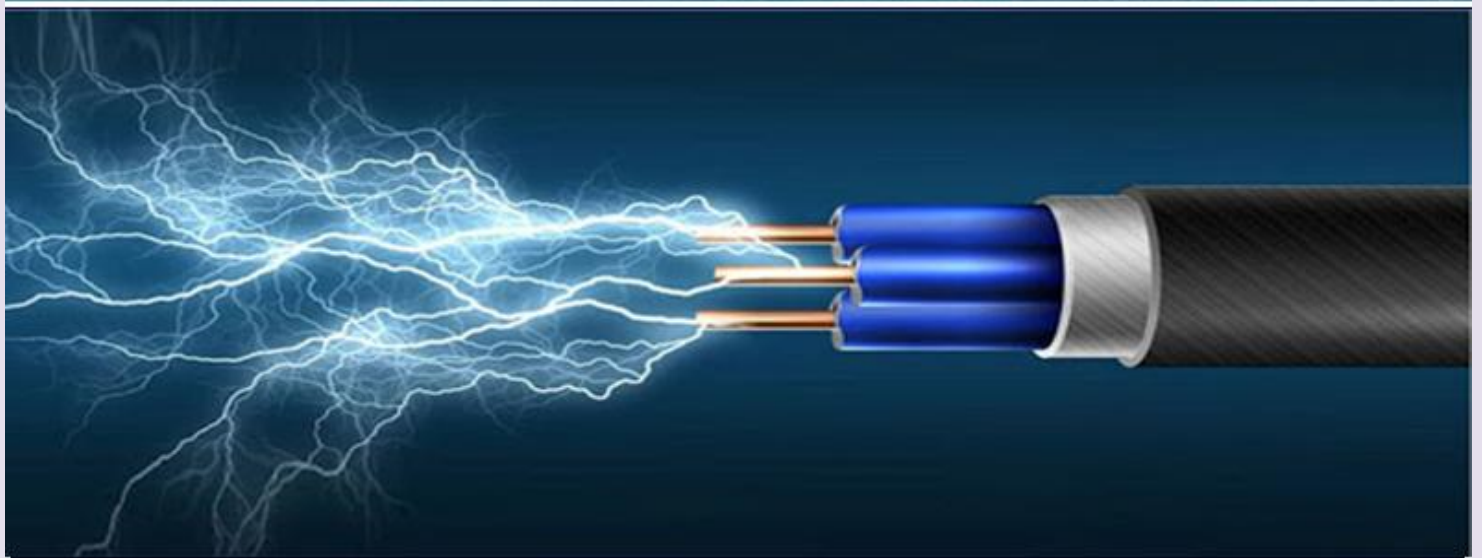


**PRAGATI ENGINEERING COLLEGE
(Autonomous)**

DEPARTMENT OF E.E.E



RADIANCE

ANNUAL TECHNICAL MAGAZINE

Volume- 4

SEPTEMBER-2019



2018-19 RADIANCE

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Professor & HOD-EEE

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Radiance is an annual magazine, brought out by E.E.E Department of Pragati Engineering College. The articles published are copy righted. Republishing them without the written permission from the College accounts to the violation of copyrights.

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***VISION
&
MISSION***

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

VISION:

To excel in engineering education and research, inculcating professional and social ethics among the students through academic excellence in the field of electrical & electronics engineering

MISSION:

M1: To impart quality technical education for students to make them globally competent and technically strong.

M2: To collaborate with industries and academic institutions to enhance creativity and innovation with professional and ethical values.

M3: To motivate faculty and students to do impactful research on societal needs and to build team work among them.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS):

PEO1 :To produce graduates with a strong foundation in the basic sciences, mathematics, computing and core knowledge in Electrical and Electronics Engineering problems through high quality technical education.

PEO2 :To prepare graduates for successful and productive engineering careers, with emphasis on technical competency and with an attention to serve the needs of both private and public sectors by developing novel products and solutions for the real-time problems in a socio-economic way.

PEO3: To inculcate professional & ethical attitude, honing effective communication skills and managerial skills to work in a multidisciplinary environment as a technocrat/administrator/entrepreneur and to acquire the knowledge for pursuing advanced degrees in Engineering, Science, Management, Research and Development.

PROGRAM OUTCOMES (POS):

PO1 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, 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 multi-disciplinary 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 SPECIFIC OUTCOMES (PSOS):

PSO1: Apply the concepts of Power Systems, Power Electronics and utilization of Renewable Energy in implementation of interdisciplinary projects.

PSO2: Acquire the knowledge of Electrical and Electronics Engineering to participate in national and international competitive examinations for success- for higher studies and employment.

ABOUT THE DEPARTMENT

The Department of Electrical and Electronics Engineering (EEE) is fully equipped and caters to the needs of all the students. The passed-outs as well as the current final year students achieved excellent placements in various MNC's. As a befitting reward to its incessant efforts in developing the department, the Department has added a feather in its cap by receiving the prestigious NBA accreditation in 2012 and also added prestigious NAAC with 'A' Grade and AUTONOMOUS in 2016.

Electrical branch has been qualified in AICTE-CII Survey-2015 and has grouped as "GOLD" category at National Level among a total of 2161 applications received by AICTE portal in the AICTE –CII Survey of industry linked technical institutes 2015. Pragati Engineering College has been granted the t-SDI (Technical Skill Development Institute) by APSSDC under G.O.MS.No.05, dated on 25-04-2016.

Progress of Science & Technology in the recent past has made enormous contributions to all walks of life. Research has played an indispensable role in the field of Electrical Engineering. Therefore zeal to pursue the latest advances has to continue.

With this objective in view, the department of Electrical and Electronics Engineering is publishing Technical Magazine to provide a forum for engineering students to update their knowledge & innovative ideas in the field of Electrical Engineering.

Dr. K. Satyanarayana M.Tech, Ph.D, MIE, MIEEE, MISTE, C Eng (Vice-Principal & HOD-EEE) is an Exuberant Person with a 14 Years Experience in The Teaching Field and 4years Experience in Industry. Having A Good Echelon, He Had Been Awarded "BEST TEACHER AWARD" On The Occasion of Sir Raghupati Venkata Ratnam Naidu Birth Day Celebrations By JNTU College Of Engineering, Kakinada On 01/10/2009. He has been awarded with PhD (Doctor of Philosophy) by JNTUK, KAKINADA on 20.06.2013 for the thesis entitled "Performance improvement techniques for Vector controlled Induction Motor Drives" under the guidance of Dr. A.Kailasa Rao, Professor and Director of Pragati Engineering college and Dr. J. Amaranth, Professor in EEE department, JNTUH, Kukatpally, Hyderabad. He has been felicitated by the College on 21.06.2013 for his meritorious achievement.

