

ISO 9001:2015

AICTE-CII GOLD Category Institute

NAAC-'A' Grade Institute (CGPA:3.21)



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506015, TELANGANA, INDIA

కాకతీయ ప్రాధ్యోగికీ ంవ విజ్ఞాన సంస్థాన, వరంగల - 506015, తెలంగాణ, భారత

కాకతీయ సాంకేతిక విజ్ఞాన కేంద్ర విద్యాలయం, వరంగల - 506015 తెలంగాణ, భారతదేశం

(An Autonomous Institute under Kakatiya University, Warangal)

(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

website: www.kitsw.ac.in

E-mail: principal@kitsw.ac.in

+91 9392055211, +91 7382564888

Electrical & Electronics Engineering

RESEARCH & EDUCATION CENTER (POWER ELECTRONICS)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL

(An Autonomous Institute Under Kakatiya University, Warangal)



Electrical & Electronics Engineering

Research & Education Center (POWER ELECTRONICS)

The objectives of a Research & Education centre focused on Power Electronics typically revolve around advancing knowledge, fostering innovation, and educating the next generation of professionals in the field. Here are some common objectives:

1. Research Advancement:

- Conducting cutting-edge research to push the boundaries of power electronics technology.
- Developing new materials, components, and systems for efficient power conversion.
- Exploring advanced control strategies for improved performance and reliability.

2. Technology Development:

- Innovating new power electronic devices and circuits for various applications such as renewable energy systems, electric vehicles, and smart grids.
- Enhancing the efficiency, reliability, and compactness of power electronic systems.
- Investigating emerging technologies like wide-bandgap semiconductors (e.g., SiC, GaN) and their integration into power electronic devices.

3. Education and Training:

- Providing high-quality education and training programs at undergraduate and graduate levels in power electronics.
- Offering specialized courses, workshops, and seminars to disseminate knowledge and skills in the field.
- Mentoring students and researchers to develop their capabilities in theoretical understanding, practical experimentation, and problem-solving.

4. Industry Collaboration:

- Collaborating with industry partners to address real-world challenges and develop practical solutions.
- Facilitating technology transfer and commercialization of research findings.
- Offering consultancy services and expertise to industries for product development and optimization.

5. Standardization and Policy Advocacy:

- Contributing to the development of standards and guidelines for power electronic systems.
- Advocating for policies that promote the adoption of energy-efficient and sustainable power electronics technologies.
- Engaging with regulatory bodies and industry stakeholders to influence policies and regulations.



Electrical & Electronics Engineering

6. Interdisciplinary Research:

- Collaborating with researchers from other disciplines such as electrical engineering, materials science, and computer science to address complex challenges.
- Exploring interdisciplinary applications of power electronics in areas like healthcare, aerospace, and communication systems.

Major equipments: (along with description / Cost/ photographs)

Sl.No	Name of the equipment	Cost in Rs.	Photographs
1.	Computers (No.10) (students to simulate the various power converters)	292000	<p>Koukonda, Telangana, India 3G3Q+H93, Koukonda, Telangana 506009, India Lat 18.063736° Long 79.538486° 09/03/24 02:11 PM GMT +05:30</p>
2.	1- Φ Full Controlled Bridge Converter with R, RL Load (The rectifier is a widely used circuit in power supplies, DC motor controllers, and many other electronic circuits)	19664	<p>Koukonda, Telangana, India 3G3Q+H93, Koukonda, Telangana 506009, India Lat 18.063702° Long 79.538493° 09/03/24 02:09 PM GMT +05:30</p>
3.	1- Φ AC Voltage Controller (AC voltage controllers are used either for control of the rms value of voltage or current in lighting control, domestic and industrial heating, speed control of fan, pump or hoist drives, soft starting of induction motors, etc.)	11066	<p>Koukonda, Telangana, India 3G3Q+H93, Koukonda, Telangana 506009, India Lat 18.063724° Long 79.538483° 09/03/24 02:32 PM GMT +05:30</p>



