

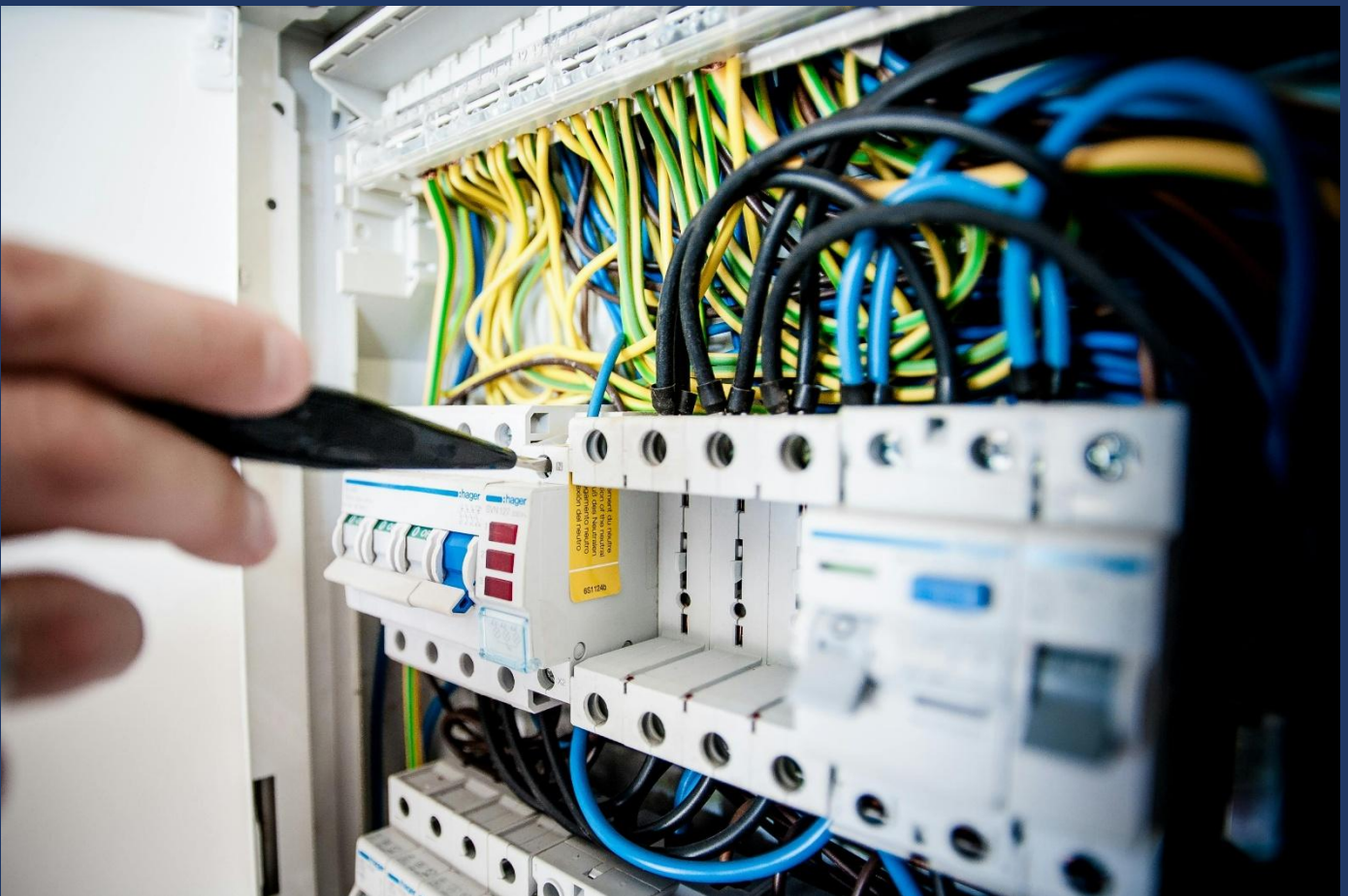
NEWSLETTER

DEPARTMENT OF
ELECTRICAL & ELECTRONICS ENGINEERING

Volume - IX

April – June, 2024

Issue - II



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



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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

