



NEWSLETTER

Electrowaves

Issue 22

Department of
Electrical and Electronics
Engineering

Editorial Message

The Department of Electrical and Electronics has recorded consistent improvement in its academic, research and placement performance. It offers a range of innovatively designed programs whose curricula are constantly updated to meet the changing requirements of the industry and to meet the needs of major stakeholders.

When sketching out a plan for Electrowaves the only thing we had in mind was that the Newsletter should reflect the outlook of the department. Hereby, we the editors take the responsibility of ensuring the continuity of the issue in the years to come with improvements and richness every time. We are pretty sure that you will get lot of useful information reading it. However, our work does not end here. We consider that our endeavors will be successful only when after reading these articles you get motivated to contribute more such articles in future issues.

“The world is yours, Aspire big”

Dr. K MALARVIZHI
Head of the Department

Highlights of the Issue

Captain Kennath Howard Mischki, Commercial Pilot delivered a seminar on “Installation of Electrical system in Aircraft” in which all the electrical systems and its applications used in aircraft were explained.

Assistant electrician course for outside participants from various industries under Pradhan Mantri Kaushal Vikas Yojana (PMKVY) Scheme was organized from December 2017 to June 2018.

Mr. Parthasarathy K G, Mr. Ragavan T, Mr. Jayanthan G, Mr. Venugopal B, Mr. Sukiharan M of III Year won second prize for Project presentation in Techkriti Innovative Challenge at IIT Kanpur.

Received an amount of Rs. 8.4 Lakhs from AICTE under Modernisation and Removal of Obsolescence (MODROBS) for Modernization of Electrical Machines Lab.

A Centre of Excellence of Salzer Electronics for Student Projects and Research was established.

Mr. C. Sasikumar Assistant Professor was selected for the Indo German Centre for Sustainability Winter School 2018 “Smart Grids – Sustainable Integration of Renewables for Tomorrow’s Power Grids” funded by DST, Government of India and German Academic Exchange Service (DAAD).



MNRE / TEDA / KCT Sponsored on Grid 50 kW Solar Power at KCT – EEE Block

Principal Investigator: Dr. C. Udhaya Shankar, ASP / EEE

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Vision

To be a Centre of Excellence in Globalizing Education and Research in the field of Electrical and Electronics Engineering

Mission

- Empower the students with state-of-art knowledge to excel as eminent electrical engineers with multi-disciplinary skills.
 - Emphasize social values and leadership qualities to meet the industrial needs, societal problems and global challenges.
 - Enable the technocrats to accomplish impactful research and innovations
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PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

- Pursue a diverse range of careers in engineering, consultancy, and entrepreneurship.
 - Contribute to continuous professional development through higher studies and life-long learning.
 - Demonstrate their technical proficiency with ethical values and social responsibility.
 - Innovate and provide solutions for ever-changing global environments with familiarity in computational platforms in
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Programme Outcomes (POs)

• ENGINEERING KNOWLEDGE

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

• PROBLEM ANALYSIS

Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

• 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.

• 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.

• 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.

Programme Outcomes (POs)

- **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

- **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.

- **ETHICS**

Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

- **INDIVIDUAL AND TEAM WORK**

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

- **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.

Programme Outcomes (POs)

- **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.

- **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.

Programme Specific Outcomes (PSOs)

Apply the knowledge acquired in Electrical and Electronics Engineering to technological advancements.

Identify suitable solutions for design and control of electrical and electronic systems

Seminar on "Installation of Electrical system in Aircraft"



Commercial Pilot Captain Kennath Howard Mischki, delivered a seminar on "Installation of Electrical system in Aircraft" on 7.2.2018. It was about the electrical systems and its applications in aircraft. The main objective is to provide opportunities to about the installation and applications of Electrical systems in aircraft. This talk was helpful for the students to understand all the electrical appliances used in aircraft and the idea about fully electrical aircraft.

Modernization of Electrical Machines Lab



A project on "Modernization of Electrical Machines Lab - online monitoring and electric braking of Electrical machine" by the faculty of the department of Electrical and Electronics Engineering was funded by AICTE with a sum of Rs. 8.4 Lakhs.

