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LIFT

Lloyd Industry Focused Training Program

Skill Development Program in Pharmacy for Improved Orientation towards Industry Practices

CONTENTS

Objectives of the Training Program

The pharmaceutical industry has always been at the forefront of innovation and research across all scientific sectors. Every year we are witnessing higher level of upgradation and complexity in manufacturing with increase of continuous improvement in process designs, analytical methods and regulatory requirements. The present challenges of pharma sector are new drugs, new technologies, process optimization, meeting Just-in-time requirements with optimum utilization of resource and continuously changing regulatory requirements.

Lloyd has been running pharmacy program since 2004 with great success. Being one of the only 4 NBA accredited programs in the state of Uttar Pradesh makes us stand out. Our students have continuously made us proud with their career progression over years. Much credit for this success goes to the industry oriented training programs that Lloyd continues to offer to its students. Trainers and experts from industry and regulatory bodies impart training specific to career various sectors in industry.

This training has been designed for the 3rd year students of graduate program and 1st year students of Masters program.

The key objective of the program is to make the students aware of essential norms and practices adopted by regulated laboratories. Such awareness will make you feel confident when you embark upon your career in industry. It will help you adapt yourself to the industrial environment with ease.

High quality standards are important for any commodity, man-made or a natural resource. The program content will prove beneficial in any laboratory set-up. However, a mention is made here of some of the laboratories or industry sectors where such knowledge would prove to be a definite asset:

- Commercial Testing Laboratories
- Pharma and Food industries
- Referral laboratories such as BIS, IPC
- R&D laboratories in pharma and life sciences
- Environmental monitoring and control laboratories
- Forensic laboratories
- Clinical Testing laboratories

Duration: The training is divided in to 5 modules. Each module shall be of 12 hours duration. Total duration of the program is 60 hours.

Contents of the Program

The training program shall comprise of 5 modules. 1st Module shall be non-evaluative, introductory in nature. Evaluation for certification will be done on the basis of Evaluative Modules (modules 2 to 5).

Module 1
Professional Laboratory Operational Requirements

Module 2
Safe Laboratory Operations and Environmental Controls

Module 3
Sample Handling and Minimization of Analytical Errors

Module 4
Laboratory Standards and Reference Materials

Module 5
Assurance of Quality to Internal and External Customers

Training Delivery Methodology

Our creative, interactive and relevant sessions ensure participants are actively engaged from the outset, ready to apply what they have learnt as soon as they are back at their desks.

Each training program uses a combination of instruction, worked examples, multimedia, case studies and group discussion which embeds the practical application of our Module principles in relation to the pharma sector.

Each participant will be encouraged to use the instructional area positively. This in turn adds value by providing the platform for participants to engage with their peers providing informed opinion and valuable input to future industrial decisions.

Our advanced training programs use further, highly interactive sessions in which participants explore and analyse wide-ranging indutrial scenarios based on the realistic production activities. This hands-on scenario-based approach enables brainstorming, creative thinking and deep embedded learning to take place.

Introductory Module

Professional Laboratory Operational Requirements

What will you learn

- What to expect when you move from University to workplace laboratory
- Work discipline for a laboratory chemist
- Work ethics for a laboratory chemist
- Honest reporting of laboratory incidents
- Useful tips for writing resume and appearing for a job interview
- Attributes that I look forward to during interviews
- Make learning your life-long habit- It is your cornerstone for success in your career
- How to keep learning against all odds
- Importance of record keeping of your laboratory activities
- Importance of time management for improvement of your laboratory productivity

Length of Module 12 hours (over 2 days)

