



NEWS LETTER

2021 ISSUE 2

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VISION

To develop professionally competent electrical and electronic engineers having innovative skills and capabilities to work ethically in consonance with technological demands and developments of industry and society



MISSION

As one of the first few departments to be set up in the year 1958, the Electrical and Electronics Engineering Department offers a diploma certificate for students who complete the course. The three years' course is designed to provide a broad foundation in electrical and electronics engineering and its different applications such as the generation, storage and distribution of electricity, semiconductor technology, biomedical applications, industrial automation... digital media, and computer aided drafting.

- To provide state-of-art resources that contributes to achieve excellence in teaching, learning and development.
- To mould Electrical Engineering professionals in synchronization with the dynamic industry requirement.
- To inculcate ethical education capable of fostering societal responsibilities.
- To enhance creative abilities, leadership skills and entrepreneurial spirit by facilitating interaction with industry

The students are encouraged to become practically skilled through hands-on training in the laboratories designed for the purpose. The courses are also designed to enhance practical experience by collaborating with leading industries. The laboratories designed for the purpose of training students are state of the art and facilities are upgraded frequently so that they provide the right ambience for the students to move in tandem with the latest technologies.



ELECTRICAL AND ELECTRONICS ENGINEERING STUDENTS' ASSOCIATION
CENTRAL POLYTECHNIC COLLEGE, VATTIYOORKAVU



EEE BULLETIN

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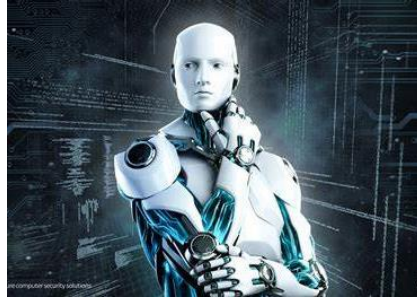
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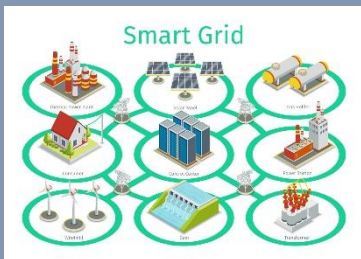
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ROBOTICS & AUTOMATION IN ELECTRICAL ENGINEERING APPLICATIONS



Robotics and automation have revolutionized various industries, including electrical engineering, by enhancing efficiency, precision, and safety in a wide range of applications. From manufacturing processes to infrastructure maintenance, robotics and automation technologies are driving innovation and transforming the way electrical engineering tasks are performed.

SMART GRID MAINTENANCE



SMART GRID

In smart grid systems, automation technologies enable real-time monitoring, control, and optimization of electrical networks. Intelligent sensors, actuators, and control algorithms facilitate dynamic load balancing, fault detection, and grid resilience enhancement. Automated grid management enhances reliability, reduces downtime, and improves energy efficiency by integrating renewable energy sources and demand response strategies.

MANUFACTURING AUTOMATION

In the realm of electrical engineering, robotics and automation play a crucial role in manufacturing processes. Automated assembly lines equipped with robotic arms perform intricate tasks such as soldering, welding, and component placement with unparalleled speed and accuracy. This automation increases productivity, reduces labor costs, and ensures consistent product quality.



ROBOTIC ARM USED FOR MANUFACTURING

POWER SYSTEM MAINTENANCE

Robotic systems are increasingly used for maintenance and inspection of electrical infrastructure, such as power lines, substations, and transformers. Unmanned aerial vehicles (UAVs) equipped with sensors and cameras can perform aerial inspections of power lines, detecting defects and identifying potential hazards without risking human safety. Similarly, robotic crawlers and drones can access confined spaces and hazardous environments for inspection and maintenance tasks.



SOFIA HUMANOID ROBOT

ENERGY STORAGE AND DISTRIBUTION

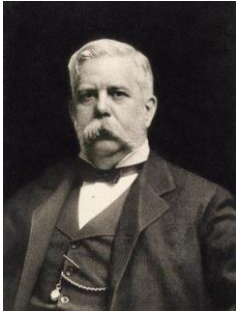
Robotic systems are employed in energy storage and distribution facilities for handling and maintenance tasks. Automated guided vehicles (AGVs) transport batteries and energy storage units within facilities, optimizing workflow and minimizing manual labor. Autonomous robotic platforms enable efficient sorting, packing, and distribution of electrical components, streamlining logistics operations and reducing turnaround times.

In conclusion, robotics and automation are integral components of modern electrical engineering practices, enhancing efficiency, safety, and sustainability across diverse applications. As technology continues to evolve, the role of robotics in electrical engineering will only become more prominent, driving further innovation and transformation in the industry.

