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ಶರಣಬಸವ Sharnbasva ವಿಶ್ವವಿದ್ಯಾಲಯ University
ಕಲಬುರಗಿ – ೫೮೫ ೧೦೩ KALABURAGI - 585 103
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FACULTY OF ENGINEERING & TECHNOLOGY (CO-EDUCATION)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

REPORT ON

"Industrial Visit to 220 kV Receiving Sub-Station, Kapanoor, Kalaburagi"

1. TITLE: Industrial Visit to 220 kV Receiving Sub-Station, Kapanoor, Kalaburagi dated on 01-12-2022.

Organized for: 1st Year Electrical and Electronics Engineering Students
Faculty Members Present: Prof. Prashant Kumar S Chinamalli, Prof. Jyoti,Prof. Anilkumar

2. INTRODUCTION: An industrial visit was organized for the 1st-year students of the Electrical and Electronics Engineering Department to the 220 kV Receiving Sub-Station, Kapanoor, Kalaburagi, on 1st December 2022. The visit aimed to provide students with practical exposure to the functioning and operations of a high-voltage substation, bridging the gap between theoretical concepts and real-world applications.

3. OBJECTIVE OF THE VISIT: The primary objective of the visit was to understand the working principles, equipment, and operational aspects of a 220 kV receiving substation. The visit also helped students gain insights into power transmission, distribution, and safety protocols followed in a high-voltage environment

4.. OVERVIEW OF 220 KV RECEIVING SUB-STATION, KAPANOOR:

During the visit, a detailed description of the substation was provided by the department officials:

- **Smt. Renuka, Assistant Executive Engineer**
- **Sri Siddaraj Mudbi, Assistant Engineer**
- **Sri Krantiraj, Assistant Engineer**
- Along with their team of subordinates

They explained the various components and their functions within the substation, including:

Key Components of the Substation:

- **Power Transformers:** Used to step down voltage levels for distribution.
- **Circuit Breakers:** Essential for interrupting fault currents and ensuring system protection.
- **Current and Potential Transformers:** Used for measurement and protection purposes.
- **Busbars:** Conductors that distribute electricity from the incoming transmission lines to outgoing feeders.
- **Isolators and Lightning Arresters:** Ensure safe maintenance operations and protection against surges.
- **Control and Relay Panels:** Monitor and control the electrical network.

5. LEARNING OUTCOMES:

The students gained valuable knowledge regarding:

- The role of a 220 kV substation in the power transmission and distribution network.
- Different types of equipment used in high-voltage substations and their functions.
- The importance of relay protection and fault detection systems.
- Safety measures and standard operating procedures followed in a substation.
- The practical aspects of grid connectivity and load management

6. CONCLUSION: The industrial visit to the 220 kV Receiving Sub-Station, Kapanoor, was a highly informative and enriching experience for the students. It provided them with practical exposure to power systems and transmission networks. The students interacted with the engineers, gaining real-time insights into the challenges and operational aspects of a high-voltage substation. The visit successfully fulfilled its objective of bridging the gap between theoretical knowledge and practical application.

The faculty members extended their gratitude to the officials of the substation for their valuable time and detailed explanations, which greatly enhanced the learning experience of the students.

5. GLIMPSES OF THE VISIT: