



ELECTRICAL AND ELECTRONICS ENGINEERING





(An Autonomous Institute under Kakatiya University, Warangal)

Volume VIII, Issue II

January'22 – June'22

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CHIEF EDITOR

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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 B.Tech-EEE programme has completed 25 years and is now celebrating Silver Jubilee year. During these 25 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. 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 faculty strength of 34 with diversity of specialization, out of which 18 of them have Doctorates, 10 are pursuing PhD and 6 are with M.Tech. Alumni are the main pillars for the growth of the Department. 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 January 2022 to June 2022 (Even semester of AY 2022-23). 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 even semester of academic year 2022-23

-Prof. C. Venkatesh HOD, EEED

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

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 the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 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.

PO4 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.

PO5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6 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.

PO7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental



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contexts, and demonstrate the knowledge of, and need for sustainable
development.

- PO8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO10** 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.
- PO11 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.
- PO12 Lifelong learning: recognise the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

Program Specific Outcomes (PSOs):

- 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:

- Research and Innovation: Engage in research, innovation and teaching in the fields related to power electronics and Drives.
- PEO₂ Technical expertise and Successful career: Excel in professional practice 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 Soft skills and Lifelong learning: Exhibit professional ethics, communication skills and spirit of teamwork by carrying out research for a sustainable environment.

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):

- 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
- 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 Journal Paper Publications of the Faculty Published, during January'2022- June'2022:

S.	Name of the	Title	Journal
no.	Faculty Prof. V. Rajagopal	An optimized Enhanced Phase Locked Loop Controller for a Hybrid System, <i>MDPI Technologies</i> , vol. 10, no.2. pp. 1-18, 2022.	MDPI
2	Prof. V. Rajagopal, Sri. M. Santhosh	Meta-heuristics Algorithms for Optimization of Controller Gains of DVR to Improve PQ and Dynamics, Wiley - Optimal Control. Applications and Methods, vol. 21, pp.1-20, 2022.	Control. Applications
3	Prof. V. Rajagopal	Optimized PI Gains for Dynamic Voltage Restorer Control Using Admittance Estimation Strategy, <i>Electrical</i> <i>Engineering</i> , pp.1-16, 2022.	Electrical Engineering –
4	Prof. V. Rajagopal	Solar Photovoltaic System-Based Reduced Switch Multilevel Inverter for Improved Power Quality, <i>MDPI Clean</i> <i>Technologies</i> , vol. 4, no.1, pp. 1-13, 2022.	MDPI Clean
5	Prof. V. Rajagopal, Dr. C. Venkatesh, Sri. Danthurthi Sharath	Optimized Controller Gains using Grey Wolf Algorithm for Grid Tied Solar Power Generation with Improved Dynamics and Power Quality, <i>Chinese Journal of Electrical Engineering</i> , (Accepted), pp. 1-15, 2022.	Chinese Journal of Electrical
6	Prof. V. Rajagopal, Sri. Bochu Subhash	EPLL Control Technique Optimum Controller Gains to Control Voltage and Frequency in Standalone Wind Energy Conversion System, <i>European Journal of Electrical Engineering</i> , vol. 24. no. 1.pp. 55-65, 2022.	European Journal of Electrical
7	Dr. D. Rakesh Chandra	Short Term Electric Power Load Forecasting Using Principal Component Analysis and Recurrent Neural Networks, Forecasting, vol.4.no.1.pp. 149-164, 2022.	ESCI Journal



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Details of the Conference Paper Publications of the Faculty published during: January'2022- June'2022

S. no.	Name of the Faculty	Title	Name of the Conference	Dates	Venue
1	Reddy, Prof. C. Venkatesh &	integrating 12RE skills in course teaching for quality assurance, 2022	OBE Framework		
2	Prof. V. Ashok	An Intelligent Scheme for Classification of Shunt Faults including Typical Faults in Double Circuit Transmission line, Artificial Intelligence Applications in Electrical, chap. 1. pp. 59-78, 2021. ISBN 9780367552343	Artificial Intelligence		

Details of the Books/ Book Chapters authored by the faculty published during: January'2022- June'2022

S. Name of the		Title of the Book	Details of	
no.	Faculty		publication	
1	Dr. V Ashok	Book Chapter 3 – ""An Intelligent Scheme for Scheme for Classification of shunt faults including atypical faults in double circuit transmission line" Page.no: 59-78	Book Title: "Artificial Intelligence Applications in Electrical Transmission and Distribution Systems protection", T&F Group, (CRC Press), 2022, ISBN- 9780367552343	
2	Dr. B. Vijay Kumar	Recent Developments in Engineering and Management	TECH Press, Delhi, ISBN-9764366785437	
3	Dr. B. Jagadish Kumar	Grid Connected PV System with a Feed Forward Control	LAMBERT Academic Publishing ISBN- 9786204746975	

