

**Kolhapur Institute of Technology's  
College of Engineering Kolhapur  
(Empowered Autonomous)**

**Welcome  
to  
Department of Electrical Engineering**

**“Overview of Student and Faculty Activity”**

**Academic Year  
2024-25**

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## ACTIVITY 01

<b>Activity:</b>	<b>Technical Training Sessions</b>
<b>Date:</b>	03/07/2024 to 16/07/2024
<b>Time:</b>	9.30 am - 12.00 pm
<b>Venue:</b>	Online
<b>Coordinator Name:</b>	Mr. S. R. Madiwal
<b>Present Audience:</b>	multiple
<b>Expert Details</b>	Mr. S. R. Madiwal, Mr. Prasad Kulkarni ,Mr. P. B. Gurav, Mr. N. J Kumbhar, Dr. M. K. Alam , Dr. Pawan Padghan, Ms. S. V. Moholkar.
<b>Brief Description of the activity:</b>	<p>The technical training for final-year electrical engineering students involves a series of structured activities designed to provide hands-on experience and in-depth understanding of key topics. Activities include: Basic Electrical Engineering: Students engage in circuit building and analysis exercises, utilizing breadboards and simulation software to reinforce theoretical concepts.</p> <p>The report begins with <b>Basic Electrical Engineering</b>, covering fundamental principles such as circuit theory, Ohm's Law, Kirchhoff's laws, and AC/DC analysis. It then delves into the intricacies of the <b>Power System</b>, examining generation, transmission, distribution, and grid management. <b>Power Electronics</b> is explored next, highlighting the operation and application of semiconductor devices, converters, and inverters. The report also includes a section on the <b>Control System</b>, discussing feedback mechanisms, system stability, and control strategies. Finally, the <b>Electrical Machine</b> section covers the operation, types, and performance of machines such as transformers, motors, and generators. This training equips students with the practical knowledge and skills required to excel in the electrical engineering field.</p> <p>These activities collectively ensure that students gain practical experience and a deeper understanding of the core areas of electrical engineering.</p>

## Photo of the Activity:

The screenshot shows a Google Meet window with the following elements:

- Browser Tabs:** Industrial Automation and Dr..., (45) WhatsApp, Meet - xar-odob-nym, Academic Year 2024-25 - Goo..., technical training attendance -
- Address Bar:** meet.google.com/xar-odob-nym?authuser=1&pli=1
- Meeting Controls:** Santosh Madiwal (You, presenting), Stop presenting
- People Panel:**
  - Shreya Manoli
  - Prathmesh sutar
  - 29 others
  - Santosh Madiwal (You)
- Contributors Panel:**
  - Santosh Madiwal (You) Meeting host
  - Santosh Madiwal Your presentation
  - Aary Tagare
  - Aditi Bhurke
  - Aniket Padman
  - Anjali Pawar
  - Ankita sanap
- Slide Content:**

### POWER FACTOR (LEADING & LAGGING)

**Power Factor** - The cosine of angle between voltage and current in an a.c. circuit is known as **power factor**.

  - In an a.c. circuit, there is generally a phase difference  $\phi$  between voltage and current.
  - The term  $\cos \phi$  is called the power factor of the circuit.
  - If the circuit is **inductive**, the **current lags** behind the voltage and the power factor is referred to as **lagging**.
  - In a **capacitive** circuit, **current leads** the voltage and power factor is said to be **leading**.

The slide content is as follows:

### SERIES CIRCUIT AND PARALLEL CIRCUIT

- Series circuit** is a circuit where the components are connected end-to-end in a line. (to form a chain)

Diagram of a series circuit with resistors  $R_1, R_2, R_3, R_4$  connected in a line. Text below: "only one path for current to flow".

Diagram of a parallel circuit with resistors  $R_1, R_2, R_3$  connected in parallel branches.

- Properties:**
  - Same current in all resistances.
  - Voltage across each component may be different. ( $V_1=IR_1, V_2=IR_2 \dots$ )
  - Equivalent resistance  $R_T = R_1 + R_2 + \dots$

Vertical text on the right: DOMAIN SESSIONS

Bottom of the slide shows a video feed of Santosh Madiwal with the text "Santosh is presenting".