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506015, TELANGANA, INDIA

కాకతీయ ప్రాధ్యోగికీ అంబ విజ్ఞాన సంస్థానం, వరంగల - 506015, తెలంగాణా, భారత

కాకతీయ సాంకేతిక విజ్ఞాన కౌన్సిల్ విద్యాలయం, వరంగల - 506015 తెలంగాణ, భారతదేశం

(An Autonomous Institute under Kakatiya University, Warangal)



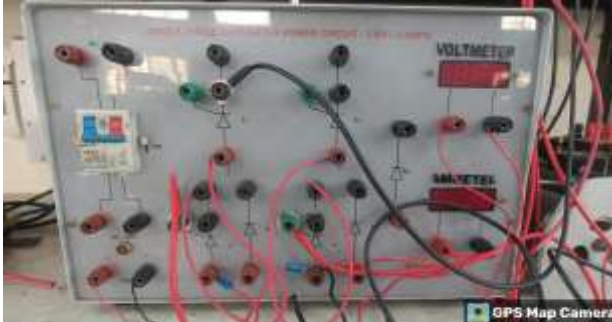
(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

website: www.kitsw.ac.in

E-mail: principal@kitsw.ac.in

+91 9392055211, +91 7382564888

Electrical & Electronics Engineering

4.	3- Φ MC Murray Bridge Inverter (With PWM, a fixed DC input voltage source can produce a sinusoidal output waveform with variable frequency and amplitude)	21282	 <p>Koukonda, Telangana, India 3G3Q+H93, Koukonda, Telangana 506009, India Lat 18.05373° Long 79.538479° 09/03/24 02:31 PM GMT +05:30</p>
5.	Cyclo Converter Based AC Induction Motor Controller (A cycloconverter converts a constant amplitude, constant frequency AC waveform to another AC waveform of a lower frequency by synthesizing the output waveform from segments of the AC supply without an intermediate DC link)	21282	 <p>Koukonda, Telangana, India 3G3Q+H93, Koukonda, Telangana 506009, India Lat 18.053716° Long 79.538494° 09/03/24 02:30 PM GMT +05:30</p>
6.	1- Φ Full Controlled Bridge Converter with motor load (A rectifier is an electrical device used to convert alternating current (AC) into direct current (DC) by allowing a current to flow through the device in one direction only)	19664	 <p>Koukonda, Telangana, India 3G3Q+H93, Koukonda, Telangana 506009, India Lat 18.053725° Long 79.538502° 09/03/24 02:30 PM GMT +05:30</p>



Electrical & Electronics Engineering

7.	3 ph rectifier circuit (Three-phase full-wave bridge rectifiers are commonly used for high-power applications because they have the highest possible transformer utilization factor for a three-phase system)	16000	
8.	Cathode ray oscilloscope (No.10) (The Cathode Ray Oscilloscope (CRO) is a versatile electrical instrument used for displaying, measuring, and analyzing waveforms and various other electrical phenomena)	148500	
9.	Digital storage Oscilloscope (A digital storage oscilloscope (DSO) is an electronic instrument that measures and records electrical signals. It converts the analog signal into a digital format and stores it in its digital memory, allowing for easy recall and analysis)	314618	



Electrical & Electronics Engineering

10.	<p>1-Φ Power Analyzer (A power analyzer is an instrument that measures and quantifies the rate of power flow in electrical systems)</p>	173250	
11.	<p>3 ph Servo Stabilizer (A Servo Stabilizer is a Servo motor-controlled stabilization system that performs optimum voltage supply using a Buck\Boost transformer booster that captures voltage fluctuations from input and regulates current to the correct output.)</p>	41890	
12.	<p>1-Φ AC Voltage Controller (The ac voltage controller is a power electronics converter topology that controls the rms value of an ac voltage applied to an electrical load)</p>	11066	



