



Khed Taluka Shikshan Prasarak Mandal's
Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Affiliated to S. P. Pune University, Pune

NAAC Reaccredited "B++" Grade (CGPA 2.83), DST-FIST Recognized
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Department of Chemistry

Hands on Training on UV—Visible Spectrophotometer

Activity Report

Hands-on Training on UV–Visible Spectrophotometer

Date: 7th October 2024

Academic Year: 2024–25

The Department of Chemistry organized a Hands-on Training session on the use of the UV–Visible Spectrophotometer for M.Sc. students on 7th October 2024. The training was aimed at enhancing practical knowledge and instrumental handling skills among postgraduate students. A total of 11 students from M.Sc. Part I and Part II participated in the session.

Objective of the Activity:

To provide hands-on experience and a deeper understanding of the working, applications, and data interpretation using a UV–Visible spectrophotometer.

Brief Description of the Instrument and Its Use:

Spectrophotometry involves the interaction of electromagnetic radiation with matter, where energy is either absorbed or emitted in discrete quantities known as quanta. A UV–Visible double beam spectrophotometer is widely used to measure light absorption in liquid or gas samples.

Key Components of the Instrument:

- **Monochromator** – Isolates specific wavelengths of light
- **Detector** – Detects the intensity of transmitted light
- **Light Source** – Provides UV and visible radiation
- **Interpreter** – Processes and displays data
- **Sample Holder (Cuvette Holder)** – Holds the sample for analysis

Applications of UV–Visible Spectrophotometer:

The instrument measures the light absorption of substances to determine their concentration, purity, and physical properties. It is extensively used in the pharmaceutical, biotechnology, food and beverage, and chemical industries. Its compact and efficient design makes it ideal for laboratory workflows.

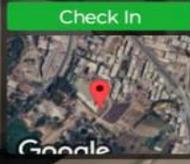
Outcome of the Activity:

Students gained practical exposure to the principles and functioning of the UV–Visible spectrophotometer. They learned how to operate the instrument, analyze absorbance data, and interpret results for various chemical samples. The session effectively bridged theoretical concepts with real-world applications.



Prof. P. S. Kulkarni

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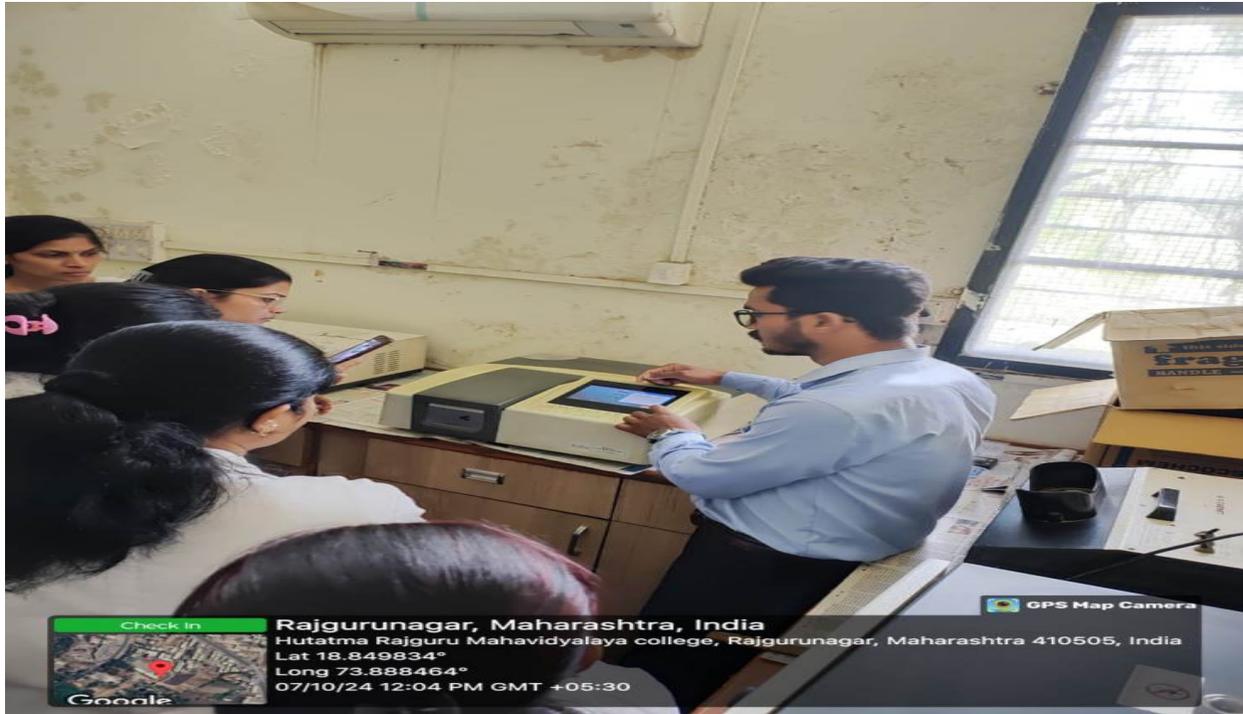
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