## **ACTIVITY 02**

<b>Activity:</b>	<b>Induction Program of Second year students</b>
<b>Date:</b>	08/08/2024
<b>Time:</b>	2.30pm-4.30pm
<b>Venue:</b>	VLSI Theater
<b>Coordinator Name:</b>	Prof. Mrs. P. P. Kulkarni
<b>Present Audience:</b>	53
<b>Expert Details</b>	10 faculty of the Electrical Engg dept.
<b>Brief Description of the activity:</b>	<p>The program was attended by 53 students from SY Electrical Engg class and 10 faculty of the Electrical Engg dept.</p> <p>The event began with welcome speech by Mrs. Priyanka Kulkarni. She informed about the necessity of the induction program and its impact.</p> <p>Next, The HoD, and senior faculty were welcomed by the SY class students by offering flowers. SY class was welcomed by offering a flower to one student from the SY class.</p> <p>After this, Prof. Prasad Kulkarni presented the overview of the Electrical Engg dept and the academics. He also informed about the NEP.</p> <p>Next, the faculty introduced themselves to the students and talked about technical clubs in the department, and various co curricular and extra curricular activities.</p> <p>After this, Dr. M K Alam delivered the Chief guest's address. He motivated the students to perform well in the carrier. He also explained about the mentoring activity.</p> <p>Next, Dr P R Padghan delivered a presentation on Outcome based education and NBA.</p> <p>The program concluded by the vote of thanks by Mrs Priyanka Kulkarni, followed by a high Tea.</p>

**Photo of the Activity:**



## ACTIVITY 03

<b>Activity:</b>	<b>SY Alumni Insights webinar</b>
<b>Date:</b>	18/08/2024
<b>Time:</b>	11.00am-12.30pm
<b>Venue:</b>	EECR01
<b>Coordinator Name:</b>	Prof. Mrs. Aishwarya Dandekar
<b>Present Audience:</b>	20
<b>Expert Details</b>	<p>Ms.Shweta Sawant, lead Engineer, Protection and System Tata Power Mumbai.</p> <p>Ms.Bhakti Karande,Senior Executive Engineer, Adani Dahanu Thermal Power Stations.</p> <p>Mr.Rahil Chougale, Senior Executive Engineer, Adani Electricity Mumbai Ltd.</p>
<b>Brief Description of the activity:</b>	<p>The Alumni Insights Webinar aimed to connect current engineering students with successful alumni, providing valuable insights into career paths, industry trends, and essential skills. This interactive session fostered engagement and networking opportunities, enriching students' understanding of the professional landscape. The esteemed alumni were</p> <p>Ms. Shweta Sawant who is working as Lead Engineer at TATA Power,Mumbai,</p> <p>Ms. Bhakti Karande, is Senior Engineer at Dahanu Thermal Power Station and</p> <p>Mr. Rahil Chougale presently working as a Senior Executive Engineer at Adani Electricity Ltd.</p> <p><b>Objectives</b></p> <ol style="list-style-type: none"> <li>1. Learn from Alumni Experiences: Alumni shared their diverse career journeys and the decisions that shaped their paths.</li> <li>2. Understand Industry Trends: Insights into current engineering trends and expectations were discussed.</li> <li>3. Network and Connect: Students had the opportunity to interact with alumni, fostering professional connections.</li> </ol> <p>Mrs. Aishwarya Dandekar welcomed participants and outlined the session's objectives. Followed by Alumni Panel Discussion. Three alumni shared their experiences, focusing on career paths, challenges faced, and essential skills</p>



for success. Students were encouraged to ask questions, with the moderator facilitating the discussion to maximize participation.