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Department Mission

- To identify and implement, proven, prevention oriented, forward looking solutions to critical, scientific and technological problems in Electrical and Electronics Engineering.
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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

A National Level Student Technical Symposium

“EYE 2k24”

on 25th April, 2024

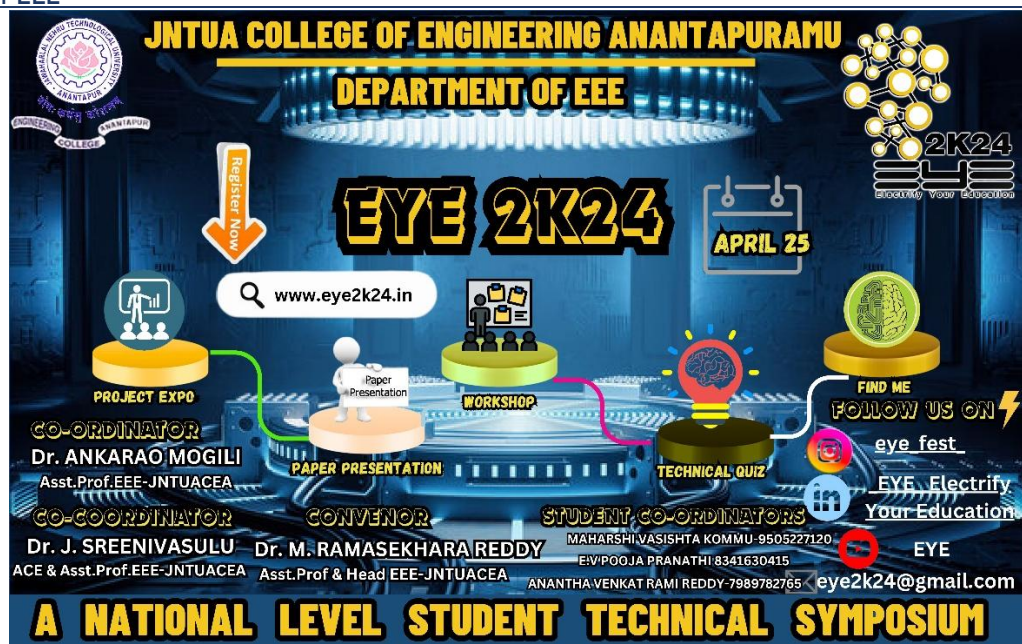
A National Level Student Technical Symposium, “EYE 2k24,” was successfully conducted on 25th April 2024. The event provided a platform for students to showcase their technical expertise and innovative ideas. The symposium featured various technical activities, including a project expo, paper presentations, a technical quiz, and a workshop. Over 150 students from various institutions across the state participated in the event, making it a grand success.

Inaugural Ceremony: The inaugural ceremony commenced with a warm welcome address by Dr. M. Ramasekhara Reddy, Convenor and Head of the Department. The event was graced by esteemed dignitaries, including:

- Chief Guest: Prof. G. V. R. Srinivasa Rao, Vice-Chancellor
- Guest of Honour: Prof. C. Sashidhar, Registrar
- Principal: Prof. S. V. Satyanarayana
- Vice-Principal: Prof. E. Arunakanthi
- Convenor & HoD: Dr. M. Ramasekhara Reddy
- Coordinator: Dr. M. Anka Rao
- Co-coordinator: Dr. J. Sreenivasulu

Prof. G. V. R. Srinivasa Rao addressed the gathering, emphasizing the importance of technical symposiums in bridging the gap between academia and industry. He encouraged students to actively participate in research and innovation. Prof. C. Sashidhar, in his address, highlighted the role of such events in fostering teamwork, critical thinking, and problem-solving skills among students.

The National Level Student Technical Symposium “EYE 2k24” was a remarkable success, with enthusiastic participation from students across different institutions. The event provided an excellent opportunity for students to learn, innovate, and collaborate. The organizers extended their gratitude to the management, faculty, and students who contributed to making the event a memorable and impactful experience. The symposium concluded with a vote of thanks, appreciating the efforts of all participants, coordinators, and sponsors who played a vital role in the success of the event.