Dr. G. Naresh is appointed as Dean (Administration) of Pragati Engineering College and also awarded PhD in Electrical & Electronics Engineering by JNTUK, Kakinada for the thesis entitled "Design of PSS and TCSC for Multi-Machine Power Systems Employing various Metaheuristic Techniques". He had been honored "BEST TEACHER AWARD" at JNTUK University Auditorium, KAKINADA.



Technical trends

- ❖ Paper Presentation
- ❖ Poster Presentation
- ❖ Technical Quiz
- ❖ Essay Writing
- ❖ Workshops
- ❖ Guest Lecture
- ❖ Industrial Visits

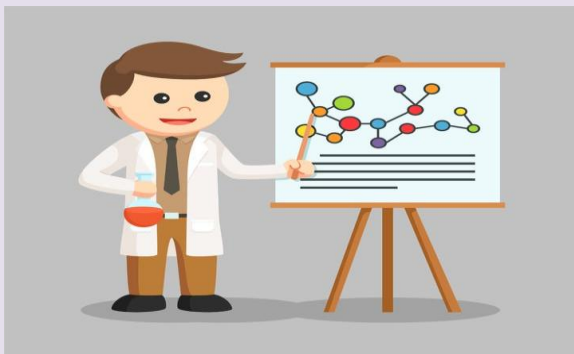
Technical trends

Paper Presentation



- ❖ Leadership on the eve of World Thinking Day
Dated on 22.02.2019 II & III B.Tech, participated 30 students
- ❖ Health awareness on the eve of World Day of the Sick
Dated on 11.02.2019
III B.Tech, participated 10 students
- ❖ A National Level Technical Symposium
Dated on 14.09. 2018
II & III B.Tech, participated 30 students

Poster Presentation



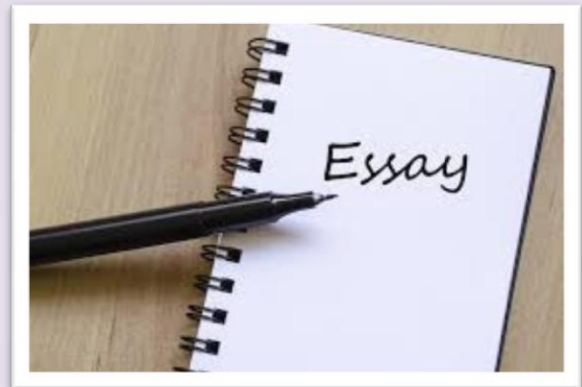
- ❖ Energy Conservation
Dated on 14.12.2018
II & III B.Tech, participated 40 students
- ❖ A National Level Technical Symposium
Dated on 14.09.2018
I & II & III B.Tech participated 68

Technical Quiz



- ❖ Engineering Mathematics & Applications
Dated on 21.02.2019, II B.Tech, participated 10
- ❖ A National Level Technical Symposium
Dated on 14.09.2018, I & II B.Tech participated 33

Essay Writing



- ❖ Leaving no one behind
Dated on 21.03.2019 III B.Tech,56
- ❖ Human factors in Aviation on the eve of International Civil Aviation Day
Dated on 07.12.2018, III & IV B.Tech28

Workshops



- ❖ Embedded systems
Dated on 15.05.2019 to 25.05.2019
II B.Tech, participated 26 students
- ❖ Introduction to Matlab Programming Dated
on 26.02.2019, 27.02.2019 II B.TECH,
participated 40 students.
- ❖ Mathematical Operations with SCI LAB for
Engineering Applications 02.01.2019 to
04.01.2019, 07.01.2019 to II B.Tech, 48
students.

Guest Lectures



- ❖ Importance of Geographic Information

Systems in Electrical Utilities,
Dated on 21.12.2018, III & IV B.Tech,
participated 170 students.

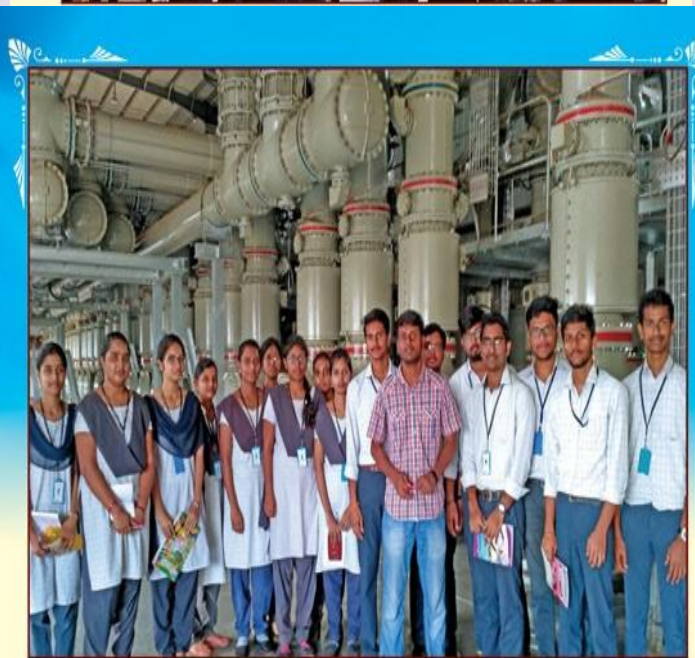
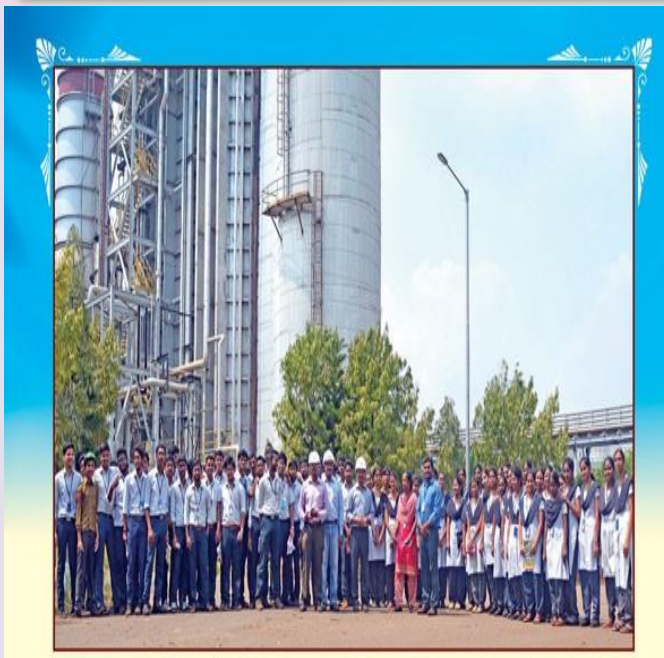
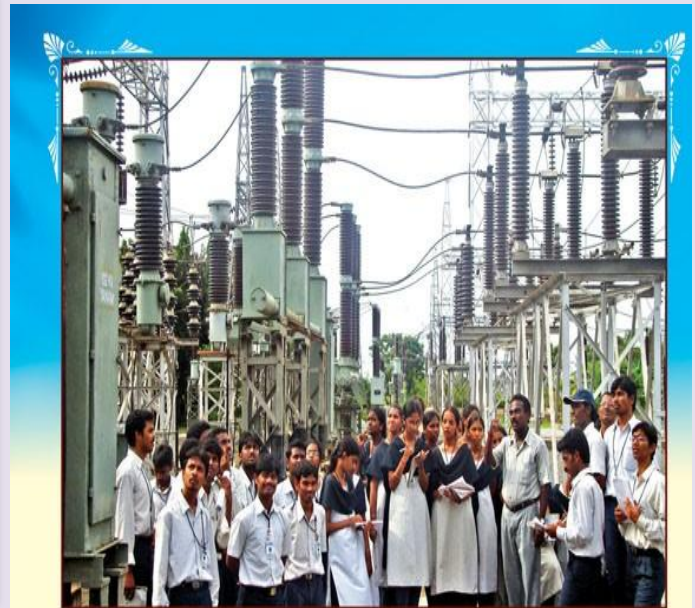
- ❖ Ethics in Electrical & Electronics
engineering,
Dated on 03.07.2018, III & IV B.Tech,
participated 90 students.
- ❖ Overview on Gas Insulated Substation and
Switchgear Protection, 28.06.2018, III & IV
B.Tech, participated 130 students.
- ❖ Ethical knowledge for Engineers, 25.06.2018,
II & III B.Tech, participated 100 students
- ❖ Emerging technologies in field of Electrical
& Electronics engineering 18.06.2018 II &
III B.Tech, participated 110 students

