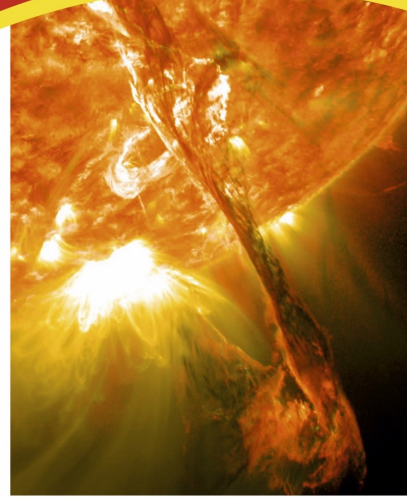


AICTE Recommended Textbook as per Model Curriculum - 2018

# Process Heat Transfer and Chemical Equipment Design



D.C. Sikdar


**KHANNA PUBLISHING**

## Process Heat Transfer and Chemical Equipment Design

Author : D.C. Sikdar

ISBN 13 : 978-93-86173-61-4

ISBN 10 : 93-86173-61-1

E-ISBN 13 : 978-93-86173-61-4

Edition : First

Pages : 364

Type of book : Paperback

Year : 2019

Language : English

Publisher : Khanna Publishing House

Price : Rs 280.00

Categories : [All book, Chemical Engineering](#),  
[Chemical Engineering](#), [New Arrivals](#),  
[UNIVERSITY RECOMMENDED](#)

Condition Type : New

Country Origin : India

## Product Description

This book is students friendly. It also demonstrates how to solve the industry related problems that crop up in Chemical Engineering Practice. The chapters are organized in a simple way that enables the students to acquire an in depth understanding of the subject. The emphasis is given to the Basic concept of heat transfer, conduction, Insulations, Convection, Extended surface- Fins, Dimensionless group and Dimensional analysis, Heat transfer analogy, Heat transfer with phase change, Heat transfer equipments, Design of heat transfer equipments and Radiation, all coming under the realm of Process Heat Transfer. Apart from the numerous illustrations, the book contains review questions, exercises and aptitude test in Chemical Engineering which bridge the gap between theoretical learning and practical implementation. All numerical problems are solved in a systematic manner to reinforce the understanding of the concepts. This book is primarily intended as a text book for the under graduate students of Chemical Engineering. It will also be useful for other allied branches such as, Aeronautical Engineering, Mechanical Engineering, Petro Chemical, Polymer Science and Engineering, Bio-technology as well as Diploma in Chemical Engineering. **Key Features:** \* Theoretical concept is explained with examples \*Numerical problems are solved in systematic manner to reinforce the understanding of the concepts \*Included a large number of diagrams illustrating industrial physical problems \*Only essential theory is discussed under each topic \* Stepwise procedure is given for solving problems under the topic of Chemical Equipment Design.

## Table of Contents

1. Basic Concept at Heat Transfer 2. Conduction 3. Insulations 4. Convection 5. Extended Surface- Fins 6. Dimensionless Group and Dimensional Analysis 7. Heat Transfer Analogy 8. Heat Transfer with Phase Change 9. Heat Transfer Equipment 10. Design of Heat Transfer Equipment 11. Radiation Answer to Exercise Problems Aptitude Test in Heat Transfer Index

## Author

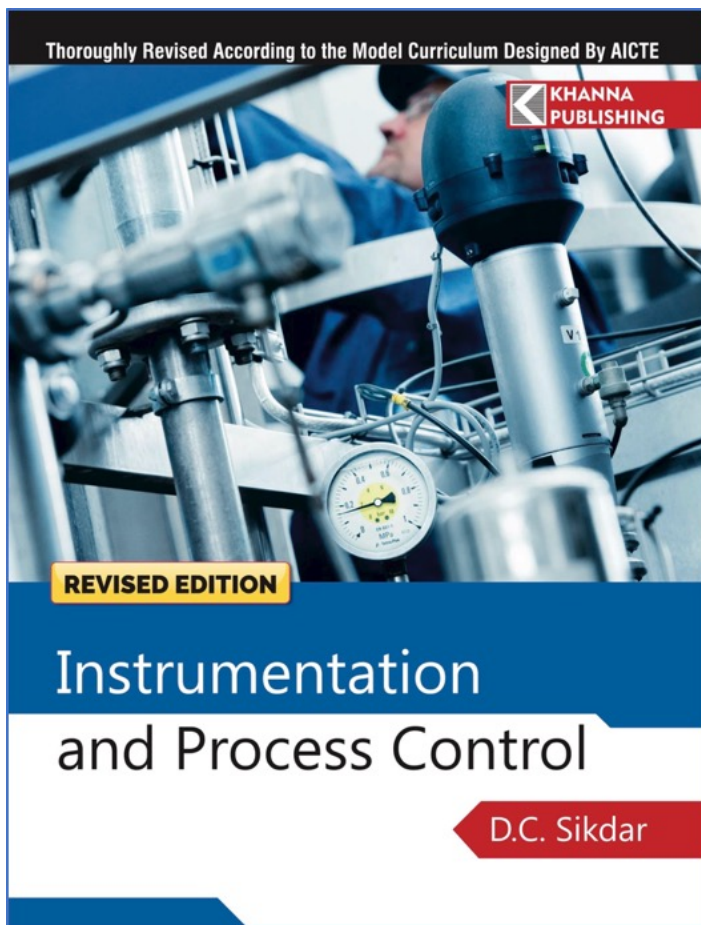
**D.C. Sikdar** D. C. Sikdar (Ph.D.) is an associate professor, Department of Chemical Engineering, Dayananda Sagar College of Engineering, Bangalore, with more than two and half decades of teaching experience. Prof. Sikdar has published many papers in national and international journals of repute. he has received Best Research Thesis Award from Karnataka State Bio-fuel Development Board for guiding M.Tech Thesis on "Development of Bio-Hydrogen Dependent Fuel Cell using Micro Algae" in 2012. Prof. Sikdar is also a member of Indian Society of Technical Education (ISTE) and Indian Institute of Chemical Engineers (IIChe).