**Photo of the Activity:**

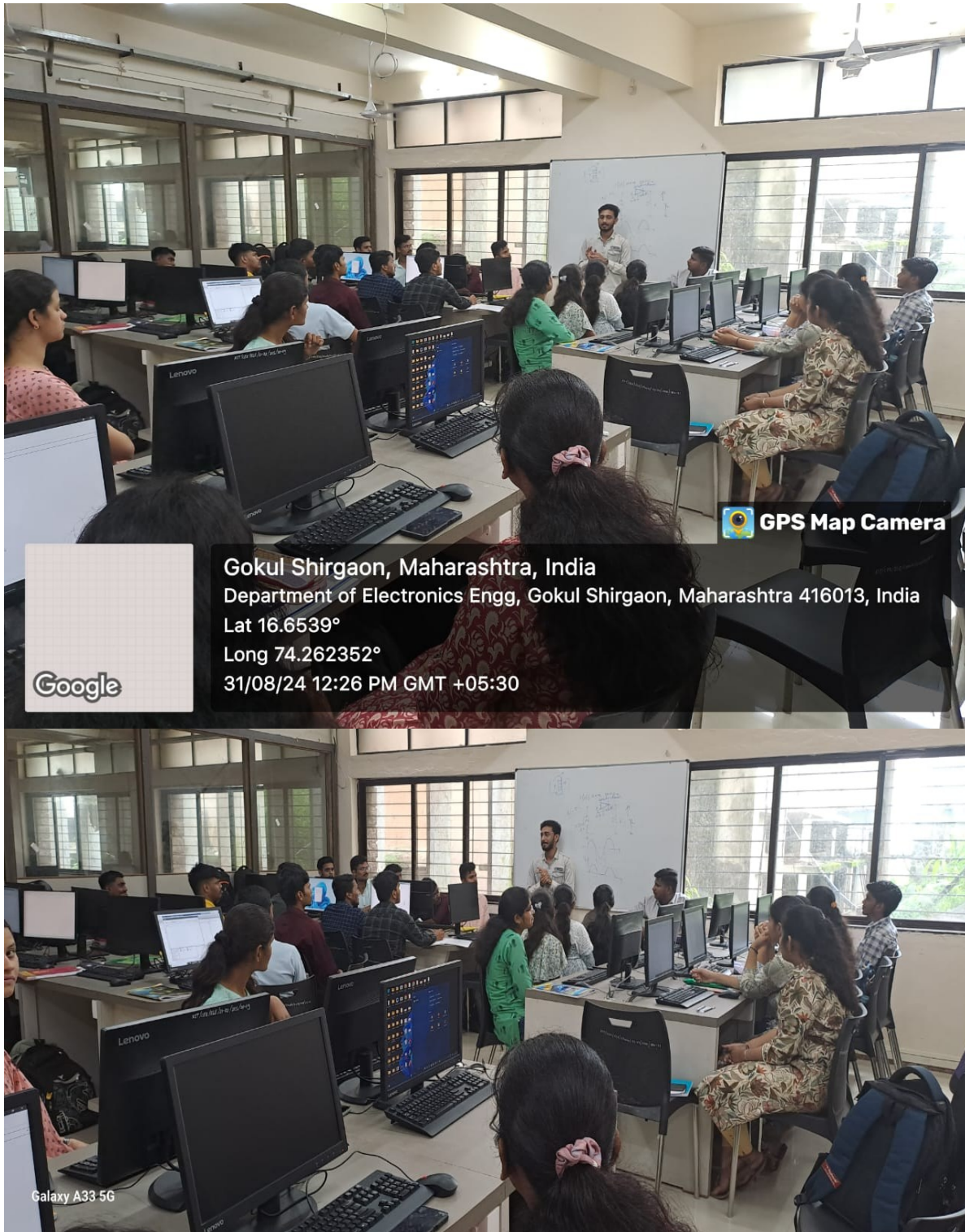




## ACTIVITY 04

<b>Activity:</b>	<b>ARVR session for SY Students</b>
<b>Date:</b>	31/08/2024
<b>Time:</b>	01.00pm to 01.30pm
<b>Venue:</b>	Computer Lab
<b>Coordinator Name:</b>	Mrs Aishwarya Danderkar
<b>Present Audience:</b>	45
<b>Expert Details</b>	Mr.Neeraj Lohar
<b>Brief Description of the activity:</b>	<p>On August 31, 2024, a specialized session on Augmented Reality (AR) and Virtual Reality (VR) was conducted for the second-year Electrical Engineering students. The session aimed to introduce students to the potential applications of AR/VR technologies in the field of Electrical Engineering by Mr. Neeraj Lohar who has completed his degree in Electrical Engineering and is currently engaged in the vast field of ARVR having experience in Unreal Engine 5, 3D Environment, Augmented reality, unity 3D Adobe Photoshop, Corel draw and more.</p> <p>Objectives To familiarize students with AR and VR technologies.</p> <p>To explore how AR/VR can be used in Electrical Engineering education and industry.</p> <p>Students were highly engaged throughout the session. Due to the time limitations, not allopportunities could be explained to the students.</p> <p>The AR/VR session successfully introduced second-year Electrical Engineering students to the innovative applications of these technologies. The combination of theoretical knowledge and practical experience offered a comprehensive understanding of how AR/VR can enhance learning and professional practices in Electrical Engineering. We would like to thank Mr.Neeraj for his expert guidance and engaging presentation, Mr. Prasad Kulkarni, Electrical Department for coordinating the event, and the students for their enthusiastic participation.</p>

