# Department of Electrical & Electronics Engineering

## KAKATIYA INSTITUTE OF TECHNOLOGY AND SCIENCE WARANGAL-15

Newsletter

VOLUME I,
ISSUE I

SEP 5th, 2014




## CHIEF EDITOR MESSAGE

With great pleasure and honour I write this foreword. Indeed this newsletter is a testament to the departments commitment in imparting quality education in academia. This encompasses a right balance between teaching and learning and very much inline with the mission and vision of the department. This newsletter will provide a glimpse of student achievement in academic year 2014-2015.

**- P. VENUGOPAL RAO.**

## VISION :

To fulfill the needs of the industry and society through excellence in education and research in electrical engineering.

## MISSION :

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

## Program Educational Objectives (PEOs) in B.Tech in Electrical & Electronics Engg. course :

**PEO1 :** Choose their careers as practicing engineers ready for modern electrical-power and energy industry.

**PEO2 :** Engage in lifelong learning, career enhancement and adapt to changing professional and societal needs

**PEO3 :** To produce graduates with perspective for environmental issues by building the awareness of green and sustainable energy technologies.

**PEO4 :** To produce graduates with problem solving culture through familiarization with the state-of-art facilities in Electrical and Electronics engineering laboratories.

## Program Outcomes (POs) in B.Tech in Electrical & Electronics Engg. course :

| Program Outcomes | | 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 analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, an 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 engineerin and IT tools including prediction and modeling 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 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. |

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| | |
|---|---|
| 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 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) OF B.TECH IN ELECTRICAL & ELECTRONICS ENGG. COURSE:

| | |
|---|---|
| PSO1 | The Electrical and Electronics Engineering graduates are capable of applying the knowledge of mathematics and sciences in modern power industry. |
| PSO2 | Analyze and design efficient systems to generate, transmit, distribute and utilize electrical energy to meet social needs using power electronic systems. |
| PSO3 | Electrical Engineers are capable to apply principles of management and economics for providing better services to the society with the technical advancements in renewable and sustainable energy integration |
| PSO4 | Practice professional ethics and work in a team and communicate to keep abreast of latest developments to achieve project objectives for the betterment of the society. |

## EEE ASSOCIATION :

The department of electrical and electronics engineering flagged off the association hours this Wednesday by choosing the Office Bearers from the fourth year and an executive member body from the junior years.

The event was launched by the Chairperson of EEEA Sri.P.Venugopal Rao who encouraged the students to come forward and wash away their stage fear and stressed on the fact that apart from classroom learning a student should also have a sound knowledge on communication skills and also that self-assessment plays a vital role at this point of time. He also gave some personal experiences wherein he has overcome the language barrier and stood as an inspiration.

The Staff Coordinators Sri K.Ajith and Sri.N.Rakesh seemed pretty enthusiastic for a new start and Sri.Ajith enlightened the importance of personality development through the technical terms of Shunt Generator Excitation which made the students applause. The activities during the semester are

1. Inauguration
2. Debate on Current Affairs and Social Issues
3. Quiz
4. Seminar on "Modelling and simulation of the Wind energy electric conversion system to extract the maximum power from the wind using MATLAB"
5. Singing Competition
6. Dancing Competition
7. Electrical Engineering Awareness ProgrammeGuest lecture by P. Venugopal Rao, Prof. & HOD EEED
8. Teachers Day Celebrations
9. Project and Poster Presentation

The General Secretary of the year 2014-15, B.Mounika proposed the agenda and encouraged the students to take active part in the activities conducted in the association. She also had stressed on skill development and demanded a 100 percent attendance in the association hours too. The Joint Secretary Post for the academic year has been given to M.Sumesh and Y.Pranusha.

The students attended the auditorium in huge numbers which made the organizers optimistic for a new beginning.

## FACULTY PUBLICATIONS :

1. **G.Rajendar,** Basavaraja Banakara ***"Improvement of Voltage Stability by Optimal Capacitor placement using Sensitivity Matrix"*** in International Journal of Engineering and Technical Research (IJETR) ISSN : 2321-0869, Volume-2, Issue-12, December 2014.
2. **P. Nagarjuna Reddy,** N. Ramarao, J. Amarnath ***"Study of aluminium contaminants of different dimensions in a single phase gas insulated busduct"*** at India Conference (INDICON), 2014 Annual IEEE 11-13 Dec. 2014.
3. **P. Nagarjuna Reddy,** N. Ramarao, J. Amarnath ***"Investigation of gas pressure on metallic particle contamination in 1-Ø gas insulated busduct"*** at International Conference on Science Engineering and Management Research (ICSEMR), 2014 27-29 Nov. 2014.

