



DEPARTMENT

of

ELECTRICAL AND ELECTRONICS ENGINEERING

Kakatiya Institute of Technology & Science :: Warangal

(An Autonomous Institute under Kakatiya University, Warangal)



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are pursuing PhD and 6 are with M.Tech. Alumni are the main pillars of the department's growth. I would like to offer my sincere thanks to all the Alumni for their support in guiding the students through invited lectures, supporting for internships and industry visits. Suggestions from stakeholders have added value during the reforms taken time to time. This newsletter displays the contributions by faculty & students and activities conducted in the Department during July 2024 to December 2024 (Odd semester of AY 2024-25). I am happy to share that this semester department has witnessed three of the faculty have been awarded with PhD. The experience of the faculty made it possible to conduct national and international FDPs with great support from industry experts and academic intellectuals from foreign Universities, IITs and NITs. I am also proud to inform that our students have made the EEEA activities more vibrant with hands-on sessions and training programmes. I would like to offer a word of thanks to our readers, our contributors, and our editorial board for their support of the journal and its mission: to improve the quality of technical education to the students. This newsletter will provide a glimpse of faculty and student achievements in the odd semester of academic year 2024-25.

-Dr. G. Rajendar

HOD, EEED

CHIEF EDITORIAL MESSAGE



With great pleasure and honour I write this foreword. Indeed, this newsletter has a lot to look forward. I am happy that our department started in the year 1994 with the B.Tech-EEE programme has completed 31 years and is now celebrating Silver Jubilee year.

During these 31 years EEE department has crossed several milestones and contributed to society in the form of education to engineering students. Started with B.Tech-EEE in 1994 with an intake of 60 later enhanced to an intake of 120 in the year 2012 and the present intake is 60. PG programme of M.Tech-Power Electronics was started in the year 2013. B.Tech-EEE program has been accredited by NBA two times under Tier-II from 2011-14 and 2016-19. I am glad to inform that now B.Tech-EEE program has been accredited by NBA under Tier-I for three years from 1st July 2019. The Department has also witnessed the strong force of faculty. At present, the Department has a faculty strength of 29 with diversity of specialization, out of which 16 of them have Doctorates, 7

VISION & MISSION OF THE DEPARTMENT

VISION: To fulfil the needs of the industry & society through excellence in education & research in electrical engineering.

MISSION:

- To produce globally competent engineers in Electrical & Electronics Engineering.
- To promote scientific inclination and cultivate professional ethics.
- To serve organization and society as adaptable engineers, entrepreneurs or leaders.

**BTECH – ELECTRICAL & ELECTRONICS
ENGINEERING**

Program Educational Objectives (PEOs):

Within first few years after graduation, the ELECTRICAL AND ELECTRONICS ENGINEERING graduates will be able to:

PEO1	Technical Expertise: Apply the knowledge of electrical and electronics engineering to develop solutions for complex problems of electrical power industry and allied engineering areas.
PEO2	Successful Career: Demonstrate innovation & creativity in their professional practice, work effectively as an individual and in a team in multidisciplinary areas towards sustainable development.
PEO3	Lifelong learning: Adapt to a constantly changing field through higher education, professional development and self-study for contributing to well-being of society.

Program Outcomes (POs):

Engineering Graduates will be able to:

PO1	Engineering knowledge	Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems
PO2	Problem analysis	Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
PO3	Design/development of solutions	Design creative solutions for complex engineering problems and

		design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
PO4	Conduct investigations of complex problems	Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).
PO5	Engineering Tool Usage	Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)
PO6	The Engineer and The World	Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).
PO7	Ethics	Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
PO8	Individual and Collaborative Team work	Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9	Communication	Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
PO10	Project Management and Finance	Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments
PO11	Life-Long Learning	Recognize the need for and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change.

Program Specific Outcomes (PSOs):

PSO1	Apply the fundamental knowledge of electrical and electronics engineering in providing solutions for modern power industry and multi-disciplinary areas.
PSO2	Analyse, design and simulate systems to generate, transmit, distribute, utilize and control electrical energy to meet societal and environmental needs using electrical and electronic systems.