EEE ASSOCIATION DETAILS

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N. Sri Kushal Redd	ly (IV/IV, B.Tech)
VICE-PRESIDENTS	5
M. Rumitha	(IV/IV, B.Tech)
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CH. Shreya	(IV/IV, B.Tech)

N. Jeevan Sai

STUDENT ACTIVITIES

(IV/IV, B.Tech)

S. no.	Activity	Date
1	Sumshodhini Technical fest'21 I. Workshop on "Modelling of Electric Vehicle Battery". II. Paper Presentation III. Poster Presentation IV. Circuit Debugging V. Electromata VI. Power Play.	27 Jan'22, 28 Jan'22
2	Effective Resume Writing	16 Feb'22
3	Sumshodhini'21 Valedictory Session	2 March'22
4	Roots of Electrical World	23 March'22
5	Awareness on Scope & Opportunities of Studying in Abroad.	
6	Dumb Charades	6 April'22
7	EEEA got talent	13 April'22

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Activity - Sumshodhini Technical fest'21

The exciting events include:

- Workshop event 1
- Paper Presentation
- 3. Poster Presentation
- 4. Circuit Debugging
- 5. Electromata
- 6. Power Play.

I. Workshop event

The workshop is on the domain of one of the most trending technologies i.e., the Electric Vehicles. A two-day virtual workshop was entitled as, "Modelling of Electric Vehicle **Battery**", the participants had got insights into various concepts and technologies of a battery i.e., Battery Terminology, Battery Technologies, Battery Management System, modelling a Battery Management System (BMS), Modelling a Battery, Making a Charging Circuit. Students have gained knowledge on the basic electric vehicle concepts along with its history and its rise. And modelled a battery by gaining knowledge on battery management system, various trends in battery technology.

WORKSHOP POSTER



EVENT PHOTOGRAPHS



II. Paper Presentation

Paper Presentation is all about how effectively an idea is conveyed to the audience. Paper Presentation not only judges the knowledge but also the creativity in that individual. Participants were been asked to prepare a soft copy of their presentation in PPT format and they have to forwarded Abstract & PPT to the mail id provided by the organisers. Participants have included acknowledgement of sources of their presentation at the end in their respective slides.

Soon after the presentations, participants have been assessed in various criteria like presentation style, communication skills and how promptly and effectively he/she was able to answer the questions. The best performances were given merit certificate along with cash price to encourage them to participate in further events.

PAPER PRESENTATION POSTER









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III. Poster Presentation

Poster Presentation is one such form, which enhances the technical creativity in the participants by enabling them to summarize their idea in the form of a PowerPoint Presentation, poster, art, etc. This event, on the whole, assessed the participant in the terms of creativity used in conveying their idea. The participants have created posters by visualizing the data available and gave presentation related to their project. They have rectified and improved their weaker areas in communication skills, and learnt to effectively present the poster for the future. The participants have shown their interest in the event and best performance has achieved the Merit certificate along with Cash Prize.

POSTER PRESENTATION POSTER



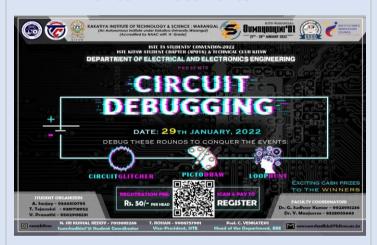
EVENT PHOTOGRAPHS

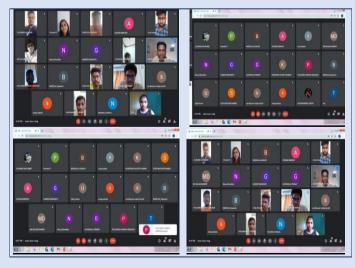


IV. Circuit Debugging

Circuit Debugging had put the participant in a real time situation where the participant was been given with a challenge to detect the error in the circuits, build a circuit as per the requirement, etc. The rounds this event was been designed in such way that the participant will be tested in various perspectives which helps the participant realize the other perspectives of analysing a problem. Three rounds named Circuit Glicher, Picto draw, Loop hunt, and the participants have shown their interest in the event and best performance has achieved the Merit certificate along with Cash Prize. Participants have learnt basics of electrical engineering and analysed the working behind various components and gadgets using in the day to day lives and also identified the errors in the given electrical circuit so as to design new circuits.