**Photo of the Activity:**



## **ACTIVITY 05**

<b>Activity:</b>	<b>Industrial Visit at MSETCL Training Center, Talandge</b>
<b>Date:</b>	23/09/2024
<b>Time:</b>	10.00am to 03.00pm
<b>Venue:</b>	MSETCL Training Center, Talandge
<b>Coordinator Name:</b>	Mrs Aishwarya Danderkar
<b>Present Audience:</b>	45
<b>Expert Details</b>	Assistant Engineerb Mr. Pramod Sangar
<b>Brief Description of the activity:</b>	<p>On September 23, 2024, a group of third-year Electrical Engineering students from KITCOEK undertook an industrial visit to the MSETCL (Maharashtra State Electricity Transmission Co. Ltd.) Training Center located in Talandge. The objective of the visit was to provide students with practical insights into electrical transmission systems and the operational aspects of the power sector. Upon arrival, the students were welcomed by the training center staff, who provided an overview of MSETCL's role in the state &amp; power transmission network. The session commenced with a presentation on the various types of substations, transmission lines, and the importance of maintaining grid stability. Following the presentation, students were divided into groups for a guided tour of the facility. Key highlights of the visit included:</p> <ol style="list-style-type: none"> <li>1. Substation Operations: Students observed the equipment used in substations, including transformers, circuit breakers, and protection relays. The importance of safety measures and maintenance procedures was emphasized.</li> <li>2. Control Room: A visit to the control room showcased how real-time monitoring and control of electrical networks are conducted. Students learned about SCADA systems and their critical role in ensuring efficient power distribution.</li> <li>3. Expert Interaction: The visit concluded with an interactive session with experienced engineers from MSETCL. Students had the opportunity to ask questions about career paths, ongoing projects, and advancements in transmission technology.</li> </ol> <p>The industrial visit significantly enhanced theoretical knowledge with practical exposure.</p> <p>Key learning outcomes included:</p> <ul style="list-style-type: none"> <li>- Understanding the functioning and management of electrical substations.</li> <li>- Gaining insights into the importance of transmission lines in the electrical grid.</li> <li>- Familiarization with modern technologies used in power transmission, such</li> </ul>



as SCADA.

Photo of the Activity:



## **ACTIVITY 06**

<b>Activity:</b>	<b>Faculty Development Program on PLC Industrial Automation</b>
<b>Date:</b>	<b>28/09/2024 to 02/07/2024</b>
<b>Time:</b>	10.00 am to 03.00 pm
<b>Venue:</b>	Computer Lab
<b>Coordinator Name:</b>	Mrs Aishwarya Danderkar
<b>Present Audience:</b>	15
<b>Expert Details</b>	Mr. Rohan Dharmadhikari And Mr. Ashwin Gadgil
<b>Brief Description of the activity:</b>	<p>From September 28 to October 2, 2024, the Electrical Engineering Department of KITCOEK organized a Faculty Development Program (FDP) focused on “PLC Industrial Automation.” This program aimed to enhance the knowledge and skills of faculty members in the rapidly evolving field of automation technology, particularly in the use of Programmable Logic Controllers (PLCs) in industrial applications. The FDP was designed to provide a comprehensive understanding of PLC systems, their programming, and their applications in various industrial processes. The sessions included theoretical lectures, hands-on training, and practical demonstrations, ensuring a balanced approach to learning.</p> <p><b>Key Sessions</b></p> <ol style="list-style-type: none"> <li><b>1. Introduction to PLCs:</b> The program began with an overview of PLC architecture, components, and operational principles. Participants gained insights into the advantages of using PLCs over traditional control systems.</li> <li><b>2. Programming Techniques:</b> Expert trainers from ELESa conducted workshops on various programming languages used in PLCs, including Ladder Logic, Function Block Diagram, and Structured Text. Faculty members engaged in interactive sessions that emphasized real-world applications.</li> <li><b>3. Hands-On Training:</b> The FDP featured practical sessions where participants programmed PLCs to control different industrial processes. This hands-on experience enabled faculty to better understand the functionality and troubleshooting of PLC systems.</li> <li><b>4. Integration with SCADA:</b> A session on integrating PLCs with Supervisory Control and Data Acquisition (SCADA) systems was conducted, showcasing how PLCs can be used for real-time monitoring and control in industrial environments.</li> <li><b>5. Future Trends in Automation:</b> The program concluded with a discussion on emerging trends in industrial automation, including Industry 4.0, IoT</li> </ol>

integration, and smart manufacturing technologies.Learning Outcomes.

