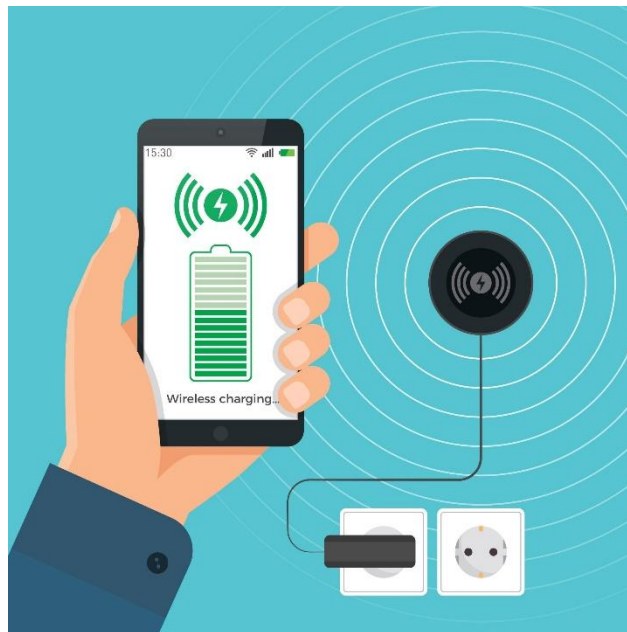
TECHNOLOGY

Five Power and Electric Trends that will Shape the Future

1. Wireless Power Transfer

Have you ever worried about forgetting your charger before heading out on a trip? Or worse—actually forgetting it? Wireless power transfer (WPT) could eliminate such concerns by enabling seamless, contactless charging and energy transmission.

Still in the early stages of development and production, WPT is a groundbreaking innovation in electrical engineering. It involves transmitting electrical energy from a power source to a receiver without physical wiring. Utilizing time-varying electromagnetic fields, WPT systems operate on the same principles as wireless communication devices. A receiver embedded in an electronic device captures the energy, enabling wireless charging, power transfer, and even data communication. As this technology advances, it has the potential to revolutionize power delivery in consumer electronics, electric vehicles, medical implants, and industrial applications.



Wireless Charging

Innovative Applications of Wireless Power Transfer

Wireless power transfer (WPT) extends far beyond charging smartphones and laptops. This technology is set to revolutionize various industries, from transportation to healthcare, by enabling seamless and efficient energy transmission. With applications ranging from electric vehicle charging to life-saving medical devices, WPT is poised to transform multiple aspects of our daily lives.

- **Smart Homes:** WPT can power a wide range of smart home devices, including lighting, climate control systems, security cameras, and other connected appliances, eliminating the need for constant battery replacements or wired connections.

- **Automotive:** Contactless charging for electric vehicles (EVs) could enhance convenience and efficiency, reducing reliance on charging cables and enabling dynamic charging solutions on roads and parking areas.
- **Industrial:** Wireless power can improve workplace safety and efficiency by eliminating cumbersome wiring in factories, warehouses, and automated production lines, allowing for greater flexibility in equipment placement.
- **Wearables:** Fitness trackers, smartwatches, and medical wearables could benefit from WPT, enabling longer battery life and uninterrupted functionality without the hassle of frequent recharging.
- **Remote Areas:** In regions with limited or no access to power grids, WPT can serve as a practical energy solution, delivering electricity to remote villages, disaster-stricken areas, and off-grid facilities.

As WPT technology advances, its integration into everyday life will continue to expand, driving innovation across industries and redefining how we interact with energy.

2. Wearable Tech

The Future of Wearable Technology: Innovation Meets Safety

Wearable technology has been evolving for years, but continuous advancements push the industry to innovate and keep up with consumer demand. Beyond being a tech trend, wearable devices have the potential to enhance safety, improve health monitoring, and even save lives.



Smart Gadgets

Smart Safety Gear: Forward-Thinking Fashion

Wearable technology goes beyond smartwatches—it's shaping the future of workplace safety. Engineers are developing smart wearables designed to prevent injuries and workplace accidents. One such innovation is SolePower boots, which incorporate advanced technology to enhance worker safety. These boots track real-time location, monitor environmental conditions, and assess wearer fatigue, helping to improve situational awareness and reduce job-related hazards.

Smart Clothing: The Next Evolution in Wearable Tech

Another groundbreaking development in wearable technology is smart clothing—fabric embedded with sensors and electronic components that track physiological signals such as heart rate, body temperature, and respiration. Several companies are leading the charge in this space:

- Sensoria specializes in wearable fitness gear that tracks performance metrics, including heart rate, steps taken, calories burned, and distance traveled.
- Spire Health creates smart clothing designed to continuously monitor health conditions, sending real-time data to medical professionals for proactive care.