JNTUA COLLEGE OF ENGINEERING ANANTAPURAMU
DEPARTMENT OF EEE

EYE 2K24
APRIL 25

Register Now
www.eyek24.in

PROJECT EXPO
CO-ORDINATOR
Dr. ANKARAO MOGILI
 Asst.Prof.EEE-JNTUACEA

PAPER PRESENTATION
CONVENOR
Dr. J. SREENIVASULU
 ACE & Asst.Prof.EEE-JNTUACEA

WORKSHOP
CONVENOR
Dr. M. RAMASEKHARA REDDY
 Asst.Prof & Head EEE-JNTUACEA

TECHNICAL QUIZ
STUDENT CO-ORDINATORS
MAHARSHI VASISHTA KOMMU-9505227120
E.V.POOJA PRANATHI-8341630415
ANANTHA VENKAT RAMI REDDY-7989782765
eye2k24@gmail.com

FIND ME FOLLOW US ON
 eye fest
 EYE Electrify Your Education
 EYE

A NATIONAL LEVEL STUDENT TECHNICAL SYMPOSIUM

SCHEDULE APRIL 25	ORGANIZING COMMITTEE	ABOUT INSTITUTION	ABOUT EEE DEPARTMENT	ABOUT EYE
09:30AM-11:30AM INAUGURAL 12:00PM-1:00PM LUNCH BREAK 01:30PM-4:30PM WORKSHOP 01:30PM-4:00PM TECHNICAL QUIZ 01:30PM-4:00PM FIND ME 01:30PM-4:00PM PAPER PRESENTATION 01:30PM-4:00PM VALEDICTORY 05:00PM-06:00PM PRIZE DISTRIBUTION CERTIFICATE DISTRIBUTION	CHIEF PATRON: Prof. G.V.R. SRINIVASA RAO Vice - Chancellor, JNTUA PATRON: Prof. S.V. SATYANARAYANA PRINCIPAL, JNTUACEA CO-PATRON: Prof. E. ARUNAKANTI VICE-PRINCIPAL, JNTUACEA CONVENOR: Dr. M. RAMASEKHARA REDDY ASST PROF & HOD-EEE CO-ORDINATOR: Dr. ANKARAO MOGILI ASST PROF.EEE CO-COORDINATOR: Dr. J. SREENIVASULU ACE & ASST.PROF.EEE ADVISORY COMMITTEE: Prof. M. VIJAYA KUMAR RECTOR, JNTUA Prof. P. GUJATHA DIRECTOR OF FA&AM, JNTUA Prof. R. KIRANMAVI DIRECTOR OF ADMISSIONS, JNTUA Prof. N. VISALI DIRECTOR OF ICS, JNTUA	JNTUA College of Engineering Anantapuramu stands on a solid foundation of past glory and prestige. This college was started in the year 1946, under the joint war reconstruction program and functioned at Guntur campus. Within the two years and was shifted to Anantapur in 1948. It was in the year 1988 that the college was shifted to the present permanent building encompassing the administrative block, laboratories, the Engineering Department, 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 tradition, values and dedicated spirit of the staff and the students, it would rise up to any occasion or meet any challenge satisfactorily.	EEE DEPARTMENT EYE 2K24 MARK THE DATES 26 APRIL 2024 Register at : www.eyek24.in E-Mail : eyek24@gmail.com Contact- Us : 9505227120 8341630415 9912470931	ABOUT EYE EYE Electrify Your Education is a National Level Technical Symposium organized by the Department of Electrical and Electronics Engineering JNTUA CoA. It gives a scope to the students across the nation to explore their talent and win exciting prizes. This is a One-Day Technical symposium that includes various events such as Workshops, Circuit Hunt, Project Expo, Paper presentations and Quiz.

“EYE 2k24” Brochures



Inaugural function of “EYE 2k24”

Guest Lectures

Online Guest Lecture on

“The Future of VLSI Design for Next-Generation Communication Standards”

organized on 17-05-2024

Resource Person:

Arjun Nag

Senior Design Verification Lead (ASIC/SoC/IP),

Tata Consultancy Services

Communication Society, IEEE Hyderabad Section and IEEE Ananthapuramu Sub Section Jointly Organizing, Celebration of "World Telecommunication and Information Society Day" on 17-05-2024.