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4. **P. Nagarjuna Reddy**, N. Ramarao, J. Amarnath ***"Analysis of particle contamination in gas insulated busducts operating on DC voltages"*** 6th IEEE Power India International Conference (PIICON), 2014 5-7 Dec. 2014.
5. **K. Ajith** ***"Improved Power Quality Control Strategy for Distributed Generation"*** in International Conference on Smart Electric Grid (ISEG), 2014 (IEEE Xplore) ISBN: 978-1-4799-4104-9 KL University, Guntur, A.P. 19th& 20th September 2014.
6. **Nagarjuna Reddy** presented paper on ***"International Conference on Science Engineering and Management Research (ICSEMR)"*** at Chennai, India on 27-29 Nov. 2014.

## STUDENT ACHEIVEMENTS :

| | | | |
|---|---|---|---|
| PEDDI | SHRAVYA | EEE | TCS |
| DANDAMRAJ | SAI SANKALP | EEE | TCS |
| DONDETI | MANOJPRABHAKAR | EEE | TCS |
| BATHUKA | SHRUTHI | EEE | TCS |
| THUMMALA | LAKSHMI SRI | EEE | TCS |
| MOHAMMED | AKBARUDDIN | EEE | TCS |
| PARISINATI | PRASHANTH | EEE | Genpact |
| DOOSA | GANESH | EEE | Nile Stream Info |
| BUDAGAM | SAIKIRAN | EEE | Nile Stream Info |

## FACULTY ACHIEVEMENTS :

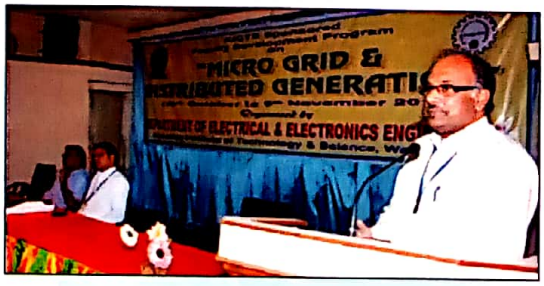
- Prof. P. Venu Gopal Rao has organized AICTE SPONSORED TWO WEEK FACULTY DEVELOPMENT PROGRAMMEON "MICRO GRID & DISTRIBUTED GENERATION (MGDG)" during (28-10-2013 to 9-11-2013).

Following table lists the members of technical advisory committee for the two week faculty development program on Micro Grid & Distributed Generation

| S.No. | Name & Designation | Institute / Organization Name |
|---|---|---|
| 1 | Dr. P. S. Nagendra Rao, Professor | IISc Bangalore |
| 2 | Dr. Anand Sandeep, Professor | IIT Kanpur |
| 3 | Dr. M. Sydulu, Professor | NIT Warangal |
| 4 | Dr. D. M. Vinod Kumar, Professor | NIT Warangal |
| 5 | Dr. Gnanadass, Professor | PEC, Pondicherry |
| 6 | Dr. AllabakshNaikodi | Tech Mahindra , Hyderabad |
| 7 | Dr. M. MithunBhasker | Math Works, Bangalore |
| 8 | Dr. V. N. Mani, Scientist-F | CMET – Hyderabad |
| 9 | Dr. Venkateswarlu Manne | Amara Raja Batteries Ltd. |

The effects of conventional power generation on the environment among other issues has brought Distributed Generation (DG) into limelight DG-Technologies-wind, solar, and full cell based technologies enable power to be generated close to the quantum and location of demand, these are the prime motivating factors for the development of DG technologies. Advances in the technologies have made distributed generation cost effective and responsive to meet the challenges of integrating them. In the backdrop of diminishing reserves, these in turn will pave way for a future of cleaner and sustainable energy.





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## LIST OF RESOURCE PERSONS WITH TOPICS