Industrial Visit



- ❖ Power Grid Corporation of India
Limited (POWERGRID) 765/400KV
gas insulated Substation, Surampalem
Dated on 18.09.2018, IV B.Tech,
participated 120 students
- ❖ APGENCO 216 MW Combined Cycle
Power Plant, Jegurupadu,
Dated on 09.08.2018, III B.Tech,
participated 65 students
- ❖ 132/33 KV Sub-Station, Peddapuram
Dated on 04.07.2018, II B.Tech,
participated 117 student

Industrial Visit photos:



Calendar events

Indian Air force Day was celebrated by EEE Department on 08th October, 2019. On this Occasion EEE Department student chapter



World Peace Day was celebrated by EEE Department on 21th September, 2019. On this Occasion EEE Department student chapter conducted elocution among the students on topic “Need of combating climate change as a way to protect and promote **peace** throughout the **world**”.



World Population Day: Department of Electrical & Electronics Engineering conducted activities regarding under the Institution of Engineers (India) on 11th July, 2019. On this occasion essay writing was conducted on the theme of “**Awareness of Global Population Issues**”



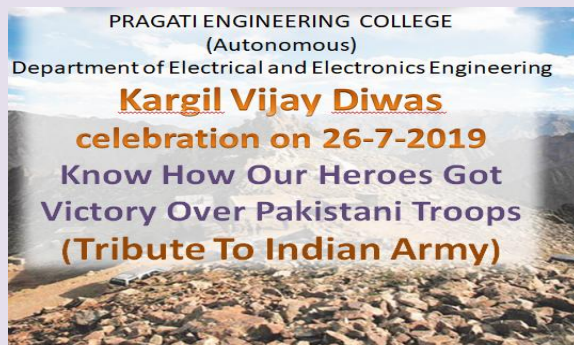
World Ozone Day was celebrated by EEE Department on 16th September, 2019. On this Occasion EEE Department student chapter conducted Essay Writing among the students on topic “protect the Ozone Layer”.



International Day of Non Violence was celebrated by EEE Department on 02nd october, 2019. On this Occasion EEE Department student chapter conducted elocution among the students on topic “Non – Violence”. International Day of Non Violence was celebrated by EEE Department on 02nd october, 2019. On this Occasion EEE Department student chapter conducted elocution among the students on topic “Non – Violence”.



Kargil Victory Day was celebrated by EEE Department on 26th July, 2019. On this occasion to create awareness on Courage of Indian Soldiers, EEE Department conducted paper presentation and easy writing among the students on topic “Courage of Indian Soldiers at Kargil War” and “Reason for Kargil War”.



Activity Published In National Level Newsletter

IEI, EEE dept, Student Chapters activity is published in National level Institute of Engineers Newsletter, volume 1, issue 1, June 2019

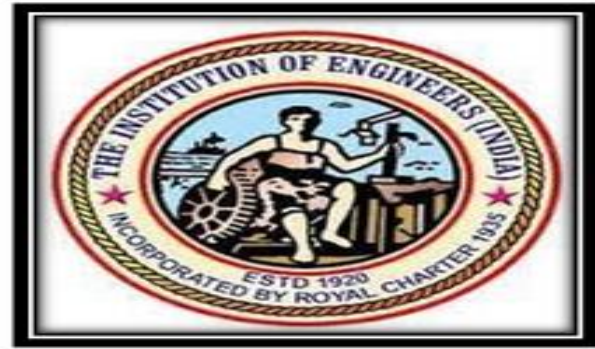


Pragati Engineering College (Andhra Pradesh)

The Students' Chapter of Department of Electrical and Electronics Engineering inaugurated officially on 18 February 2019. The Students' Chapter also conducted a two-day workshop on "Introduction to Matlab Programming" during 26-27 February 2019.



