SYNERGY

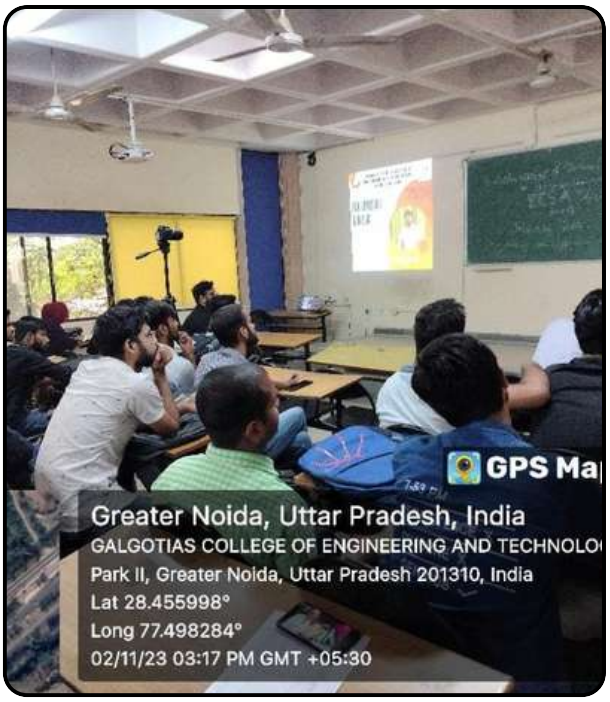
The Newsletter

2024

Happening in Department

ALUMNI TALK: CAREER OPPORTUNITIES IN PSUS IN INDIA

On the 2nd of November 2023 , the Electrical Engineering Department in association with EESA Club had the privilege of hosting an insightful alumni talk focused on career opportunities in Public Sector Undertakings (PSUs) in India. The event, held in B-112 featured Mr. Kuvendra Singh, a distinguished alumnus of our Electrical Engineering Department 2017 Batch who achieved AIR 59 in GATE and an executive engineer at ONGC.



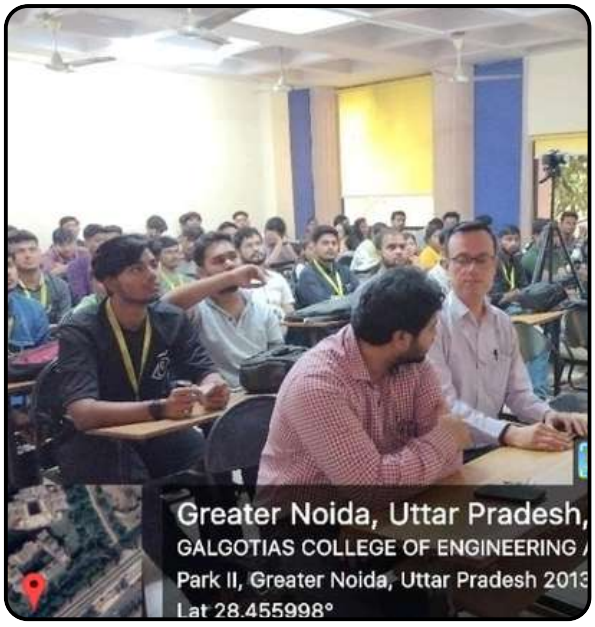
Mr. Singh began the session by sharing his journey from being a student at our college to securing a coveted position in a leading PSU. He highlighted the various stages of preparation and the rigorous selection process involved, providing the attendees with a clear roadmap to achieve similar success.

The talk covered several key areas:

Overview of PSUs: Mr. Singh explained the structure and functioning of PSUs in India, emphasizing their importance in the national economy. He detailed the different types of PSUs, including Maharatna, Navratna, and Miniratna companies, and their respective eligibility criteria and benefits.

Career Prospects: He elaborated on the diverse career opportunities available within PSUs for electrical engineers, ranging from project management and operations to research and development. He also discussed the long-term career growth and stability offered by these organizations. Preparation Strategies: A significant portion of the talk was dedicated to guiding students on how to prepare for PSU recruitment exams such as GATE (Graduate Aptitude Test in Engineering). Mr. Singh provided valuable tips on time management, study resources, and the importance of consistent practice.

