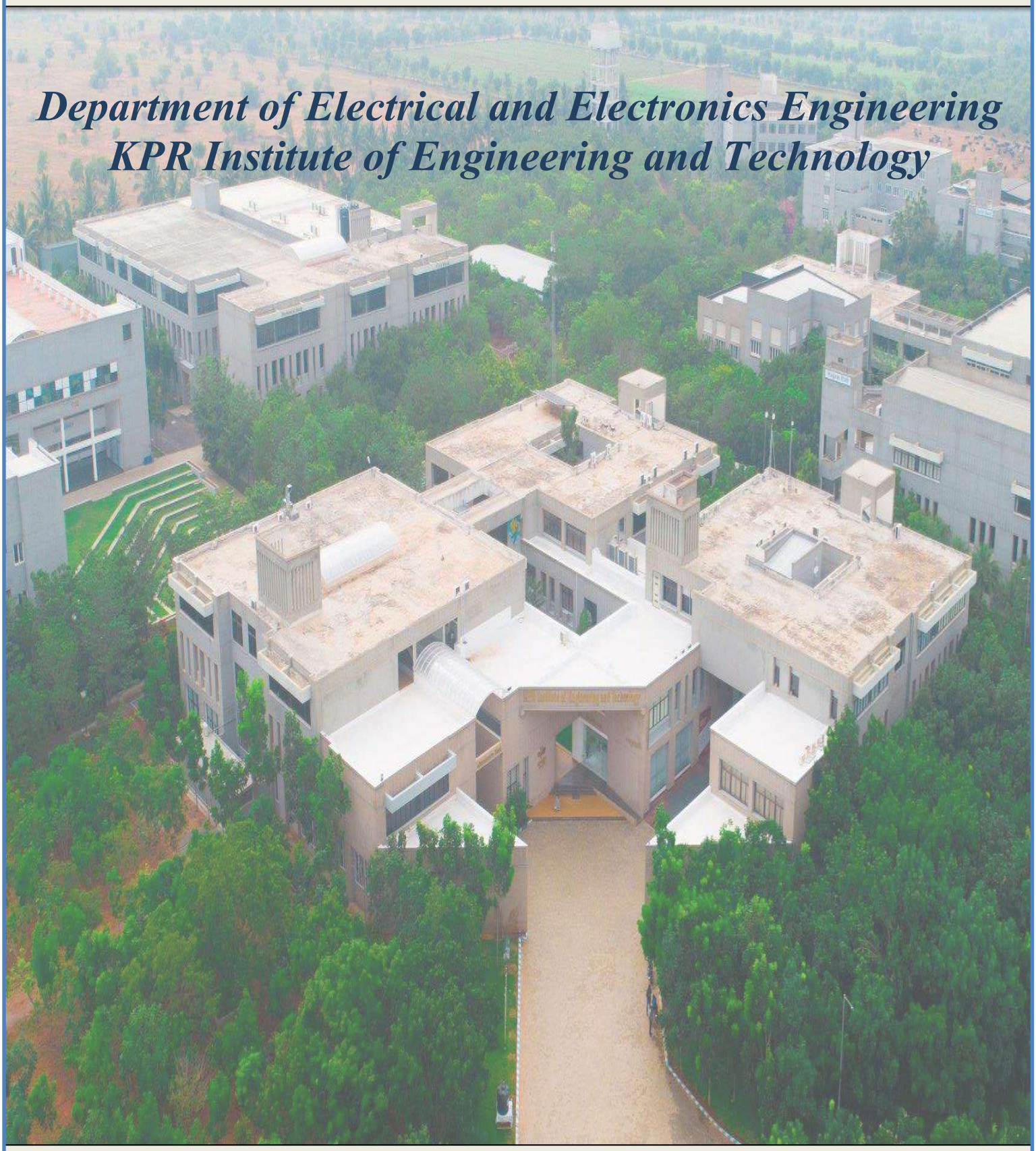
NEWSLETTER

KPRIET
Learn Beyond

Department of Electrical and Electronics Engineering
KPR Institute of Engineering and Technology



VOLUME 10, ISSUE 2
OCTOBER -DECEMBER 2024

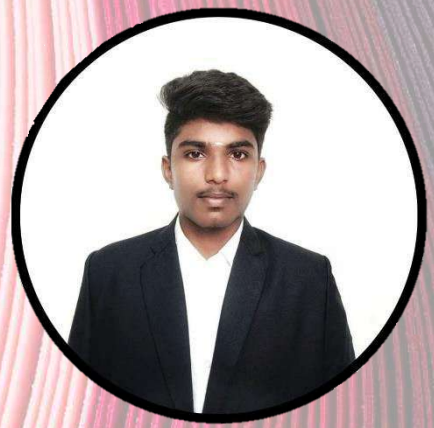
News Letter Editorial Team

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FACULTY ADVISOR

Lalitha B, AP(Sr.G)/EEE

Student Coordinator



KAVIN V
IV EEE

DARSHINI SHREE T
III EEE

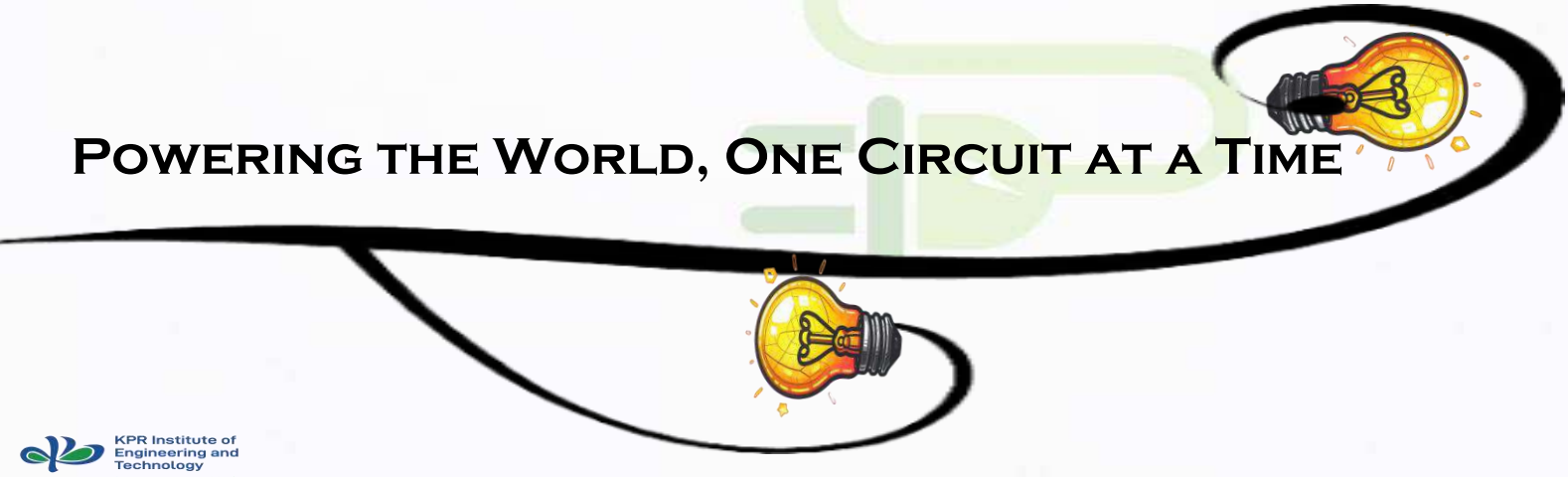
KANISHKAA R
III EEE

Table of Contents

About The Department

Welcome to the Department of Electrical & Electronics Engineering (EEE) at KPR institute of engineering And Technology (KPRIET) in Coimbatore.