| Sl.No. | Name of the Resource Person | Designation & Address | Topic |
|---|---|---|---|
| | | **DAY-1** | |
| 1 | K Muralidhar | Vice Presidence, Amara Raja Power Systems, Private Limited, Hyderabad | |
| 2 | Prof. P. Venugopal Rao | Professor, KITS, Warangal | Introduction to Micro Grid and Distributed Generation |
| 3 | Dr. V.T. Somasekhar | NIT, Warangal | Achievement of quality power to induction motor drives in a micro grid environment |
| | | **DAY-2** | |
| 4 | Dr. V.N. Mani | CMET, Hyderabad | Role of Advanced Electronic and Nano Materials & Devices Technology for Photovoltaic Aerospace & Defence Application - A Bird's Eye View |
| 5 | Dr. V.N. Mani | CMET, Hyderabad | Role of Emerging Nano Technology in Solar Concentrated Photo Voltaic (CPV) Concepts in harnessing energy |
| 6 | Sri N. Rakesh | Assistant Professor, KITS, Warangal | Role of Power Electronics Converters in Solar and Wind Energy Systems |
| | | **DAY-3** | |
| 1 | Dr.CVKBhanu | GVPCE, Vizag | Impact of penetration of solar PV on distribution and power quality issues |
| | | **DAY-4** | |
| 2 | Dr. K. Ashoka Reddy | Principal, KITS, Warangal | Introduction to MATLAB |
| 3 | Sri G. Sunil Kumar | Assistant Professor, KITS, Warangal | Effect of Harmonics & Load Modeling of Micro Grid System |
| 4 | Dr. M. Sydulu | NIT, Warangal | Distribution System studies with DG Units |
| | | **DAY-5** | |
| 1 | Dr Gafoor | IIT, Jodhpur | Protection of Distributed Generation |
| 2 | Prof. P. Venugopal Rao | Professor, KITS, Warangal | Research Opportunities in Micro Grid & Distributed Generation |
| 3 | Dr. B.L. Narsimharaju | NIT, Warangal | Power Quality Issues in Micro Grid |
| | | **DAY-8** | |
| 4 | Dr. C. Venkatesh | SREC, Warangal | Power Quality issues with Distributed Technology |
| 5 | Dr. C. Venkatesh | SREC, Warangal | Power Quality issues with Distributed Technology Hands on Session |
| | | **DAY-9** | |
| 6 | Dr. R. Gnanadass | PEC, Puducherry | Fundamentals and Technical Challenges in Restructured Power Market |
| 7 | Dr. R. Gnanadass | PEC, Puducherry | Restructured Power Market Modeling and Solutions |
| | | **DAY-10** | |
| 8 | Dr. R. Gnanadass | PEC, Puducherry | Integration of Distributed Generation in Smart Grid |
| 9 | Sri B. Jagadish Kumar | Associate Professor, KITS, Warangal | Fuzzy Logic Controller for DC-DC Converters |
| 10 | Dr. S. Srinivas Rao | NIT, Warangal | Renewable Energy Systems (Wind Energy) |
| | | **DAY-11** | |
| 11 | Sri P. Balaji | PRDC, Bangalore | Implementation of MGDG Technologies in Mi Power |
| 12 | Prof. V. Ramaiah | Professor, KITS, | Power Sector reforms in India & |
| | | **DAY-12** | |
| 1 | Dr. M. Sydulu | NIT, Warangal | Distribution System Studies with DG Units |
| 2 | Dr. P.S. Nagendra Rao | IISc, Bangalore | Micro Grid & Distributed Generation- Interactive Session |
| 3 | Dr. B.L. Narsimharaju | NIT, Warangal | Power Quality issues in Micro Grid |
| 4 | Sri M. Narasimha Rao | Associate Professor, KITS, Warangal | Ethical & Moral Values for Human Life |
| | | **DAY-13** | |
| 5 | Dr. P.S. Nagendra Rao | IISc, Bangalore | Micro Grid & Distributed Generation- Interactive Session |

## Faculty Visits abroad :

| S.No | Name of the faculty | Place | Dates | Purpose of the visit |
|---|---|---|---|---|
| 1 | N. Rakesh | Singapore | 1st to 4th June, 2015 | To present research paper in IEEE International Conference on Electron Devices and Solid State Circuits (EDSSC'15) |

## Industrial Visits :

| S.No | Name of the faculty | Visited Industry & location # | Details including purpose |
|---|---|---|---|
| 1. | Smt P. Mamatha & Sri K. Ajith | Kakatiya Thermal Power Project (KTPP) | Industrial Visit for B.Tech. (EEE) III/IV, I Semester Students |
| 2. | Sri N. Rakesh and Sri. G. Sunil Kumar | Electric Loco shed, Kazipet | Industrial Visit for B.Tech, (EEE) IV/IV students |

The Visit was on 19.07.2014 at 9:30 AM by local transportation, 50 Students along with 2 Staff members are N. Rakesh, Asst. Professor, Department of EEE and G. Sunil Kumar, Asst. Professor, Department of EEE accompanied the visit.

The students have attended the demonstration given by Mr. G. Suresh, Senior Section Engineer (SSE) regarding Electric Loco shed, Kazipet workshops from 9:30 AM to 12:00 PM. After lunch at Electric Loco shed canteen, the team has started towards visiting all workshops of locomotive and also the students have studied the protection schemes which are used in locomotive. The students have visited the maintenance workshop of protection devices like relays, circuit breakers, emergency stopping of locomotive-etc.

As a part of Industry Institute interaction one day Industrial Visit is planned for the Students of III/IV B.Tech, I-semeter EEE-I to Kakatiya Thermal Power Project (KTPP) on 06.09.2014.

The Tour was started on 06.09.2014 at 8:00 AM from KITS point, 50 Students along with 2 Staff members Smt P.Mamatha, Asst. Professor and Sri.K.Ajith, Asst. Professor Dept. of EEE accompanied the tour.

The bus reached KTPP by 11.00 AM and students stayed in the plant up to 6:00pm which include lunch break from 2:30pm-3:30pm. The Thermal power plant has one running unit with power generation capacity of 500 MW and other unit with power generation capacity of 600MW which is under construction. It is one of the coal based power plant of TSGENCO.



## Books/Monographs authored by the faculty :

| S.No | Name of the faculty | Title of the book | Details of publication |
|---|---|---|---|
| 1. | G. Rajendra Naik | Electronic Control of DC Motors | LAP LAMBERT Publishers ISBN:9783659291104, October 2012 |