Students gathering during the Inaugural Programme



NPTEL certificates

S.no	Roll no Name of the candidate	Name	Course	Certification type
1	16A31A0296	M.VENKATA BALAJI	Advances in UHV Transmission Distribution	Elite
2	17A35A0220	CHAKRA MAHESH BABU	Advances in UHV Transmission Distribution	Successfully completed
3	17A35A0297	MANCHIRAJU V S S RAMAKRISHNAKANTH	Introduction to Internet of Things	Elite+Silver
4	17A35A02A7	RAMAYANAM SAI SUNANDH	Introduction to Internet of Things	Elite+Silver
5	16A31A0298	N.RAM KUMAR	Introduction to Internet of Things	Elite
6	16A31A0298	N.RAM KUMAR	Electrical Vehicles-1	Elite
7	16A31A0296	M.VENKATA BALAJI	Machine Learning, ML	Successfully completed
8	16A31A0296	M.VENKATA BALAJ	Electric Vehicles - Part 1	Successfully completed
9	16A31A02B1	ACHANTA S S V J KRISHNAVAMSI	Enhancing Soft Skills and Personality	Elite+Silver

Technical Symposium

The College **strides** enhance the technical knowledge of students and provide them a platform to exhibit their talents. It help students to identify and understand the various aspects of their domain which provides opportunities for them to develop their versatility and charisma in the divergent facet of their growth.

PRAGATI ENGINEERING COLLEGE
(AUTONOMOUS)
(Approved by AICTE, Permanently Affiliated to JNTUK & Accredited by NAAC with 'A' Grade)

Pragati Technical Club presents
STRIDES 2K19
Exploring the technology frontiers...

Exult (EEE)
Elever (CIVIL)
ERUDITE (MECH)
E JIVE (ECE)
Eprozyne (CSE&IT)

Project presentation
Paper presentation
Poster presentation
and many more spot events

CHIEF PATRON: Dr. Paruchuri Krishna Rao
CHAIRMAN

PATRON: Dr. S. Sambhu Prasad
PRINCIPAL

CONVENER: Dr. D. Nagesh
ASSOC. PROF. (ECE)



Student publications:

Authors

P.Nancy Rache,
16A31A0201
B-TECH III-EEE

D.Sophia
16A31A0211
B-TECH III-EEE

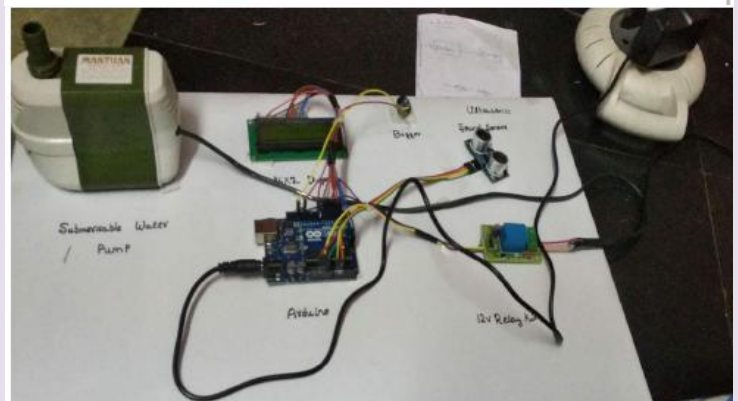
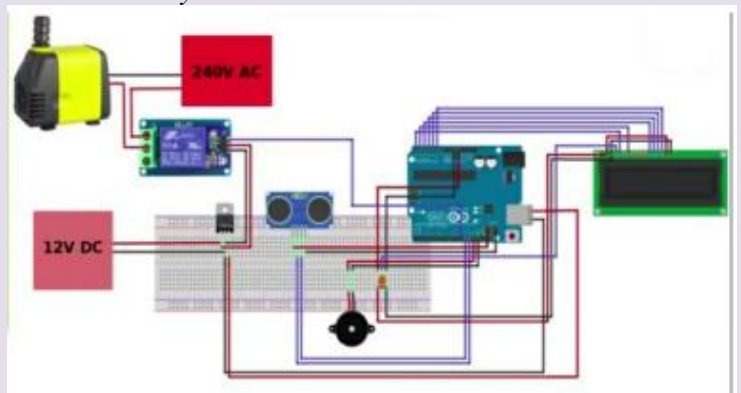
G.SandhyaRan
16A31A0212
B-TECH III-EEE

I.JahnaviRishik
16A31A0213
B-TECH III-EEE

P.SaiAnnapurn
17A31A0201
B-TECH III-EEE

Automatic Water Level Indicator and Controller by using ARDUINO

The drinking water crisis in India is reaching alarming proportions. It might very soon attain the nature of global crisis. Hence it is of extreme importance to preserve water. In home based water tank, the one problem is very common to us that the control of water level of over head tank, as a result the wastage of water is increasing day by day. But we all know water is very precious to us. This problem can be controlled by a simple electronic circuit consists with some cheap electronic components that circuit is called 'water level indicator'. As the water level rises or falls, different circuits in the controller send different signals. The relay operates the water pump. So when the water level is maximum, there lay turns the pump OFF and when the water level is minimum, there lay turns ON the pump. This reduces the water wastage due to overflow from tanks and also ensures that water in the tank is always available to use. Also reduces human involvement in turning ON and OFF the pump, as this process is made entirely automatic



Authors

S.L.B.Teja
17A35A0229
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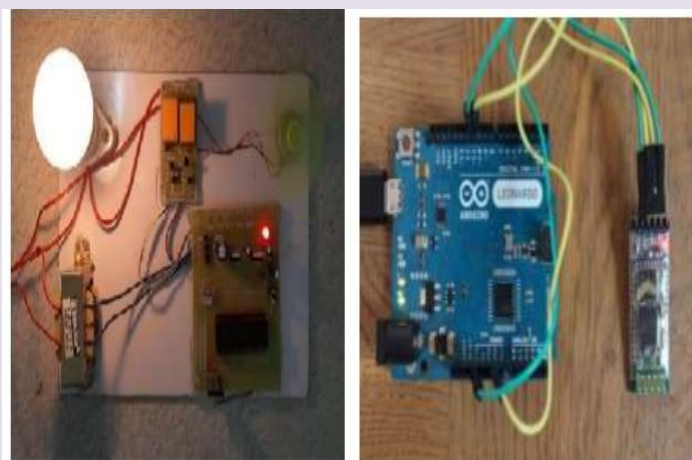
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S.Ramu
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T.Veerababu
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Home Automation Interfaced Bluetooth Control

Smart home automation system has a Smart home automation system has a wide potential market in the recent scenario. Though the systems were developed, leading to high cost, efficiency and flexibility limitation, we are proposing a cost effective home automation system via Bluetooth control. This paper represents a reliable, compact, fast and low cost smart home automation system, based on Arduino (microcontroller) and Android app. Bluetooth HC-05 Sensor for long range and energy efficient wireless communication system to control the home appliances with GUI interface.



