

Instrumentation And Control in Process Industries

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ISBN 13: 978-93-55384-77-5

ISBN 10: 93-55384-77-7

E-ISBN 13: 978-93-55384-77-5

Edition: 1

Pages: 184

Type of book : Paperback

Weight (g): 400.00

Year: 2009

Language: English

Publisher: Khanna Publishing House

M.R.P: Rs 274.00

Categories: Chemical Engineering, ISTE

<u>Series</u>

SKU: 1725613297

Condition Type: New

Country Origin: India



Product Description

Many case studies related to instruments and controllers in operating plants are covered. Chapter-1 covers the basic principle of control, various technical terms used in control, classification of control system, rudimentary knowledge on pneumatic, hydraulic and electronic controllers. It is expected that by the end of covering these topics, people will be well familiar with technical jargons used by control engineers, why should there be automation, why process industries keep on investing very substantial amount to the extent of 20 to 30% of their plant outlay on instrumentation and control. Chapter 2- present a brief description of various types of instruments used in various industries. Chapter-3 lays emphasis on dynamic behavior of process measuring instruments and other peripherals, response of open loop and closed loop systems, stability, controller tuning, estimation of transfer functions and system parameters in operational plants, determining optimum controller setting for best operation of plants and few case studies. Chapter 4- covers the scheme of operations and strategies to be followed while introducing controllers in plants. It is expected that by the end of covering these topics, operating personnel will know theoretical basis of many operations on controllers that are being carried in plants, how some emergency measures are to be taken when the behavior of plant operations are not satisfactory.

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A Simple Glossary

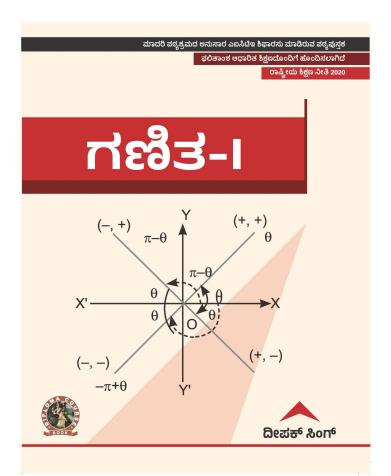
References



Authors

The first author of this learning material, Dr. P. N. Singh is the Director (Retired), National Institute of Technology Karnataka, Surathkal. He is basically a Chemical Engineer and has over decades of experience in teaching and research related to processes industries. The coauthor, Mr. S. R. Bhat, is presently working as Group General Manager (Instrumentation) at Mangalore Refinery and Petrochemicals Limited, Mangalore. He graduate in Chemical Engineering from Indian Institute of Technology, Chennai. Atomic Research centre, for seven years. Later he worked for Humphreys and Glasgow Consultants, for three years. He ha also worked for Uhde India Limited, for seven years. For the last sixteen years, he has been working for Mangalore Refinery and Petrochemicals in various capacities. He has introduced many innovative ideas in running the process plants, particularly in the areas of instrumentation and control.





Mathematics-I

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ISBN 13: 978-93-91505-77-6

ISBN 10: 93-91505-77-5

E-ISBN 13: 978-93-91505-77-6

Edition: 1

Pages: 184

Type of book : Paperback

Weight (g): 300.00

Year: 2023

Language: Kannada

Publisher: Khanna Publishing House

Categories:AICTE Prescribed Textbooks,

Ebooks, Kannada Books

SKU: 1725682578

Condition Type: New

Country Origin: India



Product Description

"Mathematics-I" is included as a paper for the first year Diploma program. Syllabus of this book is strictly aligned as per model curriculum of AICTE, and academic content is combined with the concept of outcome-based education. Book cover five Units Trigonometry, Functions and Limit, Differential Calculus, Complex numbers and partial Fraction, Permutation and Combination and Binomial Theorem. In every unit each topic is written in easy and lucid manner. A set of exercise at the end of each unit is clubbed to test the student's comprehension. Some salient features of the book: 1. Content of the book aligned with the mapping of Course Outcomes, Programs Outcomes and Unit Outcomes. 2. Book provides lots of real-world applications, interesting facts, QR Code for E-resources, mini projects, curiosity topics, sample specification table etc. ·3. Students and teacher centric subject materials included in book with balanced and chronological manner. 4. Figures, tables and mathematical equations are inserted to improve clarity of the topics. 5. Short questions, objective questions and long answer exercises are given for practice of students after every chapter. 6. Comprehensive synopsis of formulae for a quick revision of the basic principles.

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Authors

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