The Department of Electrical and Electronics Engineering was one of the first few disciplines started at the time of inception. The department is accredited with NBA under Tier-I and offers UG with an intake of 60 students. The department has eight well-equipped laboratories and CoE's Viz. EKKI-KPRIET International Water Technology Centre, Mitsubishi Automation, and Bosch Automation Centre, for enhancing the innovative design thinking and practical skills of the students and faculty members on campus. The sheer enthusiasm and hard work of the faculty and students of the department helped make it one of the best departments on campus. The department believes in serious academic pursuit and encourages radical and original thinking which paves the way for creativity and innovative ideas. The zeal and fervor with which the department is working will surely help it to achieve further success. The department was recognized as the Best Industry Linked Institute (Electrical and Allied Engineering Institute) by the AICTE-CII Survey in 2020.



Powering the World, One Circuit at a Time

VISION

To be the **center of higher learning** in the field of Electrical and Electronics Engineering by educating the students to meet the **global challenges** with **professional ethics and social consciousness**.

MISSION

- Providing **technical, intellectual and ethical** environment to the students through **knowledge-centric education and research**.
- Collaborating with industries in the vicinity, nationally and internationally for exposure and **innovation**.
- Enabling the students to **serve the society** through **prolific ideas**.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

The Graduates of Electrical and Electronics Engineering will

- **PEO1** Possess an adequate knowledge to meet the needs of the stakeholders and excel in their chosen profession with good communication and managerial skills.
- **PEO2** Adapt to emerging technologies and practice their profession confirming to ethical and human values.
- **PEO3** Continuously improve the habit of self-study through professional development activities.

Programme Outcomes (POs)
Programme Specific Outcomes (PSOs)

Graduates of Electrical and Electronics Engineering 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, and 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 public health and safety, and 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 engineering and IT tools including prediction and modeling to 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.

Programme Outcomes (POs)
Programme Specific Outcomes (PSOs)

- **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.
- **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

Programme Specific Outcomes (PSOs)

Graduates of Electrical and Electronics Engineering will be able to:

- PSO1 Develop skills to the expectations of the dynamic industrial practices in Electrical Engineering and allied areas
- PSO2 Analyze, design, and integrate various renewable energy sources to meet the energy demand.

EVENTS

EXPERT TALK ON A SUSTAINABLE DEVELOPMENT – A SYSTEMS AND CIRCULAR ECONOMY PERSPECTIVE

The Department of EEE organized a session on Sustainable Development – A Systems & Circular Economy Perspective on October 26, 2024. Dr. IR Nagraj delivered the talk, highlighting circular economy principles, efficient resource utilization, waste reduction, and systemic approaches to sustainability, providing valuable insights into achieving long-term environmental and economic balance.

EVENTS

EXPERT LECTURE ON MOTORS AND TRANSFORMERS

The Department of EEE organized an expert lecture titled Industrial Insights on Motors and Transformers exclusively for first-year students on November 13, 2024. The session, delivered by an industry expert, provided a foundational understanding of operating principles, characteristics, and industrial applications of motors and transformers, offering valuable insights into these essential electrical machines.

EVENTS

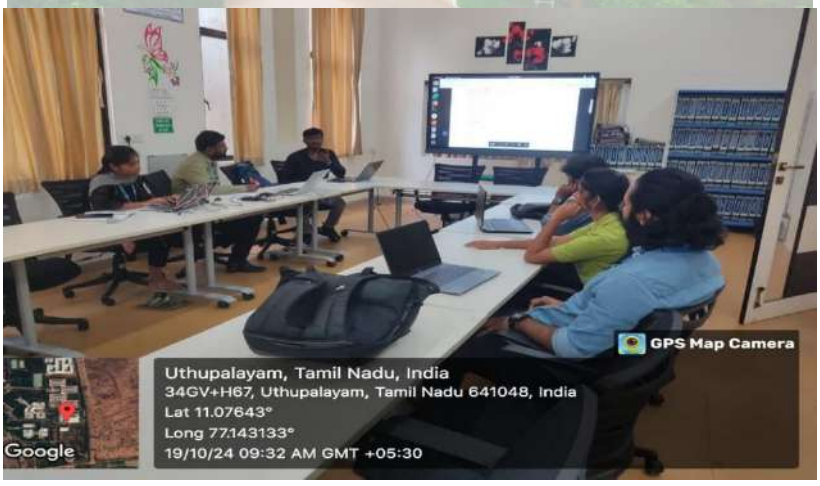
ONE CREDIT COURSE ON PUMP TECHNOLOGY

The EKKI KPRIET International Water Technology Centre (EIWTC) and Department of EEE jointly organized a one-credit course on October 16, 2024, focusing on key aspects of pump technology. This course will cover essential topics such as the Basics of Pumps, Pumping System Principles, Classification of Pumps, and Industry Standards & Certifications. Participants will also gain insights into Pump Performance Testing, Pump Applications in Motors, and the Latest Advancements in Pump Technology. This session aims to enhance technical knowledge and industry-relevant skills in the field of water technology and pump systems.