Department Advisory Board

The Departmental Advisory Board (DAB) was formed with members from the various stake holders like experts from industries, alumni, students, parents, academic experts to update the curriculum to suit the needs of the industries and society. DAB gets necessary guidance from Programme Assessment and Module coordinators Committee in the overall development of the department.

Our Department Advisory Board meeting was held on 03.03.2017 chaired by Mr.P.Pari, DGM, L&T Electrical and Automation, Mysore and composed of various stake holder's and members of faculty of the Electrical and Electronics Engineering department.



Outcome of the DAB

1. To establish POs and PEOs based on Vision, Mission of department.
2. To revise PEOs and POs, if necessary based on report submitted by PAC.
3. To consider the recommendations for achievement of PEOs and POs given by PAC.
4. To formulate the guidelines for attainments of POs.

Industrial Laboratory

Salzer Innovation Center



Salzer Innovation Center (SIC) in partnership with Salzer aims at developing the knowledge base to students in design of circuit breakers and relays. Salzer was established in 1985 with an aim to bring world class technology in Electrical Installation Products, coupled with dependability and excellence in service to the Indian Industry. The Centre will have latest CBs and relay setups for enriching students' knowledge in field of Switch gear components.



Photo Voltaic Innovation Center

Photo Voltaic Innovation Center (PIC) in collaboration with Prosun Laboratories have latest technologies in the field of Solar Photo voltaic, for enhancing the student's knowledge in the renewable energy-based Solar and wind energy domain.



Standalone Model

Self-contained solution - Light on/off controlled by automatic daylight sensing or hour preset.



Thick India Innovation Center

Thick India Innovation Center (TIC) in partnership with Thick India will provide embedded and software development kits to enable the students for developing their own project ideas into real time kits. The Centre will focus on student's knowledge building in the field of latest trends in embedded systems and IOT applications.



Research Publications

Total faculty publication in National and International Journals - 54

Total student publication in National and International Journals - 23

Total faculty as peer reviewers in National and International Journals – 8

Significant publications - Faculty

Dr.M. Nirmala, Dr. K. Baskaran “Intelligent Control Based FRT capability of Nine switches Grid Side Converter Fed DFIG System” Journal of Electrical Engineering, ISSN 1582-4594.

Mr. S. Kaliappan, “Power factor improvement using DC-DC convertor in BLDC motor drives”, International Journal of Current Research, Vol 09, Issue 02, Feb 2017, pg no.47144-47148.

Mr. N. Vinothkumar,.Dr.V.Kumar Chinnaiyan, Mr. Pradish.M and Mr. Prabhakar karthikeyan, “Recommend cascade structure multilevel inverter with reduced power electronic components”, Electric Power Components and Systems, accepted in May 2018.

Dr.Karunamoorthy, B., Mr. Kaliappan.S, & Mr. Ramprabu, J. (2017). Performance Analysis of Sensorless BLDC Motor Using PI and ANFIS Controller. Journal of research in advanced research in dynamic control system, issue 16, 2017, 1221-1230.

Mr. M. Babu Prasad, Dr. M. Sudha “Automation of submersible pumps and design using theory of innovation and problem solving (TRIZ) technology” International Journal of Advanced Engineering Technology, ISSN 0976-3945.

Significant publications - Students

Ms. Hemalatha, R., & Dr.Mahalakshmi, R. (2017). A Meta-Heuristic Approach for Wavelength Assignment in Long-Haul Optical System. Informacije Midem-Journal Of Microelectronics Electronic Components And Materials, ISSN: 2232-6979, Issue 4, 2017.

Ms.T.Reheni, Dr. P. Thirumoorthi “Intelligent control of shunt active power filter for minimization of current harmonics” Proceedings of the 2017 IEEE Region 10 Conference (TENCON) - November 5th-8th 2017.

Mr. Prabhakaran, J., & Mr. Babu Prasad, M. (2017). Self-Design of Novel Bridgeless AC-DC-AC Fly Back Convertor using MATLAB. International Journal for Research in Applied Science & Engineering Technology (IJRASET).