**Photo of the Activity:**





## **ACTIVITY 07**

<b>Activity:</b>	E-CELL Orientation Program for the Electrical Department
<b>Date:</b>	<b>18/10/ 2024</b>
<b>Time:</b>	3:30 pm to 4:45 pm
<b>Venue:</b>	EECR 01, Main Building, KITCOEK
<b>Coordinator Name:</b>	Ms. D. D. Ved
<b>Present Audience:</b>	55
<b>Expert Details</b>	Mrs. Rashmi mam
<b>Brief Description of the activity:</b>	<p>Mrs. Rashmi Mam delivered an insightful presentation on E-CELL KITCoEK, and the IRF Incubation Center. She began by outlining the core mission of E-CELL KITCoEK, which aims to nurture and support budding entrepreneurs within the student community. Furthermore, she introduced the IRF Incubation Center, explaining how it complements the efforts of E-CELL KITCoEK by offering additional support and resources. The IRF Incubation Center provides an ecosystem where startups can flourish through access to funding opportunities, state-of-art infrastructure, and collaborative environment. Mrs. Disha Ved Mam, E-CELL Departmental Faculty Coordinator, elaborated on the initiatives and activities of E-CELL KITCoEK, detailing its mission to nurture entrepreneurial spirit among students. She outlined various programs including workshops, competitions and mentorship sessions designed to guide students from the ideation stage to business execution. Departmental team presented about E-CELL KITCoEK starting with the famous quote “Take the stones people throw at you. And use them to build a monument.” By Ratan Tata. They briefly described that E-CELL KITCoEK is a student-run organization fostering entrepreneurial spirit, describing and nurturing potential and motivates students to start their business. The achievements of E-CELL KITCoEK in National Entrepreneurship Challenge were the main highlights of this orientation program. Our domains, core team for academic year 24-25 and team member achievements were briefed further.</p>

**Photo of the Activity:**



## **ACTIVITY 08**

<b>Activity:</b>	Visit to EV charging station
<b>Date:</b>	<b>09/11/ 2024</b>
<b>Time:</b>	10.00 am to 1.00 pm
<b>Venue:</b>	EV charging station , Shenda Park, Kolhapur
<b>Coordinator Name:</b>	Mrs Priyanka P Kulkarni
<b>Present Audience:</b>	45
<b>Expert Details</b>	AMC contractor Mr Omkar Sawant
<b>Brief Description of the activity:</b>	<p>Two fast charging EVSEs installed. 1. CP-43-01 for one 3-wheeler 2. CP-44-01 and 02 for two 4-wheelers</p> <ol style="list-style-type: none"> <li>1. CP-43-01 : 15KW EVSE with one charging gun of standard DC 001</li> <li>2. CP-44-01 : 30KW EVSE with a charging gun of standard CCS2</li> <li>3. CP-44-02 : 30KW EVSE with a charging gun of standard Chademo</li> </ol> <p>The EVSE consists of a rectifier-filter with protective circuitry. The EVSE was opened and all technical details were explained by Mr Omkar Sawant One Tata EV owner Mr Shirish Bakare had approached for EV charging. He explained the process of authentication and starting the charging- using manual process and also from 'power on' app compatible for the MSEDCL EV charging.</p>

**Photo of the Activity:**





## **ACTIVITY 09**

<b>Activity:</b>	Ad Mad Competition by Bureau Of Indian Standards as Standards Club Activity
<b>Date:</b>	<b>26/10/2024</b>
<b>Time:</b>	10.00 am to 2.00 pm
<b>Venue:</b>	Seminar Hall
<b>Coordinator Name:</b>	Mrs.Sushmita A. Sarkar
<b>Present Audience:</b>	30
<b>Expert Details</b>	Mr. Akshay Kute Scientist-C/Deputy Director, BIS
<b>Brief Description of the activity:</b>	<p>On 26th of October 2024, the Department Of Electrical Engineering at Kolhapur Institute of Technology, College of Engineering, Autonomous organized “Ad Mad Competition” under the MoU developed with Bureau Of Indian Standards as Standards Club Activity, Know your Standards Club. The event witnessed enormous enthusiastic student participants from diverse Engineering branches who showcased their creativity in marketing products and services in line with ISO Standards like Indian Standard (IS) for ECO Mark for Dry Cell Batteries &amp; Automotive Lead Acid Batteries, IS 13568 : 1992, Lead acid lightweight storage batteries for motor cycles and similar vehicles fitted with ac circuitry ,Indian Standard (IS) for ECO Mark for Electrical &amp; Electronic Goods, IS 8448 : 1989 , Automatic line voltage correctors (Step Type) for domestic use, IS 17899 T : 2024, Assessment of Biodegradability of Plastics in Varied Conditions ,ISO TC- 268 (P): Sustainable Cities and Communities. Such opportunities bring out the collective talent of the students like clarity, creativity, appeal and simplicity in freedom of expression .Its objective is to acquaint the students about promotional strategies in marketing through advertisements.</p> <p>We had Mr. Akshay Kute Scientist-C/Deputy Director, BIS.,currently working in Pune office of BIS as our Chief Guest. He bears experience in certification activity at Ahmedabad office of BIS with different products of mechanical, metallurgy, civil and textile engineering. In his address to the audience emphasized the role of this body in providing traceability and tangibility benefits to the national economy in a number of ways providing safe reliable quality goods as such minimizing health hazards to consumers, promoting exports and imports substitute control over proliferation of varieties etc, through standardization, certification and testing. Around 30 students from different branches of Engineering participated in the event where 3rd prize was grabbed Isha Vaidya -TY ETC &amp; Rishikesh -TY CSE, 2nd prize Brahmi Sanap -FY Bio Tech Sneha Shengushi -FY Bio Tech, 1st prize Suryakant Shinde -FY BioTech Akshada Pisolkar - FY Biotech.</p>



