



RBVRR Women's College of Pharmacy

Barkatpura, Hyderabad, 500027, (T.S)

Accredited by NAAC, Approved by the PCI & Affiliated to Osmania University, Recognised under section 2(f) of the UGC Act 1956



Department of Pharmaceutics

Conducting

CERTIFICATE COURSE

On

AUTOMATION IN PHARMACEUTICAL INDUSTRY



CONVENER

PROF. M. SUMAKANTH

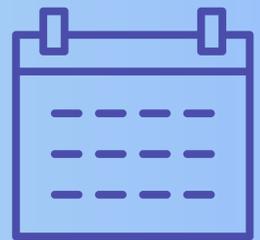
Principal,
RBVRR women's College of Pharmacy



PATRON

PROF. K. MUTHYAM REDDY

Hon. Secretary cum Correspondent,
RBVRR Women's College of Pharmacy



**23RD OCTOBER - 29TH
OCTOBER, 2025**

Last Date for Registration

22ND October, 2025

REGISTRATION FEE

Offline: ₹200

**CLICK TO
REGISTER NOW**

Website: www.rbvrrwcp.org
Phone No: 9848930555

About RBVRR Women's College of Pharmacy

RBVRR Women's College of Pharmacy, established in 2006 under the Hyderabad Mahila Vidhya Sangam, is driven by the visionary leadership of its Founder Principal, Prof. M. Sumakanth. The college is dedicated to empowering girl students through education and offers spacious classrooms, state-of-the-art laboratories, a well-equipped seminar hall, a conference room, and a library stocked with a wide range of the latest textbooks, reference materials and digital library.

The college is offering the following programmes:

B. Pharmacy, Pharm. D, M.Pharmacy(Pharmaceutics, Pharm.Analysis and Pharmacology).

VISION

To be a National Women Pharmacy Professional leader in transforming lives through innovative, vigorous and compassionate approach to Pharma education.

MISSION

RBVRRWCP preparing and empowering girl students by providing continuous awareness programmes to succeed in changing world apart from regular curriculum.



About the Certificate Course

The Certificate Course on Automation in the Pharmaceutical Industry provides a comprehensive understanding of how automation technologies are transforming pharmaceutical manufacturing and operations. The course covers the evolution of automation, key technologies such as PLCs, SCADA systems, robotics, and laboratory automation, as well as their applications in formulation development, quality control, and packaging. Participants will learn how automation enhances efficiency, accuracy, safety, and regulatory compliance while reducing human error and contamination risks. The course also explores future trends, including smart manufacturing, AI integration and continuous production processes, equipping learners with the skills and knowledge to contribute effectively to modern pharmaceutical operations.

Objectives

- Understand scope, fundamentals, and evolution of pharma automation
- Identify automation levels in R&D, manufacturing, and quality
- Learn system integration for efficient workflow and data management
- Evaluate automation's impact on precision, productivity, and compliance
- Explore emerging trends in pharmaceutical automation

Key Highlights

- Comprehensive coverage of pharma automation tools and digital transformation
- Case studies on automated production and quality systems
- Focus on sustainable, cost-effective, and compliant solutions
- Exposure to Industry 4.0, AI systems, and smart manufacturing

Target participants

- Pharmacy Students
- Faculty members
- Research scholars
- Academic administrators
- EdTech enthusiasts
- Professionals adopting pharma automation technologies

CERTIFICATE COURSE ON AUTOMATION IN PHARMACEUTICAL INDUSTRY

COURSE: AUTOMATION IN PHARMACEUTICAL INDUSTRY

CODE: RBVRRWCP001

Total No. Hours: 36

SCOPE

This course provides a comprehensive understanding of pharmaceutical automation and its role in enhancing efficiency, precision, and quality across various stages of product development and manufacturing. It covers the evolution, technologies, and applications of automation in the pharmaceutical industry, focusing on solid, semi-solid, and sterile dosage form production. Students will learn about automated systems in raw material handling, mixing, granulation, coating, filling, packaging, cleaning and quality control processes. The syllabus also explores laboratory automation, LIMS, data integrity, FDA's PAT framework, Quality by Design (QbD), and the integration of Artificial Intelligence (AI) and Machine Learning (ML) for predictive maintenance and quality assurance. By studying current challenges, emerging trends, and real-world industrial practices, learners will gain the knowledge required to implement smart, automated, and regulatory-compliant pharmaceutical systems aligned with modern Industry 4.0 principles.