Work-Life Balance: The speaker shared his personal experiences about the work culture in PSUs, highlighting the balance between professional and personal life. He emphasized the employee-friendly policies and the emphasis on continuous learning and development. Q&A Session: The session concluded with an interactive Q&A segment, where students had the opportunity to ask specific questions about the recruitment process, career growth.



and the day-to-day responsibilities of an engineer in a PSU. Mr. Kunvendra Singh addressed each query with detailed and practical advice. The talk was highly engaging and informative, leaving the attendees inspired and better informed about the potential career paths in PSUs.

The Electrical Engineering Department and EESA extends its heartfelt thanks to Mr. Kunvendra Singh for taking the time to share his knowledge and experiences. We also express our gratitude to the faculty and organizing team for their efforts in making this event a success.

We look forward to organizing more such enlightening sessions in the future to benefit our students

ALUMNI TALK: STRATEGIES FOR VERTICAL GROWTH IN THE SOFTWARE INDUSTRY

On the 13th of October 2023 , The EESA Club in association with Electrical Engineer in Department had the privilege of hosting an insightful talk by our esteemed alumni, Mr Arijit Nigam , who has made remarkable strides in the software industry. The session was part of our ongoing series aimed at providing current students with valuable industry insights and career guidance. Mr Arijit Nigam graduated from our institution in 2016 with a degree in Electrical Engineering. Over the years, they have transitioned into the software sector and currently holds the position of Senior Service Engineer at WINGFY.

Their journey from an entry-level engineer to a senior executive was nothing short of inspiring, offering a wealth of knowledge on navigating career advancements.

Key Takeaways from the Talk

Continuous Learning and Skill Developments:
Mr Arijit Nigam emphasized the importance of staying updated with the latest technologies and trends. They encouraged students to invest time in learning new programming languages, frameworks, and tools.

Continuous education, through online courses, certifications, and workshops, was highlighted as a crucial element for professional growth.

Building Strong Professional Networks:Building Networking was identified as a pivotal factor in career advancement.Mr Arijit Nigam shared their experience of how connections with colleagues, mentors, and industry professionals opened doors to new opportunities and collaborations. Attending conferences, participating in industry forums, and engaging in community events were recommended to build a robust professional network.

Gaining Diverse Experience: Working on a variety of projects and taking on different roles within the organization was another strategy discussed.Mr Arijit Nigam mentioned that exposure to different aspects of the business, such as project management, product development, and customer interaction, can significantly enhance one's skill set and make them more versatile and valuable to the organization. Leadership and Soft Skills:Technical expertise alone is not sufficient for vertical growth. Mr Arijit Nigam stressed the importance of developing leadership qualities and soft skills, such as communication, teamwork, and problem-solving.

They shared personal anecdotes on how effective communication and team leadership were instrumental in their career progression.

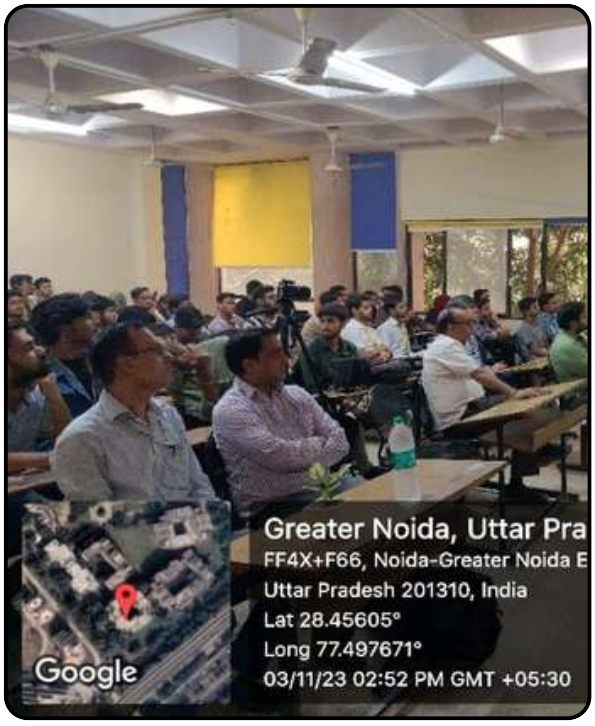
Mentorship and Guidance:Seeking mentorship from experienced professionals was another crucial aspect discussed. Mr Nigam spoke about the benefits of having a mentor who can provide guidance, feedback, and support. They encouraged students to seek mentors both within and outside their organization to gain diverse perspectives and advice.