EVENTS

GUEST LECTURE ON FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE

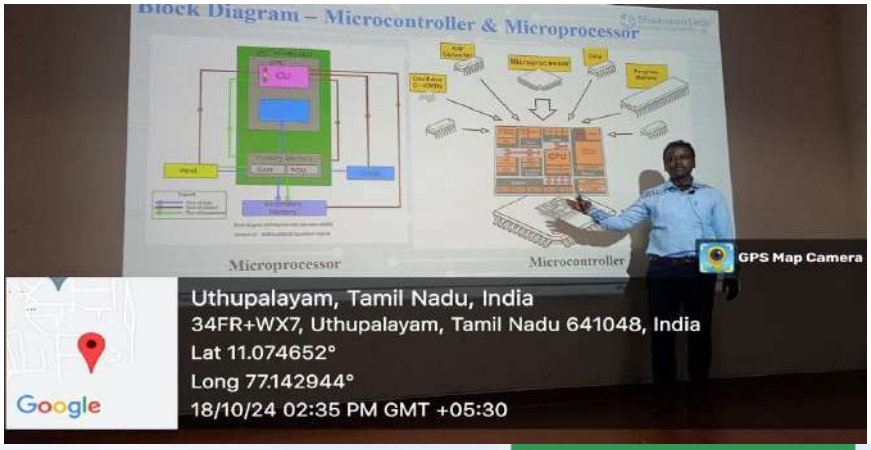
The Department of EEE organized a guest lecture on "U21MDG59 – Fundamentals of Artificial Intelligence" by Mr. Karthikraj. R, Senior Associate Consultant at Bosch Global Software Technologies, Coimbatore on October 19, 2024, in the EEE Board Room, this interactive session will delve into the core concepts of AI and its applications in embedded systems. Participants gained valuable industry insights, explore real-world use cases, and understand how AI is transforming embedded technologies. This is a unique opportunity to learn from an industry expert, engage in discussions, and enhance knowledge in this rapidly evolving field.



EVENTS

EXPERT LECTURE ON DESIGN AND IMPLEMENTATION OF HOME AUTOMATION STSTEMS

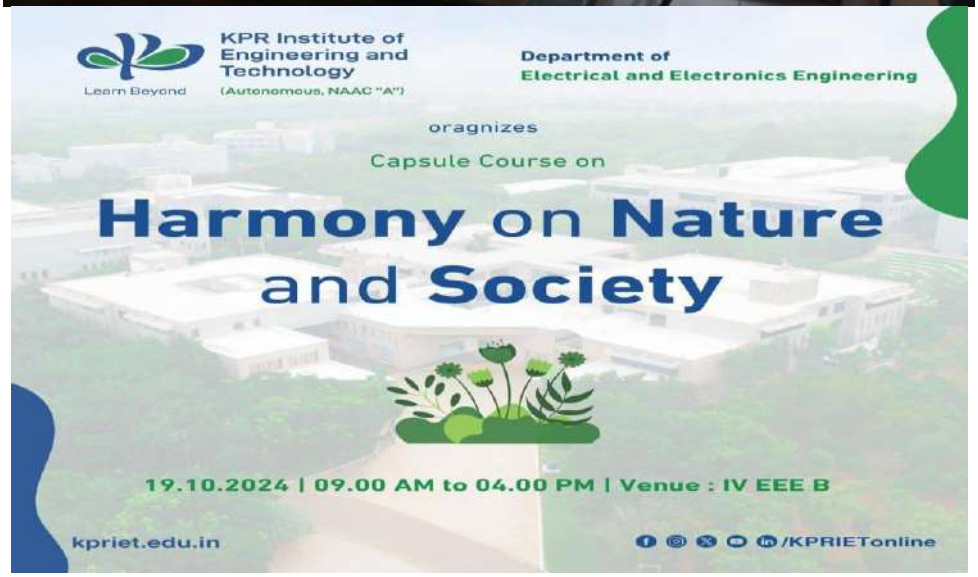
The Department of EEE organized a expert lecture on the Design of Home Automation systems using Embedded Technology on October 18,2024. It covered key topics such as sensor integration, microcontroller programming (Arduino, NodeMCU, Raspberry Pi), and the use of relay modules for appliance control. Participants gained practical insights into designing and implementing smart home solutions, emphasizing real-world applications. The session bridged the gap between theoretical knowledge and practical implementation, providing a hands-on approach to automation. By the end of the lecture, attendees had a clear understanding of how to create efficient and scalable home automation systems using embedded platforms and IoT technologies.



EVENTS

CAPSULE COURSE ON HARMONY ON NATURE AND SOCEITY

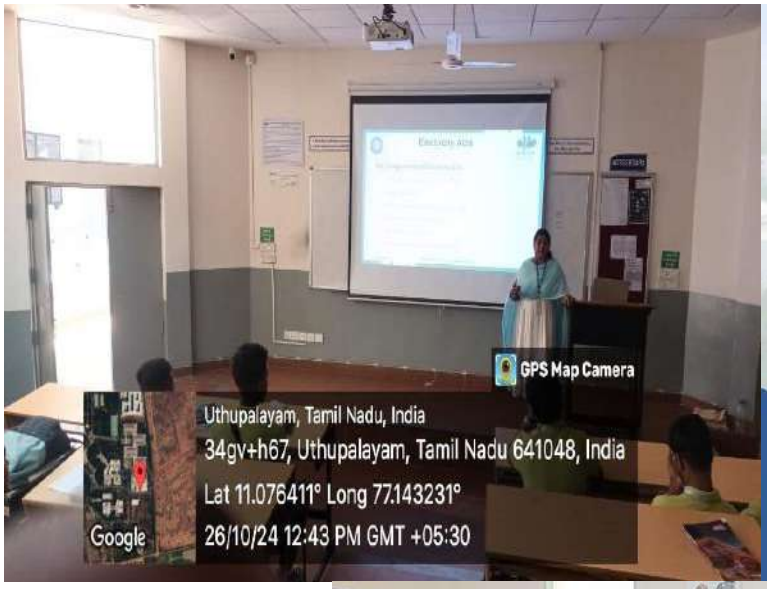
The Department of EEE organized a Capsule Course on "Harmony on Nature and Society" on October 19,2024 from 09.00 AM to 04.00 PM. Any student from any year of any department from KPRIET can register and attend the course. This capsule course is a 6-7 hour free Offline course, conducted by Ms. B .Lalitha, AP II/EEE, Dr. V.S .Chandrika, Professor/EEE and other a Dr .C .Dinesh, AP II/EEE. This course is to uproot or enhance the knowledge on the subject to the students. This course will be reflected in the Grade sheet as satisfactory if the course is successfully completed by the student with a minimum of 50% mark.

