BRILLION Publishing

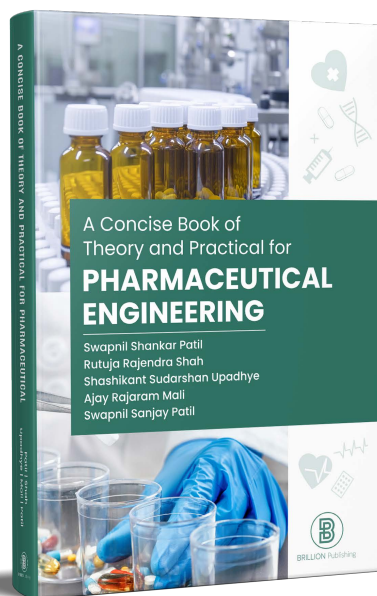## A Concise Book of Theory and Practical for
PHARMACEUTICAL ENGINEERING

Pharmaceutical engineering, as a discipline, plays a pivotal role in this evolution by integrating principles of chemical engineering, biology, materials science, and regulatory compliance to design, develop, and manufacture life-saving medications. It involves different set of experiments with industrial applications for pre development and post development of formulations. The applications of different unit operations in pharmaceutical engineering like evaporation, drying, heat transfer, fluid flow, filtration etc. plays crucial role for product development. In accordance with syllabus to fulfill the need of students the textbook has been written. .

Features

- The primary objective of this book is to provide a comprehensive guide to the foundational and advanced concepts of pharmaceutical engineering.

- The book is designed to serve as a valuable resource for students, researchers, and professionals in the field, offering insights into the complex processes and technologies that underpin the pharmaceutical industry.

- Each practical has been divided in to principal, theory involved with experiment, complete procedure, short answer questions and multiple choice questions. This will definitily bridge theoretical knowledge with practical applications, with deep understanding.

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(Contents)

- Determine Radiation constant of metal cylinder
- Determine Radiation constant of Painted and Unpainted glass
- Construct drying curve for calcium carbonate or starch
- Determine overall heat transfer coefficient
- Study the effect of time on Rate of Crystallization
- Determine the efficiency of steam distillation
- Determine moisture content and loss on drying
- Determine humidity of air- from wet and dry bulb temperature by using Dew point method
- Determine factors affecting rate of filtration and evaporation
- Prepare granules of calcium carbonate as per I.P.
- Perform size analysis of granules by sieving and construct frequency distribution curve, Log probability curve and cumulative size distribution curve
- Calculate the uniformity index for given sample by using double cone blender
- Verify the laws of size reduction using ball mill and Determining Kicks, Rittingers, Bond's coefficients,vpower requirement and critical speed of Ball Mill

- Demonstrate colloidal mill, Planetary mixer, Fluidized bed dryer, Freeze dryer such major equipment
- Description of Construction working and application of Pharmaceutical Machinery such as rotary tablet machine, fluidized bed coater, fluid energy mill, de humidifier
- To study the process of steam distillation
- To study the influence of centrifugal effect in separating the oil phase of freshly prepared turpentine liniment emulsion I.P.
- To perform preformulation studies on Paracetamol I.P. 2010
- To study the major equipment used in Pharmaceutical engineeering
- Basic units of measurements
- Engineering conversion factors
- SI prefixes
- Basic units and derived units
- Units of measurements
- Logarithms
- Anti-logarithms