CIRCUIT DEBUGGING POSTER







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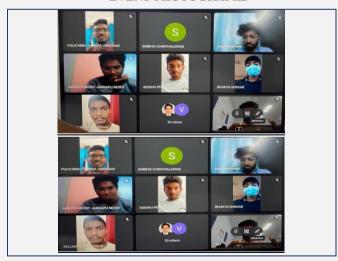
V. Electromata

This event assessed the participants in terms of how strong their wall of basics was built and made the participant analyse the areas where they stand in terms of their basics through the following three rounds i.e., *Pictoquest*, *Resistor Hunt*, *Brainpop*. In this event, participants have known various trending technologies in electrical engineering and decoded the value of resistors and identified few basic electrical and electronic components. The participants have shown their interest in the event and best performance has achieved the Merit certificate along with Cash Prize.

ELECTROMATA POSTER



EVENT PHOTOGRAPHS



VI. Power Play

This event assessed the participant's technical skills in a nontechnical way. The rounds were designed in such a way that the participants had learnt new things while competing in a different way. The various rounds in this event are *Electric maze, Light the brain, Power mania*. After the event participants have enhanced their thinking ability, improved their critical thinking and known the different perspectives of analysing a problem and solving it, learnt the working of various power plants and had analysed the challenges faced by them. The participants have shown their interest in the event and best performance has achieved the Merit certificate along with Cash Prize.

POWER PLAY POSTER









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Activity – Effective Resume writing

The event was held on 16th of Feb 2022, the first and foremost thing that a company checks for an employee recruitment is how effective his/her *Resume/CV* is. The event discussion was all about how to build an effective Resume with the sensible considerations, and students were been taught the format. structure, and tips to build a surplus Resume to the fullest extent. At the end of the session students cleared all of their doubts and queries.

Activity – Sumshodhini Valedictory

Sumshodhini'21 Technical Fest had met the success of its journey throughout the various events conducted, though it was held in virtual mode. The session included Event prize money distribution, Certificate provided to the merits, HoD addressing the gather, and faculty co-ordinators addressing and thanking, and student's point of views, suggestions, and followed by vote of thanks.

Activity – Roots of Electrical world

EEEA has conducted an event on 23rd of March'22 to let the students compute their basic knowledge on Electrical Engineering. There were three rounds namely, "Equivalent circuit solving", "Basic electrical questionnaire", "Guess the electrical term via images" to assess their knowledge in the core area. The participant's output was resulting in an improved concepts in the basics of an electrical engineering and could solve bigger problems in the future quizzes or exams.

EVENT PHOTOGRAPHS





Activity – Awareness on Scope & Opportunities of Studying

As a part of EEEA event, Electrical and Electronics Engineering Department in association with Training and Placement has conducted a session on "Awareness on Scope & Opportunities of Studying in Abroad" by Institute of Management and Foreign Studies IMFS on 30th of March, 2022. This session has included the various opportunities of studying in abroad after the graduation. The speaker Mrs. Deepthi Kondabatthula mam has started the session by giving awareness and scope of studying in abroad. Later on, discussed the topic of IELTS (International English Language Testing System) exam, GRE (Graduate Record Examination) / GMAT (Graduate Management Aptitude Test) / SAT (Scholastic Aptitude Test) / TOEFL. The speaker has noted on the specific points like test pattern, language proficiency, reading, speaking, writing and listening to crack the tests and get into various Universities across the globe. At the end of the session, as a token of respect and affection from the Department of EEE, T&P Faculty Coordinator Dr. G. Sudheer Kumar sir and EEEA Faculty Coordinator Sri. K. Srinivas sir presented the shields to the speakers Mrs. Deepthi Kondabatthula mam and Mr. Anurag Sai sir from IFMS Warangal.











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PRESENTING THE SHEILDS TO THE SPEAKERS





Activity -Dumb charades

EEEA has conducted an event i.e., "Dumb Charades" which was held on 6th of April, 2022. As a part of Extra-Curricular activity, this event was conducted and students have shown their interest thought out the session. The main intention behind conducting the event is to free the stress from students. There were two rounds i.e., "Guess the movie name via script Narration", "Guess the movie name via volunteer acting". By the end of the activity, students were relaxed their mind from the stress, trauma and achieved peace in their life.

EVENT PHOTOGRAPHS







Activity: EEEA got Talent

EEEA always encourages the students in overall development to enhance their career growth. As a part of Extra-Curricular activity, and to encourage the non-technical skills of students the event was conducted on 13th of April, 2022. Students have explored their talent in various fields such as "Fine arts", "Dance", and "Music". HOD sir, Assoc. Dean (Student Affairs), EEEA I/C faculty and other Professors have witnessed the event. The best performances were selected to perform in Sanskriti'22 which was went like an audition at the end of the event.