Beyond Health: Expanding Applications of Smart Wearables

Smart clothing is not just for fitness and healthcare—it has a range of other potential uses:

- Emergency Assistance: Smart wearables can track a user's location and send alerts in case of an emergency, ensuring help arrives quickly.
- Injury Detection: Advanced sensors can detect falls, sudden changes in vital signs, or other medical emergencies and notify emergency contacts.
- Seamless Connectivity: These wearables can integrate with smartphones, tablets, and laptops, allowing users to stay connected and access vital data on the go.

As wearable technology continues to evolve, it will play an increasingly vital role in safety, healthcare, and connectivity, offering new ways to enhance everyday life.

3. Electric Power Distribution and Supply**The Rise of Microgrids: A Smarter Approach to Power Generation**

The days of relying solely on a single, centralized power provider are fading. Emerging trends in power generation are paving the way for smarter, more efficient energy solutions—primarily through microgrids and smart grids. These innovations offer increased reliability, cost savings, and sustainability while shifting control from large utilities to individual consumers and communities.

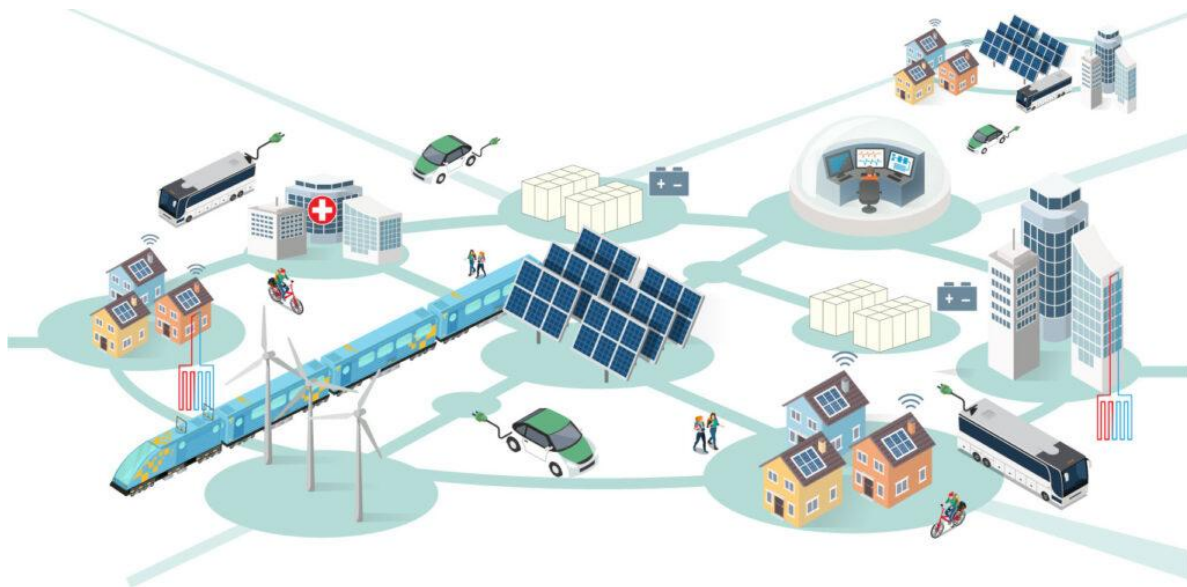
What Are Microgrids?

A microgrid is a self-sustained power system made up of interconnected loads and distributed energy resources that function as a single, controllable entity. These grids can operate in two modes:

- Island Mode – Functions independently from the main grid, making it ideal for areas with unreliable power sources.
- Connected Mode – Works alongside the central grid, enhancing overall energy resilience and efficiency.

There are five main types of microgrids, each designed to meet the needs of different environments:

- Campus-Based – Used in universities, hospitals, and large institutions.
- Community-Based – Provides local energy for neighborhoods and small towns.
- Remote Off-Grid – Supplies power to rural or isolated areas with limited access to the main grid.
- Military Base – Ensures secure and uninterrupted power for defense operations.
- Commercial – Supports businesses and industrial complexes with stable, independent power sources.



Microgrid

Advantages of Microgrids

- Reliability – Microgrids reduce the frequency and duration of outages, ensuring a steady power supply.
- Cost-Effectiveness – Their decentralized nature makes them more affordable than traditional grid infrastructure.
- Sustainability – Many microgrids incorporate renewable energy sources, reducing reliance on fossil fuels.
- Efficiency – They provide localized power tailored to the specific needs of an area, minimizing energy loss.