Mr. Ramesh selvakumar, S. and Dr.Nirmala, M, (2017). Nine switches converter-based Hybrid Electric Vehicle. (Pakistan Journal of Biotechnology, Volume 14, special issue No. II, 2017, 59-63).

Ms.Raheni, T.D. & Dr.Thirumoorthi, P. (2017). Adaptive Method for Power Quality Improvement through Minimization of Harmonics Using Artificial Intelligence. International Journal of Power Electronics and Drive System (IJPEDS) ISSN: 2088-8694, DOI: 10.11591/ijpeds.v8i1.13508.

Consultancy

Dr. D.Rajalakshmi, Associate Professor guided the Eco Green Unit project of the students of Tamil Nadu Agricultural University, Coimbatore.

Dr.D.Rajalakshmi, Associate Professor and Dr.R.Kavitha, Associate Professor were consulted by Accent steel (I) Pvt., Ltd., Coimbatore for Harmonic analysis.

Transformer Health Monitoring system tested at Electrical Machines Lab and the test was run by Dr. Mohanraj, Associate Professor.

Achievements

Mr. Parthasarathy K G, Mr. Ragavan T, Mr. Jayanthan G, Mr. Venugopal B, Mr. Sukiharan M of III year won second prize for Project presentation in Techkriti Innovative Challenge at IIT Kanpur.

Dr.D.Rajalakshmi, Associate Professor., Dr.R.Kavitha, Associate Professor., Dr.C.Velmurugan, Professor, Mechanical, got the project "Low cost solar powered refrigerator" funded by Rutag, IIT Chennai. Rs. 30, 000 was sanctioned on 18-12-2017.

Dr. N. Prakash got the "Educational Excellence Awards to Higher Education in India 2017" from PEARL Foundation for the category of Best Assistant Professor.

Mr.J.Ramprabu, Assistant Professor was awarded the Best researcher award from Allinov Research and Development Pvt Limited in March 2017.

Social Impact

A Social Awareness Program and Demonstration of Generation of the Electricity from the solar panel was conducted for the students and faculty of Government Higher School, Thengumarada, Erode. Session was handled by Dr.B.Karunamoorthy, Associate Professor, Mr. J. Ramprabhu, Assistant Professor and Mr. K. Dhanaraj Lab Instructor.



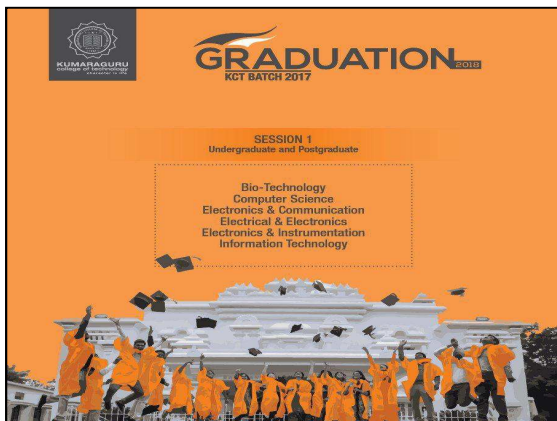
Interaction with Alumni

Mr. A.Kingsley and Mr. Brithul Balaji (2013 Batch), Project Associate, Robert Bosch Engineering Solutions trained the III year students on Hardware training on Arduino and Interface Peripherals at the hardware laboratory, KCT.

Mr. G.R.Vivek, (2010 Batch) Technical Manager, Electronics for you, Delhi delivered a lecture on Awareness Program for Core Placement and Higher Studies to the II year students.