EVENT PHOTOGRAPHS





PERFORMANCE BY THE STUDENTS







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STUDENT ACHIEVEMENTS

On-going Placements for the Academic year 2022-2023

S. No.	Roll No.	Student Name	Name of Employer
1	B18EE002	SATHVIKA MAMIDI	HYUNDAI MOBIS
2	B18EE016	NIKITHA BALNE	DEXTARA DIGITAL
3	B18EE026	PANDILLA SHIVANI	NETCRACKER, TECH MAHINDRA
4	B18EE028	KUNAMALLA SREEJA	CGI
5	B18EE036	A. SANJAY	TECH MAHINDRA
6	B18EE039	VELDANDI SRI RAM	INFOR, ZF
7	B18EE050	GADEGONI BHAVYANTH	MPHASIS
8	B18EE062	CH SHREYA REDDY	NETCRACKER
9	B18EE070	PALLEBOINA SAMYUKTHA	TECH MAHINDRA
10	B18EE075	VIVEK KANUGULA	MINDTREE, MPHASIS
11	B18EE080	ARAVIND SAI BALAJI KOMPALLI	NETCRACKER, INFOSYS
12	B18EE098	SRI KUSHAL REDDY NOMULA	DEXTARA DIGITAL
13	B18EE105	KATABOINA SUSHMITA	JSW
14	B18EE108	PEDDAPALLY SUSHMITHA	NETCRACKER
15	B19EE124L	VEMUNURI SUMANTH	NETCRACKER
16	B19EE125L	P. SHRAVANI	HYUNDAI MOBIS
17	B19EE126L	DAHAGAMA SAIKIRAN	NETCRACKER
18	B19EE128L	GADDAPARA HARISH	NETCRACKER, INFOR, ZF



First Minor degree awarded to "Miss Fareeha Almas" bearing Roll no B18EE120 with B. Tech in EEE and Minor in Physics.

Research Papers Published by Students:

S.	A	Stude	Roll	Details of the	Journal/C
N	Y	nt	Num	paper	onference
0	Taga	Name	ber		7 1 2021 22
1.	20	MENT YE V.	M20P	V.Lakshmi,	Ym1 2021-22 Conference
	21 - 22	Laksh mi	E001	M.Narasimha Rao, "A Cascaded H- Bridge Multilevel Inverter with Soc Battery	
				Balancing", International Conference On Research And Innovation In Science, Technology And Management 07th & 08th January, 2022 – Virtual	
2.	20 21 - 22	M. Pavan kumar	M20P E003	M. Pavan, Ch, Ravali, A. Pranay, "A Nine-Level Fault-Tolerant FC Multilevel Inverter Topology with Preserved Output Voltage under Pre and Post- Fault Operation)", AICTE Sponsored 1st International Conference on, "Energy Sustainability (AICTE-ES- 2022)", 20-21 May, 2022	Conference
3.	20 21 - 22	Sumay ya Kouna in	M20P E004	Sumayya K, B. Jagadish Kumar, "Investigations on Mitigations of current ripple in Fuel-cell for a single phase isolated inverter",	Conference

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4.	20 21 - 22	Ch. Ravali	M20P E007	Ch, Ravali, A. Pranay, and M. Pavan, "Power Quality Improvement with Transformer- less Dynamic Voltage Restorer (TDVR)", AICTE Sponsored 1st International Conference on, "Energy Sustainability (AICTE-ES- 2022)", 20-21 May, 2022	Conference
5.	20 21 - 22	Lingab athini Shiva Rama Krishn a Prasad	M20P E012	Lingabathini Shiva Rama Krishna Prasad and Mavurapu Srinivas, "Comparative Analysis of Resonant Converters", In: Saroj Hiranwal and Garima Mathur (eds), Artificial Intelligence and Communication Technologies, SCRS, India, 2021, pp. 73-82. https://doi.org/1 0.52458/978- 81-955020-5-9-7	Conference
6.	20 21 - 22	Moha mmed Raziud din Sharee f	M20P E015	Mohammed Raziuddin Shareef, B. Jagadish Kumar, "Analysis of general-purpose fuzzy controller for second and fourth order DCDC converter", Positif Journal, ISSN No. 0048- 4911, Vol.22, ISSUE 9, 2022.	Journal

7.	20	D.	M20P	Moulika.D,	Journal
	21	Mouli	E020	Venkatesh Ch,	
	-	ka		Rajagopal	
	22			V,"Multilevel	
				inverter with	
				self-balanced	
				switchedcapacit	
				or for vehicle	
				application"	
				Positif Journal,	
				ISSN No. 0048-	
				4911, Vol.22,	
				ISSUE 9, 2022.	