On the Special occasion, a guest lecture on "The Future of VLSI Design for Next-Generation Communication Standards" was conducted to provide valuable insights into the advancements and challenges in Very Large-Scale Integration (VLSI) design, particularly in the context of emerging communication technologies. The resource person began by emphasizing the rapid evolution of communication standards, including 5G, 6G, and beyond, which demand highly efficient and compact semiconductor designs. The lecture highlighted the significance of VLSI in enhancing signal processing, data transmission, and power efficiency, which are crucial for next-generation wireless and wired communication systems.

The discussion focused on how modern VLSI design is shifting toward smaller process nodes, with the integration of advanced technologies such as FinFETs, Gate-All-Around FETs (GAAFETs), and 3D ICs. These innovations are essential for achieving higher performance while minimizing power consumption and heat dissipation. The speaker also elaborated on the role of Artificial Intelligence (AI) and Machine Learning (ML) in VLSI design automation, enabling faster and more efficient chip design processes. Additionally, the impact of heterogeneous integration, chiplet-based architectures, and advanced packaging techniques was explored, demonstrating how these advancements contribute to improved functionality and scalability.

Another key aspect covered was the challenges in meeting the demands of ultra-high-speed data transmission, low latency, and energy efficiency required for futuristic applications such as the Internet of Things (IoT), autonomous vehicles, and edge computing. The importance of designing reconfigurable and adaptive VLSI architectures to support multiple communication standards dynamically was also discussed. The speaker emphasized that the future of VLSI will be driven by the need for higher bandwidth, lower power consumption, and increased security in communication hardware.

The lecture concluded with an interactive session where participants discussed the future trends and career opportunities in the VLSI industry. The resource person encouraged students and researchers to explore areas such as semiconductor fabrication, digital and analog circuit design, and hardware security to stay relevant in the rapidly evolving industry. The session provided a comprehensive understanding of how VLSI design is shaping the future of communication technologies and inspired attendees to actively contribute to advancements in this field.



Guest Lecture on

“Role of Modern Power converters for EV charging Infrastructure”

Organized on 20-06-2024

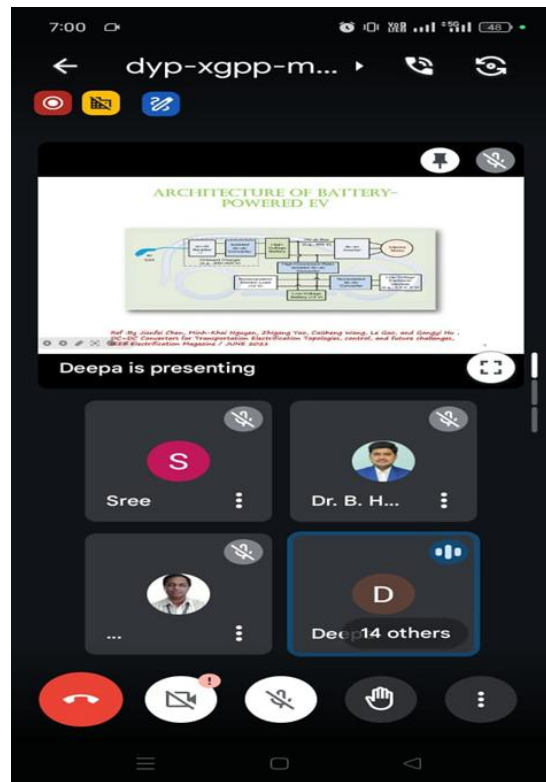
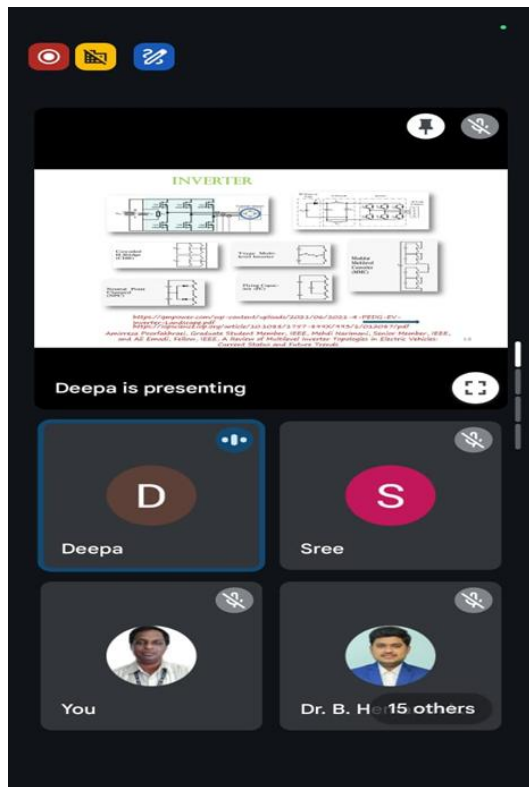
Resources Person:

