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Dhempe College of Arts and Science, Miramar, Goa

DEPARTMENT OF BIOTECHNOLOGY

Visit to BITS Pilani K K Birla Goa Campus

On November 6, 2023, the 39 students of FY and TY B.Sc. (Hons.) Biotechnology of Dhempe College of Arts and Science embarked on a visit to the BITS Pilani K K Birla Goa Campus in Vasco. This special visit marked the 20th anniversary of BITS' excellence in education, and it was an educational adventure the students and faculty members would treasure forever. Faculty members of the department Dr. Niyati Hede, Dr. Amara Begum Mulla, Ms. Gauri Silimkhan, Ms. Pratibha Tripathi, and Ms. Rashvita Mayekar accompanied the students to the visit.

The event consisted of impressive poster presentations showcasing various research projects of the different academic departments at BITS. From biological sciences and physics to chemistry, humanities, and mathematics, the students and teachers had the opportunity to interact with faculty members and students involved in cutting-edge research. It was a platform for knowledge exchange and networking, opening doors to the world of scientific exploration.

One highlight of the visit was the Inter Domain Project Exhibition, organized by the Department of Biological Sciences. The event provided a platform for our students to gain valuable insights into the forefront of scientific research. The biological sciences division showcased different aspects of study, ranging from cancer research, antibiotic resistance, bioremediation to in silico work such as computational biology and cognitive neuroscience. Notably, the students were able to engage with PhD scholars and students, as well as interact with esteemed faculty members to delve deeper into their areas of interest. The event's lively, enthusiastic and motivational atmosphere succeeded in planting the seed of inspiration to pursue the field of research in the young minds of the students.

What captured everyone's attention were the innovative projects within the Cancer Biology Domain. Researchers were exploring the use of a malarial drug to treat human breast cancer cells, and another group was fighting antibiotic resistance using bacteriophage and *Staphylococcus aureus* proteins. In the Microbiology Domain, the plaque assay and blue-white screening technique for identifying recombinant bacteria were equally captivating. Additionally, the study of tyre-degrading bacteria and fungi was quite interesting.

The computational biology and neuroscience projects addressed the challenges of dementia and Alzheimer's patients, led by the Structural and Computational Biology Domain. The utilization of 3D bio-printing technology for drug delivery and skin cell culture, driven by stem cell techniques, showcased the remarkable potential of modern science. The Plant Biotechnology Domain explored topics such as the impact of abiotic stress on rice varieties and the significance of bioactive compounds isolated from mangroves. Lastly, the environmental and bio-engineering domain highlighted different projects about water sanitation and hygiene, fecal sludge management and environmental surveillance. This division also highlighted the importance of pigments associated with halophiles. This immersive experience broadened their horizons, providing a deeper understanding of the academic and research environment at BITS Pilani Goa Campus.

There were numerous exhibits displayed at the Department of Chemistry of BITS Pilani, Goa. They had put up various experiments on display and a poster supporting it.

Some experiments were based on the use of indicators, the redox reactions centered around it, oxidation states and their colors namely Methylene blue, bromocresol, Potassium permanganate. One of the exhibits focused on nanomaterials and photophysical-photochemical reactions, while another was based on the Nobel Prize-winning topic 'Quantum dots', another experiment threw light on fluorescence seen in the compounds. Clock reaction was also on display. Some experiments had interesting names like Traffic lights, Colour changing Lava, Lava lamp, Changing blue etc. One particular exhibit was about computational Chemistry wherein the bond energies, bond lengths, stability of molecules were studied with the help of a software.

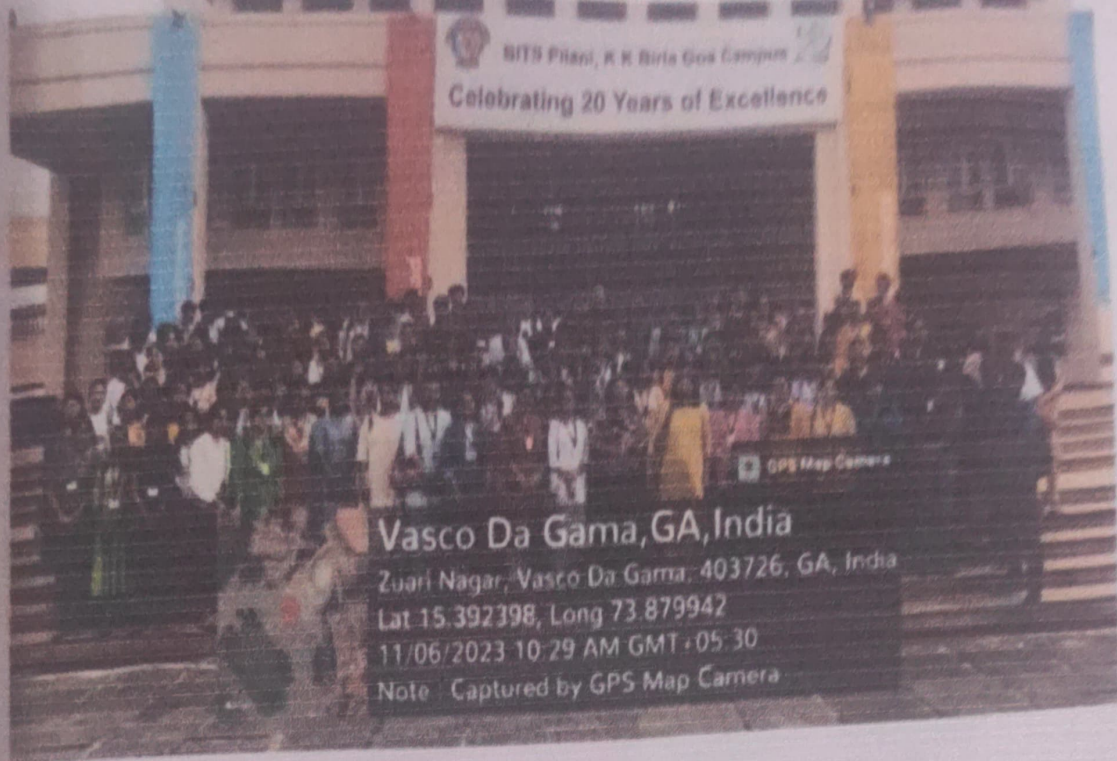
Beyond the research presentations, the students had the unique opportunity to experience the campus culture, explore departmental facilities, visit library and engage with master's students. This visit was an important milestone in their academic journey, and it will undoubtedly shape their future aspirations.

V. S. Phadke
Principal

Deemed to be University
Department of Chemistry
College of Arts & Sciences
BITS Pilani - Goa Campus

M. Mrunal Phadke
Mrs Mrunal Phadke

Department-in charge



Borger

Principal

Bempe Charities Trust

Bempe College of Arts & Science

Parali - Goa

Phadke

Mrs Mrunal Phadke

Department-In charge