Report on Instrument Training Program

Organized by:

Shree Naranjibhai Lalbhai Patel College of Pharmacy, Umrakh

Name of the Event: Instrument Training Program

Participants: 7th Semester B.Pharm Students

Dates: 05 August 2026 to 13 August 2026

Coordinators: Mr. Yash D. Dudhwala and Mr. Lalit Chaudhary

Principal: Dr. Ketan V. Shah

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1 INTRODUCTION

Shree Naranjibhai Lalbhai Patel College of Pharmacy organized an **Instrument Training Program for 7th Semester B.Pharm. students from 05 August 2026 to 13 August 2026**. The programme was organized to provide students with practical exposure to various pharmaceutical, analytical and research instruments available in different departments of the institute.

The students were divided into **four batches - Batch A, Batch B, Batch C and Batch D**—and were rotated through the Departments of **Pharmaceutics, Pharmacology, Quality Assurance and Pharmacognosy** according to a predefined schedule. Each session commenced at **1:00 PM after the lunch break**.

2 OBJECTIVES

The Instrument Training Program was organized with the objectives of familiarizing students with important pharmaceutical and analytical instruments, improving their understanding of basic operating principles and applications, providing exposure to practical handling and demonstration of laboratory equipment, strengthening the relationship between theoretical concepts and practical applications, and preparing students for research projects, higher studies and pharmaceutical-industry requirements.

3 CONDUCT OF THE PROGRAMME

Students participated batch-wise in different departmental sessions. Faculty members and subject experts from the respective departments demonstrated the instruments and explained their **principle, construction, operation, pharmaceutical application and important precautions**.

Attendance was compulsory throughout the programme. Students were also instructed to wear a **laboratory apron during the training sessions**, and eligible participants were informed that an **e-certificate would be provided based on attendance requirements**.

4 DEPARTMENT OF PHARMACEUTICS

The Pharmaceutics training session provided students with exposure to instruments and processes associated with pharmaceutical formulation development and evaluation.

The training included **tablet granulation and pre-compression evaluation, tablet compression machine, capsule filling machine, hardness testing, friability testing, disintegration testing and dissolution testing**. Students were also introduced to advanced instruments such as the **probe sonicator, Brookfield viscometer, cooling centrifuge, rotary evaporator, magnetic stirrer, mechanical stirrer and lyophilizer**.

An overview of **scale-up considerations in pharmaceutical processing** was also provided to help students understand the transition from laboratory-scale formulation development to larger-scale pharmaceutical production.

5 DEPARTMENT OF QUALITY ASSURANCE

The Quality Assurance Department conducted training on important analytical instruments routinely used for pharmaceutical quality control and research.

Students were introduced to the **UV-Visible spectrophotometer, High-Performance Liquid Chromatography (HPLC), pH meter, colorimeter, fluorimeter, TLC chamber and sonicator**.

The sessions helped students understand the role of analytical instruments in **drug analysis, identification, quantitative estimation, quality assessment and pharmaceutical research**.

6 DEPARTMENT OF PHARMACOLOGY

The Pharmacology training covered important instruments and experimental models used in pharmacological screening.

Students were introduced to basic and experimental pharmacology instruments including the **Plethysmometer, Hot plate, Electroconvulsiometer, Actophotometer and rotarod apparatus**.

The programme also included demonstrations and videos related to **screening models and software, Cook's pole apparatus, plus maze, light-dark box and hole-board apparatus**.

Students additionally received orientation regarding the **clinical department, animal-house facilities, routes of drug administration and blood-collection techniques**, thereby providing broader exposure to experimental and preclinical pharmacology.

7 DEPARTMENT OF PHARMACOGNOSY

The Pharmacognosy Department provided practical exposure to instruments commonly used for the evaluation, extraction and analysis of crude drugs and herbal materials.

The session included training and demonstrations on the **binocular microscope with camera, Soxhlet apparatus, rotary vacuum evaporator, HPTLC and Clevenger's apparatus**, along with exposure to the **projection microscope**.

These activities helped students understand the applications of microscopy, extraction, concentration, chromatographic analysis and volatile-oil estimation in pharmacognostical and phytochemical studies.

8 TEACHING-LEARNING METHODOLOGY

The programme adopted a demonstration-oriented and interactive approach. Faculty members first explained the theoretical basis and working principle of each instrument, followed by demonstration of its operation and applications. Students were encouraged to interact with faculty members and clarify their doubts during the sessions.

The batch-wise rotation enabled students to receive focused training and improved their opportunity to observe the instruments closely.