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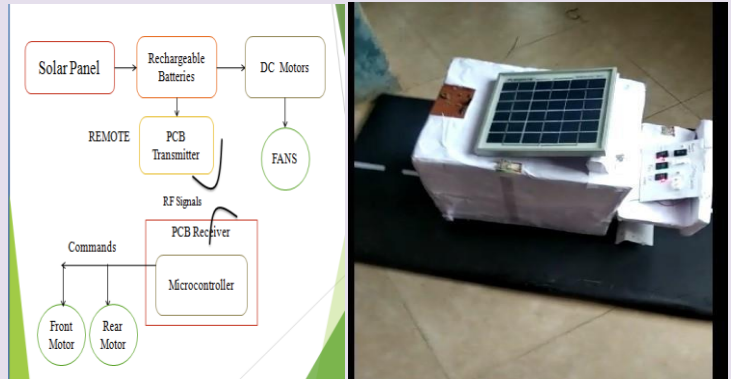
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Smart Dust Bin

The main objective of this project is to clear the garbage that is prevailing on the roads and in the rural areas. As day by day household wastages as well as public waste is increasing drastically, everyone is facing pollution problem. Another problem the cleaners are facing is handling the waste with their hands and may be affected by the diseases. So in order to avoid and to prevent the overflow increase in garbage we innovated a typical vehicle which cleans the waste on its own. Due to the usage of this vehicle the direct handling of garbage is avoided. To describe more this vehicle runs on Solar energy which is renewable energy source. As we are using Solar power here and there for simple appliances, the demand for Solar panels is increased. This vehicle has one more advantage i.e., it doesn't require any fossil fuel to move on. The cleaner can simply operate it by remote control. So in overall view, our project is mobile dustbin that is controlled by remote and sucks the garbage by its own. The sucking

P.AMULYA
16A31A0266
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operation is provided by the motors inside the dustbin. Motors when operated in reverse operation they will rotate in such a way that when a fan is connected to their shaft it draws air from the front and pulls it to the back. So by using this technology the dust/garbage is cleaned. A filter is placed in front of the fans, so it avoids the hitting of garbage with the propellers. Remote control is based on the Radio Frequency operation. By merging all these technologies together our Smart Dust Bin works.



Smart alignment system

With the enhancement of technology, there is more reliability on the automatic systems to reduce the human effort. This implies there is need to find ways to automate the daily routine which in-turn may reduce human effort. One of those ways is the automatic alignment system. The concept of automatic alignment system is that the system adjusts itself according to the surrounding environment through the pre-programmed instructions. Here, the system needs to be controlled to adjust. There may be various control methods but the one used here is by using a light source. The system has a light-sensor circuit which detects the light and moves the system in the direction of light with the help of servo motors via the ARDUINO interface

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III-EEE

T.ch.Bhanuteja
16A31A02A8
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III-EEE

Arduino nano based all in one meter

The main objective of this project is to build an Arduino nano based All in one meter, a device that can be used to measure the voltage, current and the power consumed by a load. There are number of ways that you can implement the Arduino nano based all in one meter Project. One of the easy ways is to interface a Voltage Sensor and a Current Sensor with Arduino, measure the voltage and current values and finally with some mathematics, you can calculate the Power in Watts. The Sensor Part of the circuit is responsible for measuring the Voltage across the load and Current through the load. Both these values, which are analog in nature, are given to the Arduino to its ADC. Arduino converts these values to digital values and makes a few calculations as displays the results on the LCD.







S.no	Academic Year	Title of the Faculty Development Programme	Name of the Resource Person(s)	Date (s)	No.of Participants
1	2019-20	One week Faculty development programme on “Recent Trends in Power Electronics Applications in Smart Grid, Electric Vehicles and Renewable Energy”	1) Prof S.Srinivasa Rao, Professor & Head, Department of Electrical Engineering, NIT Warangal. 2) Dr. D. Sreenivasa Rao, Asst. Professor, Department of Electrical Engineering, NIT Warangal. 3) Dr. G. Siva Kumar, Asst. Professor, Department of Electrical Engineering, NIT Warangal. 4) Dr. Guganeswaran Subramaniam System Validation Engineer at Intel, Bangalore 5) Dr. V. T. Somasekhar, Professor, Department of Electrical Engineering NIT Warangal. 6) Dr. K.Siva Kumar, Assoc. Professor, Department of Electrical Engineering IIT Hyderabad	26.08.2019 to 31.08.2019	42
2	2018-19	Two Day Faculty Development Programme (FDP) on MATLAB	1) Sri. J.Prem Kumar, Project Manager , Capricot Technologies Pvt. Limited ,Bangalore . 2) Dr.K.Satyanarayana, Professor & HOD of	18.02.2019 & 19.02.2019	45

		Applications for Electrical Systems	EEE, Pragati Engineering College. 3) Dr.G.Naresh , Professor of EEE Department, Pragati Engineering College.		



List of patents applied

S.no	Name of the Faculty	Title	Year
1	DR.R.SATHISHKUMAR	Mobile Assembly for Reducing effect of cellular phone Radiation Patent no: 202041000517 Field of invention : Electronics ,Classification <i>Published</i>	2020
2	Dr. B.RAJANI	Smart Self-Power Generating and Moving Trash Collector E-2 Application Number: 201841031865, Field of invention: General Engineering, <i>Classification IPC:B65F1/00- India-Published</i>	2019

Faculty membership in professional bodies



The mission of the professional societies is primarily educational and informational. Their influence flows from their continuing and highly visible functions: to publish professional journals, to develop professional excellence, to raise public awareness, and to make awards.

s.no	Faculty name	Committee
1	Dr. K.Satyanarayana	1. Life member of Indian Society for Technical Education 2. MIE Life member of Institute of Engineers (INDIA)
2	Dr. G.Naresh	1. Member of Indian Society of Technical Education (ISTE) 2. Members of International Association of Computer Science and Information Technology (IACSIT)
3	Dr.R.Sathish Kumar	1. Computer Science Teachers Association (CSTA). 2. International Association of Engineers (IAENG)
4	Mr. S.M.Shariff	Member of Indian Society of Technical Education (ISTE)
5	Mr.M..Harish	1. Computer Science Teachers Association (CSTA). 2. International Association of Engineers (IAENG)
6	Mrs. P.VijayaPrasuna	Member of International Association of Engineers (IAENG)
7	Mr.I.Murali Krishna	
8	Mr.S.Ashokreddy	
9	Mr.D.Krishnachaitanya	
10	Mr.P.Krishna chaitanya	
11	Mr.M.N.V.V.Brahmmam	
12	Mrs.K.Sandyarani	
13	Mr.M.V.Chandrakumar	
14	Mr.G.Bhavannarayana	
15	Mr.M.Manishankar	
16	Ms.S.Varalakshmi	
17	Ms.S.Sravani	