Electrical & Electronics Engineering

13.	<p>UPS and Batteries</p> <p>(While the UPS battery's main function is to cover the gap between power failure and backup power, it can also serve to make your system more reliable under normal conditions.)</p>	106499	
14.	<p>1-Φ Dual Converter</p> <p>(Dual Converter is an Electronic Device or Circuit made by the combination of two bridges. One of them works as Rectifier (Converts A.C. to D.C.) and other bridge works as Inverter (converts D.C. into A.C.).)</p>	36817	

Minor equipment details:

1. 1- Φ Isolation Transformer 230V/5 A
2. 3- Φ Isolation Transformer 440V/5 A
3. Digital Multi-Meters
4. Regulated Power Supply 0-60V/2A
5. Characteristics of SCR, MOSFET & IGBT

Major software list with description:

1. MATLAB2024



Electrical & Electronics Engineering

Types of projects/research carried out with description:

Summary of Faculty Research Publications with Power Electronics as domain

A.Y: - 2019-20

S. No.	Publication Type	No. of Publications
1	WoS/SCI/SCIE Indexed Journal Publications	01
2	ESCI/Scopus Indexed Journal Publications	04
3	UGC Indexed Journal Publications	03
4	Conference Publications	06
TOTAL:		14

WoS/SCI/SCIE Indexed Journal Publications - A.Y. 2019-20

- [1] T. Praveen Kumar, N. Subrahmanyam, M.Sydulu, " Power Flow Management of the Grid Connected Hybrid Renewable Energy System: A PLSANN Control Approach", IETE Journal of Research, vol. 67, no. 4, pp.569-584, 2019.

ESCI/Scopus Indexed Journal Publications - A.Y. 2019-20

- [1] P. Mahesh, Dr. C. Venkatesh, "Hybrid Multicarrier Modulation Transformer less Multilevel Inverter Fed Induction Motor Drive", International Journal of Scientific & Technology Research, vol. 9, Issue 01, Jan 2020.
- [2] B. Jagadish Kumar, G. Ganesh Kumar," Investigations on Plug in Hybrid Electric vehicle", 5th International Multidisciplinary Research Conference, Conference world, Osmania University Centre for International Program, OU, Hyderabad, 26th December, 2020, pp. 219-229.
- [3] G. Ganesh Kumar, B. Jagadish Kumar "Numerical Analysis on angle of attack on Bow shock formation in Aerodynamic flows", 5th International Multidisciplinary Research Conference, Conference world, OU, Hyderabad, 26th December, 2020, pp. 256-261.
- [4] Prakash Vodapalli., Narasimha Rao M., Pavan Kumar C, "Single-Phase PV System with Continuous H-Bridge Inverter", Springer - Innovations in Electrical and Electronics Engineering. Lecture Notes in Electrical Engineering, vol. 626, 2020.



Electrical & Electronics Engineering

UGC Indexed Journal Publications - A.Y. 2019-20

- [1] B. Jagadish Kumar, Dr. B. Basavaraja "Improve Power Quality of Grid Connected PV System with PI Controller", in XVII International Conference on Recent Trends in Engineering Science and Management (ICRTE SM-19), Pune, 978-93-87793-99-6, 28th July 2019, pp. 283-290.
- [2] B. Jagadish Kumar, K. Sahiti," Investigations on Multi Input Integrated Buck-Sepic Converter", Second International online and Multidisciplinary Conference, International Association Research and Developed organization, Gaziabad, 15-16 June, 2020, pp. 48-52.
- [3] B. Jagadish Kumar, A. Anusha," Certain Investigations on two input integrated Buck and Buck-Boost Converter", in Second International online and Multidisciplinary Conference, International Association Research and Developed organization, Gaziabad, 15-16, June 2020, pp. 145-152.