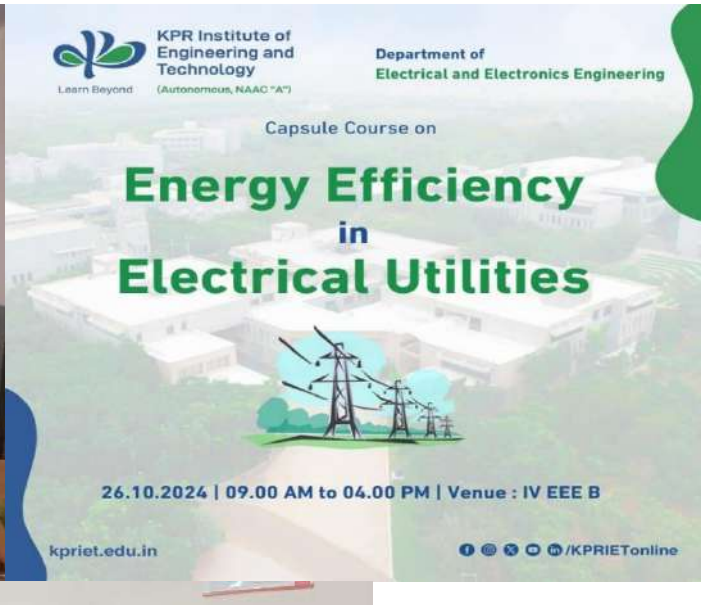


EVENTS

CAPSULE COURSE ON ENERGY EFFICIENCY ON ELECTRICAL UILITIES

The Department of EEE organized a Capsule Course on "Energy Efficiency in Electrical Utilities" on October 26,2024 from 09.00 AM to 04.00 PM. Any student from any year of any department from KPRIET can register and attend the course. This capsule course is a 6-7 hour free offline course, conducted by Dr .V.S. Chandrika, Professor/EEE and Dr. V. Parimala, AP III/EEE. This course is to uproot or enhance the knowledge on the subject to the students. This course will be reflected in the grade sheet as Satisfactory if the course is successfully completed by the student with a minimum of 50% mark.





EVENTS

WORKSHOP ON SMART HOMES OF TOMORROW-INNOVATION IN AUTOMATION TECHNOLOGY

The Department of EEE organized a workshop on Smart Homes of Tomorrow: Innovations in Home Automation Technology in EEE Project Laboratory on October 26,2024 from 11.00 AM to 01.00 PM. As homes evolve into intelligent spaces, the integration of IoT, automation technologies, and energy-efficient systems becomes essential to modern living. This session aims to provide participants with practical insights into the design, implementation, and operation of automated home solutions. Led by Dr. C. Pazhanimuthu, a seasoned expert from the Department of Electrical and Electronics Engineering at KPRIET, this workshop will cover essential aspects of home automation, including sensor-based controls, remote monitoring, smart appliances, and energy management systems.

EVENTS

HANDS ON TRAINING ON BASIC OF MATLAB CODING

The Department of EEE organized a session on Basics of MATLAB Coding on October 26, 2024. The session introduced fundamental MATLAB programming concepts, covering variables, functions, loops, and simulations. It provided hands-on experience to help students develop essential coding skills for engineering applications and computational problem-solving.

EVENTS

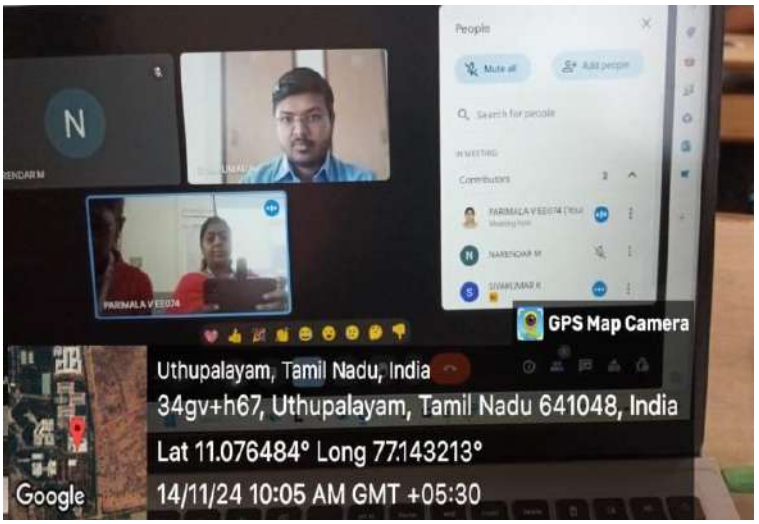
EXPERT LECTURE ON HOME AUTOMATION

The Department of EEE organized a session on Home Automation on October 19, 2024 .The session highlighted the growing role of automation systems in various industries, focusing on smart home devices, IoT technologies, and voice assistants. Students gained insights into the latest advancements and practical applications, enhancing their understanding of modern automation and its impact on daily life.

EVENTS

EXPERT LECTURE ONPOWER CONVERTERS AND ELECTRICAL DRIVES

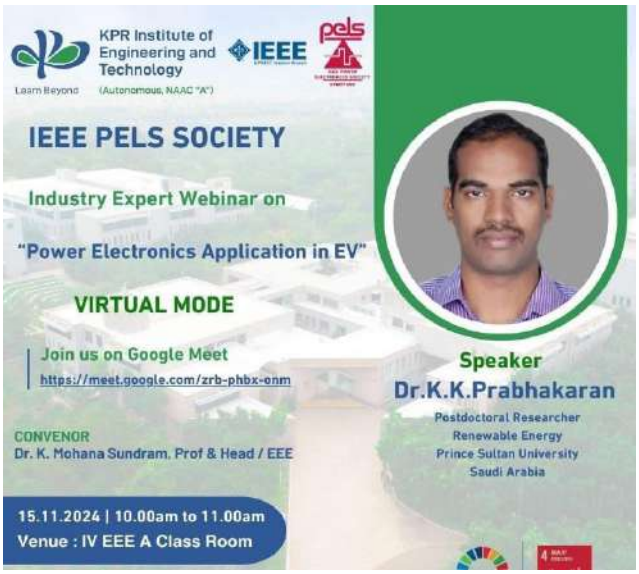
The Department of EEE organized an industry expert lecture on Power Converters and Electrical Drives on October 19, 2024. The session provided insights into advanced power conversion techniques and drive systems used in modern electrical applications. Students learned about industrial trends, efficiency improvements, and the role of power electronics in automation and renewable energy integration.



EVENTS

WEBINAR ON POWER ELECTRONICS

The Department of EEE and IEEE PELS Chapter jointly organized a webinar on Role of Power Electronics in EV Applications on November 11, 2024. Dr. K. K. Prabhakaran, Post Doc at PSU, delivered the session, providing insights into power electronic technologies, their impact on electric vehicles, and advancements in energy-efficient transportation systems.



EVENTS

EXPERT LECTURE ON AUTOMATIVE TRANSMISSION

The Department of EEE organized an industry expert lecture on "Automotive Transmission", by Mr.B.Baladhandayuthapani, Head and Mr.P.Chinnasamy, Associate Head from Manpower Excellence Centre, The Anaamalais Toyota Private Limited, Coimbatore. The lecture will delve into the intricacies of gears, clutches, hydrostatic and hydrodynamic transmission. Participants will gain hands-on experience with industry-standard tools and develop essential skills for a successful career in the automotive industry. The course will be held on November 19, 2024 at the KPRIET Campus.

