



KCG

COLLEGE OF TECHNOLOGY



Department of
Electrical and
Electronics Engineering

EnErgizE

Volume - I
Jul 2021 - Dec 2021

VISION

KCG College of Technology aspires to become a globally recognized centre of excellence for science, technology & engineering education, committed to quality teaching, learning and research while ensuring for every student a unique educational experience which will promote leadership, job creation, social commitment and service to nation building.

MISSION

- Disseminate knowledge in a rigorous and intellectually stimulating environment.
- Facilitate socially responsive research, innovation and entrepreneurship.
- Foster holistic development and professional competency.
- Nurture the virtue of service and an ethical value system in the young minds.

KCG College of Technology was founded in 1998 to fulfill the Founder-Chairman, Dr. KCG Verghese's vision of "To Make Every Man a Success and No Man a Failure". It is a Christian minority institution, affiliated to Anna University (Autonomous), Chennai and approved by AICTE, New Delhi.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

VISION

The Department of Electrical and Electronics Engineering aims to be a center of excellence recognized for high quality teaching, learning and research, producing competent professionals to serve the nation.

MISSION

- Impart quality technical education in Electrical and Electronics Engineering domain.
- Nurture industrial collaboration in research and development activities.
- Maintain state-of-the-art facilities to provide opportunities for knowledge up-gradation.
- Invoke the desire and ability of life-long learning in the students for a successful career.

EDITOR'S DESK

Welcome to the first Issue of EnErgizE, the official newsletter of the Department of Electrical and Electronics Engineering at KCG College of Technology. This publication reflects our department's milestones, from academic achievements to innovative research contributions. It highlights the dynamic and industrious spirit of our faculty and students as they contribute to the world of technology.

Chief Editor	Dr. T.Anuradha
Editor	Dr. R.Murugan
Faculty coordinator	Dr. B.BrindhaSakthi
Students representatives	1.Ilakkiya.C.S- II YEAR 2.Snega.K - II YEAR 3.Suraj.B- II YEAR 4.Alen Thomas-II YEAR 5. Prem Kumar- III YEAR 6. Ayush Pandey- III YEAR 7 Kamaliga S- III YEAR

RESEARCH ACTIVITIES

Faculty Research Publications

IEEE Xplore



Title: Improving the Performance Efficiency of Village Pond Cleaner Using Arduino in the Basis of Bluetooth Controlled Process

Authors: P. Priya, Anuradha T, V. Vasan Prabhu, S. Saravanan

Date: September 2021

Title: Bidirectional Flyback DC-DC Converter for Solar PV - Battery System

Authors: Hema Priya V, Anuradha T

Date: September 2021

Journal of Chengdu University of Technology:

Title: Design of Solar Powered Automated Fertigation Control System for Cultivation in Green House

Authors: Murthy R G, Chandru N, Arunesh R S, R. Selvam

Date: July 2021

Title: Voltage Regulation in LVDC with DC-DC Converter

Authors: Prabhu C, Sai Praveen M, Vino Karthik M, JithaVarghese

Date: July 2021



Title: Development of Solar Assisted Bicycle

Authors: Monika D Kalaivani, Akash N K, Harish G, A.V.Suganya

Date: July 2021

Title: Design of an autonomous controller for non-Isolated three-port dc/ Dc converter for dc nano grid applications

Authors: ArulSelvan S, Arun Kumar P, Ammal Dhanalakshmi M

Date: July 2021

Title: Mechanism and Control of A Prosthetic Wrist

Authors: Nithin Nambiar R, Tarun Vishal A, Uddhesh S, L N Ramya

Date: July 2021



Title: Shunt Active Power Filter for Power Quality Improvement in Distribution Systems with Non-linear Loads

Authors: Jabez Tony N, Abhishek Kumar K, Keerthivarman S, Prabhuraj S

Date: August 2021

Title: Cable Fault Detection

Authors: Sharukh S, Tamilvanan T, Surya C, Prabhuraj S

Date: August 2021

Title: Design and Implementation of Solar Inverter

Authors: Rishivarman S, Rishabh Kumar Gupta, Siva Kiran.G.P, Gowtham.S

Date: July 2021

Title: Machine Learning based fault diagnosis in three

Authors: Yuwan Shankar C, Ruban Ford A, Gowtham.S

Date: July 2021

EVENTS

Seminars and Workshops

MATLAB Student Orientation 2021

A hands-on workshop on MATLAB and Simulink was conducted on June 4, 2021, with 30 participants. The workshop was led by a team of experts from MathWorks.

The workshop, conducted by a team from MathWorks, provided participants with a hands-on experience using MATLAB and Simulink. The session likely began with an introduction to the MATLAB interface, covering topics such as the command window, workspace, and basic syntax. Participants were then guided through practical exercises, learning to write scripts, manipulate data



The poster for the MATLAB DAY Hands-on MATLAB & SIMULINK SESSION is displayed. It features the KCG College of Technology logo at the top left, the MathWorks logo at the top right, and a 3D surface plot in the center. The text 'MATLAB DAY' is prominently displayed in large blue letters. Below it, 'Hands-on MATLAB & SIMULINK SESSION' is written in black. The date and time are listed as 'Date: 04th June 2021 | Time: 09.45 a.m.'. At the bottom, there is a list of discussion topics and the organizing department.