Conference Publications - A.Y. 2019-20

- [4][1] B. Jagadish Kumar, Dr. B. Basavaraja "Improve Power Quality of Grid Connected PV System with PI Controller", in XVII International Conference on Recent Trends in Engineering Science and Management (ICRTE SM-19), Pune, 978-93-87793-99-6, 28th July 2019, pp. 283-290.
- [5][2] Dr. B. Jagadish Kumar, Dr. B. Basavaraja," Investigations on Performance of Flyback and Buck-Boost Converter in PV Energy Conversion System", in Smart Modernistic in Electronics and Communication, St. Martin's Engg. College, Hyderabad, 978-93-80831-43-5, 29th-30th June, 2020, pp. 187-194.
- [6][3] B. Jagadish Kumar, B.Basavaraja., " Investigations on performance of flyback and buck boost converters in PV Energy Conversion system", in Second International conference on smart modernistic in Electronics and Communication, Secbad, 15-16, June 2020, pp. 196-199.
- [7][4] B. Jagadish Kumar, K. Vinayak Rao," Modelling and Simulation of a Novel multilevel inverter DC-AC Inverter", in 10th International Conference on Advances in Computing, Control and Telecommunication Technologies ACT 2019, Hyderabad, 2395-5295, July 25-26, 2019, pp. 70-76.
- [8][5] Madhukar Rao A, V. Srinivas, G. Vishwas and V. Ramaiah, "Seven Level Fault Tolerant Inverter for Photo Voltaic Applications," in International Conference on Power Electronics Applications and Technology in Present Energy Scenario (PETPES), Mangalore, India, 2019, pp. 1-5.
- [9][6] Madhukar Rao A, V. Srinivas and B. Srividya, "Multilevel Inverter Topology with Symmetrical and Asymmetrical Sources for Distributed Energy Resources," in 8th International Conference on Power Systems (ICPS), Jaipur, India, 2019, pp. 1-5.



Electrical & Electronics Engineering

Summary of Faculty Research Publications with Power Electronics as domain

A.Y. - 2020-21

S. No.	Publication Type	No. of Publications
1	WoS/SCI/SCIE Indexed Journal Publications	04
2	ESCI/Scopus Indexed Journal Publications	06
3	UGC Indexed Journal Publications	07
4	Conference Publications	07
TOTAL:		24

WoS/SCI/SCIE Indexed Journal Publications - A.Y. 2020-21:

- [1] Bochu Subhash, V. Rajagopal and Surender Reddy Salkuti, "Optimization of controller gains to enhance power quality of standalone wind energy conversion system", *International Journal of Emerging Electric Power Systems*, pp 1-16, May, 2021.
- [2] B. Pradeep Kumar, M. Chakkarapani, B. Lehman, G. Saravana Ilango, and C. Nagamani, "Identification of Pre-existing/Undetected Line-to-Line Faults in PV Array Based on Pre-turn ON/OFF Condition of the PV Inverter," in *IEEE Transactions on Power Electronics*, vol. 35, no. 11, pp. 11865-11878, Nov. 2020.
- [3] B. Pradeep Kumar, M. Nitheesh Kumar, M. Chakkarapani, G. Saravana Ilango, C. Nagamani, "Estimation of PV Module Degradation Through Extraction of I-V Curve at Inverter Pre-Startup Condition," *IET Renewable Power Generation*, vol. 14, Issue no. 17, Pages 3479-3486, Dec 2020.
- [4] Velpula, Srikanth, R. Thirumalaivasan, and M. Janaki, "Stability analysis on torsional interactions of turbine-generator connected with DFIG-WECS using admittance model", *IEEE Transactions on Power Systems*, vol. 35, no. 6, pp. 4745-4755, 2020.