Glimpses of the Events

Graduation Day



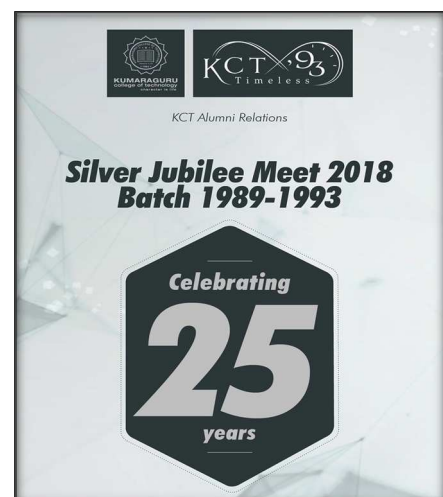
Students Project Demonstration @ Project lab

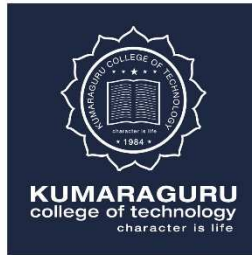


I - STEM Conference



Silver Jubilee Alumni Meet





DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

PRESENTS

HARDWARE FACILITIES & MENTORING FOR YOUR VALUABLE PROJECTS

The department of Electrical and Electronics Engineering provides hardware facilities for all kind of projects in the stream of EEE. The students with project ideas in the stream of EEE can do their own projects using the hardware components available at hardware lab. They are also provided with guidance from leading industrialists and alumni to clarify their project doubts during development phase of his/her idea. This hardware lab can be used by UG students/ PG students/Faculties to do their project which evokes their research skill in the field of EEE.

OBJECTIVE

To make the students to improve his/her project design and development skills for implementing their own ideas in real time.

PREREQUISITES

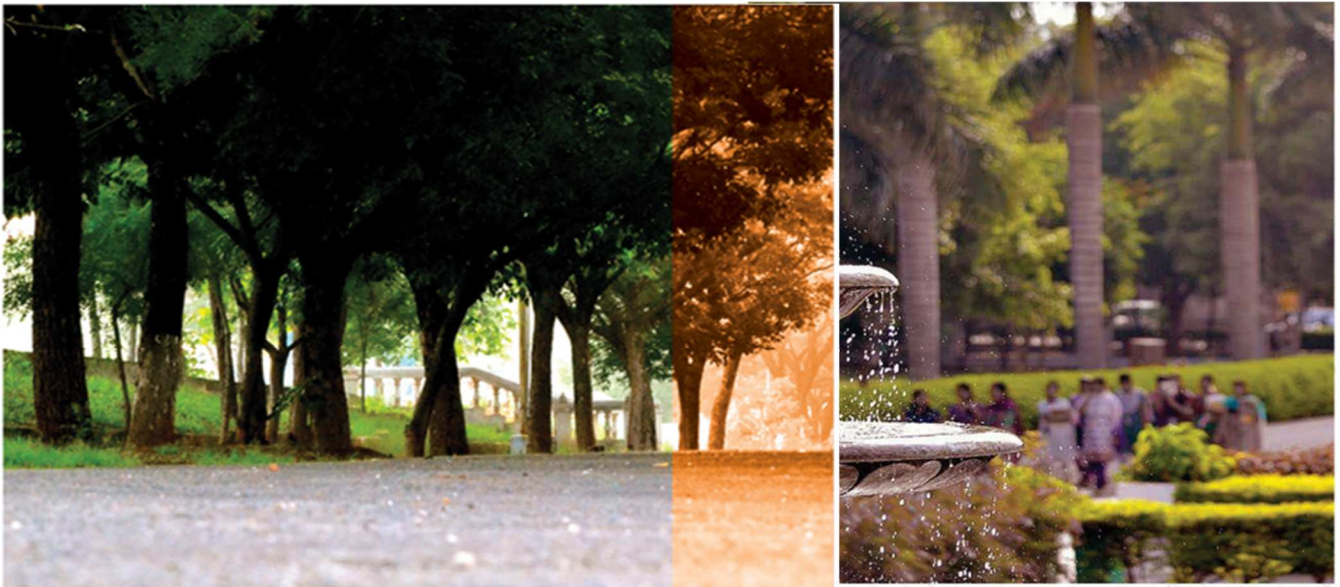
Basics of EEE, Project idea with circuit diagram & knowledge of component specifications

ALL THE WORKING DAYS. 4.30 TO 6.00 PM THROUGHOUT THE YEAR

FOR MORE DETAILS CONTACT

Dr. D. Rajalakshmi	+91 98653 24374
Prof. T. Shanthi	+91 94438 20420
Prof. J. J. Nandhini	+91 99521 75800





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