Unit -1:- Introduction to Pharmaceutical automation-

6 Hours

Basics and evolution of Automation in the Pharma Industry. Key Automation Technologies. Applications of automation in Pharma Industry, Advantages and Disadvantages of automation. Current Challenges and Future Directions in Pharma automation

Unit 2:-Automation in Process and Product development of solid dosage forms

6 Hours

Tablet dosage forms:- Automation in raw material handling, granulation and palletization continuous and batch mixing, Tablet compression, Automation in packaging, Problems encountered.

Coating technology: Objectives and problems encountered in the automation of tablet coating, key components of an automated tablet coating system, Process parameters in tablet coating, fluidized bed coating.

Capsule dosage forms:- Automation technologies used in the capsule formulation. Automation in capsule shell manufacturing, capsule filling, capsule sealing, inspection and sorting, Packaging, Challenges and applications

Unit 3:-Automation in manufacturing of sterile products 6 Hours

Automation technologies used in the monitoring of Parenteral manufacturing facility, Cleaning in Place (CIP), automation in raw material handling, aseptic filling, sterile filtration, Lyophilization Technology, sealing and capping, Packaging

Unit 4:-Automation in the formulation of semi solid dosage forms

6 Hours

Automation in mixing and homogenization, heating and cooling systems, emulsification equipment, filling and Packing, cleaning, Automation in in-process quality control in the manufacturing of ointments, creams, gels, pastes and lotions

Unit 5:- Automation in Quality Control & Laboratory Systems

6 Hours

Laboratory automation systems, LIMS, Data integrity & audit trails, FDA's PAT framework, Quality by Design (QbD) approach, Computer System Validation. Artificial Intelligence & Machine Learning in predictive maintenance & quality assurance, Real-world case studies from pharma leaders

COURSE OUTCOME

Upon successful completion of this course, students will be able to understand the fundamental concepts and evolution of automation in the pharmaceutical industry and its significance in improving process efficiency, product quality, and regulatory compliance. They will gain knowledge of automated systems used in the manufacturing of solid, semi-solid, and sterile dosage forms, including operations such as raw material handling, granulation, coating, filling, sealing, and packaging. Students will also develop an understanding of automation in quality control and laboratory systems, including LIMS, PAT, QbD, and computer system validation. Furthermore, learners will be able to appreciate the application of Artificial Intelligence and Machine Learning in process optimization, predictive maintenance, and quality assurance. Overall, the course prepares students to analyze, design, and implement advanced automation technologies in pharmaceutical manufacturing, supporting the industry's move toward digital transformation and smart manufacturing practices.

Programme Co-ordinator



Prof. A. Krishna Sailaja

Professor & Head
Department of Pharmaceutics,
RBVRRWCP

Account Details

Account No: 039710011906455
IFSC Code: UBIN0803979
Union Bank of India Narayanguda
Branch, Hyd.

For Queries Contact

Ms. Afreen Sultana
Assistant Professor
9703817365

Programme Schedule

Date	Morning Session
23rd October, 2025	Dr. Kishore Kumar Senior Executive DQA & QA LN Laboratories pvt Ltd.
24th October, 2025	Vanitha Nethi Senior regulatory coordinator Novartis health care pvt ltd
25th October, 2025	Dr. Anitha Assistance manager Granules, India.
27th October, 2025	Sambhu Manoj Kumar QA Manager Vaibhav Drugs pvt Ltd
28th October, 2025	Nagarani P Manager – Compliance and Audit Specialist, Informatics, SpincoBiotech Pvt Ltd
29th October, 2025	1.Prof.M.Sumakanth Principal, RBVRR Women's college of pharmacy 2. Prof. A. Krishna Sailaja Professor & HOD of Dept. of Pharmaceutics, RBVRRWCP

“The best way to predict your future is to create it” —

Abraham Lincoln

**Learning Today,
Automating Tomorrow!**