The talk concluded with a vibrant Q&A session where students had the opportunity to ask questions and seek advice on their specific career aspirations. The insights shared by Mr Nigam were not only motivational but also provided practical strategies for achieving vertical growth in the competitive field of software engineering.

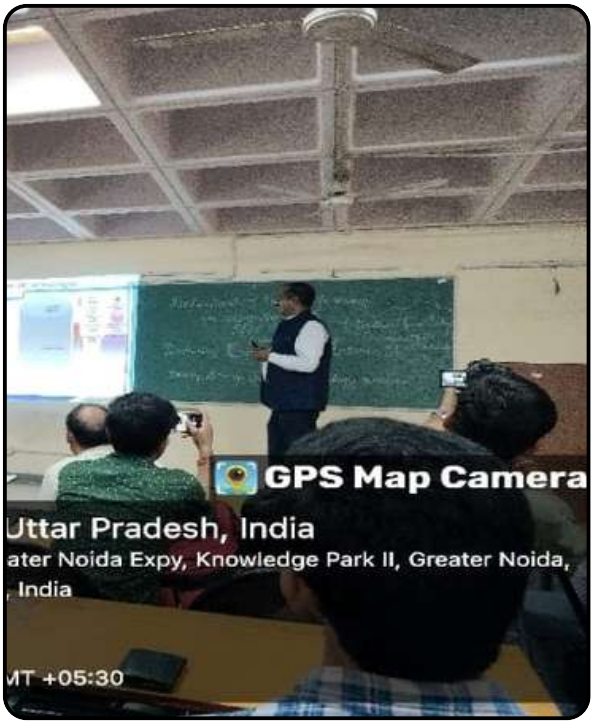
We extend our heartfelt gratitude to Mr Arijit Nigam for taking the time to share their experiences and wisdom. The Electrical Engineering Club remains committed to organizing such enriching events for the benefit of our students.

Guest Lecture: Energy Storage Systems: Technology Overview

On the 3rd of November, 2023, the Electrical Engineering Department in association with EESA Club had the honor of hosting a distinguished guest lecture on the topic of "Energy Storage Systems: Technology Overview." The session was conducted by ,Dr. Manoj Kumar Pandey Head (RED)in Arhiant Electricals. Dr. Pandey's lecture provided an in-depth exploration of the various types of energy storage systems, their applications, and the latest advancements in the technology. The key points covered during the lecture included:



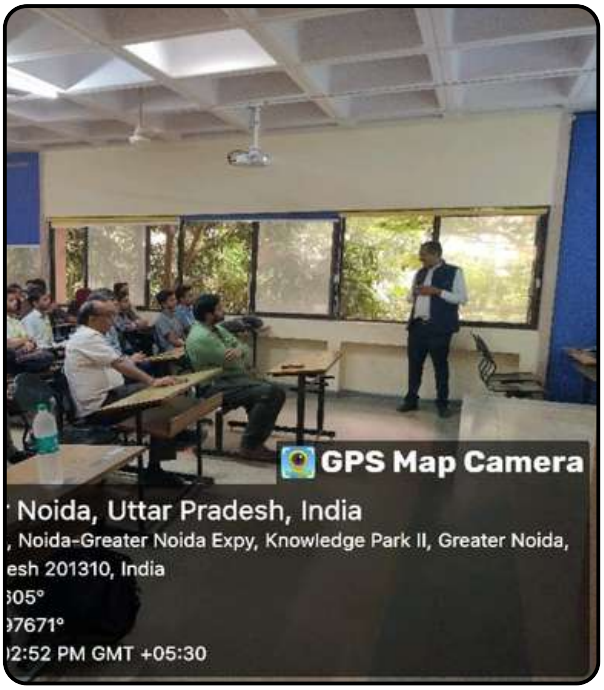
Introduction to Energy Storage Systems: Dr. Pandey began by explaining the fundamental principles of energy storage and its critical role in modern power systems. He emphasized the importance of energy storage in balancing supply and demand, enhancing grid stability, and integrating renewable energy sources.