Faculty reviewers for journals

s.no	Faculty name	Reviewer/member in Journal/Conference
1	Dr. K.Satyanarayana	1.Taylor & Francis (Electric Power Components & Systems 2.International Journal of Engineering and Advanced Technology 3. International Journal of Scientific & Engineering Research -IJSER
2	Dr. G.Naresh	1.International Transactions on Electrical Energy Systems,Wiley 2.CPSS Transactions on power Electronics and Applications , A Publication of China Power Supply Society 3.International Energy Journal(IEJ),Regional Energy sources information Centre (RERIC) journals ,Asian institute of Technology,Thailand 4. Computers & Electical Engineering ,Elsevier Publishers 5.Electric Power Components & Systems Journal ,Taylor and Francis
3	Dr.R.Sathish Kumar	Institute of Electronics, Information and Communication Engineers(IEICE)
4	B.Rajesh	1. Journal of Emerging technologies and innovative Research (JETIR-ID 113649) 2.International journal creative Research & Thoughts(IJCRT-ID 113666)
5	M.Satya Harish	1. Journal of Emerging technologies and innovative Research (JETIR-ID 113692)

Faculty achievements

Academic Year 2018-19			
Retention more than 15 years			
S.no	Name of the Faculty	Designation	Awarded/ CashPrize
1	Dr.K.Satyanarayana	Professor & HOD-EEE	Rs.50,000/-
2	Dr.G.Naresh	Professor	Rs.50,000/-



List of faculty provisionally Qualified in Andhra Pradesh Research Common Entrance Test -2019

s.no	Name of the Faculty	Designation	Allotted S.No as Per Qualified List in APRCET-2019
1	Sheik Mahaboob Shariff	Assoc. Professor	2222
2	G.Bhavnarayana	Asst.Professor	2288
3	I.Murali Krishna	Asst.Professor	2305
4	M N V V Brahmam	Asst.Professor	2345
5	M.V Chandra Kumar	Asst.Professor	2361
6	B.Rajesh	Asst.Professor	2453

Best project awards of 2019-2020 Academic year under the supervision of Eminent faculty by Tata Consultancy Services, Hyderabad

s.no	Name of the Faculty Guided	Title of the Project
1	Mr.B.Anil Kumar	Microcontroller Based Driverless Metro Train
2	Mr.G. Bhavanarayana	Design and Implementation of Solar Powered Robot for Agricultural Applications



Faculty publications:



AUTHOR
Dr.K.Satyanarayana
Professor&HOD-EEE,
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Performance Improvement of Sensorless Vector Controlled Induction Motor Drive for Medium Power Applications

This paper deals with sensorless vector controlled induction motor in which torque pulsations are reduced with improved input of induction motor. In proposed technique two multi winding transformers are used for generation of 18 sinusoidal signals given to rectifier unit and the rectifier output given as input to 9 level multi level inverter. In this proposed technique gating signals to the inverter switches will be provided through space vector pulse width modulation which considers speed as reference. This configuration was simulated in MATLAB/Simulink. And the simulation results are presented here with improvement in reduction of THD.

A Novel Seamless Reconnection and Islanding Technique for UPQC Connected Micro-Grid using Proportional Resonant Controller



AUTHOR
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This paper proposes a novel technique for the integration of Unified Power Quality Conditioner (UPQC) in Distributed Generation (DG)-based Micro-Grid (μ G) system with Proportional Resonant (PR) controller has been presented here. The DG converters and UPQC Active shunt Power Filter (APFsh) are placed at the Point of Common Coupling (PCC) and a dc link is also integrated with the storage system. The series part of the UPQC (APFse) is connected before the PCC and in series with the grid. During the interconnected and islanded mode, DG converter with storage will supply the active power and the shunt part of the UPQC will supply the reactive and harmonic powers required by the load. DG converter will remain connected during the voltage disturbances. An intelligent islanding detection and reconnection technique (IR) is introduced in the UPQC and PR Controller is used as a secondary control. This arrangement is termed as UPQC μ G-IR. The simulation studies were conducted using MATLAB/Simulink software. The advantage of this proposed UPQC μ G-IR over the normal UPQC in providing extra compensation during voltage interruption, voltage sag/swell, harmonic and reactive power compensation during interconnected mode are observed through simulation studies. Results obtained show the effectiveness of the proposed controller under both Islanding mode as well as in grid-connected mode.

Quasi Z-Source Inverter for Pv Power Generation Systems



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For the enormously increased power demand in the modern world, the existing fossil fuel sources seem to be inadequate to meet the demands. Hence, it is necessary to switch over to use Renewable Energy Sources (RES). Besides the demand concerns, the power generation from fossil fuels causes environmental pollution prominently. As a result, the utilization of RES has been encouraged. When RES is interconnected with the grid, this system becomes an excellent solution to fulfill the power demand of the present scenario. The energy generated from renewable energy sources varies according to seasonal variations. The power generated from RES can be delivered to the load by interconnecting it with the grid. When a small size RES system is connected with the distribution network, it can deliver energy to the isolated zones where the energy cannot be drawn from the conventional network. In this work, the Artificial Neural Network based Maximum Power Point Tracking scheme has been introduced with Photovoltaic (PV) power generation. Also, a bi-directional charger is introduced to overcome the battery issues. The model is evaluated in the MATLAB/SIMULINK package. The performance of the system is analyzed by applying different voltage levels to qZSI. The voltage gain, effectiveness of the scheme, MPPT and the regulation of the voltages are observed.

PV-Hess Based Zeta Converter for BLDC Motor Drive using Fuzzy Logic Controller



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The growing importance of non conventional energy in the auto mobile industry needs the use of brushless DC (BLDC) motor drives the solar photo voltaic (PV). To overcome the disadvantages in the conservative DC-DC converters, Zeta converter is used to optimize power handling through controlling of duty cycle. To mitigate changes in output of PV, the Hybrid Energy Storage System (HESS) is implemented into the PV system to maintain a constant voltage at the BLDC motor input. The PV-HESS system is controlled correctly by a robust power management algorithm. The Zeta converter can meet the smooth performance of the system by using particle swarm optimization technique of maximum power point tracking. By placing set of rules in the FLC controller we get the system stability faster than existed controller. The performance of the fuzzy logic.

