Institutional/Industrial Visit to Shoolini University of Biotechnology: A Report
July, 29, 2025

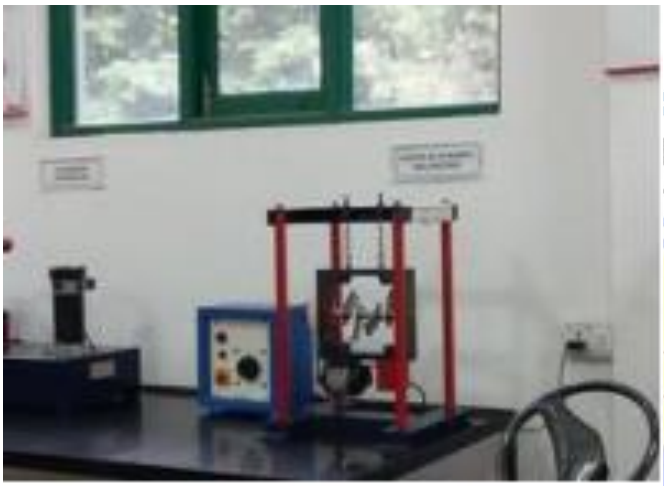
The Faculty of Science, under the DBT Star College Scheme, organized an industrial/institutional visit on July 29, 2025. A total of 72 students from various streams participated, including 14 students from the Department of Physics. The objective of this educational trip was to provide students with 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.

All, the 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 under DBT Star College Scheme. The travel was filled with enthusiasm, with students enjoying music and group activities This institutional visit was accompanied 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.

The group reached Shoolini University at 11:00 AM, where faculty members extended a warm welcome. After a brief breakfast break**, Dr. Pawan Kumar,** from school of Physics 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. This was followed by 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 all 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.

The visit was efficiently coordinated by Dr. Kirti Singha, Programme Coordinator, DBT Star College Scheme.

Report edited and submitted by: Dr. Kirti Singha (HOD) Physics & Coordinator DBT Star College Scheme