Evaluative Modules

Safe Laboratory Operations and Environmental Controls

What will you Learn

- Laboratory safety general guidelines
- Safety symbols and safety gear
- Safe handling of laboratory glassware
- Safe handling and use laboratory chemicals
- Safe handling and use of common laboratory devices
- Safe handling of analytical instruments
- Management of laboratory spills
- Fire Hazards and Safety measures
- Responsible disposal of laboratory waste
- Safe warehousing practices- Whose responsibility?
- Storage options of chemicals in laboratories
- Elementary laboratory first-aid
- Considerations for working alone in laboratories
- Suggested guidelines for leaving the laboratory at end of day
- Entry- Exit regulations in laboratory
- Safety audit of a laboratory
- Cleanliness and hygiene in laboratories and freedom from contamination
- Environmental control of a laboratory
- Temperature and humidity monitoring in the laboratory
- Make your laboratory green

Length of Module 12 hours (over 2 days)

Evaluation Methodology

The session will be followed by an online test and viva-voce session. The weightage shall be 75 for online test and 25 for viva.

Sample Handling and Minimization of Analytical Errors

What will you Learn

- Preservation of Sample Integrity Prior to analysis
- Considerations in Sample Preparation
- Physical examination of samples prior to analysis
- Prevention of contamination of Laboratory Samples
- Considerations for selection of method for required analysis
- Benefits of automated injection in chromatographic analysis
- Special Considerations in analysis of Critical Laboratory Samples
- Sample Management- Key to success of Laboratory Operations
- Weighing and dilution of laboratory samples
- Disposal of samples and laboratory wastes after analysis
- Benefits offered by instrumental methods of analysis
- Evaluation of analytical data
- Essential considerations in generation of calibration plots
- Familiarization with the calibration plot
- Generation and interpretation of calibration plots
- Understanding the linearity of a calibration plot
- Tips to achieve reliability and accuracy of common laboratory measurements
- Handling and intermediate checks of working standards
- Operation and intermediate checks of micropipette
- Suitability of water grades for different laboratory applications

Length of Module 12 hours (over 2 days)

Evaluation Methodology

The session will be followed by an online test and viva-voce session. The weightage shall be 75 for online test and 25 for viva.

Laboratory Standards and Reference Materials

What will you Learn

- Classification of reagent grades
- Calibration of analytical instruments
- Good laboratory practices (GLP) and Good Documentation practices (GDP)
- Laboratory note book and log book entries
- Laboratory standards and reference materials
- Handling and intermediate checking of working standards
- Importance of SOP's and STP's
- Global and National Standardization bodies
- Quality management in conformance with ISO 9001
- Introduction to ISO 17025
- Does a laboratory require both ISO 9001 and ISO 17025?
- Regulatory standards for Pharmaceuticals and Foods

Length of Module 12 hours (over 2 days)

Evaluation Methodology

The session will be followed by an online test and viva-voce session. The weightage shall be 75 for online test and 25 for viva.

Assurance of Quality to Internal and External Customers

What will you Learn

- Difference between Quality Assurance and Quality Control
- Difference between Verification, Calibration and Validation
- Difference between laboratory accreditation and laboratory registration
- Calibration of analytical instruments
- Essential considerations in generation of calibration plots
- Familiarization with the calibration plot
- Generation and interpretation of calibration plots
- Understanding the linearity of calibration plot
- Instrument Qualification
- Analytical Method Validation
- Analyst validation
- Good laboratory practices (GLP) and Good Documentation practices (GDP)
- Corrective Action and Preventive Action (CAPA)
- Advance review of analyst requests from customers
- Handling of Out of Specification (OOS) results
- Internal audit of a laboratory
- Significance of analysis report quality
- Systematic evaluation of customer feedback and corrective action

Length of Module 12 hours (over 2 days)

Evaluation Methodology

The session will be followed by an online test and viva-voce session. The weightage shall be 75 for online test and 25 for viva.

Certification

All students will be a awarded with a certificate upon successful completion of the progam. The following criteria shall be mandatory to be considered for award of certificate:

- Attending all the Modules, introductory as well as evaluative, will be required
- Minimum 75% attendance should be there in all sessions of a module.
- Minimum 50 marks should be obtained in each evaluative module.

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