Electrical & Electronics Engineering

ESCI/Scopus Indexed Journal Publications - A.Y. 2020-21

- [1]. Prakash Vodapalli., Narasimha Rao M., Pavan Kumar C, "Single-Phase PV System with Continuous H-Bridge Inverter", *Springer - Innovations in Electrical and Electronics Engineering. Lecture Notes in Electrical Engineering*, vol. 626, 2020.
- [2]. Velpula, Srikanth, and Thirumalaivasan Rajaram, "A simple approach to modelling and control of DFIG-based WECS in network reference frame", *International Journal of Ambient Energy*, Article in press, pp. 1-11, 2020.
- [3]. T. Praveen Kumar, N. Subrahmanyam, M.Sydulu, "Power Management System of a Particle Swarm Optimization Controlled Grid Integrated Hybrid PV/WIND/FC/Battery Distributed Generation System", *Distributed Generation & Alternative Energy Journal*, vol. 36, no. 2, pp.141-168, 2021.
- [4]. K. Amritha, V. Rajagopal, K. Narasimha Raju and S. Surender Reddy, "An ALO Optimized Adaline Based Controller for an Isolated Wind Power Harnessing Unit", *MPDI Designs*, vol. 65, no. 5, pp 1-20, October 2021.
- [5]. Kulkarni, V, Sahoo, S. K., Thanikanti, S. B., Velpula, S., & Rathod, D. I., "Power systems automation, communication, and information technologies for smart grid: A technical aspects review", *Telkomnika*, vol. 19, no.3, pp.1017-1029, 2021.
- [6]. Prakash Vodapalli, T. Rama Subba Reddy, S. Tara Kalyani, P.B. Karandikar," Integration Of Photovoltaic Energy for Improving Power Quality of UPQC", *J. Electrical Systems*, vol. 17, no.1, pp. 105-120, 2021.

UGC Journal Publications - A.Y. 2020-21

- [1] B. Jagadish Kumar, P. Shivani," Investigations on Changing the Electrical Safety Culture", *Journal of Information and Computational Science*, vol. 14, Issue-1, pp. 34-41, January, 2021.
- [2] B. Jagadish Kumar, N. Ganesh," Investigations on Recharge boost Converter", *International conference on Recent Innovations in Science, Engineering, Humanities and Management*, Institution of Engineers, India, Chandigarh, 16-17 January, 2021, pp. 135-139.
- [3] G. Harsha Vardhan, B. Jagadish Kumar," Transparent Solar Cells", *International conference on Recent Innovations in Science, Engineering Humanities and Management*, Institution of Engineers, India, Chandigarh, 16-17 January, 2021, pp. 306-311.
- [4] B. Jagadish Kumar, A. Anusha," Certain Investigations on two input integrated Buck and Buck-Boost Converter", in *Second International online and Multidisciplinary Conference, International Association Research and Developed organization*, Gaziabad, 15-16, June 2020, pp. 145-152.
- [5] B. Jagadish Kumar, K. Sahiti," Investigations on Multi Input Integrated Buck-Sepic Converter", *Second International online and Multidisciplinary Conference, International Association Research and Developed organization*, Gaziabad, 15-16 June, 2020, pp. 48-52.
- [6] B. Jagadish Kumar, Dr. Basavaraja Banakara, "Investigations on performance of Flyback and Buck-Boost converters in PV energy conversion system", *Kala Sarovar*, vol. 23, no.02 (IV), pp.



Electrical & Electronics Engineering

187-194, Sep. 2020.

- [7] T. Priyanka, Y. Manjusree "Performance Analysis of grid Connected Hybrid Solar Photovoltaic-Wind Energy System," *UGC Care journal*, , pp. 237-244, July 2020.