Photo of the Activity:





## **ACTIVITY 10**

<b>Activity:</b>	One-Day Student Training Program on <b>Introduction to Matlab and Simulink</b>
<b>Date:</b>	<b>23/11/2024</b>
<b>Time:</b>	11.00 am to 5.00 pm
<b>Venue:</b>	EECR 01 and Computer Lab
<b>Coordinator Name:</b>	Ms. Shreya V. Moholkar
<b>Present Audience:</b>	80
<b>Expert Details</b>	Mr. Ankit Kumar, an Application Engineer for MathWorks at Design Tech Systems Pvt. Ltd., Pune.
<b>Brief Description of the activity:</b>	<p>The Department of Electrical Engineering organized a One-Day Student Training Program on "Introduction to MATLAB and Simulink" on November 25, 2024. The event saw the enthusiastic participation of 80 second and third-year students. The training was expertly conducted by Mr. Ankit Kumar, an Application Engineer for MathWorks at Design Tech Systems Pvt. Ltd., Pune.</p> <p><b>Session 1: Modeling and Control of D.C. Motors using Simulink</b></p> <p>In the first session, Mr. Kumar provided an in-depth theoretical explanation of D.C. motors and their significance in electrical engineering. He then demonstrated how to model and control D.C. motors using Simulink, a graphical programming environment for modeling, simulating, and analyzing multidomain dynamical systems. The hands-on component allowed students to apply the theoretical knowledge they had just learned, giving them a practical understanding of the modeling process. Students engaged with various Simulink blocks and learned to simulate the behavior of D.C. motors under different conditions.</p> <p><b>Session 2: Introduction to Physical Modeling using Simscape for Renewable Energy Systems</b></p> <p>The second session shifted focus to renewable energy systems, specifically using Simscape, a MATLAB-based software for modeling and simulating physical systems. Mr. Kumar introduced the basics of physical modeling and its importance in the development and optimization of renewable energy solutions. Through hands-on activities, students explored the creation and simulation of renewable energy models, gaining insights into the complexities and challenges of designing sustainable energy systems.</p>

## **ACTIVITY 11**

<b>Activity:</b>	An expert lecture on renewable energy and current trends in power systems.
<b>Date:</b>	<b>08/02/2025</b>
<b>Time:</b>	02.00pm - 4.00pm
<b>Venue:</b>	EECR 01
<b>Coordinator Name:</b>	Mrs. A.S. Dandekar
<b>Present Audience:</b>	60
<b>Expert Details</b>	Mr. Jitendra H. Patil, Assistant Manager at O2 power
<b>Brief Description of the activity:</b>	<p>An expert lecture was organized for the students of the second and third-year B.Tech program in the Electrical Engineering branch at KITCoE, Kolhapur, with the aim of expanding their knowledge on the evolving trends in the electrical engineering industry, with a particular focus on renewable energy sources. The session was conducted on 08/02/2025 and was attended by a substantial number of students. The lecture aimed to provide students with an understanding of the current global trends in renewable energy and how these trends are influencing the electrical engineering industry.</p> <p>The lecture was led by an industry expert in renewable energy, who shared an in-depth analysis of the global energy scenario and the ongoing shift toward green energy. The expert began by discussing the environmental and economic benefits of renewable energy, emphasizing how solar and wind energy have become viable and cost-effective alternatives to traditional power generation methods.</p> <p>The expert then covered the growing trend of energy decentralization, where power generation is shifting from large, centralized plants to smaller, distributed sources. Students were introduced to the concept of microgrids and the role of energy storage systems in enabling these localized grids to operate efficiently. A significant portion of the lecture also focused on the integration of renewable energy into existing power grids and the challenges faced in this process, including grid stability, energy storage, and distribution.</p> <p>The expert lecture was both informative and engaging, providing students with a comprehensive overview of the rapidly evolving renewable energy landscape and the future direction of the electrical engineering industry. The lecture offered students valuable insights into the technological, economic, and environmental aspects of renewable energy and its integration into modern electrical systems.</p> <p>The event was a success, and the students left with a broader perspective on how they can contribute to the future of the electrical engineering industry, especially in the domain of renewable energy and advanced electrical technologies.</p>

Photo of the Activity:



## **ACTIVITY 12**

<b>Activity:</b>	An expert lecture on automation in electrical systems.
<b>Date:</b>	<b>18/02/2025</b>
<b>Time:</b>	02.00 pm - 4.00 pm
<b>Venue:</b>	EECR 01
<b>Coordinator Name:</b>	Mrs. A.S. Dandekar
<b>Present Audience:</b>	60
<b>Expert Details</b>	Mr. Vivek Sardal, Prolific, Pune
<b>Brief Description of the activity:</b>	<p>The lecture aimed to introduce students to the fundamentals and advancements in the field of automation, particularly in relation to electrical systems. As automation continues to be an integral part of modern electrical engineering, the session focused on how automation technologies are transforming industries, enhancing efficiency, and reducing human error. The lecture was tailored to the academic background of the students and connected theoretical knowledge with real-world applications. Mr. Vivek Sardal, with his extensive experience in automation, commenced the session by explaining the core concepts of automation in electrical engineering. He discussed the historical evolution of automation, from the early days of manual control systems to the introduction of programmable logic controllers (PLCs) and the rise of industrial automation. The expert emphasized the increasing reliance on automation in industries such as manufacturing, energy, and infrastructure, highlighting its role in improving operational efficiency, safety, and cost-effectiveness.</p> <p>A significant portion of the lecture was dedicated to the technical aspects of automation systems. Mr. Sardal introduced the students to the components of automation systems, including sensors, actuators, controllers, and communication networks. He provided practical examples of how automation is applied in various sectors, such as automated manufacturing lines, smart grids, and power plant management. The expert also elaborated on the importance of integrating automation with renewable energy systems, such as solar and wind energy, to optimize energy generation and distribution.</p> <p>Students left the lecture with a deeper appreciation for automation's role in improving efficiency, safety, and sustainability in electrical systems. The insights provided by Mr. Sardal will undoubtedly inspire students to explore automation technologies further and contribute to the development of smart, automated electrical systems in their future careers.</p>

## **ACTIVITY 13**

<b>Activity:</b>	Industrial Visit to Electrical distribution substation
<b>Date:</b>	<b>15/02/2025</b>
<b>Time:</b>	11.00 am - 2.00 pm
<b>Venue:</b>	MSEDCL Distribution substation and EV charging station
<b>Coordinator Name:</b>	Mrs. P.P. Kulkarni
<b>Present Audience:</b>	60
<b>Expert Details</b>	Mr Omkar Sawant & Mr Shirish Bakare
<b>Brief Description of the activity:</b>	<p>The distribution substation is of 33/11KV and the personal explained Mr Omkar Sawant. The students were shown the working of transformers, which are used to reduce the high transmission voltage to the standard distribution voltage (typically 11 kV or 33 kV). They also learned about the protection systems, which automatically isolate faults to prevent damage to the electrical equipment and ensure safety. The students were able to interact with the engineers, who shared valuable knowledge on substation operations, fault detection, and maintenance procedures. This hands-on exposure helped students understand the practical challenges of maintaining and operating distribution systems, complementing the theoretical knowledge gained in classrooms.</p> <p>The EVSE consists of a rectifier-filter with protective circuitry. The EVSE was opened, and all technical details were explained by Mr Omkar Sawant. One Tata EV owner Mr Shirish Bakare had approached for EV charging. He explained the process of authentication and starting the charging- using manual process and also from 'power on' app compatible for the MSEDCL EV charging.</p> <p>One of the key aspects discussed was the integration of EV charging stations with the power grid. The engineers elaborated on the challenges faced in managing the increased power demand from EV chargers and the need for load balancing to prevent grid overload. They also highlighted the importance of renewable energy sources, such as solar power, in powering EV charging stations to make the entire process more sustainable.</p> <p>The visit to the MSEDCL Distribution Substation and EV Charging Station was an enriching experience for the students of KITCoE. The students gained practical knowledge of how electrical power is distributed to consumers and the important role substations play in this process. Additionally, the visit provided valuable insights into the emerging field of electric vehicle infrastructure, which is vital to the transition to sustainable and clean energy.</p>

**Photo of the Activity:**







## ACTIVITY 14

<b>Activity:</b>	Industrial Visit to Solar and Wind power plant &Electrical Distribution Substation
<b>Date:</b>	<b>22/03/2025</b>
<b>Time:</b>	09.00 am - 5.00 pm
<b>Venue:</b>	Suzlon Wind power plant and Sakas Milk Solar power plant, Satara
<b>Coordinator Name:</b>	Mrs. A.S.Dandekar
<b>Present Audience:</b>	60
<b>Expert Details</b>	Mr. Jitendra Patil Mr. Ashoka Stapatya
<b>Brief Description of the activity:</b>	<p>The Satara Power Plant is a hybrid facility that integrates both solar and wind energy systems. The solar power section consists of photovoltaic panels that convert sunlight directly into electricity, while the wind power section utilizes wind turbines to harness wind energy. The plant is designed to contribute significantly to the local grid and reduce reliance on fossil fuels.</p> <p><b>Solar Power Plant</b></p> <ul style="list-style-type: none"> <li>• <b>Technology Used:</b> Photovoltaic (PV) panels</li> <li>• <b>Key Features:</b> <ul style="list-style-type: none"> <li>• Use of high-efficiency solar panels.</li> <li>• Inverters for converting DC to AC power.</li> <li>• Monitoring systems for performance analysis.</li> </ul> </li> </ul> <p><b>Wind Power Plant</b></p> <ul style="list-style-type: none"> <li>• <b>Technology Used:</b> Horizontal-axis wind turbines</li> <li>• <b>Key Features:</b> <ul style="list-style-type: none"> <li>• Turbines equipped with advanced control systems.</li> <li>• Height and blade length designed for optimal wind capture.</li> <li>• Integration with the local power grid.</li> </ul> </li> </ul> <p><b>Observations</b></p> <p>During the visit, students had the opportunity to observe the following:</p> <ol style="list-style-type: none"> <li>1. <b>Installation Process:</b> Students learned about installing solar panels and wind turbines, including site selection, structural requirements, and safety measures.</li> <li>2. <b>Operation and Maintenance:</b> The importance of regular maintenance and monitoring systems to ensure efficiency and longevity of the equipment was emphasised.</li> <li>3. <b>Environmental Impact:</b> Discussions highlighted the positive impact of renewable energy on reducing carbon emissions and promoting sustainability.</li> <li>4. <b>Career Opportunities:</b> The engineers shared insights into various career paths in the renewable energy sector, including research,</li> </ol>

development, and project management.

### **Interactive Session**

An interactive session with the engineers provided students with the opportunity to ask questions and clarify doubts regarding renewable energy technologies. Topics discussed included:

- The future of renewable energy in India.
- Challenges faced in the implementation of renewable energy projects.
- Innovations in energy storage and smart grid technologies.



## **ACTIVITY 15**

<b>Activity:</b>	2 day STP& FDP on <b>Unlocking the Power of Automation.</b>
<b>Date:</b>	<b>27/03/2025 -28/03/2025</b>
<b>Time:</b>	09.00 am - 5.00 pm
<b>Venue:</b>	KITCoEK, Electrical Department
<b>Coordinator Name:</b>	Mrs. S.R. Madiwal
<b>Present Audience:</b>	60
<b>Expert Details</b>	Mr. Manikandan
<b>Brief Description of the activity:</b>	<p>The 2-day Short-Term Program (STP) titled "Unlocking the Power of Automation" was conducted at KIT College of Engineering on 27th and 28th March 2025. The program aimed to provide participants with insights into the latest trends, technologies, and applications of automation in the fields of Electrical, Mechanical, and Electronics &amp; Telecommunication Engineering.</p> <p><b>Objectives of the Program</b></p> <ol style="list-style-type: none"> <li>1. To enhance understanding of automation technologies and their applications in various engineering domains.</li> <li>2. To provide hands-on experience with automation tools and software.</li> <li>3. To discuss the impact of automation on industry and future career opportunities.</li> <li>4. To foster collaboration and knowledge sharing among students and faculty.</li> </ol> <p>Inauguration and Welcome Address was in presence of your hon Director Dr. Mohan Vanoratti . He gave brief introduction of the resource person Dr. Manikandan who is well versed in this subject and is the Resource person from Christ university, Bangalore.</p> <p><b>Key Highlights</b></p> <ol style="list-style-type: none"> <li>1. <b>Expert Speakers:</b> The program featured industry experts and academicians who shared their knowledge and experiences in automation technologies.</li> <li>2. <b>Hands-on Workshops:</b> Participants engaged in practical sessions on PLC programming and robotics, enhancing their technical skills.</li> <li>3. <b>Networking Opportunities:</b> The event facilitated networking among students, faculty, and industry professionals, fostering collaboration and knowledge exchange.</li> <li>4. <b>Interactive Discussions:</b> The panel discussion provided insights into the current challenges and future prospects of automation in various engineering fields.</li> </ol>



On 28/03/2025 from 4:30 PM - 5:00 PM: Feedback and Valedictory Ceremony was held and Participants expressed high satisfaction with the program, highlighting the relevance of the topics covered and the quality of the workshops. Many appreciated the opportunity to interact with industry experts and gain practical experience.