Dr. K. Deepa,
Associate Professor in EEE,
Amrita School of Engineering,
Amritha Vishwa Vidyapeetham University,
Bangalore.

The resource person provided an insightful discussion on the importance of Electric Vehicles (EVs), highlighting their role in reducing carbon emissions, minimizing dependence on fossil fuels, and promoting sustainable transportation. The session emphasized the growing need for EV adoption due to environmental concerns and advancements in battery technology. Various types of EVs, including Battery Electric Vehicles (BEVs), Plug-in Hybrid Electric Vehicles (PHEVs), and Hybrid Electric Vehicles (HEVs), were explained in detail, showcasing their unique features, benefits, and applications in modern transportation.

Further, the session covered the basics of power electronic circuits, focusing on the essential role of converters and inverters in EV technology. The working principles of these components were discussed, explaining how they regulate power flow between batteries, motors, and other electrical systems. The architecture of battery-powered EVs was also explored, detailing the integration of energy storage, motor controllers, and charging infrastructure. This session provided valuable knowledge for students and

professionals, enhancing their understanding of EV technology and its significance in the future of mobility.



FACULTY ACTIVITIES

Papers Published:

- Gottam Venkata Supriya, **Dr. M. Ramasekhara Reddy** and **Dr. P. Bharat Kumar**, “**Optimal Tuning of PID Controller parameters for AGC of a Wind Integrated interconnected Power System**”, Journal of Engineering and Technology for Industrial Applications (JETIA), Volume 34, Issue 4, 2024, pp. no.75-83. DOI: <https://doi.org/10.5935/jetia.v10i46.1095>
- J. Usha Rani, **Dr. M. Vijaya Kumar** and **Dr. M. Anka Rao**, “**Design and Implementation of ANFIS Controller Based Sensorless Control of BLDC Motor Drive for PV Array Fed Irrigation Pump**”, International Journal of Innovative Research in Science, Engineering and Technology, Volume 13, Issue 4, April 2024, pp. no. 3772 – 3778. DOI:10.15680/IJIRSET.2024.1304095
- Pagidela Yamuna and **Visali N**, “**Optimal Power Flow in Hybrid AC/DC Micro Grid using ANN for Cost Minimization**”, Journal of Machine and Computing, Volume 04, Issue 02, 2024, pp. no. 408 – 418. DOI: <https://doi.org/10.53759/7669/jmc202404039>
- Harsha Vardhan Rao Sriram, **Dr. Sridhar Savarapu** and **Dr. M. Anka Rao**, “**A Fuzzy-Based Speed Controller for Dual PMSM Drives Fed by a Single Inverter**”, Journal of Systems Engineering and Electronics, Volume 34, Issue 4, 2024, pp. no. 306 – 318.
- **P. Rizwan**, Chittipireddy Vikas and **Y. Manasa**, “**Optimal Power Flow Analysis and Transmission System with Jaya Algorithm for Reducing Power Loss**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 3, 2024, pp. no. 99 – 109. DOI:20.14118.jsee.2024.V34I3.1540
- **M. Venkatesh**, **K Nagabhushanam**, **Dr. R. Kiranmayi** and **Dr. M. Rathaiah**, “**Performance Analysis of Fuzzy Logic Controller fed EV charging station with FRT capability**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 5, 2024, pp. no. 1 – 11. DOI:20.14118.jsee.2024.V34I5.1601
- **K. Mohammad Ali**, **N. Swathi** and **Dr. R. Kiranmayi**, “**Neural Network Based Multi-Output DC-DC Converter For Electric Vehicle Application**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 5, 2024, pp. no. 12 – 17. DOI:20.14118.jsee.2024.V34I5.1602
- **R. Lakshmana**, **N. Swathi** and **Dr. R. Kiranmayi**, “**Fuzzy Logic Controller Fed Coordinated Control Strategy For Hybrid Power System Based On Variable Speed Diesel Generator**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 5, 2024, pp. no. 18 – 35. DOI:20.14118.jsee.2024.V34I5.1603
- **Boggala Namrutha** and **Dr. P. Sujatha**, “**Implementation of Fuzzy Logic-Based Integrated Hybrid Energy Storage System with Grid-Connected Photovoltaic Power Management Scheme**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 5, 2024, pp. no. 51 – 63. DOI:20.14118.jsee.2024.V34I5.1605