Conference Publications - A.Y. 2020-21

- [1] Y. Manjusree, C. Venkatesh, A. Sudhakar, "Neuro-Wavelet Approach of SVC Compensated Six-Terminal Transmission Line Protection with Hybrid Generation", *Springer 4th International Conference on Data Engineering & Communication Technology (ICDECT-2020)*, 2020.
- [2] P. Mahesh, C. Venkatesh and V. Rajagopal, "NLC and SFO Control Technique Based Multilevel Inverter fed 3- ϕ Induction Motor Drive," *International Conference on Sustainable Energy and Future Electric Transportation (SEFET)*, 2021, pp. 1-7.
- [3] B. Jagadish Kumar, G. Ganesh Kumar," Investigations on Plug in Hybrid Electric vehicle", *5th International Multidisciplinary Research Conference, Conference world, Osmania University Centre for International Program, OU, Hyderabad, 26th December, 2020*, pp. 219-229.
- [4] Madhukar Rao A, V. Srinivas and B.Srividya, "Seven-Level Single Phase Inverter for Multistring Photo Voltaic Applications," *IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2020)*, Cochin, India, 2020, pp. 1-6.
- [5] G. Rakesh Yadav, E. Muneender, and M. Santhosh," Wind speed prediction using hybrid long short-term memory neural network-based approach," in *IEEE International Conference on Sustainable Energy and Future Electric Transportation (SEFET-2021)*, January 2021, pp. 1-6.
- [6] H. Musthyala and P. N. Reddy, "Hacking wireless network credentials by performing phishing attack using Python Scripting," *5th IEEE International Conference on Intelligent Computing and Control Systems (ICICCS)*, Vaigai College of Engineering, Madurai, 6-8 May, 2021.
- [7] R. Sruthi and P. N. Reddy, "Comparative Study of Conventional Inverter Topologies for Stand-Alone PV System," *2nd IEEE International Conference for Emerging Technology (INCET-2021)*, Jain College of Engineering, Belgavi, May 21-23, 2021.



Electrical & Electronics Engineering

Summary of Faculty Research Publications with Power Electronics as domain

A.Y. - 2021-22

S. No.	Publication Type	No. of Publications
1	WoS/SCI/SCIE Indexed Journal Publications	08
2	ESCI/Scopus Indexed Journal Publications	08
3	UGC Indexed Journal Publications	00
4	Conference Publications	03
TOTAL:		19

WoS/SCI/SCIE Indexed Journal Publications - A.Y. 2021-22:

- [1] Sunil Kumar Gunda and Venkata Samba Sesha Siva Sarma Dhanikonda "Discrimination of Transformer Inrush Currents and Internal Fault Currents Using Extended Kalman Filter Algorithm (EKF)" MDPI (Energies) Journal, vol.14, no.19, pp.1-20, 2021.
- [2] Amritha Kodakkal, Rajagopal Veramalla, Narasimha Raju Kuthuri, Surender Reddy Salkuti, "An optimized Enhanced Phase Locked Loop Controller for a Hybrid System", MDPI Technologies, vol.10, no.2, pp.1-18, 2022.
- [3] V. Rajagopal, G. Vishwas, Sabha Raj Arya, J. Bangarraju, Rajasekharareddy Chilipi and 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.
- [4] V. Rajagopal, Sabha Raj Arya, Sanjay K. Patel, Talada Appala Naidu and J. Bangarraju, "Optimized PI Gains for Dynamic Voltage Restorer Control Using Admittance Estimation Strategy", Electrical Engineering, pp.1-16, 2022.
- [5] Madhu Andela, Shaik Ahmmad Hussain, Sai Charan Beemagoni, Vishal Kurimilla, Rajagopal Veramalla, Kodakkal Amritha and Surender Reddy Salkuti, "Solar Photovoltaic System-Based Reduced Switch Multilevel Inverter for Improved Power Quality", MDPI Clean Technologies, vol.4, no.1, pp.1-13, 2022.
- [6] B. Pradeep Kumar, Dhanup S. Pillai, N. Rajasekar, Manickam Chakkarapani, G. Saravana Ilango, "Identification and Localization of Array Faults With Optimized



Electrical & Electronics Engineering

Placement of Voltage Sensors in a PV System”, IEEE Transactions on Industrial Electronics, vol.68, no.7, pp. 5921-5931, 2021.

- [7] Vishaltheja Kosana, Madasthu Santhosh, Kiran Teeparthi, Santosh Kumar, “A novel Dynamic selection approach using on-policy SARSA algorithm for accurate wind speed prediction”, Electric Power Systems Research [ELSEVIER], vol.212, pp.1-10,2022.
- [8] Vishaltheja Kosana, Kiran Teeparthi, Santhosh Madasthu, Santosh Kumar, “A novel reinforced online model selection using Q-learning technique for wind speed prediction”, Sustainable Energy Technologies and Assessments [ELSEVIER], vol.49, pp.1-10,2022.