- Scalability – Microgrids can be easily expanded or modified to meet changing energy demands.

Empowering Customers with Smart Grids

Beyond improving communication between power companies and technology, smart grids put control directly in the hands of consumers. With these systems, users can:

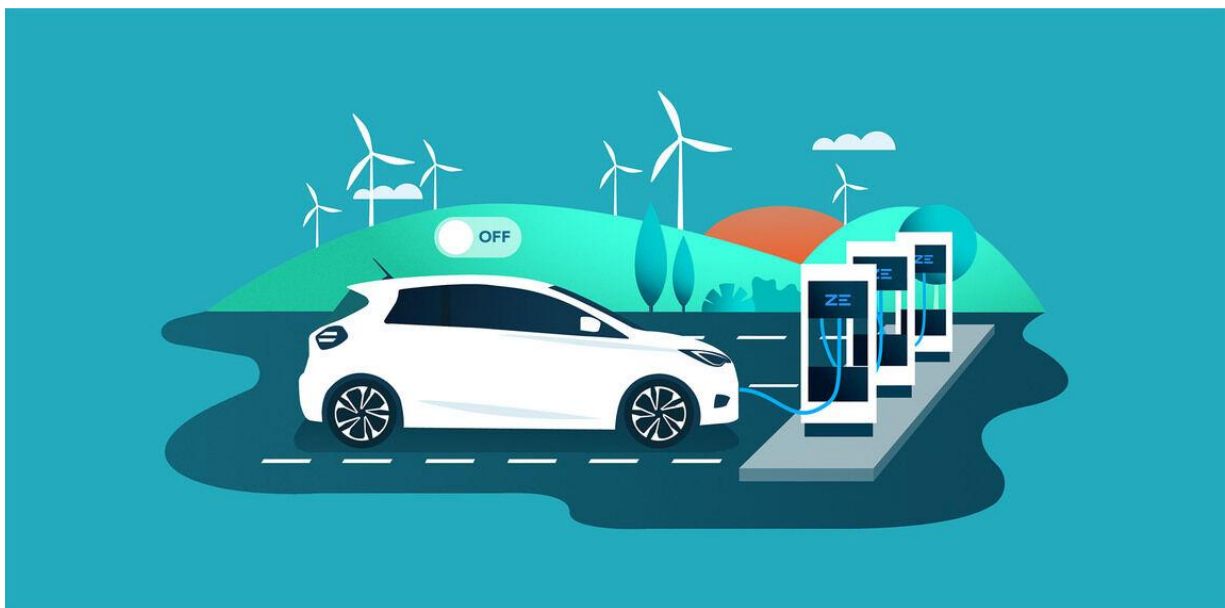
- Generate their own electricity through solar panels or wind turbines.
- Sell surplus power back to the grid, creating new economic opportunities.
- Optimize energy use through real-time monitoring and demand-based adjustments.

Microgrids and smart grids are set to revolutionize electricity infrastructure, shifting the balance of power from centralized utilities to localized, consumer-driven energy networks. As this trend grows, communities will have greater independence, efficiency, and sustainability in their power consumption.

4. Electric Vehicles

The Growing Popularity of Electric Vehicles

Despite years of mass production, electric vehicles (EVs) continue to gain traction in the automotive industry and remain a key focus in electrical engineering. EVs are becoming increasingly mainstream, with more manufacturers offering electric models. While charging infrastructure is still expanding, many EV owners now have convenient access to charging stations in various locations. Additionally, consumers may qualify for tax incentives or credits when purchasing an electric vehicle, making adoption more attractive.



Electric Vehicle Charging

Government Initiatives Driving EV Growth

Governments worldwide are accelerating the shift to electric vehicles by implementing ambitious policies and incentives. In the U.S., for example, the Biden administration aims for half of all vehicle sales to be electric by 2030. Additionally, the Inflation Reduction Act incentivizes businesses to install EV charging stations by offering a 30% tax credit.