FACULTY TRAINING

Dr.V.S.Chandrika - Professor, Dr.A.Karthick - Associate Professor, Dr.I.Baranilingesan - Assistant Professor III, Dr.P.Ravikumar - Assistant Professor III has completed the face to face FDP on the theme "Universal Human Values II" organized by All India Council for Technical Education (AICTE) from 23/09/2024 to 30/09/2024 at KPR Institute of Engineering and Technology, Coimbatore

FACULTY PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
01	DINESH C	IEEE R10 Humanitarian Technology Conference (HTC) 2024	01-10-2024	3	IEEE
02	PARIMALA V	IEEE WIE International Leadership Summit 2024	03-10-2024	3	Anna University, Chennai -CEG Campus
03	PAZHANIMUTHU C	International Conference on Green Industrial Electronics and Sustainable Technologies (GIEST-2024)	25-10-2024	2	KPR Institute of Engineering and Technology, Coimbatore
04	BALAMURUGAN K	IMI - international internal verifier programme	05-11-2024	8	IMI
05	SARAVANAN G	Seasonal School Quantum Circuits	09-11-2024	2	IISC, Bangalore
06	RAVINDRAN S	Empowering Futuristic Research Avenues in Energy, Sustainability & Climate Change for Industrial Innovation	11-11-2024	6	SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY
07	MOHAMED IBRAHIM A	Modern Software Tools Usage in Electrical and Electronics Engineering	18-11-2024	5	KPR Institute of Engineering and Technology, Coimbatore
08	BALAMURUGAN K	AI for SDGs under Unnat Bharat Abhiyaan	18-11-2024	35	KPR Institute of Engineering and Technology, Coimbatore

Faculty Participation Details

SL.No	Name	Event	Date	Days	Organisation
09	PANDIYAN p	Modern Software Tools Usage in EEE	18-11-2024	5	KPR Institute of Engineering and Technology, Coimbatore
10	LALITHA B	Modern Software Tools Usage in EEE	18-11-2024	5	KPR Institute of Engineering and Technology, Coimbatore
11	BARANILINGESANI	NEP 2020 orientation and sensitization program	21-11-2024	9	KPR Institute of Engineering and Technology, Coimbatore
12	SARAVANAN G	NEP 2020 orientation and sensitization program	21-11-2024	9	KPR Institute of Engineering and Technology, Coimbatore
13	PAZHANIMUTHU C	PLC and SCADA	25-11-2024	5	KPR Institute of Engineering and Technology, Coimbatore
14	BALAMURUGAN K	Learner centered Education	28-11-2024	2	KPR Institute of Engineering and Technology, Coimbatore
15	DINESH C	IEEE TENCON 2024	01-12-2024	4	IEEE
16	DINESH C	IEEE HIVE TENCON 2024	01-12-2024	4	KPR Institute of Engineering and Technology, Coimbatore
17	PANDIYAN P	Future Perspectives of AI and Data Sciences: Algorithms and Applications	02-12-2024	6	KPR Institute of Engineering and Technology, Coimbatore
18	PAZHANIMUTHU C	Future Perspectives of AI and Data Sciences: Algorithms and Applications	02-12-2024	6	KPR Institute of Engineering and Technology, Coimbatore

Faculty Participation Details

SL.No	Name	Event	Date	Days	Organisation
19	PAZHANIMUTHU C	International Conference on Computing and Intelligent Reality Technologies	05-12-2024	2	KPR Institute of Engineering and Technology, Coimbatore
20	DINESH C	RESPONSIBLE AI at PSG College of Technology by AICTE Training and Learning Academy	09-12-2024	6	KPR Institute of Engineering and Technology, Coimbatore
21	SARAVANAN G	Soft Computing Techniques Applied to Power Systems	16-12-2024	6	KPR Institute of Engineering and Technology, Coimbatore
22	PAZHANIMUTHU C	ATAL FDP on Research Perspectives on Smart and Sustainable Energy Management Solutions	16-12-2024	6	KPR Institute of Engineering and Technology, Coimbatore
23	SARAVANAN G	Fundamentals of Machine Learning	20-12-2024	5	KPR Institute of Engineering and Technology, Coimbatore
24	MOHAMED IBRAHIM A	Fundamentals of Machine Learning	20-12-2024	5	KPR Institute of Engineering and Technology, Coimbatore
25	BARANILINGESAN I	Fundamentals of Machine Learning	20-12-2025	5	KPR Institute of Engineering and Technology, Coimbatore

PUBLICATION DETAILS

R. Revathi, "Analysis and control of grid-interactive PV-fed BLDC water pumping system with optimized MPPT for DC-DC Converter", Scientific Reports, October 2024

DOI: https://www.nature.com/articles/s41598-024-77822-8

Analysis and control of grid-interactive PV-fed BLDC water pumping system with optimized MPPT for DC-DC converter

J. Sevugan Rajesh[1]✉, R. Karthikeyan[2] & R. Revathi[3]

In this study, a novel water pumping module fed by grid interactive Photo-Voltaic with a bidirectional Power Flow Control was proposed. In addition to improving the pumping system's reliability, a water pump is powered by a brushless DC motor drive. This method enables the pump to work at its maximum capacity for the entirety of that day, regardless of the weather. The entire system becomes more reliable as a result of the motor's increased use of photovoltaic (PV) generated power for pumping applications. Maximum Power Point Tracking (MPPT) controller incorporating Machine Learning algorithm drives bridgeless greater static gain DCDC converter to achieve higher power generation point and increment PV efficiency. The PV array's operation would be managed using the ML back propagation technology to capture the most electricity under any ecological circumstance. A BLDC motor is fed by a Voltage Source Inverter (VSI) that includes a DC bus controlled in both directions by a unit vector template (UVT) approach incorporated in a single-phase voltage source converter (VSC). Additionally, utilizing a PI controller to manage the DC capacitor voltage in the UVT controller at a particular level is not appropriate for the increased PQ capabilities. However, due to tuning problems with the current controller, this controller is unpopular. The aforementioned problems are resolved by employing a unique intelligent-based fuzzy logic controller that achieves good performance features. In this technique, the function of a PV array at its Maximum Power Point (MPP), as well as power quality enhancements and a decrease in Total Harmonic Distortion (THD) of the grid are accomplished. The proposed PI controller attains a significant voltage THD of 3.736. The PI controller, on the other hand, managed to achieve a load voltage THD of 2.629%. The ANFIS method, whose value is 1.739%, is discovered to have a lower THD than all remotes with improved features, it lessens abrupt swings while maintaining steady DC-link voltage.