ESCI/Scopus Indexed Journal Publications - A.Y. 2021-22:

- [1] V. Rajagopal, Danthurthi Sharath, G. Vishwas, J. Bangaraju, Sabha Raj Arya and C. Venkatesh, “Optimized Controller Gains using Grey Wolf Algorithm for Grid Tied Solar Power Generation with Improved Dynamics and Power Quality”, Chinese Journal of Electrical Engineering, (Accepted), pp.1-15, 2022.
- [2] Sravya Kedari, Rajagopal Veramalla , Amritha Kodakkal, “Optimized Gains For Control Of Islanded Solar PV and Wind System”, Advances in Electrical and Electronic Engineering, vol.19, no.4, pp. 243-251, 2021.
- [3] K. Amritha, V. Rajagopal, K. Narasimha Raju and S. Surender Reddy, “An ALO Optimized Adaline Based Controller for an Isolated Wind Power Harnessing Unit”, MDPI Designs, vol.5, no.4, pp. 1-19, 2021.
- [4] Bochu Subhash, V. Rajagopal and Surender Reddy Salkuti, “Optimization of controller gains to enhance power quality of standalone wind energy conversion system”, International Journal of Emerging Electric Power Systems, vol.23, no.1, pp. 89-104, 2021.
- [5] Bochu Subhash, Veramalla Rajagopal, “EPLL Control Technique Optimum Controller Gains to Control Voltage and Frequency in Standalone Wind Energy Conversion System”, European Journal of Electrical Engineering, vol.24,no.1,pp. 55-65, 2022.
- [6] Dr.B.Jagadish Kumar and P Shivani, “Investigations on Changing the Electrical Safety Culture”, Journal of Information and Computational Science, vol.14,no.1,pp. 34-41, 2021.
- [7] Dr.B.Jagadish Kumar and N.Ganesh, “Investigations on Recharge Boost Converter”, Journal of Information and Computational Science, vol.14,no.1,pp. 42-45, 2021.
- [8] T. Praveen Kumar, N. Subrahmanyam & Sydulu Maheswarapu, “Genetic Algorithm Based Power Control Strategies of a Grid Integrated Hybrid



Electrical & Electronics Engineering

Distributed Generation System”, Technology and Economics of Smart Grids and Sustainable Energy, 2021.

Conference Publications - A.Y. 2021-22

- [1] Vodapalli Prakash, C. Venkatesh and C. Pavan Kumar, “Hybrid UPQC arrangement for power quality improvement”, E3S Web of Conferences, 2021.
- [2] Harshavardhan Govulakonda, Challa Venkatesh, “:A Comprehensive Analysis of 17-level Modified H-Bridge Multilevel Inverter”, IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER), 2021.
- [3] Valabhoju Ashok, Anamika Yadav, Mohammad Pazoki, Almoataz Y. Abdelaziz, “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.

Summary of Faculty Research Publications with Power Electronics as domain A.Y. - 2022-23

S. No.	Publication Type	No. of Publications
1	WoS/SCI/SCIE Indexed Journal Publications	02
2	ESCI/Scopus Indexed Journal Publications	06
3	UGC Indexed Journal Publications	02
4	Conference Publications	01
TOTAL:		11

FACULTY Publications 2022-23

1. **V. Rajagopal, D. Sharath, G. Vishwas, J. Bangarraju, S. R. Arya and C. Venkatesh**, "Optimized Controller Gains Using Grey Wolf Algorithm for Grid Tied Solar Power Generation with Improved Dynamics and Power Quality," in Chinese Journal of Electrical Engineering, vol. 8, no. 2, pp. 75-85, June 2022, doi: 10.23919/CJEE.2022.000016.
2. **B. Jagadish Kumar**, “ Certain Investigations On Current Ripple Free In A Single Phase Isolated Converter For Fuel Cell Applications,” *Positif Journal*, ISSN NO : 0048-4911, vol. 22, no. 7, July. 2022, pp. <https://doi.org/10.37896/psj30.7/1240>



