SCHOOL OF PHARMACY

REPORT ON

WORKSHOP

The Department of Pharmaceutical Analysis at Nalla Narasimha Reddy Education Society's Group of Institutions, Hyderabad, successfully organized a six-day workshop and hands-on training program titled *"Instrumental Methods of Analysis"* from 11th to 16th November 2024. The program aimed to enhance practical understanding and application of modern analytical techniques among pharmacy students, with a particular focus on pharmaceutical quality control and research.

Each day of the workshop featured focused sessions led by subject experts, covering essential instrumental techniques used in pharmaceutical analysis.

Day 1: UV-Visible Spectroscopy and Fluorimeter

Speaker: *S. Sathish*

The workshop commenced with an insightful session by S. Sathish, who introduced the participants to UV-Visible Spectroscopy and Fluorimeter. He explained the principles of absorption and emission, detailed the instrumentation involved, and discussed the pharmaceutical applications of these techniques in drug analysis, quality control, and formulation research.

Day 2: Flame Photometer and Atomic Absorption Spectroscopy (AAS)

Speaker: *T. Vijaya*

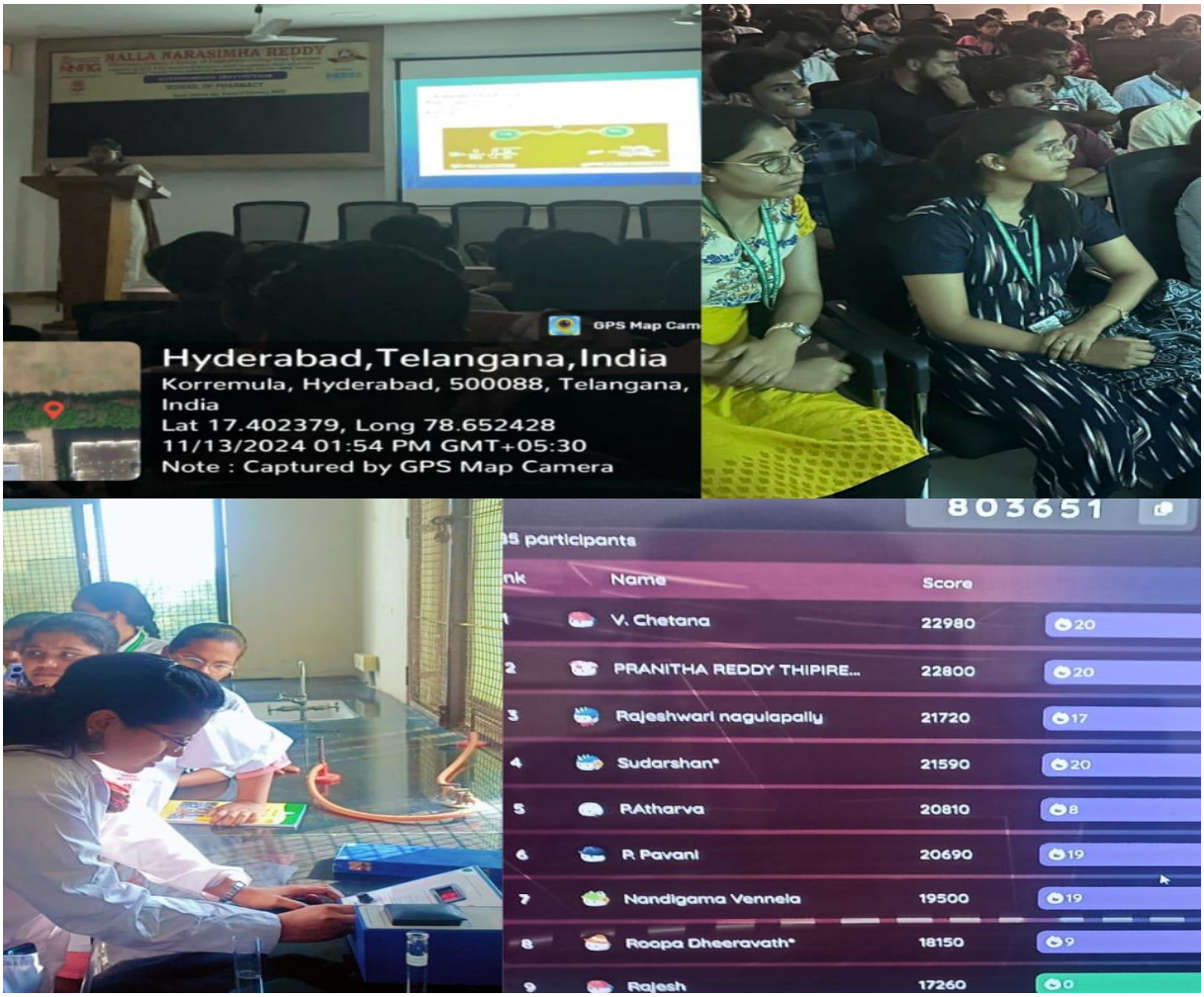
On the second day, T. Vijaya delivered a comprehensive session on Flame Photometry and Atomic Absorption Spectroscopy (AAS). Participants gained a clear understanding of how these techniques are used to quantify metallic elements in pharmaceutical preparations, particularly sodium, potassium, calcium, and other essential trace elements. Emphasis was placed on

instrument calibration, sample preparation, and analytical accuracy.

Day 3: IR Spectroscopy and Nepheloturbidimetry

Speaker: *A. Chaitanya*

The third session, presented by A. Chaitanya, focused on Infrared (IR) Spectroscopy and Nepheloturbidimetry. The speaker explained how IR spectroscopy helps in identifying chemical structures based on vibrational transitions, while nepheloturbidimetry was introduced as a technique for measuring particulate matter and turbidity in pharmaceutical solutions.



Day 4: Chromatographic Techniques

Speaker: *A. Sahithi*

On the fourth day, A. Sahithi conducted a session on Chromatography, covering its principles, classification (TLC, HPLC, GC, etc.), and wide-ranging applications in pharmaceutical analysis. The session provided hands-on insight into separation, identification, and quantification of active pharmaceutical ingredients and impurities.

Day 5: Electrophoresis

Speaker: *P. Srinivasa Rao*

On the fifth day of the workshop, P. Srinivasa Rao conducted an insightful session on Electrophoresis, an essential technique in pharmaceutical and biochemical analysis. He elaborated on the principles of molecular separation based on charge and size, types of electrophoresis such as paper, gel, and capillary electrophoresis, and their applications in protein and nucleic acid analysis. The session included practical demonstrations, enhancing the participants' understanding of this versatile analytical method.

The workshop was dedicated to hands-on training, where students worked directly with instruments under faculty guidance. This experiential learning approach ensured that theoretical concepts were reinforced through practical exposure.

Throughout the workshop, students demonstrated strong enthusiasm and active participation. The sessions were well-structured to balance both conceptual understanding and laboratory skills, making it a highly beneficial learning experience.

The workshop concluded with a feedback session and certificate distribution, with appreciation expressed to the speakers, coordinators, and students for their efforts and engagement. The success of the program highlighted the School of Pharmacy's continued dedication to preparing students for professional excellence in the pharmaceutical industry.

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