KCG
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MathWorks®

MATLAB DAY

Hands-on
MATLAB & SIMULINK SESSION

Date: 04th June 2021 | Time: 09.45 a.m.

Discussion Topics

- Access MATLAB/Simulink at KCG
- MATLAB Hands-on session
- Introduction to Live Editor, Building UIs using MATLAB
- Simulink Hands-on Session
- Introduction to System Modeling using Simulink and Simscape
- Hardware Connectivity with Simulink

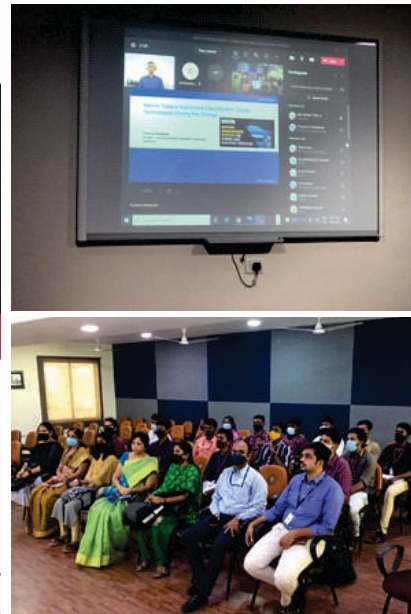
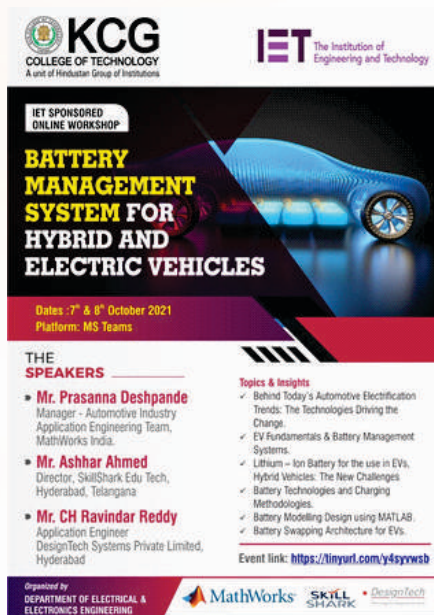
Organised by
Department of Electrical and Electronics Engineering

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Battery Management System for Hybrid and Electric Vehicles

A workshop on "Battery Management Systems for Hybrid and Electric Vehicles" was held on October 7th and 8th, 2021. The workshop hosted 32 participants and featured presentations by Mr. Prasanna Deshpande and Mr. Ashhar Ahmed. They provided valuable real-world context, enriching the learning experience.

The workshop provided a comprehensive overview of the critical functions of a BMS, from monitoring individual cell voltages and temperatures to managing charging and discharging cycles for optimal battery life and safety. Participants gained a deeper understanding of the challenges involved in designing and implementing robust BMS solutions, especially given the unique demands of HEV and EV applications.



Cybersecurity Issues and Solutions for IoT Enabled Digital Substation

A workshop addressing "Cybersecurity issues and solutions for IoT-enabled Digital Substations" was held on October 29th and 30th, 2021. The workshop hosted 35 participants and featured presentations by Dr. Vijay Shah, Mr. Andrews Klien, and Mr. Mohit Kumar.

This workshop, "Cybersecurity Issues and Solutions for IoT-enabled Digital Substations," addressed the growing vulnerabilities and potential threats facing modern power systems as they integrate Internet of Things (IoT) devices. Digital substations, while offering increased efficiency and control, become more susceptible to cyberattacks due to this interconnectedness.



National Energy Conservation Day Quiz Competition & Slogan Writing Competition



Over 200 enthusiastic school students participated in a dynamic celebration of National Energy Conservation Day on December 12th, 2021. The event featured two engaging competitions: a quiz to test knowledge and a slogan-writing contest to inspire action.

The quiz competition challenged students' understanding of energy conservation principles, renewable energy sources, and sustainable practices. Participants demonstrated impressive knowledge, highlighting the importance of educating young minds about energy efficiency.

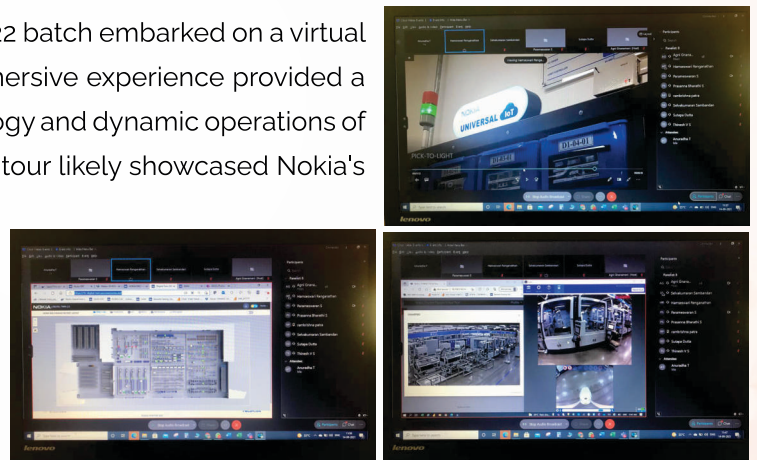
In the slogan-writing competition, students unleashed their creativity, crafting catchy and impactful messages to promote energy conservation. The winning slogans will be used to raise awareness about the cause, encouraging individuals to adopt energy-saving habits in their daily lives.