Electrical & Electronics Engineering

3. Moulika Dandu, C. Venkatesh, Rajagopal Veramalla, "Multilevel Inverter with Self-Balanced Switched Capacitor for Vehicle Application", in Positif Journal, vol. 22, issue 9, pp. 1-10, Sept. 2022, doi: <https://doi.org/10.37896/psj30.9/1400>.
4. Narasimha Rao Mucherla, Nagaraj Karthick, Airineni Madhukar Rao, Fault tolerant nine-level inverter topology for solar water pumping applications, International Journal of Electrical and Computer Engineering (IJECE), vol.12, no.4, August 2022, <http://doi.org/10.11591/ijece.v12i4.pp3485-3493>.
5. G. Rajender "Design and development of Mini electric bike", AIP Conference Proceedings, October 2022.
6. B. Jagadish Kumar, D. Vishal, P.Sai Tharun, G. Srikanth " Dynamic performance of solar PV array Fed water pumping system using Boost-buck converter Fed permanent magnet synchronous motor drive", *Journal For Basic Sciences*, Volume 23, Issue 3, , ISSN: 1006-8341,pp-49-63, March, 2023.
7. R. Sunnysmithavani, B.Jagadish Kumar," Investigations on solar PV and battery storage using a novel configuration of a three-level NPC inverter with an innovative control technique", *Journal For Basic Sciences*, Volume 23, Issue 3, , ISSN: 1006-8341,pp-518-525, March, 2023.
8. B. Jagadish Kumar , D. Vishal, ,K.Sujith Kumar , P.Sai Tharun " Investigations on Solar PV Array Fed Water Pumping System using Permanent Magnet Synchronous Machine through Boost Buck Converter", *Journal For Basic Sciences*, Volume 23, Issue 3, , ISSN: 1006-8341,pp-49-63, March, 2023.
9. C. P. Kumar, N. Karthick and **A. M. Rao**, "Open-circuit fault resilient ability multi level inverter with reduced switch count for off grid applications" , International Journal of Electrical and Computer Engineering (IJECE) Vol. 12, No. 3, June 2022, pp. 2353~2362 ISSN: 2088-8708, DOI: <http://doi.org/10.11591/ijece.v12i3.pp2353-2362> .
10. Sudhakar A V V, **Manjusree Y, and Venkatesh**, "ANFIS Based VSC Drive Solar Fed Water Pump with Zeta Converter", AIP Conference Proceedings 2418, 040031 (2022); <https://doi.org/10.1063/5.0083115>.
11. Gatla Vaishnavi, **C. Venkatesh**, Madikonda Rumitha, Abhishek Shanmukhan, D. Nikhil, A. Shanmukhan, "**Single-Input Dual-Output Three-Level DC-DC Converter**", *National Conference on Electric Vehicle Charging Infrastructure*, 9th & 10th May 2022, ISSN 2347 – 3258.



KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506015, TELANGANA, INDIA

काकतीय प्रौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६०१५, तेलंगाना, भारत

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - 506 015 తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)

(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

Electrical & Electronics Engineering

Research & Education Center (POWER ELECTRONICS)



Faculty I/c: Dr. B. Jagadish Kumar
Designation: Assoc. Professor



Lab.Tech. I/c: G.Chandramouli
Designation: Mechanic

- Area : 132 sq.m.
- Location : B-III 103

Staff Details:

- Faculty in charge : Dr. B. Jagadish Kumar, Associate Professor
- Technical Staff : Sri G. Chandramouli, Mechanic

Electrical & Electronics Engineering

Research & Education Center (POWER ELECTRONICS)

	
<p>Faculty I/c: Dr. B. Jagadish Kumar Designation: Assoc. Professor</p>	<p>Lab.Tech. I/c: G.Chandramouli Designation: Mechanic</p>

- Area : 132 sq.m.
- Location : B-III 103

Staff Details:

- Faculty in charge : Dr. B. Jagadish Kumar, Associate Professor
- Technical Staff : Sri G. Chandramouli, Mechanic