MTECH-POWER ELECTRONICS

Program Educational Objectives (PEOs):

The Postgraduates of POWER ELECTRONICS will be able to:

PEO1	Engage in research, innovation and teaching in the fields related to power electronics & Drives.
PEO2	excel in professional practices relevant to industry and engage in entrepreneurship with latest technologies in the areas of power converters, renewable energy, smart electric grid, industrial drives and electric vehicles.
PEO3	exhibit professional ethics, effective communication skills and spirit of teamwork by carrying out research for a sustainable development.

Program Outcomes (POs):

At the time of graduation, the postgraduates of POWER ELECTRONICS will be able to:

PO1	Independently carry out research/ investigation and development work to solve practical problems.
PO2	Write and present effective technical report/document.
PO3	Demonstrate competence in the area of Power Electronics.

Program Specific Outcomes (PSOs):

PSO1	Apply knowledge of power electronics for the development of effective innovation solutions to problems pertaining to the renewable energy sources, smart electric grids and electric vehicles.
PSO2	Analyse complex engineering problems related to power electronics industry related to power industry and develop solutions with the latest hardware and software tools.

FACULTY CONTRIBUTIONS

Details of the faculty deputed for higher studies during 2024-25:

Sl.No	Name of the Faculty	Details of Higher Studies	Institute/University
1.	Dr. A. Madhukar Rao	Post Doctoral Fellowship	University of Minnesota, USA



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Details of the Patents of the Faculty granted during July'2024– December'2024:

S. no.	Name of the Faculty (s)	Title of the Patents Granted&Application Number	Date of Patent Granted
1	Dr.Y.Manjusree, Dr. C. Venkatesh	Power Quality and Intelligent Digital Protection Relays in Microgrid&202141028520	07/08/2024

Details of the Publications published by the faculty during July'2024– December'2024:

S. no.	Name of the Faculty (s)	Title of the Paper	Name of the Publisher
1	T. Praveen Kumar, K. Ajith, M. Srinivas, G. Sunil Kumar	Microgrid energy management with renewable energy using gravitational search algorithm	Springer Nature, Electrical Engineering
2	Pavan Kumar Chillappagari& Madhukar Rao Airineni	Fault Resilient Ability of Reduced Switches Multi Level Inverter for Off Grid Applications	Iranian Journal of Science and Technology, Transactions of Electrical Engineering, Springer, pp. 1669-1684, vol. 48, September 2024

Details of NPTEL courses completion by the faculty during AY 2024-25:

Sl. No	Name of the Faculty	Name of the Course
1	Mr. T. Praveen Kumar	Advanced Linear Continuous Control Systems: Applications withMATLAB Programming and Simulink

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STUDENT ACTIVITIES

EEE ASSOCIATION DETAILS

S. no.	Activity	Date
1	Inauguration of EEE Association for the AY: 2024-2025	21.08.2024
2	Early Planning of Carrer & Selection of Suitable Learning Tracks during Student Induction Program-2024 for B.Tech. EEE, I Year Students by Alumni Mrs. Mounika Sharma (B.Tech., EEE, 2006 Pass out)	23.08.2024
	Design the circuit and simulate using the "Every Circuit" application	28.08.2024
3	"Awareness on higher education" by Mr. Shaji Mohan Garu from Abhyaas Institute, Pragathinagar Hyderabad.	04.09.2024
4	Debate event on "The advantages and disadvantages of online and offline games"	23.10.2024
5	Mock Group Discussion	30.10.2024

Inauguration of EEE Association for the AY: 2024-2025 on 21.08.2024:



The EEE Department Association (EEEEA) is inaugurated on 16.08.2023. The EEEA student and faculty coordinators are introduced to the students of EEE Branch.



Early Planning of Carrer & Selection of Suitable Learning Tracks during Student Induction Program-2024 for B.Tech. EEE, I Year Students by Alumni Mrs.