This event successfully engaged young people in the critical conversation about energy conservation, fostering a sense of responsibility and inspiring them to become advocates for a sustainable future.

Industrial Visit

Nokia Solutions and Networks Limited - Virtual Tour

On September 14th, 2021, 27 students from the 2018-2022 batch embarked on a virtual tour of Nokia Solutions and Networks Limited. This immersive experience provided a unique opportunity to explore the cutting-edge technology and dynamic operations of a world-leading telecom equipment manufacturer. The tour likely showcased Nokia's advancements in areas such as 5G, network infrastructure, and telecommunications solutions, offering students valuable insights into the industry's latest innovations and future trends.



Industrial Visit

Nokia Solutions and Networks Limited - Virtual Tour



On December 15th, 2021, two students from the 2019-2023 batch had the opportunity to visit the

SIEMENS GAMESA facility. This visit provided an invaluable experience, allowing them to witness firsthand the intricate manufacturing and assembly processes involved in creating wind turbine components. This close-up view likely offered insights into the scale and complexity of wind turbine production, from raw materials to finished products, and highlighted the importance of precision engineering in this critical renewable energy sector.

RESEARCH ACTIVITIES

The students from the Electrical and Electronics Engineering (EEE) department have showcased their exceptional talents and achievements in various competitions, hackathons, and awards during the period from July 2021 to December 2021.

The highlights include

- Kamaliga S. excelling in literary and quiz competitions
- Karthi C H, Edwin Immanuel, and Mathi Yuvarajan securing prizes in hackathons and national-level competitions
- Vijay S. demonstrating his prowess in Karate competitions at the state and national levels
- Aravindh S. and Leena J. receiving recognition for their projects and achievements

These accomplishments not only reflect the students' dedication and hard work but also the strong academic and extracurricular environment fostered at KCG College of Technology.

Kamaliga S. (EEE / III year)

- III Prize for Poem writing in Madras Day Programme (22-08-2021)
- III Prize for one minute Thirukkural in Madras Day Programme (22-08-2021)
- I Prize for Online Quiz by IETE Student Forum-Xquizit conducted by KCG College of Technology (03-09-2021)

Karthi C H, Edwin Immanuel, Mathi Yuvarajan (EEE / IV year & III year)

- III Prize in AICTE Chhatra Vishwakarma Awards 2020 for the topic "RESPONSIVE MECHANISM TO COMBAT DOMESTIC VIOLENCE" conducted by AICTE, New Delhi (05-09-2021)
- I Prize for 48-hour Hackathon-software edition conducted by KCG College of Technology (19-10-2021)
- Special Prize for Interizon Hackathon conducted by Chavans, Code for cause and echo3D (14-12-2021)

Vijay S. (EEE / II year)

- I Prize for Under-21 Male Kumite-84 kg in 38th Tamilnadu State Karate Championship for under-21 & senior (03-12-2021 & 04-12-2021)
- I Prize for Senior Male Kumite-84 kg in 38th Tamilnadu State Karate Championship for under-21 & senior (03-12-2021 & 04-12-2021)

Aravindh S (EIE / IV year)

- III Prize in Project Competition and Exhibition in VISAI 2022, 12th International project competition and Exhibition (05-09-2021)
- Second Runner up in Start-up Mania 6.0 conducted by Confederation of Indian Industry & Kongu Engineering College (30.10.2021)

AWARDS RECEIVED BY FACULTY & DEPARTMENT

Awards received by the faculty and department of KCG College of Technology during the period from July 2021 to December 2021.



The Electrical and Electronics Engineering (EEE) department was awarded the III Prize in the AICTE Chhatra Vishwakarma Awards 2020 for the topic "RESPONSIVE MECHANISM TO COMBAT DOMESTIC VIOLENCE." This achievement reflects the department's commitment to addressing societal challenges and the innovative approaches adopted by the faculty and students.

These awards not only highlight the individual accomplishments of the faculty but also the overall excellence and recognition of the KCG College of Technology's Electrical and Electronics Engineering department.

EEE Department



The Electrical and Electronics Engineering (EEE) department celebrated a notable achievement on September 5th, 2021, with its students securing the Third Prize at the prestigious AICTE Chhatra Vishwakarma Awards 2020. This accomplishment reflects the department's commitment to fostering innovation and technical excellence among its students.

The EEE department's winning project, evaluated by a panel of experts, stood out for its ingenuity and potential impact. This award is a source of pride for the students, the department, and the institution, highlighting their dedication to innovation and technical proficiency in the field of electrical and electronics engineering. This achievement serves as an inspiration for future projects and reinforces the department's commitment to nurturing future leaders in the field.

