

NEWSLETTER

DEPARTMENT OF
ELECTRICAL & ELECTRONICS ENGINEERING

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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

- Committed to expanding the horizon and inspiring young minds towards academic excellence.
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Department Mission

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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

Five Day Professional Development Program (PDP) on
“EV Design and Applications to Aerospace Systems”
During 25th – 29th November, 2024

The Professional Development Program (PDP) on Electric Vehicles was conducted over five days with 17 sessions, featuring industry experts from BOSCH India, CADFEM, Nexigo Energy Systems, and PANTECH Solutions, along with academic experts. The program saw participation from 24 faculty members, 4 research scholars, 2 industry professionals, and 30 postgraduate students. The inaugural session, held at the Prof. S. Tiruvengalam Memorial Seminar Hall, EEE Department, JNTUA CEA, was graced by Honourable Vice-Chancellor i/c Prof. H. Sudarsana Rao, Sri. P. Bhaskara Babu, and other distinguished guests. The sessions covered various aspects of EV technology, including simulation tools, battery sizing, motor controllers, charging infrastructure, grid integration, and renewable energy integration. Hands-on practical sessions and interactive activities, such as quizzes and a simulation design competition, enriched the learning experience.

The valedictory session featured insightful addresses by the Vice-Chancellor, Principal, Vice-Principal, and program coordinators, highlighting key takeaways and participant feedback. An online exam with 60 questions was conducted to assess learning outcomes, and meritorious participants received certificates. The PDP successfully provided in-depth knowledge of EV fundamentals and advanced technologies, offering solutions to the challenges faced by EV developers.



Inaugural function of 5 – Day PDP



Day to Day Session Photos

GUEST LECTURES

Guest Lecture on "Entrepreneur Development Program"

Date: October 24, 2024

Time: 02:00 PM – 04:30 PM

Venue: Prof. Thiruvengulam Seminar Hall, EEE Dept., JNTUA CEA

Speaker: Dr. V. Ramanjaneyula Reddy, District Industries Centre, Industrial Placement Officer, Kuppam.

Introduction

On, October 24, 2024 the Department of Electrical Engineering at JNTUA CEA organized a guest lecture titled "Entrepreneur Development Program," which was delivered by Dr. V. Ramanjaneyula Reddy, District Industries Centre, and Industrial Placement Officer, Kuppam. The lecture aimed to provide insights into the emerging opportunities towards Entrepreneurship in electrical engineering, shedding light on the evolving technological landscape and how students can prepare themselves for future careers in various fields.

Report

An invited lecture has been organized by the Department of EEE, with the resource person, Sri. V. Ramanjaneyulu Reddy, 2009-10 M.tech (Control Systems) Alumnus, who is presently working as District Industries Centre, and Industrial Placement Officer, Kuppam on 24-10-2024 (Thursday) from 3:00 PM to 4:30 PM.

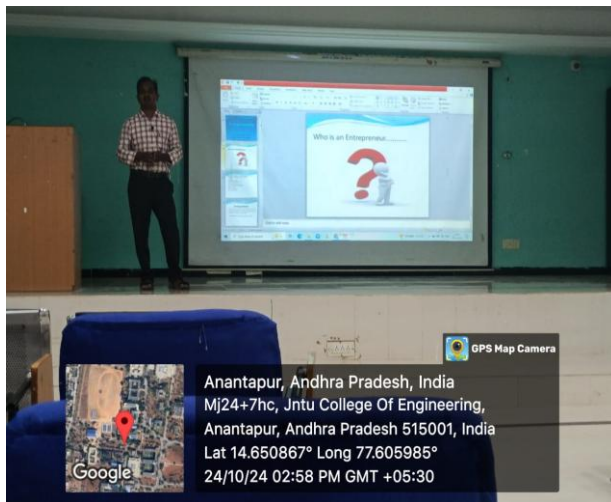
Dr. V.Sankar, Vice-President, ANECA, ATP has welcomed the students, faculty, research scholars of the Department.

Smt. S. Anusha, Asst. Professor(Adhoc), has introduced the resource person.

The resource person has discussed about:

1. Project ideas and Profiles
2. Entrepreneurship Development
3. Government Schemes
4. DIC- Departmental Activities 2024

The students have interacted with several queries and the resource person has answered them patiently. The faculty members and 125 students of III & IV B.Tech EEE have attended the invited talk.



Guest Lecture on**“Internals of Turbine Generators & Brushless Exciters”****on 25-10-2024**

An Alumnus- Industry- Academia interactions session has been held with Sri P.G.S Kumar 1972, EEE, presently Technical Director, Malla Reddy Power Diagnostic Power Testing Private Ltd., Hyderabad (MRTC, PDT PL, H), who is Presently in USA has interacted through a Google meet: [https:// meet: goosle. cam| zos - yrna- exp](https://meet.google.com/zos-yrna-exp)

With the faculty, research scholars of the EEE Dept. from 11.15 AM to 12.15 PM on 25-10-2024 (Friday).