Types of Energy Storage Technologies:
The lecture detailed several major energy storage technologies, including:
Batteries: Various types such as lithium-ion, lead-acid, and emerging solid-state batteries.
Pumped Hydro Storage: The most mature form of large-scale energy storage.

Thermal Energy Storage: Using materials to store and release heat energy.
Flywheels: Mechanical devices that store kinetic energy.
Compressed Air Energy Storage (CAES): Utilizing compressed air to store energy.
Advancements and Innovations: Dr. Pandey highlighted recent advancements in battery technology, focusing on improvements in energy density, charging speed, and longevity. He also discussed the potential of next-generation technologies such as flow batteries and their applications in grid-scale energy storage.

Applications and Case Studies: The lecture included case studies of successful energy storage implementations worldwide. Examples ranged from residential solar energy storage systems to large-scale projects supporting grid stability and renewable integration. Challenges and Future Directions:Dr. Pandey addressed the current challenges facing energy storage systems, including cost, efficiency, and scalability. He also shared his insights on the future direction of research and development in this field, highlighting the potential for breakthroughs in materials science and system integration.

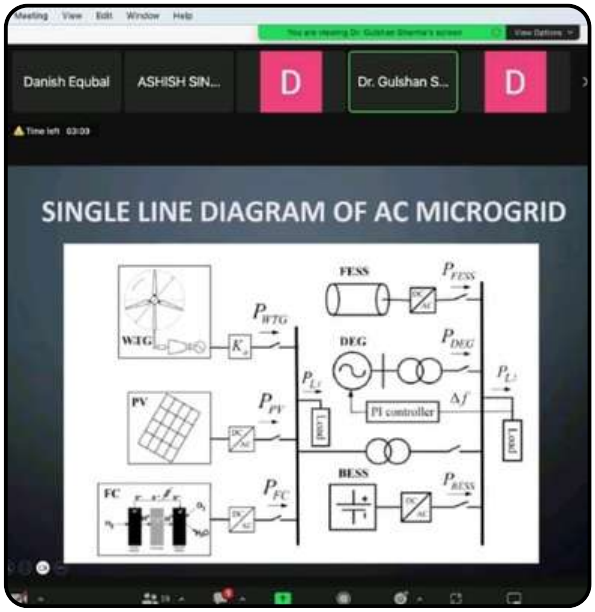


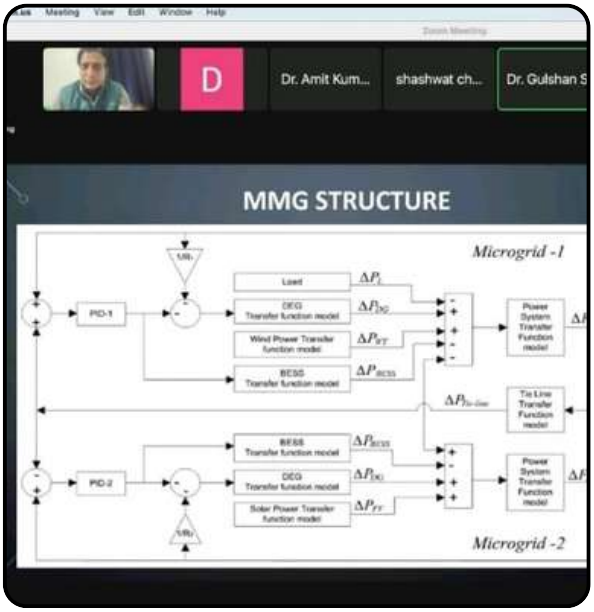
The session concluded with an engaging Q&A segment, where students and faculty had the opportunity to discuss various aspects of energy storage technologies with Dr. Pandey. The lecture was well-received, and attendees gained valuable knowledge on the critical role of energy storage in the transition to a sustainable energy future.

The Electrical Engineering Department and EESA Club extends its heartfelt thanks to Dr. Manoj kumar Pandey for his enlightening presentation and looks forward to organizing more such informative sessions in the future.