Mounika Sharma (B.Tech., EEE, 2006 Passout) on 23.08.2024:



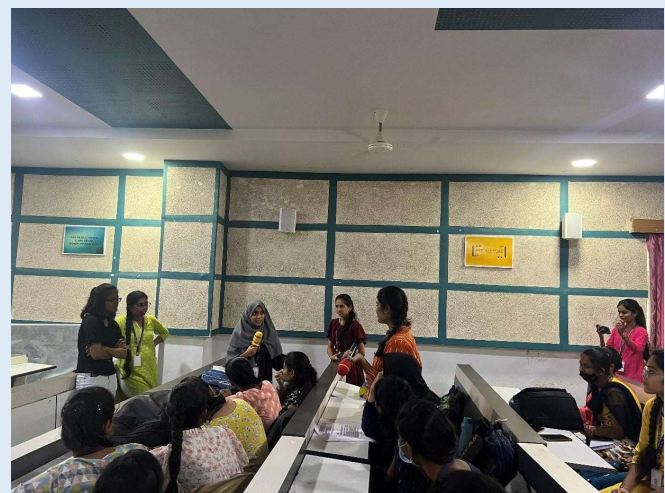
Design the circuit and simulate using the “Every Circuit” application on 28.08.2024:



“Awareness on higher education” by Mr. Shaji Mohan Garu from Abhyaas Institute, Pragathinagar Hyderabad. on 04.09.2024:



Debate event on “The advantages and disadvantages of online and offline games” on 23.10.2024:

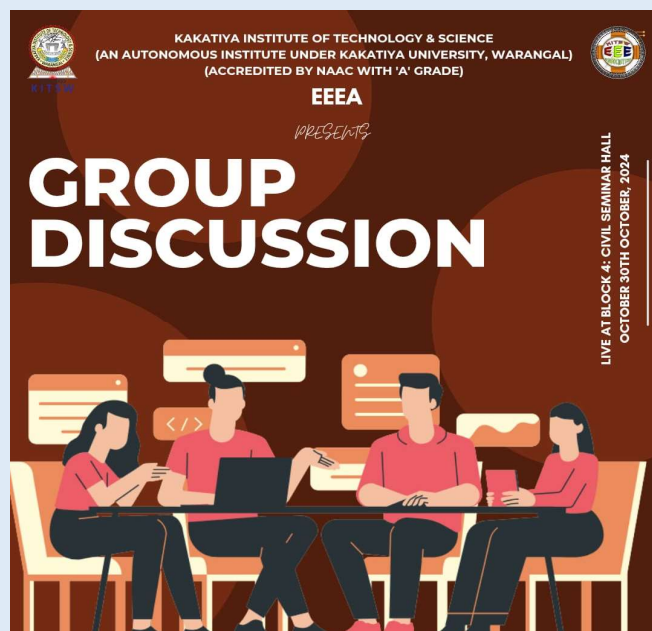




Mock Group Discussion on 30.10.2024:



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STUDENT ACHIEVEMENTS

Details of Swayam NPTEL courses completed by the students:

S.No	Name of Students	Roll No.	Swayam NPTEL course completed
1	Syed Dastagir Ahmed	B21EE008	Basics of Software Defined Radios and Practical Applications
2	Syed Dastagir Ahmed	B21EE008	Advances in UHV Transmission and Distribution
3	Syed Dastagir Ahmed	B21EE008	DC Microgrid and Control System

Syed Dastagir Ahmed Achievements:



NPTEL BELIEVER AWARD

NPTEL CHAMPION AWARD



Details of the Journal Paper Publications of the Students Published during July'2024– December'2024:

S. no.	Name of the Students (s)	Title	Journal
1	P. Sai Vaibhav Likith Chandra, D. Nipun Nishnath, M. Preetham and K. Sai Vishwas	Certain Investigations on Modified Fuzzy-based Adaptive Controller for Mitigating the Deviations in Wind System	GrenzeInternational Journal of Engineering and Technology



**JULY-DEC 2024 NPTEL CHAMPION –
NPTEL STAR AWARD**