The following members were present from the EEE Department

1. Dr. M. Ramasekhara Reddy, HoD EEE

2. Dr. M. Vijaya Kumar P EEE

Asst. Professors (Adhoc):

1. Smt. Y. Manasa

2. Sri P.Rizwan.

3. Smt. S. Anusha

4. Smt. M. Sireesha

5. Sri K. Prabhakara

Research Scholars:

1. P. Indu Sree

2. G. Pravallika

From the Company:

1. Sri P.G.S Kumar TD, MRTG, PDTPL, Hyd .

2. Sri K.K. Roy, Consultant, MRTC, PDTPL,H and Retd.GM, BHEL.

From Alumni:

1. Dr. V. Sankar, Retd. Prof. in EEE & Vice – President, ANECAA ATP.

Dr. V. Sankar has welcomed the industry expert and faculty members

Sri P.G.S Kumar has discussed about the company, their manufacturing of 100MW Turbo generators, a few details etc., and asked Sri K.K Roy to further present the technical details of the research titled” **Brushless Excites Reliability in case of Rotating Rectifier Failure**”.

Sri K.K Roy has discussed about:

1. Intervals of rotating rectifier wheel.
2. schematic diagram of converter with power diodes - Screw type
3. To explore the effect of Performance of the system with:
 - (a) Single diode open-circuited.
 - (b) Single diode short circuited.

and their effect as the output voltage, current, energy efficiency etc.

4. To explore the above when multiple stated that power diodes are short circuited etc. and comprehensive study is required.

Dr. M. Vijaya kumar has stated that simulation studies can be carried out using software tools available in Department.

Dr. V. Sankar has started to get the data of the power diodes, rating, operating temperatures etc.,

Dr. M. Ramasekhara Reddy, HoD EEE, stated that the department would try to explore the possibility of Research| Consultancy | Project work to be carried out on the problem mentioned by the industry persons.

The department faculty have stated that, if possible, to visit the company and to identify practical problems to take up further work in this area. The Department faculty further stated that time lines need to be identified for further exploring the possibility of solving the problem and are keen working with the company.

Dr. V. Sankar has proposed vote of thanks and acknowledged the company authorities giving us an opportunity to explore the solutions to the research problem.





FACULTY ACTIVITIES

Papers Published:

- M Venkatesh, K Nagabhushanam, R Kiranmayi and 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, Oct., 2024, pp. no. 1 – 11.

Conferences/Workshops / FDP’s Attended:

- **Dr. M. Rathaiah** has attended a 5 day Professional Development Program on “**EV Design and Applications to Aerospace Systems**”, during 25th – 29th Nov., 2024 at Dept. of Electrical and Electronics Engineering, JNTUA College of Engineering (Autonomous), Ananthapuramu.
- **Dr. M. Rathaiah** has attended an 2nd International Conference on “**Intelligent and Sustainable Power and Energy Systems**”, at Siddhartha Academy of higher Education during 13th – 14th Dec., 2024.
- **Smt. Y. Manasa** has attended a 5 day Professional Development Program on “**EV Design and Applications to Aerospace Systems**”, during 25th – 29th Nov., 2024 at Dept. of Electrical and Electronics Engineering, JNTUA College of Engineering (Autonomous), Ananthapuramu.
- **Mr. P. Rizwan** has attended a 5 day Professional Development Program on “**EV Design and Applications to Aerospace Systems**”, during 25th – 29th Nov., 2024 at Dept. of Electrical and Electronics Engineering, JNTUA College of Engineering (Autonomous), Ananthapuramu.
- **Smt. K. Firdose Kowser Ahamadia** has attended a 5 day Professional Development Program on “**EV Design and Applications to Aerospace Systems**”, during 25th – 29th Nov., 2024 at Dept. of Electrical and Electronics Engineering, JNTUA College of Engineering (Autonomous), Ananthapuramu.
- **Ms. D. Kalyani** has attended a 5 day Professional Development Program on “**EV Design and Applications to Aerospace Systems**”, during 25th – 29th Nov., 2024 at Dept. of Electrical and Electronics Engineering, JNTUA College of Engineering (Autonomous), Ananthapuramu.

Others:

- **Smt. Y Manasa** has won a “Certificate of Appreciation and Cash prize of Rs. 3,000/-”, during Ansys Simulation Competition conducted by Cadfem India Pvt. Ltd., Hyderabad.



Receiving Certificate of Appreciation and Cash Prize from Prof. H. Sudarsana Rao, Vice-Chancellor i/c,

- **Ms. D. Kalyani** has successfully completed an SWAYAM/NPTEL course on “Smart Grid: Basics to Advanced Technologies”, during July – Oct., 2024.

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)



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