THE GUEST LECTURE ON MICROGRID CONCEPT AND ASSOCIATED CONTROL STRATEGIES FOR SMG AND MMG

Speaker Profile: The keynote speaker, Dr. Gulshan Sharma, serves as a Senior Lecturer in the Department of Electrical Engineering Technology at the University of Johannesburg, South Africa. Dr. Sharma's expertise lies in microgrid systems and their control strategies. Microgrid Overview: A microgrid is a self-contained energy system capable of operating autonomously or in conjunction with the main power grid. It encompasses various distributed energy resources (DERs), including solar panels, wind turbines, batteries, and backup generators. Microgrids play a pivotal role in bolstering grid resilience, elevating energy efficiency, and facilitating the integration of renewable energy.





Control strategies for Standalone Microgrids (SMGs) are pivotal as they operate autonomously from the central grid. These strategies focus on:

- The optimal dispatch of power, which ensures the efficient utilization of Distributed Energy Resources (DERs), meets the load demand, and minimizes costs.

Control Strategies for Multi-Microgrids (MMGs): Multi-microgrids link several SMGs, creating an extensive network. The complexities in MMGs involve:

- Synchronizing voltage and frequency across the network of microgrids.
- Managing optimal power flow between individual microgrids and the primary grid.
- Coordinating DERs within the collective microgrids to ensure streamlined operations.

THE EXPERT LECTURE ON POWER SUPPLY DISTRIBUTION IN METRO SYSTEMS:

Speaker Profile: The presentation was delivered by Mr. Anurag Gupta, who holds the position of Assistant Manager in the Traction division at Noida Metro Rail Corporation Ltd.
Overview of Discussion: Mr. Gupta provided an insightful overview of the operational facets of metro rail systems, with a focus on the Noida Metro Rail as a case study.
Topics Addressed: Single Line Diagram: An elucidation of the metro rail network's single line diagram was presented.
Power Supply: The session included a detailed discussion on the power supply mechanisms of metro systems.
- Substation Switchyard: In-depth information was shared about the substation switchyard, a critical component in the power distribution network.

Key Attributes of the Metro Rail Electrical System:
- Redundancy: The electrical system is designed to ensure safety, reliability, and stability of power. To guarantee continuous operation, redundancy is incorporated at every level of the power distribution network.
- Standby Equipment: All stations are equipped with standby generators to support essential services in the event of a normal power supply disruption.

Power Necessities:
The operation of the metro system relies on electricity for a multitude of functions, including the propulsion of trains, station operations (such as lighting, elevators, escalators, signaling, telecommunications, fire safety measures), and the maintenance facilities within the metro premises.

REPORT ON ALUMNI TALK: CAREER OPPORTUNITIES IN THE IT SECTOR

On 30th April, 2024, the Electrical Engineering Club had the privilege of hosting an insightful alumni talk on "Career Opportunities in the IT Sector." The event featured Ms. Aditi Paliwal , a distinguished alumnus of our department who currently serves as a Senior ERP Specialist at NTT Data.

Ms. Paliwal began his talk by sharing his professional journey, emphasizing the importance of continuous learning and adaptability in the ever-evolving IT industry. She highlighted how her background in electrical engineering provided a strong foundation for his transition into the IT sector, showcasing the versatility and broad applicability of engineering skills.

Throughout the session, Ms. Paliwal covered a range of topics, including:

Emerging Trends and Technologies: She discussed the latest advancements in artificial intelligence, machine learning, blockchain, and cloud computing, illustrating how these technologies are shaping the future of the IT landscape.

Skill Set Requirements: Ms.Paliwal outlined the essential technical and soft skills required to succeed in the IT sector. She stressed the importance of proficiency in programming languages, problem-solving abilities, and effective communication skills.

Career Paths and Opportunities: The talk provided an overview of various career paths within the IT industry, such as software development, cybersecurity, data analysis, and IT consulting. Ms.Paliwal also shared insights into the job market, highlighting the high demand for IT professionals and the vast array of opportunities available.

Networking and Professional Growth: Ms. Paliwal emphasized the significance of networking and building professional relationships. She encouraged students to participate in internships, attend industry conferences, and engage in online communities to expand their professional network.

Q&A Session: The talk concluded with an engaging Q&A session, where students had the opportunity to ask Ms. Paliwal questions about his experiences, industry trends, and career advice. The interactive discussion provided valuable insights and personalized guidance for aspiring IT professionals.

The event was a tremendous success, with students leaving inspired and equipped with a better understanding of the IT sector's potential. The Electrical Engineering Club extends its heartfelt gratitude to Ms. Aditi Paliwal for her time and invaluable contributions.

