REPORT OF

Two Days Workshop

On

"Hands-on Training on LC-MS/MS Instrumentation Techniques & Data analysis"

Organized on: 24 & 25th April, 2025

SCHOOL OF PHARMACY

GUJARAT TECHNOLOGICAL UNIVERSITY

Co-Ordinator: Dr. Kashyap Thummar

Schedule

Day 1: 24th April 2025, Thursday

TIME	Sessions
10:00 AM– 10:30 AM	Registration & Breakfast
10:30 AM– 11:30 AM	**Session 1: Basics of LC-MS/MS, Instrumentation**
11:30 AM – 12:00 PM	**Introduction to participant & their working area/interest in LC/MSMS**
12:00 AM – 01:00 PM	**Session 2: Applications of LC-MS/MS**
01:00 PM – 02:00 PM	**Lunch Break**
02:00 PM – 03:00 PM	**Demonstration of Different Sample preparation assembly and Lab visit**
03:00 PM – 05:00 PM	**Demonstration and training of LC/MSMS and Software**

Day 2: 25th April, 2025 Friday

TIME	Sessions
10:00 AM– 10:30 AM	Breakfast
10:30 AM– 11:30 PM	**Session 3: Do's and Don'ts in LC-MS/MS**
11:30 AM -12:00 PM	Group division for hands on training on different applications Group 1: Bioanalysis Group 2: Pharmaceutical analysis Group 3: Environment Pollutant/Contaminant analysis
12::00 PM – 1:00 PM	**Sample preparation for LC-MS Applications**
01:00 PM – 02:00 PM	**Lunch Break**
02:00 PM – 05:00 PM	**Hands on training on different applications and data Analysis**
05:00 PM – 06:00 PM	**Q&A, Feedback & Vote of thanks**

1. Preamble:

The School of Pharmacy, Gujarat Technological University (GTU), organized a comprehensive two-day hands-on training program on LC-MS/MS Instrumentation and Data Analysis on 24 & 25th April, 2025 in association with **Agilent Centre for Excellence, GTU.** The event was designed to bridge the gap between theoretical knowledge and practical applications of Liquid Chromatography Tandem Mass Spectrometry (LC-MS/MS) in pharmaceutical and environmental analysis. A total of sixteen participants attended the program, representing a diverse mix of backgrounds including academia, industry, PhD scholars, and postgraduate students, thereby contributing to a rich and collaborative learning environment. The workshop was part of GTU's ongoing commitment to providing industry-relevant exposure through expert-led training sessions aimed at fostering skill development and knowledge enhancement.

2. Objectives

The primary objectives of the two-day LC-MS/MS Hands-on Training Program were:

- To provide foundational and advanced understanding of Liquid Chromatography–Tandem Mass Spectrometry (LC-MS/MS) techniques.
- To bridge the gap between theoretical principles and real-world applications in pharmaceutical and environmental analysis.
- To offer practical exposure to instrumentation handling, sample preparation, method development, and data interpretation.
- To enable researchers, scholars, and industry professionals to effectively use LC-MS/MS in their research or quality control workflows.

3. Details of Activities (Day-wise)

Day 1: 24th April 2025 (Thursday)

The training program commenced with **registration and breakfast**, followed by the **inaugural session**.

- **Session 1** was delivered by **Dr. Kashyap Thummar**, who introduced the **basics of LC-MS/MS**, including the principles of instrumentation. This was followed by an

interactive session with the participants, where they discussed their research backgrounds and expectations from the training.

- **Session 2** was conducted by **Mr. Gaurav Kulkarni**, Application Specialist, **Agilent Technologies India Pvt. Ltd.**, who provided valuable insights into the **applications of LC-MS/MS** in various domains.

- After lunch, the afternoon session featured a **demonstration of the LC-MS/MS software and hardware**. This session was led by **Mr. Surendra Pawar**, Service Engineer from **Agilent Technologies India Pvt. Ltd.**, who showcased the instrument operation, system handling, and maintenance procedures.

Day 2: 25th April 2025 (Friday)

- The day began with **Session 3**, where **Dr. Kashyap Thummar** discussed **real-world applications of LC-MS/MS and data analysis**, illustrating key points through relevant **case studies**.

- **Session 4** focused on the **Do's and Don'ts of LC-MS/MS operation**, again conducted by Dr. Thummar, emphasizing best practices and troubleshooting techniques.

- Post lunch, participants were **divided into three groups** based on their area of interest:
    1. Bioanalysis
    2. Pharmaceutical Analysis
    3. Environmental Contaminant/Pollutant Analysis

- Dr. Thummar provided **application-specific demonstrations** for each group, guiding participants through practical workflows.

- The training concluded with a **feedback session**, where participants shared their learning experiences and suggestions.

- A **Vote of Thanks** was extended by **Dr. Kashyap Thummar**, followed by **certificate distribution** by the invited experts from Agilent.

- This event was successfully organized by the **GTU School of Pharmacy in association with the Agilent Center for Excellence**, reflecting a strong academia-industry collaboration aimed at enhancing research capabilities through technical training.

3. Outcomes

- The training successfully equipped participants with essential skills in handling and operating LC-MS/MS instrumentation.
- All sixteen participants, representing academia, industry, PhD scholars, and postgraduate students, gained hands-on exposure to sample preparation, method development, and data analysis techniques.
- Participants reported increased confidence in using LC-MS/MS in their ongoing or upcoming research projects.
- The group-based application sessions fostered interdisciplinary collaboration and peer learning.
- Valuable feedback was received for organizing similar advanced-level programs in the future.

Event Photos

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