CENTRE OF EXCELLENCE

One-Day Educational Visit to Shoolini University
Under DBT Star College Scheme

A Detailed Report

Organized by: Centre of Excellence (COE), Sanjauli

Date of Visit: JULY 29 -2025

Location: Shoolini University, Solan, Himachal Pradesh

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Student of: BSc 2nd year

Objective of the Visit

The objective of this educational trip was to provide students with practical exposure to advanced laboratory techniques, modern scientific instruments, and research practices. It aimed to bridge the gap between classroom learning and real-world scientific applications by exploring different labs and interacting with research scholars and professors at Shoolini University.

Journey and Accompanying Faculty

The number of participating students from Chemistry department, COE Sanjauli were 14. Besides this student from other departments also participated in it. All students- maintained discipline and showed active interest throughout the visit.

Students of COE Sanjauli assembled at the college campus by 7:30 AM, and the journey to Shoolini University commenced at 8:00 AM in two buses arranged by the college. The travel was filled with enthusiasm, with students enjoying music and group activities

The educational trip was guided by respected faculty members.

- **Mrs. Rita Chandel, Assistant Professor of Chemistry**
- **Dr. Sushil Sharma, Assistant Professor of Botany**
- **Dr. Narendra, Assistant Professor of Physics**
- **Miss Sarla Thakur, Assistant Professor of Zoology**

Their supportive presence and academic guidance added great value to the overall experience.

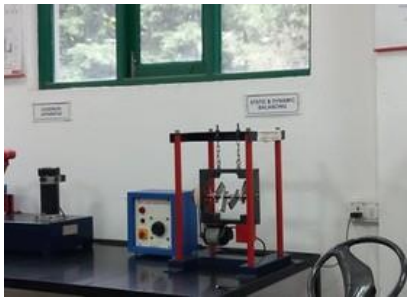
Welcome and Introductory Session

The group reached Shoolini University at 11:00 AM, where faculty members extended a warm welcome. After a brief breakfast break, Dr. Pawan Kumar delivered an informative session highlighting the university's vision, infrastructure, and a wide range of academic programs, including undergraduate, postgraduate.

Following this, Mr. Ram Prasad Dhakar, a PhD scholar from Assam, presented his research on monitoring blood glucose levels using sensor technology. His session was intellectually stimulating and provided valuable insights into real-time biomedical applications.

Laboratory Visits and Instrument Demonstrations

Students were divided into three groups to visit different laboratories across the university. Each lab offered hands-on demonstrations and professional explanations of key instruments and their real-world applications.



1. Automobile Engine Lab

In this lab, the faculty explained mechanical systems such as :

- **Static and Dynamic Balancing Apparatus – for understanding engine balance.**
- **Slip and Creep Measuring Apparatus – to study tyre - road interactions.**
- **Motorized Gyroscope – demonstrated gyroscopic effects in vehicles.**

2. Fluid Mechanics Lab

Students observed several fluid dynamics experiments including:

- **Metacentric Height Apparatus – used to study the stability of floating bodies like ships.**
- **Reynolds Apparatus – used to demonstrate laminar and turbulent flow.**
- **Venturimeter – applied to measure flow rate in pipelines.**

3. Survey Lab

The lab demonstrated tools essential for civil and geographical surveys:

- **Total Station – an electronic instrument for precise land surveying.**
- **Dumpy Level – used to measure elevation and height differences.**

4. Electronics Lab

Key concepts in electronics were explained using:

- **Cathode Ray Oscilloscope (CRO) – to visualize and measure electronic waveforms.**

Faculty members also shared motivational principles known as the "Triple D" – Dedication, Discipline, and Determination – and the "WHW" – Why, HOW, and Where, emphasizing the importance of purpose and planning in a student's academic journey.

5. Nanotechnology Lab

This lab focused on nano-scale synthesis and measurement:

- **Hydrothermal Apparatus – used for the preparation of nano-materials under high pressure and temperature.**
- **Digital Weighing Machine – for precision measurement of small quantities.**

6. Physics Dark Room

With in the darkroom, two important optical experiments were demonstrated:

- **Spectrometer – for measuring properties of light and optical materials.**
- **Newton's Rings – to study interference patterns and wavelength measurements.**

7. Chemistry Lab

The chemistry faculty explained and demonstrated:

- **Conductivity Meter – for measuring ionic conductivity in solutions.**
- **Polarimeter – used to measure optical rotation of optically active substances like sugar solutions.**

Post-Lunch Seminar and Conclusion Session

After lunch, students attended a seminar on Artificial Intelligence held in the university's seminar hall. The session covered the foundations and applications of AI in fields such as data science, healthcare, and automation. It proved to be intellectually stimulating and broadened students' understanding of modern technological advancements.
A photo session was organized afterward to commemorate the visit. At 5:00 PM, the students and faculty departed for Shimla, concluding a well-planned and fruitful academic journey.

Conclusion

The industrial visit to Shoolini University proves to be a highly beneficial experience for the chemistry students. It enhanced their understanding of theoretical concepts through practical exposure and inspired them to pursue further studies and careers in the field of chemical sciences.