



# Annai Hajira Women's College

Melapalayam, Tirunelveli – 627 005

(Accredited with B++ Grade by NAAC (CGPA 2.95 in I Cycle)

(A Unit of As-Sathiq Educational Society)

(Affiliated to Manonmaniam Sundaranar University)



## Department of Chemistry

### INDUSTRIAL VISIT 05.03.2025

### **EXPLORING ADVANCED INSTRUMENTATION TECHNIQUES: A Visit to Sir C.V.Raman Central Instrumentation Facility, MSU**

#### Event Summary:

*Name of the event* : **Industrial Visit to Advanced Instrumentation Centre**

*Place of the event* : **Sir.C.V.Raman Central Instrumentation Facility,  
Manonmaniam Sundaranar University, Tirunelveli**

*Date of the event* : **March 5, 2025**

*Participants* : **III B.Sc. Chemistry Students accompanied by  
Dr.R.Anuradha, Assistant Professor and Head, Department  
of Chemistry, Annai Hajira Women's College.**

*Objectives Achieved* :

- 1. Gained hands-on experience and exposure to advanced instrumentation techniques**
- 2. Enhanced academic knowledge and practical skills**
- 3. Gained insights into the applications and working principles of various instruments**

On 5th March 2025, 11 students from III B.Sc. Chemistry, accompanied by Dr. R. Anuradha, Assistant Professor and Head, Department of Chemistry, visited the Sir C.V. Raman Central Instrumentation Facility at Manonmaniam Sundaranar University. The primary objective of the visit was to provide students with practical exposure to advanced instrumentation techniques and to enrich their academic knowledge in support of their final year project work.

## Visit Overview

During the visit, students were introduced to a wide range of state-of-the-art instruments, including:

1. **Confocal Raman Spectrometer** – Explanation of its working principle and applications in material analysis.
2. **Atomic Force Microscopy (AFM)** – Demonstration and its role in surface analysis and nanotechnology.
3. **Single Crystal X-Ray Diffractometer (XRD)** – Application in determining atomic structures of crystalline materials.
4. **BET Surface Area Analyzer** – Principles and uses in measuring surface area, pore diameter, and pore volume of materials.
5. **UV-Visible/NIR Spectrophotometer**
6. **Gas Chromatography (GC)** – For separation and analysis of compounds.
7. **Gas Chromatography-Mass Spectrometry (GC-MS)** – For compound identification and quantification.
8. **Nuclear Magnetic Resonance (NMR) Spectroscopy** – Both liquid and solid-state analysis.
9. **Scanning Electron Microscopy-Energy Dispersive X-ray Spectroscopy (SEM-EDX)** – For surface analysis and elemental identification.
10. **Matrix-Assisted Laser Desorption/Ionization Time-of-Flight (MALDI-TOF)**
11. **Microbial Identification System**
12. **Electrochemical Impedance Spectroscopy (EIS)**
13. **Multichannel Photo and Electrochemical Workstation** – Working principle and applications in photo electrochemistry.
14. **Simultaneous Thermal Analyser (STA)**

Additionally, the students had the opportunity to **analyse the samples they had prepared for their III year Chemistry project** using selected instruments. This hands-on experience with their own research materials provided valuable practical insights and reinforced their understanding of analytical techniques.

## Conclusion

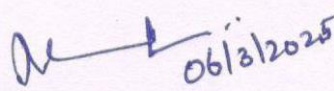
Sir C.V.Raman Central Instrumentation Facility visit was a highly enriching and informative experience. It provided the students with valuable insights into the practical aspects of instrumentation, particularly through the opportunity to analyse their own project samples. This hands-on involvement not only deepened their technical knowledge but also inspired greater appreciation for research methodologies and the role of instrumentation in scientific investigations. Both students and faculty returned with enhanced academic enthusiasm and a clearer perspective on advanced analytical techniques and their applications.

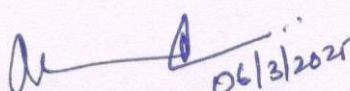


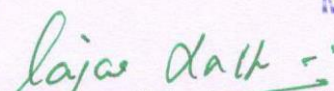
**INDUSTRIAL VISIT, Sir C.V.Raman Central Instrumentation Facility, Manonmaniam Sundaranar University, Tirunelveli - 05.03.2025**



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 06/3/2025  
 Signature of the HoD  
 Head of the Department  
 CHEMISTRY  
 ANNAI HAJIRA WOMEN'S COLLEGE,  
 MELAPALAYAM - 627 005.

 06/3/2025  
 Signature of IQAC Co-ordinator  
 Co-ordinator, IQAC  
 Annai Hajira Women's College  
 Melapalayam

 04/03/25  
 Signature of the Principal  
 PRINCIPAL  
 ANNAI HAJIRA WOMEN'S COLLEGE  
 MELAPALAYAM - 627 005.