9 OUTCOMES OF THE PROGRAMME

On completion of the Instrument Training Program, students gained practical exposure to a wide range of pharmaceutical and research instruments used across different branches of pharmaceutical sciences. The programme improved their familiarity with laboratory equipment and enhanced their understanding of the relationship between theoretical knowledge and practical operation.

The training also helped students understand the applications of various instruments in **formulation development, dosage-form evaluation, analytical testing, pharmacological screening, crude-drug evaluation and pharmaceutical research**.

Overall, the programme contributed to the development of students' **technical awareness, laboratory confidence, research orientation and professional preparedness**.

10 CONCLUSION

The Instrument Training Program conducted for 7th Semester B.Pharm students from **05 August 2026 to 13 August 2026** was successfully completed with coordinated participation from the Departments of Pharmaceutics, Pharmacology, Quality Assurance and Pharmacognosy.

The programme served as an effective platform for enhancing the practical knowledge and technical skills of students through direct exposure to pharmaceutical instruments and their applications. Such training activities are valuable in preparing students for academic research, industrial training, higher education and future professional responsibilities in the pharmaceutical field.

11 ACKNOWLEDGMENTS:

The coordinators express their sincere gratitude to the Principal, Heads of the participating departments, and faculty members of the Departments of Pharmaceutics, Quality Assurance, Pharmacology and Pharmacognosy for their valuable guidance, cooperation and active involvement in the successful conduct of the Instrument Training Program.

Coordinators

Mr. Yash D. Dudhwala

&

Mr. Lalit Chaudhary

Principal

Dr. Ketan V. Shah

GLIMPSES OF THE INSTRUMENT TRAINING PROGRAM



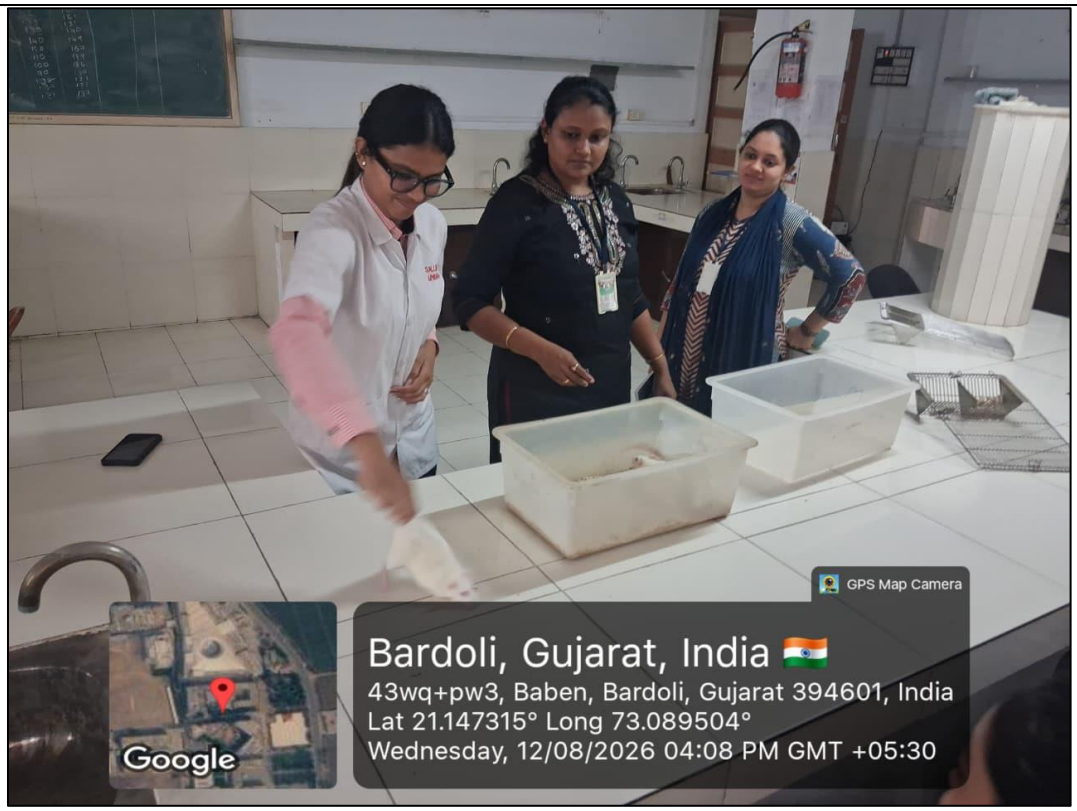



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