**Khanna Publishing House**

4C/4344, Ansari Road, Daryaganj, New Delhi-110002

Email: [contact@khannabooks.com](mailto:contact@khannabooks.com) | Tel: 011-2324 44 47 - 48 | Mobile: + +91-99109 09320



## Instrumentation and Process Control

**Author :** D.C. Sikdar  
**ISBN 13 :** 978-93-82609-04-9  
**ISBN 10 :** 93-82609-04-0  
**E-ISBN 13 :** 978-93-82609-04-9  
**Edition :** 1  
**Pages :** 368  
**Type of book :** Paperback  
**Weight (g) :** 520.00  
**Year :** 2022  
**Language :** English  
**Publisher :** Khanna Publishing House  
**Price :** Rs 319.00

**Categories :** [All book](#), [Chemical Engineering](#),  
[Chemical Engineering](#), [UNIVERSITY RECOMMENDED](#)

**Condition Type :** New

**Country Origin :** India

---

## Product Description

---

This book is students friendly. It also demonstrates how to solve the industry related problems that crop up in Chemical Engineering Practice. The chapters are organized in a simple way that enables that students to acquire and in depth understanding of the subject. The emphasis is given to the fundamental of measuring instrument, Laplace Transform, Basic Concept of process control, first order and Second order system, Control of Industrial Bio-processes, Controller and Final control elements, Block diagram reduction techniques, Determination of Stability of a process, Advanced control techniques and control Structure of unit operations, all coming under the realm of Process Control. Apart from the numerous illustrations, the book contains review questions, exercises and aptitude test in chemical Engineering which bridge the gap between theoretical learning and practical implementation. All numerical problems are solved in a systematic manner to reinforce the understanding of the concepts. This book is primarily intended as a textbook for the under graduate students of Chemical Engineering, It will also be useful for other allied branches such as Medical Electronics, Aeronautical Engineering, Polymer Science and Engineering, Bio-technology as well as diploma in Chemical Engineering.



---

## Table of Contents

---

Chapter 1: Instrumentation Fundamental

Chapter 2: Pressure Measurements

Chapter 3: Temperature Measurements

Chapter 4: Flow Measurements

Chapter 5: Level Measurements

Chapter 6: Laplace Transform

Chapter 7: Basic Concept of Process Control and First Order System

Chapter 8: First Order System in Series

Chapter 9: Second Order System

Chapter 10: Industrial Bio-processes

Chapter 11: Controllers and Final Control Elements

Chapter 12: Block Diagram and Transient Response of Closed Loop Control System

Chapter 13: Stability

Chapter 14: Advanced Control Techniques

Chapter 15: Control Structure of Unit Operations

Answer to Exercise Problems

Appendix

Index

---

## Author

---

**D.C. Sikdar** D. C. Sikdar (Ph.D.) is an associate professor, Department of Chemical Engineering, Dayananda Sagar College of Engineering, Bangalore, with more than two and half decades of teaching experience. Prof. Sikdar has published many papers in national and international journals of repute. he has received Best Research Thesis Award from Karnataka State Bio-fuel Development Board for guiding M.Tech Thesis on "Development of Bio-Hydrogen Dependent Fuel Cell using Micro Algae" in 2012. Prof. Sikdar is also a member of Indian Society of Technical Education (ISTE) and Indian Institute of Chemical Engineers (IIChe).



**Khanna Publishing House**

4C/4344, Ansari Road, Daryaganj, New Delhi-110002

Email: [contact@khannabooks.com](mailto:contact@khannabooks.com) | Tel: 011-2324 44 47 - 48 | Mobile: + +91-99109 09320