Optimization model of renewable source water pump using fuzzy logic controller



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This paper discusses about the optimization of solar renewable source water pump. A novel method of water level regulation is provided based on a Fuzzy logic controller. The main objective of this paper is to supply the water according to the needs of the users regardless of dynamic variations in the climatic conditions. The paper focuses on the design and optimization of the power generated from the Photo Voltaic Generator and to regulate the water in the tank. A fuzzy logic controller is used to control the solar water pumping system. The controller generates the reference speeds necessary for the PWM generator to control each DC/DC boost converter considering water levels in three tanks and instantaneous value of the solar radiation. The performance of the controller is tested on a mini residential apartment . The system performance is tested using MATLAB/ SIMULINK environment

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A Droop Control Strategy for Minimization of Circulating Current in Low-Voltage Dc Micro grid

Micro grid system is formed to provide reliable electricity and heat delivering services by connecting distributed generations and loads together within a small area. Low- Voltage Dc Micro grid faces problems on load sharing and circulating current issues of parallel-connected dc-dc converters in low-voltage dc microgrid . microgrids can help overcome power system limitations, improve efficiency, reduce emissions and manage the variability of renewable sources. Droop index (DI) is introduced in order to improve the performance of DC micro grid, which is a function of normalized current sharing difference and losses in the output side of the converters. The proposed fuzzy based droop control method minimizes the circulating current and current sharing difference between the converters based on instantaneous virtual resistance .This results shows difference between pi and fuzzy and it is implemented using MATLAB/SIMULINK



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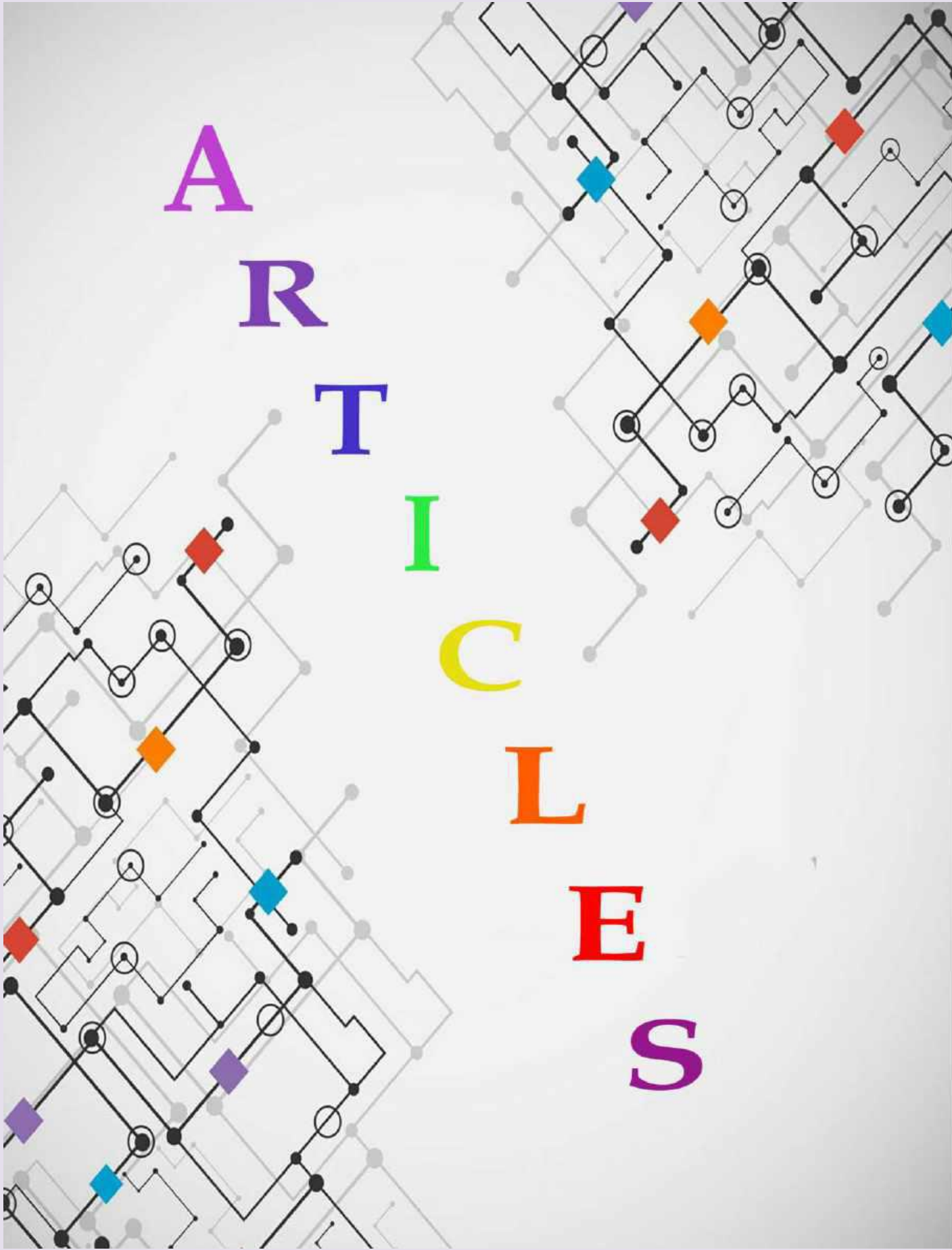
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Power Quality Improvement using Modified Cuk-Converter with Artificial Neural Network Controller Fed Brushless Dc Motor Drive

Power factor rectification converter (PFRC) hinged bridgeless modified CUK (MCK) converter supplied to brushless DC engine drive utilizing an Artificial Neural Network controller. Presently, alteration for traditional CUK converter can be obtained through adding a voltage multiplier circuit, to decrease converter losses for wide variation of speed to accomplish most extreme Power Factor and to limit the Total Harmonic Distortion (THD). The designed bridgeless PFRC based converter was investigated hypothetically to obtain the circumstances, for example, Power factor (PF) and Total Harmonic Distortion (THD) are assessed and contrasted with traditional Diode Bridge Rectifier hinged CUK converter supplying to brushless DC motor drive and bridgeless altered CUK using PI controller driven brushless DC motor. Here, simulation results uncover that the ANN controllers are viable and productive contrasted with PI controller, as the steady state error when ANN control used is less and the stabilization of the system is better while using it. Additionally in ANN system, the time to perform calculation is less as there are no numerical models. The performance of the designed framework is simulated in MATLAB/Simulink environment.