MEET THE SCIENTIST

GEORGE WESTINGHOUSE

A PIONEER IN ELECTRICAL ENGINEERING

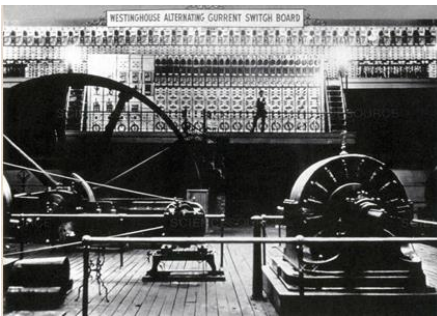


GEORGE WESTINGHOUSE

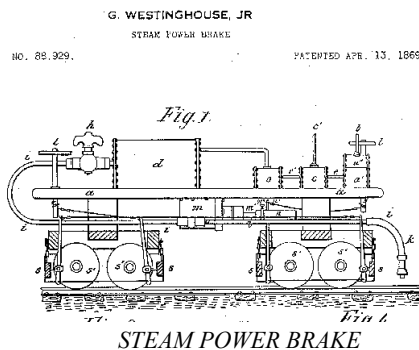
George Westinghouse, renowned for his pioneering contributions to electrical engineering, left an indelible mark on the world through his groundbreaking inventions and innovations. His legacy is celebrated for revolutionizing the AC power system and revolutionizing railway safety with the invention of the air brake for trains.

AC POWER SYSTEMS

In addition to his contributions to electrical engineering, Westinghouse made significant advancements in railway safety with the invention of the air brake for trains. The air brake provided a reliable and efficient means of braking for railway cars, greatly enhancing the safety and efficiency of railway transportation. Its adoption revolutionized the railway industry and contributed to the reduction of accidents and fatalities.



WESTINGHOUSE AC SWITCH BOARD



IMPACT & LEGACY

George Westinghouse's innovations in electrical engineering and railway safety have had a profound and lasting impact on society. His pioneering spirit and commitment to innovation have paved the way for modern electrical systems and transportation infrastructure. The AC power system, in particular, has become the cornerstone of electrical distribution worldwide, powering homes, industries, and cities with unparalleled efficiency and reliability.

George Westinghouse's contributions to electrical engineering and railway safety stand as testament to his ingenuity, vision, and entrepreneurial spirit. His inventions have shaped the modern world, laying the foundation for the electrification of society and the advancement of transportation technology. As we commemorate his achievements, we honor his legacy and the enduring impact of his innovations on generations to come.

THE AIR BRAKE

In addition to his contributions to electrical engineering, Westinghouse made significant advancements in railway safety with the invention of the air brake for trains. The air brake provided a reliable and efficient means of braking for railway cars, greatly enhancing the safety and efficiency of railway transportation. Its adoption revolutionized the railway industry and contributed to the reduction of accidents and fatalities.

Industrialist:

He founded the Westinghouse Electric Company, which became a major player in the electrical industry, pioneering alternating current (AC) technology and competing with Thomas Edison's direct current (DC) system.

Philanthropist:

Westinghouse was known for his philanthropy, donating significant amounts of his wealth to various causes, including education and humanitarian efforts.

MAJOR EVENTS



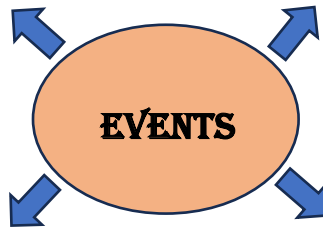
EEESA conducted Covid 19 safety quiz competition



Covid 19 safety awareness class



EEESA Conducted online story writing competition

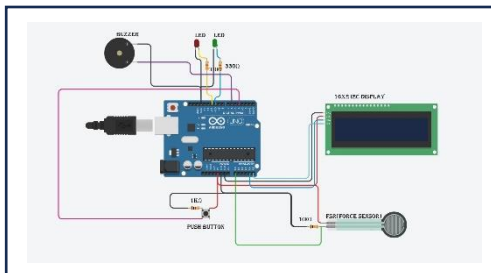


EEESA Conducted Online Electrical Quiz competition



CREATIVE SPARK

ANTI THEFT ALARM USING FORCE SENSOR



Circuit Diagram

An anti-theft alarm system employing force sensors serves as a reliable deterrent against unauthorized intrusion, safeguarding valuable possessions and ensuring peace of mind. The force sensor, a crucial component, detects any external pressure or impact exerted on the secured object, promptly triggering the alarm.



ABHINAV A (S2)

This innovative technology operates on the principle of detecting changes in force or pressure. When integrated into an anti-theft system, it acts as a vigilant guardian, instantly sensing any attempts to tamper with or forcefully access the protected area or item. Once activated, the alarm emits a loud sound, alerting nearby individuals and deterring potential thieves. Furthermore, force sensor-based alarms offer versatility and adaptability, as they can be seamlessly integrated into various security setups, ranging from home safes to automobile security systems. Their compact size and sensitivity make them ideal for discreet installation without compromising effectiveness.

In addition to their primary function of thwarting theft, these alarms contribute to overall safety by notifying occupants of potential dangers, such as attempted break-ins or unauthorized access, allowing for timely intervention and prevention of property loss or damage. In conclusion, the utilization of force sensor technology in anti-theft alarm systems represents a significant advancement in security measures, offering robust protection against theft and enhancing overall safety and security.