VISIT TO SARVOCH INDIA CORPORATION, BULANDSHAR - 22 DECEMBER, 2023.

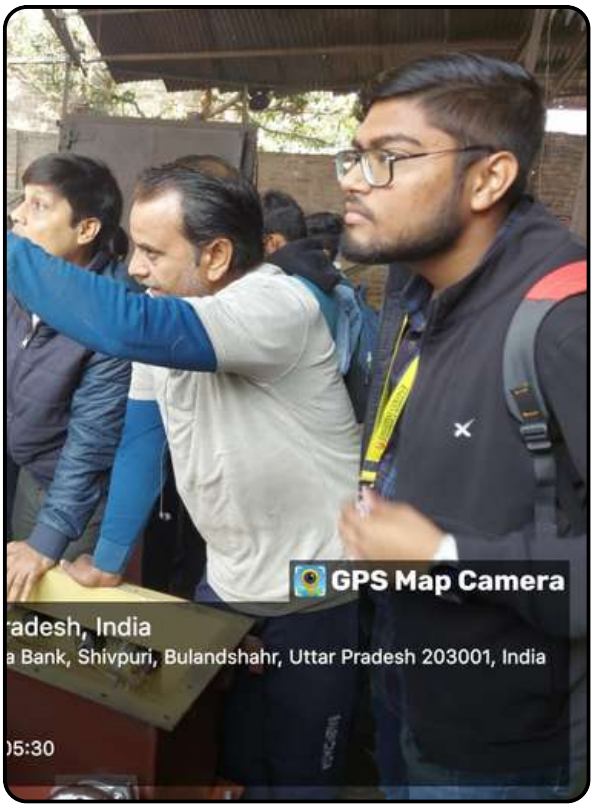
On December 22, 2023, under the expert guidance of Mr. Dinesh Prasad, a distinguished figure in the Electrical Engineering department, the second-year students visited Sarvaoch Pvt Ltd in Bulandshahr, a company that manufactures transformers, isolators, and other essential equipment for power transmission. Guided by Mr. Prasad's profound knowledge, we observed the intricate process of transformer manufacturing. The junior engineers and employees engaged with our queries attentively, providing detailed answers and a comprehensive tour of the facility. The sight of the colossal tanks destined to house the 3-phase transformers was particularly striking. It was a moment of awe to see and touch the structures that, until then, we had only encountered in textbooks.

Every component, from the tank to the insulating oil and the cooling strips, was crafted with meticulous attention to detail. The core manufacturing of the transformer was carried out manually, offering employment opportunities to locals who performed their tasks with commendable dedication, and the winding process was equally impressive.

The coils, which are wrapped around the core, were also crafted by the same hands. As Electrical Engineering students, the concepts we learn from textbooks, which appear straightforward, are in fact quite intricate in practice.

The mathematics, construction, and precision that seem effortless on paper are, in reality, complex and laborious. This realization was both humbling and enlightening. The supervisor was generous and guided us through various products they manufactured, including Isolators and Starters. Mr. Prasad provided us with a wealth of knowledge regarding their operation and applications. He addressed all our questions with patience and allowed us ample time to explore.

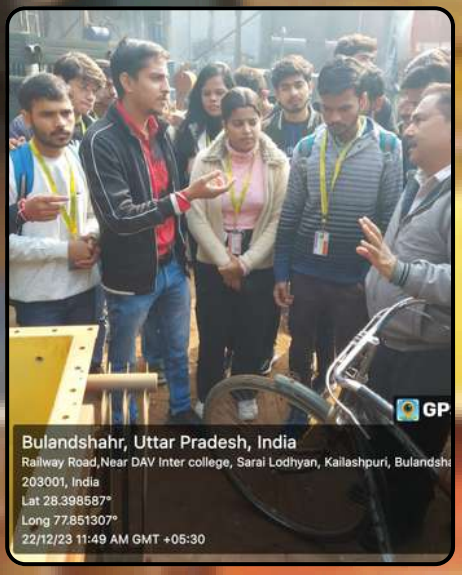
Just when we thought our visit was concluding, we were pleasantly surprised by the senior engineer and owner's presence. They offered insights into the company's market position and engaged us in a discussion about our observations from the visit. Furthermore, they demonstrated the rigorous testing each transformer undergoes before shipment.

