Diwaliba Polytechnic, Mahuva

Report of **"Industrial Visit at Shree Mahuva Pradesh Sahakari Khand Udhyog Mandli"**

A. Personal Details:

Name of Coordinators:	Nitiksha Pancholi Pratik Gamit			**Date of Visit:**	02/03/2023
Place:	P.O. Sugar Factory, Bamania, Tal. Mahuva, Dist. Surat Gujarat – 394 246.			**Organized by:**	Electrical Department
Participants:	DP: Boys Students: 7	CGPIT: Boys Students: 7	Total Boys Students: 14	**Mentor:**	Deepak Patel (Safety Officer)

B. Industry Profile:

Mahuva Sugar factory is a Co-operative Society registered in the year 1974, under the Gujarat State Co-operative Act, 1961 having Registration No. SE-29. Plant is situated at village Bamania, Tal. Mahuva on the State Highway No. 165 & 25 Kms. away from Bardoli & 60 Kms. from Surat city. Surrounding area falls in the foot hills of Dang's forest. Majority of farmer members are from very weaker section namely backwards, Adivasis and small marginal farmers having small land holding.

Initial crushing capacity of the plant was 1250 TCD & Commercial production started from season 1980-81. Within short span of time, the capacity was expanded to 2000 M.T. from the crushing season 1983-1984. Further, it was increased to 3500 M.T. from the season 1991-92. We have also installed Distillery with a capacity of 35 KLPD in season 2003-04.

No. of villages in area of operation : 360 villages

No. of Tehsils (Talukas) in area of operation : 11 Tehsils (Talukas)

No. of members: S.C. 330, S.T. 6585, Others 13009, Total 19924

C. Purpose of Industry Visit:

Visiting a sugar factory can be an excellent opportunity for an electrical engineer to gain practical knowledge and experience in the field of power generation, transmission, and distribution. Here are some of the reasons why visiting a sugar factory can be important for an electrical engineer:

1. Understanding the power generation process: Sugar factories usually have their power generation units, which use various types of fuel to generate electricity. Visiting a sugar factory can help an electrical engineer understand the power generation process and the various components involved, such as turbines, boilers, generators, and transformers.

2. Exposure to different types of electrical equipment: Sugar factories have a variety of electrical equipment, such as motors, pumps, switchgear, and control systems. An electrical engineer can learn about the different types of equipment, their functions, and how they operate.

3. Practical knowledge of electrical safety: Electrical safety is of paramount importance in any industry, and sugar factories are no exception. During the visit, an electrical engineer can learn about the safety protocols, protective equipment, and emergency procedures implemented in the factory.

4. Exposure to renewable energy sources: Some sugar factories also use renewable energy sources such as biomass and bagasse to generate electricity. Visiting such factories can provide an electrical engineer with exposure to renewable energy technologies and their integration with conventional power systems.

5. Networking opportunities: Visiting a sugar factory can also provide an opportunity to network with industry professionals and exchange knowledge and ideas.

In summary, visiting a sugar factory can be an excellent opportunity for an electrical engineer to gain practical knowledge and experience in the field of power generation and distribution, electrical safety, exposure to renewable energy sources, and networking with industry professionals.

D. Activities Carried Out:

The following activities are carried out during an industrial visit to a sugar factory:

1. Understanding the power generation process: The first activity is to understand the power generation process, the types of fuels used, and the various components involved in the process. This can be achieved through a guided tour of the power plant and interactions with the plant operators and engineers.
2. Familiarizing with the electrical equipment: The second activity is to familiarize with the various electrical equipment used in the sugar factory, including motors, pumps, and switchgear, transformers, and control systems. As an electrical engineer we observed the operation of these equipment and gain knowledge about their maintenance and troubleshooting.

3. Understanding the electrical safety protocols: The third activity is to understand the electrical safety protocols implemented in the sugar factory. As an electrical engineer we learned about the safety measures taken to prevent electrical hazards, protective equipment used by the workers, and emergency procedures in case of an accident.
4. Learning about renewable energy sources: Some sugar factories generate electricity from renewable sources such as biomass and bagasse. As an electrical engineer we learned about these renewable energy sources and their integration with the conventional power system.
5. Observing maintenance and repair work: During the visit, as an electrical engineer we observed the maintenance and repair work being carried out on the electrical equipment. This can provide insights into the challenges faced by the maintenance team and the methods used to troubleshoot and fix electrical problems.

In conclusion, an industrial visit to a sugar factory can provide an excellent opportunity for an electrical engineer to gain practical knowledge and experience in the field of power generation and distribution, electrical safety, exposure to renewable energy sources, and networking with industry professionals.

E. Outcome of Industrial Visit:

An industrial visit to a sugar factory have several outcomes for an electrical engineering student, including:

1. Practical knowledge and experience: Industrial visits provide an opportunity to observe and learn about real-world applications of electrical engineering concepts and theories. Students can gain practical knowledge and experience by seeing the equipment and systems in operation, which can enhance their understanding of the coursework.
2. Exposure to new technologies: Sugar factories often use the latest technologies to optimize their power generation and distribution systems. An industrial visit can expose an electrical engineering student to new technologies, such as renewable energy sources and energy-efficient equipment, which can broaden their knowledge and inspire new ideas.
3. Improved problem-solving skills: Observing maintenance and repair work can help an electrical engineering student develop better problem-solving skills. By seeing how professionals troubleshoot and fix electrical problems, an electrical engineering student can learn new techniques and apply them to their own work.
4. Increased safety awareness: Electrical safety is critical in any industry, and industrial visits can help raise awareness of potential hazards and safety protocols. An electrical engineering student can learn about the safety measures implemented in the sugar factory and apply them to their own work.

5. Networking opportunities: Industrial visits provide an opportunity to network with industry professionals, which can lead to internships, career opportunities, and professional relationships. An electrical engineering student can exchange knowledge and ideas with other professionals, build contacts, and explore future career prospects.

In conclusion, an industrial visit to a sugar factory can provide several outcomes for an electrical engineering student, including practical knowledge and experience, exposure to new technologies, improved problem-solving skills, increased safety awareness, and networking opportunities. These outcomes can help an electrical engineering student become a better-rounded professional and prepare them for their future career.

F. Some Glances of the Industrial Visit: