INTEGRAL UNIVERSITY

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Department of Biosciences organized a one-day educational visit to “Birbal Sahni Institute of Palaeosciences, BSIP”

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DEPARTMENT OF BIOSCIENCES

REPORT

EDUCATIONAL VISIT

To

BIRBAL SAHNI INSTITUTE OF PALAEOSCIENCES (BSIP), LUCKNOW, INDIA

The Department of Biosciences organized a one-day educational visit to “**Birbal Sahni Institute of Palaeosciences (BSIP)**” on 21st April, 2025. A group of 47 students (B.Sc. ZBC and B.Sc. LS, 1st and 2nd year) and faculty members **Dr. Nilofer, Dr. Swati Sharma, Dr. Taiba Saeed and Dr. Shahida Hamid** visited a prestigious and premier research institute dedicated to Palaeosciences and allied sciences. The visit aimed to provide insight into the ancient history of life on earth through the study of fossils and to understand the modern scientific techniques used in palaeosciences research.

Birbal Sahni Institute of Palaeosciences was established in 1946 and named after the eminent Indian paleobotanist **Prof. Birbal Sahni**. BSIP plays a crucial role in exploring Earth’s biological and geological past. The institute was renowned for its extensive fossil collections and cutting-edge research facilities.

During the visit, students were introduced to the **fossil repository** which houses an impressive collection of plant and microfossils from various geological periods. The fossils are preserved and catalogued for research purposes and include specimens from back to the Pre-Cambrian era. The curators explained how fossils provide crucial evidence for understanding ancient ecosystems, climatic changes and the evolution of life. One of the most fascinating parts of the visit was the demonstration of the **Scanning Electron Microscope (SEM)**. This powerful tool allows us to study the minute details of fossil structures at a microscopic level. The SEM lab showcased how it is used to examine the fossils, which are not visible through light microscopy. The institute also demonstrated how **radiocarbon dating** is used to estimate the age of organic materials. This technique is essential for dating fossils and archeological specimens up to around 50,000 years old. The scientists explained the principles behind Carbon decay, sample preparation and calibration of results. Scientists also demonstrated how ancient plants and animals, and their body parts are preserved in amber. **Amber** preserves plants and animals by trapping them in hardened tree resin. The resin acts as a natural embalming agent, preventing decay and allowing for exceptional preservation of the trapped organisms. The process involves a sticky resin oozing from trees, catching small creatures or plant matter, and then hardening into amber over time.

The educational visit aimed to bridge the gap between translation of latest advancements in research from Bench to Bedside by highlighting the importance of fossils to study the geological time scale as well as the origin of life on earth and its transition from time to time.

Glimpses of the visit to Birbal Sahni Institute of Palaeosciences, Lucknow by the students and faculty members of the Department of Biosciences.

Best Regards
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