AUG-SEPT Issue

OORJA

NEWSLETTER OF ELECTRICAL ENGINNERING SOCIETY

THIS ISSUE :

- RECENT INDUSTRIAL VISITS
- TECHNICAL WORKSHOP
- FACULTY DEVELOPMENT PROGRAMME

Objectives of EES

- .To reintroduce IEEE (Institute of electrical and electronic engineers) paper (which is a platform for EE and EC research field)
- To create an online platform to connect the whole-department.
- To launch technical subject's notes that will accessible to all.
- To maintain and run a Departmental Library.
- To launch E-magazine of the electrical engineering department.
- To build up Alumni & college relation strong.
- To conduct workshops to provide practical knowledge

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"Exploring the industries"

Lucknow Metro Rail Corporation(LMRC) visit for III year student

August 09, 2019

Lucknow Metro is a rapid transit system serving the city of Lucknow in the Indian state, Uttar Pradesh. Construction of the line begun on 27 September 2014 with the 8.5 km (5.3 mi) stretch from Transport Nagar to Charbagh Railway Station which began its commercial operation on **5 September 2017**, making it the fastest built metro rail system in the country.

The Lucknow metro cover a distance of 22.87 km with 22 stations. It is the eighth longest operational metro network in India After the Delhi Metro, Hyderabad Metro, Chennai Metro, NammaMetro,Noida Metro, Kolkata Metro and Kochi Metro

On **9th August 2019**, **Electrical Engineering Society** conducted a one-day industrial visit to Lucknow Metro Rail Corporation(LMRC) for the third-year students. Students went to **Transport Nagar metro station** where they visited **Auxiliary Substation**, they also visited Transport Nagar Depot, where engineers work on pre-engineered of sheds and make them track ready.

Training at Larsen and Turbo(L&T) for final year students

August 27, 2019

A **one-day industrial training** was organised for the final year students by the department and society on **27 August 2019**. The training was organised on the topic **"Industrial Communication & Integrating Smart Switchgear"** at the L&T Switchgear Training Centre in Lucknow.

The students got to know about the basics of communication in respect of **smart switchgear**and also learned about **wireless communication** in the field. Students were enlightened by the knowledge of **Modbus** and its variants of **Modbus RTU and Modbus TCP/IP, Profibus and various wireless communication systems** that are being used in industries nowadays. Also, they got to set up communication in switchgear practically in the hands-on workshop.

Lucknow Metro Rail Corporation(LMRC) visit for III year student

September 06, 2019

Serving the Lucknow Metropolitan as one of the most economically viable and highly efficient rapid transit system, the **Lucknow Metro Rail Corporation** boasts of being the fastest built metro rail system in the country. LMRC spans over a distance of 22.87 kms and covers 22 stations during the process.

LMRC on 5th of September, 2019, observed its **2nd anniversary** and on this occasion, hosted a technical exhibition at the **Sachivalaya Metro Station** for which, students from various schools and colleges were invited. We take great pride in declaring that, the **Electrical Engineering Society (EES)** also took part in observing this momentous occasion and about 20 students from the third year visited the exhibition on the 6th of September where they got to know vividly about the coming of age of the Lucknow Metro system.

Training at Larsen and Turbo(L&T) for third year students

September 09,2019

A **one-day industrial training** was organised for the final year students by the department and society from 7th to 9th September 2019.. The training was organised on the topic **"Industrial Communication & Integrating Smart Switchgear"** at the L&T Switchgear Training Centre in Lucknow.

Larsen & Toubro Limited, commonly known as L&T Limited is an Indian multinational conglomerate company headquartered in **Mumbai, Maharashtra**, India.
The students got to know about the basics of communication in respect of **smart switchgear**and also learned about **wireless communication** in the field. Students were enlightened by the knowledge of **Modbus** and its variants of **Modbus RTU and Modbus TCP/IP, Profibus and various wireless communication systems** that are being used in industries nowadays. Also, they got to set up communication in switchgear practically in the

"Being technically Sound"

Faculty Development Programme on Smart Grid and Automation

August 01,2019

Department of Electrical Engineering, Institute of Engineering & Technology, Lucknow (An Autonomous Constituent College of Dr. APJ Abdul Kalam Technical University, Lucknow) was organizing AKTU-AICTE Sponsored 05-Day Faculty Development Programme (FDP) on "Smart Grid & Automation" from 27th to 31st July, 2019. The FDP was designed to bring together under the same canopy the researchers, academia and industry from different parts of the country for exchanging and sharing the recent developments in the field of Smart-Grid & Automation.Smart Grid will act as a backbone infrastructure to enable new business models like smart city, electric vehicles, smart communities apart from more resilient and efficient energy system and tariff structures. The programme envisages providing the detail understanding of the smart grid concepts.

Workshop on Recent Aspects of Power System Optimization

August 31,2019

The workshop was directly aimed at introducing the audience to the advanced tools that are recently being implemented in the field of Electrical Engineering. While the workshop was open to all, the primary intended audience consists of junior faculty and research scholars. At the end of an intensive two-day workshop that includes hands-on demos and a panel discussion, the participants who were aspiring to become researchers were familiar with the research challenges in the broad areas of learning and control, and the recommended reading list to reach the cutting edge of research.

Workshop on Component count waned MLI Topologies

August 5,2019

A one-day workshop class was conducted jointly by Electrical Engineering Department, IET Lucknow and Pondicherry Engineering College on the topic of “Component count waned MLI Topologies”. The lecture session was headed by Prof. Dr. S. Jeevananthan, EEE Department, Pondicherry Engineering College. The participants who were aspiring to learn the research challenges in the broad areas of learning and MLI topologies were highly benefitted from this session.

Workshop on Power System Operations and Control and Scope of Soft Computing

August 5,2019

A one-day workshop class was conducted jointly by Electrical Engineering Department, IET Lucknow and Pondicherry Engineering College on the topic of “Power System Operation and Control and scope of Soft Computing”. The lecture session was headed by Prof. Dr. M. Sudhakaran, EEE Department, Pondicherry Engineering College. The participants who were aspiring to learn the research challenges in the broad areas of learning and power system operations and control were highly benefitted from this session.The students were exposed to the vast knowledge in the advanced field of soft computing.

Why we prefer DC Power Transmission?

Generally we use “*Transmission*” word to understand that electrical energy is transferred from generating station to sub stations either towards consumers.In DC transmission line, the mercury arc rectifier converts the AC current into DC. After that the DC transmission line transmits the bulk power over long distance & at the end of line the DC current converts into AC current using Thyratron.

Advantages-

- DC transmission lines uses 2 conductors for power transmission.
- These transmission lines are free from Inductance & Surges.
- Due to free of Inductance, No voltage drop occurs across the line.
- The phenomenon of skin effect is completely absent in the DC transmission line.
- DC line requires the less insulation as compared to AC because DC transmission line has less stress.
- The communication line interference is less in DC lines.
- The dielectric loss not occurs in DC transmission lines.
- There is no requirement of transformer in DC transmission line.

Disadvantages-

- Generation of power at High DC Voltages is difficult due to commutation problems & cannot be usefully utilized at consumer ends.
- Protection system are more costly as compare to AC transmission system.
- Step up or Step down transformation of dc voltages is not possible in equipment like transformer.

Shivam Kumar
Electrical Engineering
2nd year (Lateral Entry)

Picture Gallery