Diverse Electric Vehicle Options

Electric vehicles are not limited to fully battery-powered cars. Several models cater to different driving needs:

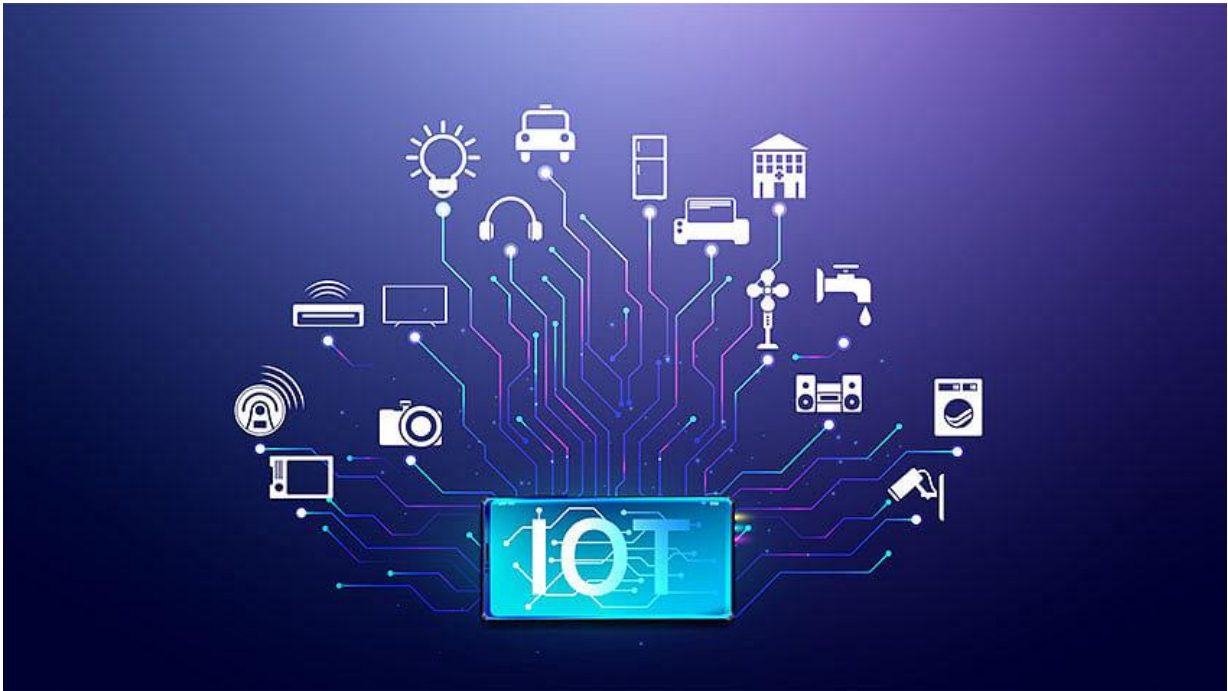
- **All-Electric Vehicles (EVs)** – These vehicles run solely on battery power, without any gasoline-dependent components.
- **Plug-In Hybrid Electric Vehicles (PHEVs)** – These models feature both a battery-powered electric motor and a gasoline engine, allowing them to operate in an all-electric mode when needed.
- **Hybrid Electric Vehicles (HEVs)** – While these vehicles primarily run on gasoline, they incorporate an electric motor to enhance fuel efficiency and reduce emissions.

As technology advances and infrastructure improves, electric vehicles will continue to shape the future of transportation, further integrating sustainability into the automotive industry.

5. The Internet of Things

Continuous Advancements in Connectivity

While standard network connections have become a staple of consumer technology, there is always room for improvement. Take, for example, the evolution from 4G to 5G. The introduction of 5G networks brought significant enhancements, including faster data transfer speeds, greater bandwidth, and reduced latency. These improvements enable more devices to connect simultaneously while facilitating quicker and more efficient communication. Furthermore, 5G has paved the way for advanced applications such as augmented reality (AR) and virtual reality (VR).



IoT in Electrical Engineering

IoT's Impact on Electrical Engineering

The IoT has revolutionized electrical engineering, contributing to advancements in several key areas:

- Smart Homes – Automated lighting, security systems, and energy management solutions.
- Smart Cities – Integrated infrastructure for traffic management, waste disposal, and public safety.
- Industrial Automation – Connected manufacturing systems that enhance efficiency and reduce downtime.
- Smart Meters – Real-time monitoring of electricity usage for better energy management.
- Home Energy Storage Systems – IoT-enabled battery storage solutions that optimize power consumption.

As the demand for internet-connected electronics continues to grow, IoT remains at the forefront of electrical engineering innovation. Its influence will only expand as technology evolves, shaping the future of smart devices and intelligent systems.

GALLERY



PhotoGrid





EDITORIAL TEAM

1. K. N. Vamshi
2. B. Keerthana
3. S. Shafi
4. S. Akhila
5. J. Guru Sainatha
6. M. Mounika

COMPILED BY

Sri. P. Rizwan, Asst. Professor (Adhoc)

Smt. Y. Manasa, Asst. Professor (Adhoc)



Department of Electrical & Electronics Engineering
Jawaharlal Nehru Technological University Anantapur
College of Engineering, Ananthapuramu – 515 002,
Andhra Pradesh, India