- **P. Rizwan**, Manjula Ganesh and **Y. Manasa**, “**Meta Heuristic Algorithm for Placement of EVs and DGs in Conventional and Renewable Energy**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 34, 2024, pp. no. 85 – 97. DOI:20.14118.jsee.2024.V34I3.1539
- Mitikiri Vasavi, **P. Swathi** and **M. Naga Chaitra**, “**Performance of Fuzzy and NN Controller Based MicroGrid Station Connected to Railway System**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 34, 2024, pp. no. 272 - 280. DOI:20.14118.jsee.2024.V34I4.1580
- Dasari Sireesha, **P. Swathi** and **M. Naga Chaitra**, “**Performance Analysis of Fuzzy and ANFIS Controlled Z-source Virtual Synchronous Generator for Photovoltaic Systems**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 34, 2024, pp. no. 281 - 288. DOI:20.14118.jsee.2024.V34I4.1581
- V. G. Kireeti Kumar and **Devaraju Kalyani**, “**A Novel Approach for Islanding Detection for grid Connected PV system using ANFIS controller**”, Journal of Systems Engineering and Electronics, Vol. 34, Issue 6, 2024, pp. no. 25 – 36. DOI:20.14118.jsee.2024.V34I6.1703
- N. V. A. Ravikumar, **M. Ramasekhara Reddy** and Vasupalli Manoj, “**Novel Control of Wind-PV-Battery based Standalone Supply System with LSTM Controllers**”, E3S Web of Conference, ICPEs 2024. <https://doi.org/10.1051/e3sconf/202454001010>
- Vasupalli Manoj, R. S. R. Krishnam Naidu and **M. Ramasekhara Reddy**, “**Fault Mitigation in Seven- Level Diode Clamped with Static Switch Based Fourth Leg Inverter Topology**”, E3S Web of Conference, ICPEs 2024. <https://doi.org/10.1051/e3sconf/202454002013>

Conferences/Workshops / FDP's Attended:

- **Mr. P. Rizwan** has participated in a 6 day Short Term Training Program on “**Recent Trends in Electrical Engineering and Technology Pedagogy**”, organized by P.R. Pote College of Engineering & management, Amravati, during 24th – 29th June, 2024.

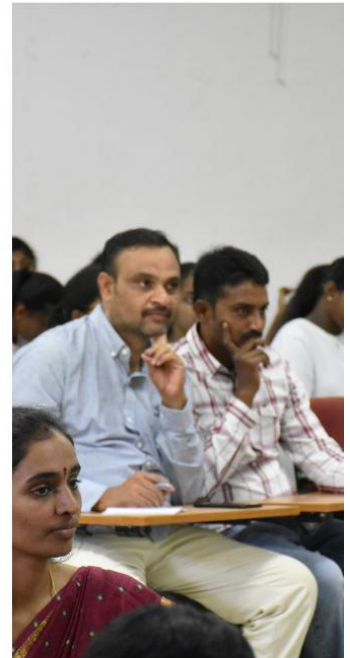
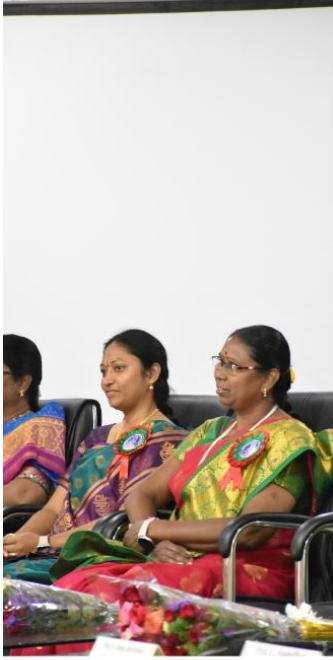
Others:

- **Dr. M. Rathaiah** has successfully completed an Edx course on “**Soft Skills: Develop Interpersonal Skills**”, on June 2024.
- **Dr. M. Rathaiah** has successfully completed an Edx course on “**Machine Learning at the Edge: A Practical Introduction from Arm**”, on June 2024.
- **Dr. M. Rathaiah** has successfully completed an Edx course on “**Introduction to Web Development with HTML, CSS3, and Java Script**”, on June 2024.
- **Dr. M. Rathaiah** has successfully completed an Edx course on “**Introduction to Cloud Computing**”, on June 2024.
- **Smt. Y. Manasa** has successfully completed an Edx course on “**Efficient HVAC Systems**”, on June 2024.

- **Smt. Y. Manasa** has successfully completed an Edx course on **“Solar Energy - 1”**, on June 2024.
- **Smt. Y. Manasa** has successfully completed an Edx course on **“Introduction to Web Development with HTML5, CSS3, and JavaScript”**, on June 2024.
- **Smt. Y. Manasa** has successfully completed an Edx course on **“Soft Skills: Develop Interpersonal Skills”**, on June 2024.
- **Smt. Y. Manasa** has successfully completed an Edx course on **“Introduction to Cloud Computing”**, on June 2024.
- **Mr. P. Rizwan** has successfully completed an Edx course on **“Electric Cars: Technology”**, on June 2024.
- **Mr. P. Rizwan** has successfully completed an Edx course on **“Efficient HVAC Systems”**, on June 2024.
- **Mr. P. Rizwan** has successfully completed an Edx course on **“Solar Energy - 1”**, on June 2024.
- **Smt. K. Firdose Kowser Ahamadia** has successfully completed an Edx course on **“Solar Energy - 1”**, on May 2024.
- **Smt. K. Firdose Kowser Ahamadia** has successfully completed an Edx course on **“Solar Energy - 2”**, on May 2024.
- **Smt. K. Firdose Kowser Ahamadia** has successfully completed an Edx course on **“Solar Energy - 3”**, on May 2024.
- **Smt. K. Firdose Kowser Ahamadia** has successfully completed an Edx course on **“Introduction to Web Development with HTML5, CSS3, and JavaScript”**, on June 2024.
- **Smt. K. Firdose Kowser Ahamadia** has successfully completed an Edx course on **“Introduction to Cloud Computing”**, on June 2024.
- **Smt. K. Firdose Kowser Ahamadia** has successfully completed an Edx course on **“Mental Health and Nutrition”**, on June 2024.
- **Ms. D. Kalyani** has successfully completed an Edx course on **“Machine Learning at the Edge: A Practical Introduction from Arm”**, on May 2024.
- **Ms. D. Kalyani** has successfully completed an Edx course on **“Climate Change: Carbon Capture and Storage”**, on May 2024.
- **Ms. D. Kalyani** has successfully completed an Edx course on **“Introduction to Cloud Computing”**, on May 2024.
- **Ms. D. Kalyani** has successfully completed an Edx course on **“Introduction to Web Development with HTML5, CSS3, and JavaScript”**, on May 2024.
- **Ms. D. Kalyani** has successfully completed an Edx course on **“Soft Skills: Develop Interpersonal Skills”**, on June 2024.

- **Ms. D. Kalyani** has successfully completed an Edx course on “**Incorporating Renewable Energy in Electricity Grids**”, on June 2024.

Gallery



EDITORIAL TEAM

1. V. Indra
2. P. Meghana
3. B. Chandrayudu
4. S. Gangothri
5. G. Muni Vivek
6. M. Pavani

COMPILED BY

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

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



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Jawaharlal Nehru Technological University Anantapur
College of Engineering, Ananthapuramu – 515 002,
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