Keywords Brushless DC motor, Voltage source inverter (VSI), Unit vector template (UVT), Maximum power point (MPP), Power quality, Fuzzy-logic controller (FLC), Total harmonic distortion (THD)

PUBLICATION DETAILS

B. Lalitha, Karthick Alagar "Performance analysis of photovoltaic module using eutectic phase change material", Energy Sources, Part A: Recovery, Utilization and Environmental Effects, October 2024

DOI: https://doi.org/10.1080/15567036.2024.2417773

Performance analysis of photovoltaic module using eutectic phase change material

Balasubramanian Lalitha, Kaliappan Lakshmi, Alagar Karthick & Pasupathi Manoj Kumar

Pages 14423-14435 | Received 07 May 2024, Accepted 14 Oct 2024, Published online: 20 Oct 2024

Cite this article https://doi.org/10.1080/15567036.2024.2417773 Check for updates

ABSTRACT

Geographical factors and environmental variables affect the performance of the solar photovoltaic (SPV) system. The incident solar radiation on the SPV will generate power and increase the surface temperature. Thermal regulation is needed for the SPV system to enhance its performance. In this work, a passive cooling approach is adopted to reduce the surface temperature of the SPV system. The eutectic phase change material is synthesized with the composition of RT35 paraffin wax and sodium sulfate decahydrate. The thermophysical properties of the eutectic mixture are analyzed using a differential scanning calorimeter, and thermal conductivity is measured. The developed eutectic PCM is integrated into the SPV modules' rear-side packing in the aluminum container. The output of the PV module is increased by 10% and up to 6.1°C reduces the surface temperature of the SPV module compared to the conventional SPV system.

PUBLICATION DETAILS

K.Mohana Sundaram, "PIR sensor-based automatic solar-powered UVC LED sterilizer lamp ", International Journal on Smart sensing and Intelligent systems, December 2024

DOI: https://sciendo.com/article/10.2478/ijssis-2024-0037

PIR sensor-based automatic solar-powered UVC LED sterilizer lamp

K. A. Mohamed Junaid, Y. Sukhi, Y. Jeyashree and K. Mohana Sundaram

Dec 02, 2024

International Journal on Smart Sensing and Intelligent Systems

VOLUME 17 (2024): ISSUE 1 (JANUARY 2024)

ABOUT THIS ARTICLE ← Previous Article Next Article →

A PIR sensor-based automatic solar-powered UVC LED sterilizer lamp is UV-based air disinfection system that kills the microorganisms, including COVID-19 virus, floating freely in the air of a room. This lamp is designed using embedded system for automatic control of UV lamps based on the human presence. This is carefully designed to ensure that the end user is protected. The automatic detection unit shuts OFF the UV in case if a human is detected. The product is PV powered but also has an option with line 220 V mains supply. The bank of UV LEDS is completely enclosed. The battery is charged using a solar panel that has a backup of 8 h. This study includes the design and implementation of PIR sensor-based automatic solar-powered UVC LED sterilizer lamp using the components such as PIR sensor, DC-DC converter, Arduino board, PV panel, battery, charging circuit, and UV LED array.

PUBLICATION DETAILS

K. Mohana Sundaram , "A non isolated PFC bridgeless SEPIC-Cuk converter with adaptive PI Controller for Induction motor", International Journal of Applied Power Engineering, December 2024.

DOI: http://doi.org/10.11591/ijape.v13.i2.pp282-293

A non-isolated PFC bridgeless SEPIC-Cuk converter with adaptive PI controller for induction motor

R. Suguna, S. Tamil Selvi, K. Mohana Sundaram, Pradeep Katta

Abstract

In general, the induction motor (IM) is extremely nonlinear in nature and frequency dependent. In most cases, the power generated by the IM has a low power factor (PF), which exhibits detrimental effect on the extent to which the whole transmission and distribution system functions. Since there exists more current harmonics as ar outcome of minimized PF, the efficiency of the power system suffers due to transmission line heating and voltage distortion characteristics. Therefore, this paper proposes a power factor correction (PFC) method to overcome the aforementioned issues. Here, by the utilization of AC-DC bridgeless SEPIC-Cuk converter, the power quality is improved by reducing reactive power consumption and enabling better control of voltage and current outputs. To maintain the stable DC link voltage with reduced ripples, the adaptive proportional-integral (PI) controller is used in this work. The three-phase voltage source inverter (VSI) transitioning function is controlled by cascaded fuzzy logic (CFL) controller, which is also utilized for regulating the speed of the three-phase IM. Implementing the proposed control strategy improves power quality significantly by reducing total harmonic distortion (THD). The proposed system is simulated in the MATLAB platform and the attained outcomes, it is clear that the proposed system is highly effective.

Keywords

AC-DC bridgeless SEPIC-Cuk; adaptive PI controller; cascaded fuzzy logic controller; induction motor; power factor correction; three-phase VSI

PUBLICATION DETAILS

V. Parimala , "Virtual Control of Industrial Machineries Using Intelligent Controllers",ICACCS,2024.

DOI: 10.1109/ICACCS60874.2024.10716979

Virtual Control of Industrial Machineries Using Intelligent Controllers

Publisher: IEEE Cite This PDF

Satish Bojjawar ; R. Premkumar ; V. Parimala ; S. Sam Karthik ; P.A. Prassath **All Authors**

Abstract:
In past two decades, the automation of industrial machines is proliferating. Fourth industrial revolution (Industry 4.0) also focuses on industrial automation and artificial intelligence. As every technology has its ebb and flow, industrial automation also has huge scope in future and its own limitations. One of the major issues is in troubleshooting the virtually controlled machine. The biscuit making and baking machines are controlled using PLC I/O and HMI. The errors are rectified by taking feedback from machine's component connections and supply connections. This helps us in troubleshooting the faults occurring in the connections and components used.

Published in: 2024 10th International Conference on Advanced Computing and Communication Systems (ICACCS)

PUBLICATION DETAILS

A. Karthick ,"Low-Cost Energy Monitoring of gird Connected Solar Photovoltaic Systems" ICPEICES 2024.

DOI: 10.1109/ICPEICES62430.2024.10719251

Low-Cost Energy Monitoring of gird Connected Solar Photovoltaic Systems

Publisher: IEEE Cite This PDF

Alagar Karthick ; C.V. Abarna ; R. Dony Robin ; N. Hamjath Khan ; J. Janani **All Authors**

Abstract:

The global shift towards renewable energy sources necessitates efficient monitoring solutions for solar photovoltaic (PV) systems to maximize their performance and sustainability. Traditional monitoring systems often involve high costs and complex setups, posing barriers to widespread adoption, particularly for small-scale installations and research projects. In response to these challenges, this paper proposes a novel, low-cost energy monitoring solution tailored for solar PV systems. The system integrates off-the-shelf components, including a Power Supply Hi-Link 5V, an Espressif EP32-WROOM microcontroller, an RS485 to Serial Converter, and an energy meter, offering a cost-effective alternative to conventional monitoring systems. By connecting to the output of the solar PV inverter, our solution captures real-time energy production data, which is seamlessly transmitted to a controller and stored in the cloud-based platform ThingSpeak for remote monitoring and analysis.