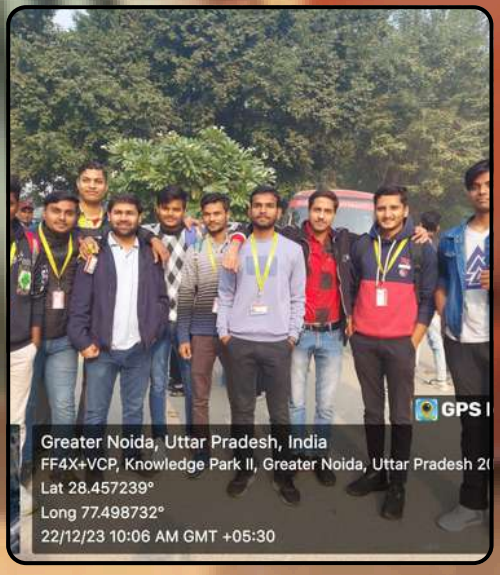


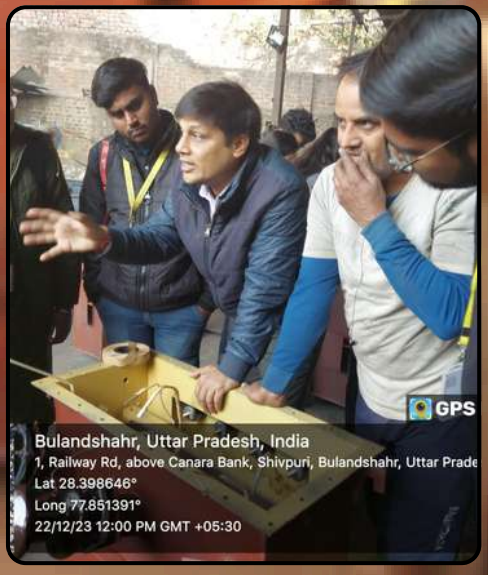
The visit was an overwhelmingly informative and grounding experience.

The trip broadened our perspective and knowledge, and we are thankful to our Head of Department for organizing it. We extend our gratitude to Dinesh for his invaluable guidance and support, which were crucial for the trip's success. Additionally, we appreciate Sarvoach Pvt Ltd for their hospitality and the opportunity to observe some of the finest machinery, as well as for engaging with our interests and questions.

An Enlightening Trip To Bulandshar...







