

Training programmes

Principle and applications of HPLC

Training course on principle and applications of HPLC. The training programme begins with basics of chromatography and covers all the practical aspects of HPLC including sample preparation, method development and method validation. Following topics will be covered in this training.

- Introduction to chromatography
- Principles of liquid chromatography
- Basics of HPLC
- HPLC components and their functions
- Applications of HPLC
- HPLC columns
- Separation modes
- Sample preparation
- Method development
- Sample analysis
- Quantification
- Method validation & recovery studies

Who can participate: post graduate students, analysts & laboratory technicians.

Course Duration: 4 weeks

Course fee: Rs. 20,000/-

HPTLC and its applications

Four weeks' practical course on applications of HPTLC. All practical aspects of operating HPTLC are covered under this course.

Objective

The course is designed to provide analysts with theoretical foundation of and practical experience with High Performance Thin-Layer Chromatography (HPTLC). The course teaches to understand application of various methods.

Participants

Post graduate students, analysts & laboratory technicians.

Prerequisite

Basic understanding of chromatography and/or experience with analytical laboratory work.

Course content

The course is subdivided into theoretical lectures, practical exercises, and discussions:

- Parameters of HPTLC and their influence on analytical results (among others: stationary, mobile and gas phases)
- Standardized HPTLC methodology as requirement for reproducible results
- Derivatization procedures
- Qualitative evaluation of chromatograms
- Application of instruments and software experiments
- Proper sample application
- Use of different stationary phases
- Effects of the chamber configuration
- Application of HPTLC for the analysis of botanicals
- Advantages and limitations of fingerprint analysis by HPTLC
- Optimization of methods from literature
- Application of digital imaging technology for documentation and evaluation of chromatograms
- Stability tests of botanicals by HPTLC
- Standardized methodology of HPTLC
- Sample preparation and selection of method

- Method optimization
- Validation of qualitative methods

Who can participate: post graduate students, analysts & laboratory technicians.

Course fee: Rs. 20,000/-

Course duration: Four weeks

Practical course on techniques and applications of ICP-MS

The course provides comprehensive overview of the Agilent 7500 Series ICP-MS technique and ICP-MS ChemStation Agilent's software.

Course Outline

- Agilent 7500 series ICP-MS Principles and Operation
- Fundamentals of ICP-MS and Agilent 7500 Design Features
- ICP-MS ChemStation Software for Agilent 7500 Instrument Set up/Start up
- Agilent 7500 Tuning
- Set up and Tuning
- ICP-MS Interferences
- Octopole Reaction System (ORS)
- ICP-MS ChemStation Acquisition Methods and Sequences
- Laboratory Multi-Tune Method and Sequence
- Data Analysis Methods and Principles of Quantification for FullQuant Mode
- Laboratory Data Analysis Set up and Evaluation
- Agilent 7500 Basic Maintenance

Who can participate: post graduate students, analysts & laboratory technicians.

Course fee: Rs. 20,000/-

Course duration: Four weeks

Practical training on techniques and applications of GC-MS

The course provides hands-on training on Thermo Polaris Q GC-MS. Basics of gas chromatography and ion trap mass spectrometer are covered in the course along with identification of components and their quantification. The course comprises of following parts.

- Introduction to gas chromatography
- Introduction to mass spectrometry
- Sample preparation
- Sample introduction and types of sample injections
- Analytical columns
- GC detectors
- Mass selective detectors
- Ionisation techniques and analysers
- Data interpretation
- Quantitation and library search

Who can participate: post graduate students, analysts & laboratory technicians.

Course fee: Rs. 20,000/-

Course duration: Four weeks

Training on LC-MS/MS

The course offers hands-on training on LC-MS/MS facility. The course covers both practical and technical aspects of LC and triple quad mass spectrometer. Following points will be covered in the course.

- Separation mechanisms
- Columns, injectors, detectors and quantification
- Principle of mass spectrometry

- Ionisation techniques
- Types of analysers
- Liquid chromatography and mass spectrometer interface
- Method development and optimisation
- Quantitative and qualitative mass analysis.
- Experimental parameter optimisation

Who can participate: post graduate & PhD students, analysts & laboratory technicians.

Prerequisite: Basic understanding of chromatography and/or experience with analytical laboratory work.

Course fee: Rs. 20,000/-

Course duration: Four weeks