PUBLICATION DETAILS

B. Lalitha ,"Transforming 2D to 3D Light: Bringing AutoCAD Drawings to Life with Dialux Shadows and Light", ICECA, November 2024

DOI: 10.1109/ICECA63461.2024.10801121

Transforming 2D to 3D Light: Bringing AutoCAD Drawings to Life with Dialux Shadows and Light

Publisher: IEEE Cite This PDF

B Lalitha ; G. Ramya ; S. Ravi ; Jayant Giri ; Mahmoud Odeh **All Authors**

Abstract:
This research study explores utilizing DIALUX lighting software to convert 2D AutoCAD drawings of an office space into realistic 3D environments showcasing light and shadows. With the click of a button, flat CAD floor plans can be populated with lights, shadows, material textures, and background views that completely transform them. This photorealistic transformation enables architects and designers to instantly visualize and evaluate how different lighting designs and placements will appear in the actual office. Rather than relying solely on abstract CAD plans, DIALUX gives specifiers the power to make lighting an integral part of the design process from inception. This paper provides guidelines for seamlessly connecting AutoCAD and DIALUX to rapidly iterate lighting schemes for enhanced 3D visualization of office spaces

Published in: 2024 8th International Conference on Electronics, Communication and Aerospace Technology (ICECA)

PUBLICATION DETAILS

K. Mohana Sundaram, ” Challenges in charging of batteries for urban air mobility”, Urban air mobility: Intelligent, safe and sustainable systems for future transportation, December 2025

ISBN: 9788770226783

Urban Air Mobility: Intelligent, Safe and Sustainable Systems for Future Transportation

Editor(s): Vishnu Kumar Kaliappan ; Mohana Sundaram Kuppusamy ; Dugki Min

Book Abstract

This book is a resource for engineers and researchers to develop intelligent, safe, and sustainable systems for urban air mobility. In recent years, the growth of the world's urban population has increased tremendously, and it is predicted that by 2040, 70% of the world population will be living in an urban setting. Existing ground transportation will be unable to cope with such an expansion, especially as congestion and over-crowding becomes more common. An answer may be found with the advent of recent technologies such as urban air mobility, which may play a vital role in providing solutions for public transportation. The impact of modelling, analysis and application of intelligent algorithms is very much at the core of the design and implementation of Urban Air Mobility. The various chapters are configured to address the challenges in modelling, analysis, navigation, traffic control, battery efficiency, safety and security in terms of Artificial intelligence techniques. **Show Less**

Student Participation Details

Sl. No	Name	Event	Date	Days	Organisation
01	ASHMITHA T	MOOC	01-10-2024	17	KPRIET, Coimbatore
02	GOWTHAM V	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
03	JEVAA KHARTHIK N	HUNTRESS CTF	01-10-2024	31	KPRIET, Coimbatore
04	KARTHIKEYAN B	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
05	PRANEESH KUMAR C G	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
06	PRANESH P	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
07	RAGURAM C A	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
08	SALEM NOEL JOTHIK D	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
09	SANJAY D	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
10	SRIMATHI S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
11	SRIMATHI V	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
12	SUDARSHAN K	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
13	SUKANT S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
14	VIGNESHWARAN M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
15	PARAMESHWARAN S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
16	DHARUNKUMAR R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
17	KAVIN S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
18	NYARIRI ASSEL T	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
19	GOWTHAM V BALA PRANESH R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
20	DHIVYA K S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
21	GOWTHAM R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore

Student Participation Details

Sl. No	Name	Event	Date	Days	Organisation
22	JAGADESHWARAN M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
23	SOWKANTHIKA V K	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
24	NANDHANA A	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
25	NIVETHA E	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
26	ABHIRAMI R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
27	CHITRIKA HP	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
28	GIRITHAR RR	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
29	JEEVA V S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
30	MOHAMED KAJA NAWAZ A Z	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
31	MOHAMMED BATHRUL MUZZAMMIL AM	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
32	NIDHI KOTARI D	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
33	NIVETHINI M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
34	PRAVEENA CA	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
35	RITHIROSHAN P	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
36	SUBASREE B	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
37	SUPRIYAPRAKASH N	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
38	VISHNU M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
39	PRADEEP TM	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
40	SHESHA K	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
41	SUTHIR KUMAR M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore

Student Participation Details

Sl. No	Name	Event	Date	Days	Organisation
42	DHANARAJ P	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
43	MOHAMED IRFAN M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
44	BALA PRANESH R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
45	DHILIP Y	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
46	HARINI J	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
47	HARISH SS	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
48	LALITH RAJ R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
49	MOAID AMIR ADAM GIBREL	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
50	RAVIKUMAR V	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
51	RANJITH S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore

Student Participation Details

Sl. No	Name	Event	Date	Days	Organisation
52	ROSHINI U	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
53	KANISHKAA R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
54	DARSHINI SHREE T	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
55	SAM JEROMIYAA E	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
56	SARAN S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
57	AMRETHA A B	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
58	ANANYAA SRI S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
59	ANJANA J	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
60	ENIYA VARTHINI M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
61	GOWSHICK M S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
62	HARIPRIYA S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
63	PREETHI S	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
64	SARVESH P	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
65	SATHYA K	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
66	SIVANANTHAN C	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
67	NITHESH MAHENDRAN	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
68	ARAVINDHA PRAKASH L	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
69	NISHANTH M	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
70	VEERADOSS V	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore
71	RUBINI K R	Nature based solutions for disaster and climate Resilience	01-10-2024	15	KPRIET, Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
72	PRETHI S	Srishti 2k24	05-10-2024	2	PSG College of Technology, Coimbatore
73	NETHRA V	NASA Space apps challenge	05-10-2024	2	KPRIET, Coimbatore
74	SRIKANTHESHWARAN K	Srishti 2k24	05-10-2024	2	PSG College of Technology, Coimbatore
75	SATHYA K	Artificial Intelligence	07-10-2024	43	KPRIET, Coimbatore
76	MOHANA PRIYA K	Techathon'24	09-10-2024	1	Sri Ramakrishna Institute of Engineering, Coimbatore
77	DARSHINI SHREE T	Infinity v3.0	09-10-2024	1	Kongu Engineering College, Erode
78	YAZHINI K	Infinity v3.0	09-10-2024	1	Kongu Engineering College, Erode
79	VIDYAAVIJAYAVARSINI K	Infinity v3.0	09-10-2024	1	Kongu Engineering College, Erode
80	DHARSHINI V	Krishnecs 2k24	09-10-2024	1	Sri Krishana College of Engineering and Technology, Coimbatore
81	KANISHKAA R	Krishnecs 2k24	09-10-2024	1	Sri Krishana College of Engineering and Technology, Coimbatore
82	SUPRIYA	Krishnecs 2k24	09-10-2024	1	Sri Krishana College of Engineering and Technology, Coimbatore
83	NYARIRI ASSEL T	Krishnecs 2k24	09-10-2024	1	Sri Krishana College of Engineering and Technology, Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
84	SANDHIYA S	Krishnecs 2k24	09-10-2024	1	Sri Krishana College of Engineering and Technology, Coimbatore
85	VIMAL CAROL S	Innovatores confluence	09-10-2024	1	Sri Krishana College of Engineering and Technology, Coimbatore
86	JAI VETRIVELAN E	Rhetoric Rumble	09-10-2024	1	KPRIET, Coimbatore
87	PRAVEEN KUMAR K	DRUG FREE TAMILNADU	10-10-2024	62	KPRIET, Coimbatore
88	SATHURNITHY S	DRUG FREE TAMILNADU	10-10-2024	62	KPRIET, Coimbatore
89	SHESAN K	DRUG FREE TAMILNADU	10-10-2024	62	KPRIET, Coimbatore
90	GOWTHAM V	Microsoft azure application	11-10-2024	33	KPRIET, Coimbatore
91	MD SAHIL BABU ANSARI	PSG Tech Tournament	12-10-2024	155	KPRIET, Coimbatore
92	MENAGA S	Hack'z 24	15-10-2024	1	KPRIET, Coimbatore
93	SRIVARSHINI K	Hack,z 24	15-10-2024	1	KPRIET, Coimbatore
94	MOHANA PRIYA K	HackHerwWay	16-10-2024	1	Coimbatore Institute of Engineering, Coimbatore
95	BANU PUTRA BK	Jio Certified AirFiber Technician Program	18-10-2024	1	KPRIET, Coimbatore
96	MENAGA S	Krizen,24	18-10-2024	1	Sri Krishna College of Engineering and Technology, Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
97	SWETHA R	PALS Innowah	19-10-2024	1	KPRIET, Coimbatore
98	DHARSHINI C	Youth LeaderShip Summit	23-10-2024	1	KPRIET, Coimbatore
99	NETHRA V	Youth LeaderShip Summit	23-10-2024	1	KPRIET, Coimbatore
100	GOWSHICK MS	TEPIC,24	24-10-2024	1	Central Institute of Petrochemical Engineering and Technology
101	SYED HAKKEM B H	Galaxy 24	24-10-2024	1	Government College of Technology, Erode
102	ADHITHYAA A	Galaxy 24	25-10-2024	1	Government College of Technology, Erode
103	ASIR AHAMED M	Galaxy 24	25-10-2024	1	Government College of Technology, Erode
104	KARTHIKEYAN M	Galaxy 24	25-10-2024	1	Government College of Technology, Erode
105	MOHANA PRIYA K	Tathva,24	25-10-2024	3	National Institute of Technology
106	GOKULAPANDIYAN M	Project Expo	26-10-2024	1	Sri Ramakrishna College of Technology, Coimbatore
107	VISHNU V	Project Expo	26-10-2024	1	Sri Ramakrishna College of Technology, Coimbatore
108	DINESH S	AWS Cloud Practitioner Essentials	01-11-2024	13	KPRIET, Coimbatore
109	SARVESH P	NPTEL	02-11-2024	1	Kathir College of Technology , Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
110	KARPAGA VARSINI M	Basic leardership camp	04-11-2024	1	Bannari amman Institute of Technology, Sathyamangalam
111	RUBINI K R	Sidescape	06-11-2024	1	Bannari amman Institute of Technology, Sathyamangalam
112	SUBHASHINI K	Sidescape	06-11-2024	1	Bannari amman Institute of Technology, Sathyamangalam
113	DEEPIKA R	Inferix,24 energy efficiency through AI	06-11-2024	1	Bannari amman Institute of Technology, Sathyamangalam
114	DEEPIKA SHREE K	Inferix,24 energy efficiency through AI	06-11-2024	1	Bannari amman Institute of Technology, Sathyamangalam
115	JANANI R	Inferix,24 energy efficiency through AI	06-11-2024	1	Bannari amman Institute of Technology, Sathyamangalam
116	KAVYA P	Sidescape	06-11-2024	1	Bannari amman Institute of Technology, Sathyamangalam
117	NYARIRI ASSEL T	INTROFEST 2K24	16-11-2024	31	Sree Sakthi Engineering college, Coimbatore
118	DHARSHINI C	Business quiz	30-11-2024	1	Coimbatore Institute of Engineering, Coimbatore
119	NETHRA V	Business quiz	30-11-2024	1	Coimbatore Institute of Engineering, Coimbatore

STUDENT PARTICIPATION DETAILS

SL. NO	NAME	EVENT	DATE	DAYS	ORGANISATION
120	YAZHINI K	Intuit,24	30-11-2024	1	Coimbatore Institute of Engineering, Coimbatore
121	KARPAGA VARSINI M	Advance leadership camp	09-12-2024	12	National institute of Technology
122	DILIPP RATHORE K	MINI Marathon	22-12-2024	1	KPRIET, Coimbatore
123	SATHYA K	Introduction to Microsoft excel	30-12-2024	4	KPRIET, Coimbatore

Student Achievement Details

Sl. No	Name of the Student	Event	Date	Organisation
01	DHANARAJ P	Conscientia'24	03-10-2024	IIST, Trivandrum
02	NETHRA V	NASA Space Apps Challenge 2024	05-10-2024	KPR Institute of Engineering and Technology, Coimbatore
03	MOHANA PRIYA M	Techathon'24	09-10-2024	Sri Ramakrishna Institute of Technology, Coimbatore
04	JAI VETRIVELAN E	Rhetoric Rumble	09-10-2024	KPR Institute of Engineering and Technology, Coimbatore
05	MD SAHIL BABU ANSARI	PSG College of Technology - Tournament	12-10-2024	KPR Institute of Engineering and Technology, Coimbatore
06	MOHANA PRIYA M	HackHerwWay	16-10-2024	Coimbatore Institute of Technology, Coimbatore
07	GOWSHICK M S	Tepic'24	24-10-2024	Central Institute of Petrochemicals Engineering and Technology, Chennai
08	MOHANA PRIYA M	Tathva'24	25-10-2025	National Institute of Technology
09	NYARIRI ASSEL T	EL Futurix 2k24	09-11-2024	Bannari Amman Institute of Technology, Sathyamangalam
10	NYARIRI ASSEL T	Interofest - 2K24	16-11-2024	Sree Sakthi Engineering College, Coimbatore