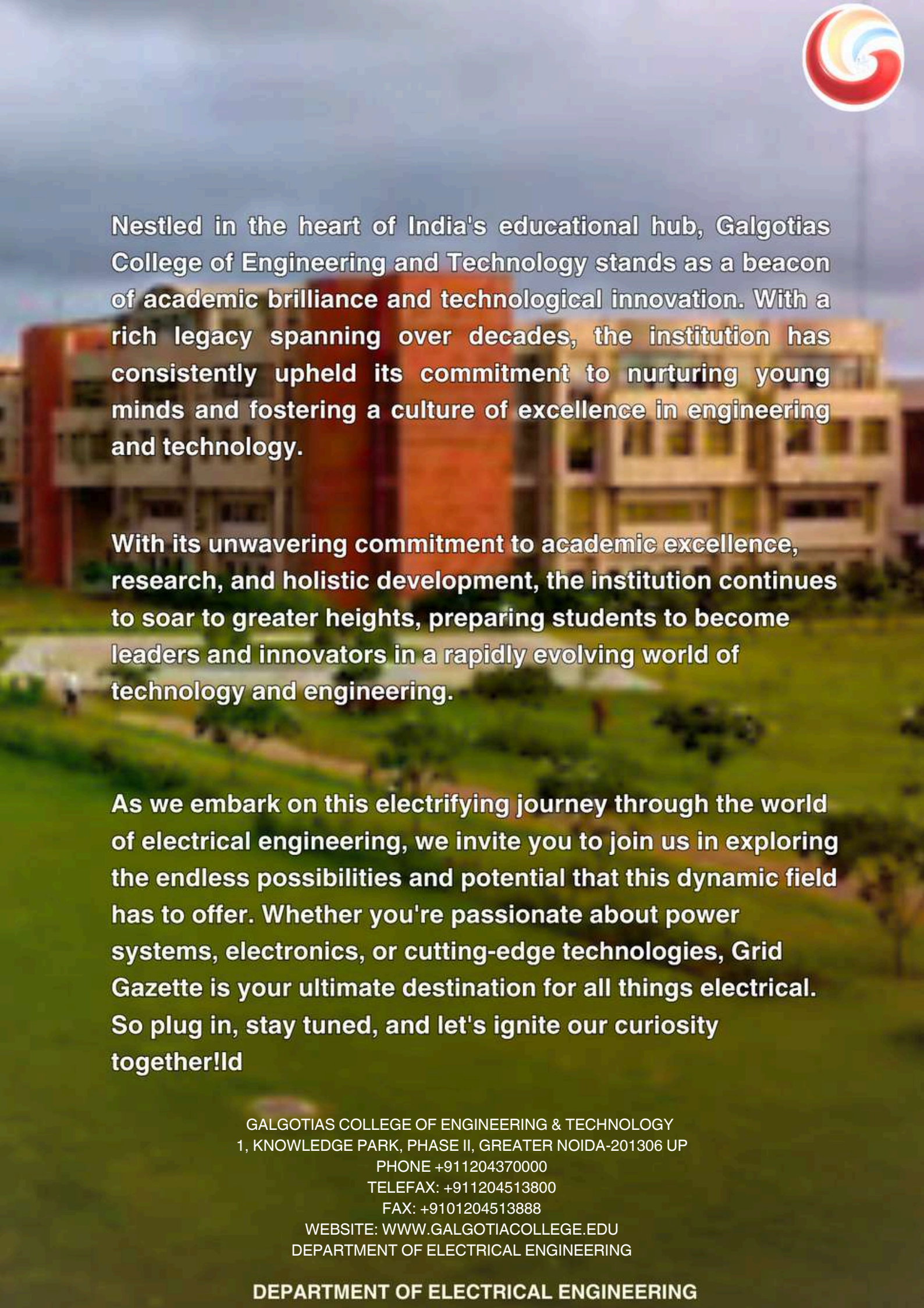
RENEWABLE ENERGY INDIA EXPO OCT2023

The Renewable Energy India Expo, widely known as REI, marked its 16th anniversary of collaboration with the industry in October 2023. REI stands out as Asia's premier B2B expo, offering a comprehensive platform for domestic and international manufacturers, traders, buyers, and professionals within the renewable energy sector. The expo specializes in Solar Energy, Wind Energy, Bio-Energy, Energy Storage, Electric Vehicles, and charging infrastructure. The upcoming 17th edition of the REI Expo, scheduled for September 3-5, 2024, is poised to draw in excess of 800 exhibitors, 40,000 trade visitors, and distinguished policy-makers, decision-makers, influencers, technical experts, and professionals.

Participation in this event presents an unparalleled opportunity to showcase your brand to a vast audience of over 40,000 visitors and more than 700 exhibitors. The REI Expo 2023 is a highly anticipated event, spotlighting the latest innovations in solar, wind, biomass/fuel, energy efficiency, and energy storage within the burgeoning renewable energy sector.

This exclusive exhibition is not merely a platform for networking with top professionals and respected scientists; it is also a gateway to potentially exponential growth for your organization in the fast-growing renewable energy market. Seize this opportunity to invest in the future and play a pivotal role in the renewable energy revolution.

VISIT TO RENEWABLE ENERGY INDIA EXPO



Nestled in the heart of India's educational hub, Galgotias College of Engineering and Technology stands as a beacon of academic brilliance and technological innovation. With a rich legacy spanning over decades, the institution has consistently upheld its commitment to nurturing young minds and fostering a culture of excellence in engineering and technology.

With its unwavering commitment to academic excellence, research, and holistic development, the institution continues to soar to greater heights, preparing students to become leaders and innovators in a rapidly evolving world of technology and engineering.

As we embark on this electrifying journey through the world of electrical engineering, we invite you to join us in exploring the endless possibilities and potential that this dynamic field has to offer. Whether you're passionate about power systems, electronics, or cutting-edge technologies, Grid Gazette is your ultimate destination for all things electrical. So plug in, stay tuned, and let's ignite our curiosity together!ld

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