An Optimization Technique For Fault Detection On Transmission Line Using Transient Monitor Index Parameters

Transmission lines are incessantly disturbed with any kind of temporary or permanent faults, leads to effect of system stability and reliability. In order to avoid this issue, well operated distance relays are needed to be designed. Generally, Relay will provide accurate information for circuit breakers operation during occurrence of any kind of fault. Faults in transmission lines be detected first for immediate removal of fault to protect the system and then ensue to classify the type of fault by the relay. This paper introduces a new scheme for fault detection and classification on transmission line using Transient monitor index method. The proposed method calculates transient monitor index values from measured currents signals from one end information. These index values will discriminate the fault from normal event within a short duration and also classify the nature of the fault. The performance of the proposed method is studied on 500kV, 50Hz two terminal transmission system under MATLAB/SIMULINK environment. Different critical faults and non-fault events were simulated and the results show that the proposed method gives more accurate and faster response than other existing methods



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SNAKE ROBOT

A snakebot is also known as snake robot, is a biomorphic hyper redundant robot that resembles a biological snake. A snake robot can pass through difficult and different paths because of special physical form and movement joints mechanism. Snake robots are constructed by chaining together a number of independent links. These snake robots have no passive wheels as they move by friction between the robot body and the surface on which it is. The joints have been designed and fabricated in a way that each joint has two freedom grades and two DC servo motors and the power is transferred from the motors output to the joint shaft through bevel gear. Snake robots vary greatly in size and design, their small cross section to length allows them to move through tight spaces. The ability to change the shape of their body allows them to perform a wide range of behaviours, such as climbing stairs or tree trunks. Traditional snake robots locomote purely by changing the shape of their body, just like snakes. Snake robots are used in heart surgeries and rescue operations. Snake robots move across uneven terrain, since it is not dependent on wheels. Snake robots are currently being researched as a new type of robot by engineers at the NASA Ames Research Center.



Afsha
Visala

INTELLIGENT BUS MONITORING SYSTEM



The real time bus monitoring is to be implemented for public bus (for PMTs in Pune). It includes smart assistant system required for public security and safety. The smart system includes safety from rash driving, accident detection and monitoring facility. It also include user-friendly application for user to track bus on smart their The smart system designed has both online (GPS) and offline (GSM) for user friendly service. It allows user to save its time by acknowledging no. of persons present in the bus as well as no. of seats available in the bus along with the current and next stop acknowledgment with its arrival timings.

P.L.L.SUPRIYA

HOLOGRAPHIC TECHNOLOGY



Holography is a two stage process of photography using coherent light from a laser to illuminate the scene. In the first stage, hologram is formed by combining the light scattered from the object and the direct laser beam on a photographic plate. In the second stage, a 3D image is reconstructed without the use of lens, by

directing the laser beam through the hologram. Hologram concept is invented in the year 1947 by Dennis Gabor for which he received a Nobel Prize. Holograms can be classified into 4 types: amplitude modulated holograms, thin and thick holograms, transmission and reflection holograms, phase modulated holograms. Holograms are used in credit cards and bank.

T.Mrudula

M.Jasmine Rani

ELECTRONIC PAPER DISPLAY



Electronic paper (e-paper) is a portable, reusable storage and display medium that looks like paper but can be repeatedly written on by electronic means, thousands or millions of times. E-paper will be used for applications such as e-books, electronic newspaper, portable signs & foldable, rollable displays. Information to be displayed is downloaded through a connection to a computer or a cell phone or created with mechanical tools such as an electronic pencil. The electronic paper display is reflective & can be easily read in bright sunlight or dimly lit environments while being able to be seen at virtually any angle just like paper. Its black & white ink on paper look gives an appearance similar to that of the most widely read material on the newspaper.

P.Bhumika

S.V.Sai Harshini

LIFI DATA TRANSMISSION

Today there are real life applications and benefits for implementing Lifi. Lifi can enable secure wireless communications, connectivity in RF hostile environments such as petrochemical plants and hospitals. Lifi also provides high speed dense reliable networks for enterprise environments and a pathway to environments small buildings, transport, cities and nations.



Lifi is a platform technology that will extend the capabilities of wireless communications to places beyond even our current conception. To introduce this Lifi benefits my team is came with a project of Lifi data transmission.

In this project we will use a led bulb and a speaker and a charger wire and a mini solar panel and a phone which is a source for data to be included in this project. First step here is to divide the project into two such as transmitter side and receiver side.

D.Tarun

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E-WASTE MANAGEMENT

Electronic waste or e-waste is any broken or unwanted electrical or electronic appliance. E-waste includes computers, entertainment electronics, mobile phones and other items that have been discarded by their original users. E-waste is the inevitable by-product of a technological revolution. Driven primarily by faster, smaller and cheaper microchip technology, society is experiencing an evolution in the capability of electronic appliances and personal electronics. For all its benefits, innovation brings with it the by-product of rapid

obsolescence.



According to the EPA, nationally, an estimated 5 to 7 million tons of computers, televisions, stereos, cell phones, electronic appliances and toys, and other electronic gadgets become obsolete every year. According to various reports, electronics comprise approximately 1- 4 percent of the municipal solid waste stream.

G.Samyuktha
G.Malathi saroja

NANO ROBOTICS

NANO ROBOTICS is an emerging technology field creating machines or robots whose components are at or near the scale of a nanometre. nano robotics refers to the nano technology then the term nanobot, nanoid, nanite, nanomachine or nanomite have used to describe the devices currently under reasearch and development. Robot that allows precise interactions with nano scale objects or can manipulate with nano scale resolution.

NANOROBOTICS



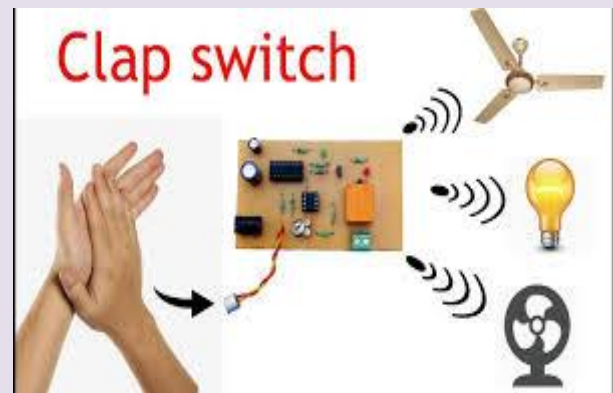
RICHARD FEYNMAN, it was his former graduate student and collaborator albert hibbs who for feynmans theoretical micro machines. In this paper

we will tell about the nano robotics theory, legal and ethical implications, the use of nano robotics in our daily life.

K.L.Sahithi
N.Srujana

CLAP CONTROL BULB

The main objective of clap switch is that on and off of any many electrical appliances by a sound of clap. The clap operated circuit is a circuit which operates by clapping from a remote point. The condenser mic will be used in the project will have an ability to take sound having same pitch of clap sound as input



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