Visit Report: Chemical Society of Institute of Science Nagpur to IBM Nagpur

Date: 26th September. 2023

Location: IBM Nagpur, Nagpur, India

Chemical Society of Institute of Science, Nagpur organized one day visit to the Indian bureau of mines IBM, Nagpur on Tuesday 26th September 2023 under the guidance of Dr Ashok kalambe ,Dr. Naqui siddhique , and Dr. Sugan Jadhao.

The visit aimed to provide students with valuable insights into various analytical instruments and processes used in the field of chemistry.

Students arrived at IBM at 11.30 Am under the supervision of chemical society president Mr. Sushant Rathod and secretary Ms.Monali Batki. Initially they entered into the conference hall where the AV of the infrastructure of IBM and working machineries where shown to the students. Then HO of the IBM addressed the students. And told some information about IBM. And student got to know that IBM is the Asia's largest plant of mineralogy. Then students were divided into the two batches. One batch moved to see the mineralogy lab and second one moved to see the chemical lab.


During the visit, students had the opportunity to explore two key laboratories, namely the Mineralogy Lab and the Chemical Laboratory, and gain knowledge about Atomic Emission Spectrometer, Flame Photometer, UV Spectrophotometer, and observe the Mineralogy Plant. **Lab 1: Mineralogy Lab**

The first part of the visit took place in the Mineralogy Lab. Students were introduced to the fascinating world of mineralogy and its importance in various scientific disciplines. The following highlights the key aspects of the visit to the Mineralogy Lab:

1. **Atomic Emission Spectrometer (AES):**

- Students were given a detailed explanation of the Atomic Emission Spectrometer.
- They learned how this instrument is used to determine the elemental composition of various substances based on the emission of characteristic wavelengths of light.
- A live demonstration showcased the instrument's capabilities, providing a hands-on learning experience.

2. **Flame Photometer:**

- The Flame Photometer was another instrument discussed in the Mineralogy Lab.
- Students gained insights into its application in the analysis of alkali and alkaline earth metals through the measurement of emitted light.
- Practical demonstrations helped students understand the functioning of the Flame Photometer. **Lab 2: Chemical Laboratory**

The second part of the visit occurred in the Chemical Laboratory, where students were introduced to advanced analytical techniques. The key highlights include:

1. **UV Spectrophotometer:**

 - Students received a comprehensive overview of UV Spectrophotometry.

 - They learned about the principles behind UV absorption spectroscopy and its applications in quantitative analysis.

- Practical exercises allowed students to operate the UV Spectrophotometer, measure sample absorbance, and interpret the obtained data.

Mineralogy Plant:

Following the laboratory visits, the group had the privilege of visiting the Mineralogy Plant. Here, students observed the processing and handling of minerals. They learned about the industrial applications of mineralogy and how minerals are extracted and refined for various purposes. Lastly student again enter done to the conference hall for the refreshment. Afterwards vote of thanks were given by the Mr. Rohit Chanorkar, M.Sc. II

Conclusion:

The visit of the Chemical Society of Institute of Science Nagpur to IBM Nagpur was an enlightening experience for the participating students. It provided them with valuable insights into the world of analytical chemistry and mineralogy. Through hands-on experiences and informative demonstrations, students gained practical knowledge about Atomic Emission Spectrometry, Flame Photometry, UV Spectrophotometry, and the industrial processes involved in mineralogy. This visit served as an enriching educational opportunity, fostering a deeper appreciation for the field of chemistry among the students.