

AICTE PRESCRIBED TEXTBOOK AS PER MODEL CURRICULUM

Aligned with Outcome Based Education

National Education Policy 2020



INSTRUMENTATION FOR CIVIL ENGINEERING APPLICATIONS

Ashim Kanti Dey | Manita Das



अखिल भारतीय तकनीकी शिक्षा परिषद्
All India Council for Technical Education



Instrumentation for Civil Engineering Applications

| | |
|-------------------------|---|
| Author : | Ashim Kanti Dey |
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Product Description

Instrumentation for Civil Engineering Applications The objective of this course is to understand instrumentation, sensor theory and technology, data acquisition, digital signal processing, life time analysis and decision making. The course introduces theoretical and practical principles of design of sensor systems. Topics include: transducer characteristics for acoustic, current, temperature, pressure, electric, magnetic, gravity, salinity, velocity, heat flow and optical devices; limitations on these devices imposed by building/structure/ pavement environments; signal conditioning and recording, noise, sensitivity and sampling limitations. The contents of the book cover the principles of state-of-the-art systems being used in physical infrastructure/bridges/ buildings/pavements, etc. For laboratory work, the course will allow students to prepare, deploy and analyse observations from standard instruments. **Salient Features:**

- The content of the book is aligned with the mapping of Course Outcomes, Program Outcomes and Unit Outcomes.
- In the beginning of each unit learning outcomes are listed to make the students understand what is expected out of him/her after completing that unit.
- Book provides lots of information on sensors, working principle of instrumentations, error analysis and QR codes for further learning
- Figures, tables and photographs are inserted to improve the clarity of the topics
- Questions are given for practice of the students after every chapter
- Solved numerical problems are illustrated in the chapters.

Expectations:

- Learners should recognize the best measurement technique for a physical system
- Learners should identify ways to improve measurement and evaluation
- Learners should build up a life-long learning culture on application of proper instruments for Civil Engineering structures.



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Foreword Acknowledgement Preface Outcome Based Education Course Outcomes Guidelines For Teachers Guidelines For Students List Of Figures List of Tables

- Fundamental Of Measurement, Sensing and Instrumentation
- Sensor Installation and Operation
- Data Analysis and Interpretation
- Frequency Domain Signal Processing and Analysis

CO-PO Attainment Table Index

Author

Prof. Ashim Kanti Dey Professor Department of Civil Engineering, National Institute of Technology, Silchar **Dr. Manita Das** Assistant Professor Department of Civil Engineering, ITER, SOA (Deemed to be University)



AICTE PRESCRIBED TEXTBOOK AS PER MODEL CURRICULUM

Aligned with Outcome Based Education

National Education Policy 2020



COMPUTER AIDED MACHINE DRAWING PRACTICE

Kanak Kalita



अखिल भारतीय तकनीकी शिक्षा परिषद्
All India Council for Technical Education



Computer Aided Machine Drawing Practice

| | |
|-------------------------|--|
| Author : | Kanak Kalita |
| ISBN 13 : | 978-93-55383-57-0 |
| ISBN 10 : | 93-55383-57-6 |
| E-ISBN 13 : | 978-93-55383-57-0 |
| Edition : | First |
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| Type of book : | Paperback |
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| Language : | English |
| Publisher : | Khanna Publishing House |
| M.R.P : | Rs 440.00 |
| Categories : | AICTE Prescribed Textbooks, English Books |
| Condition Type : | New |
| Country Origin : | India |

Product Description

Computer Aided Machine Drawing Practice Computer Aided Machine Drawing Practice offers a comprehensive guide into the world of computer-aided design (CAD) with a focus on machine drawing. As technology evolves, the importance of CAD in the fields of mechanical engineering, automotive design and manufacturing is paramount. This book serves as an essential resource for students and professionals in these domains. Starting with the basics of AutoCAD, the book gradually introduces the reader to its intricacies, with practical insights into 2D and 3D modelling. Salient features:

- Content of the book aligned with the mapping course outcomes, programs and Units Outcomes.
- In the beginning of each unit learning outcomes are listed to make the student understand what is expected out of him/her after completing that unit.
- Book provides lots of recent information, interesting facts, QR code for E-resources, QR code for use of ICT, projects, group discussion etc.
- Student and teacher centric subject materials included in book with balanced and chronological manner.
- Figures, tables, and software screen shots are inserted to improve clarity of the topics.
- Apart from essential information a 'know more' section is also provided in each unit to extend the learning beyond syllabus.
- Short questions, objective questions and long answer exercises are given for practice of students after every chapter.
- This book is not just an academic tool, but a bridge to the professional world of machine drawing design, making it a must-have for anyone stepping into the realm of computer-aided design



Table of Contents

Foreword Acknowledgement Preface Outcome Based Education Course Outcomes Guidelines for Teachers Guidelines for Students Abbreviations and Symbols List of Figures

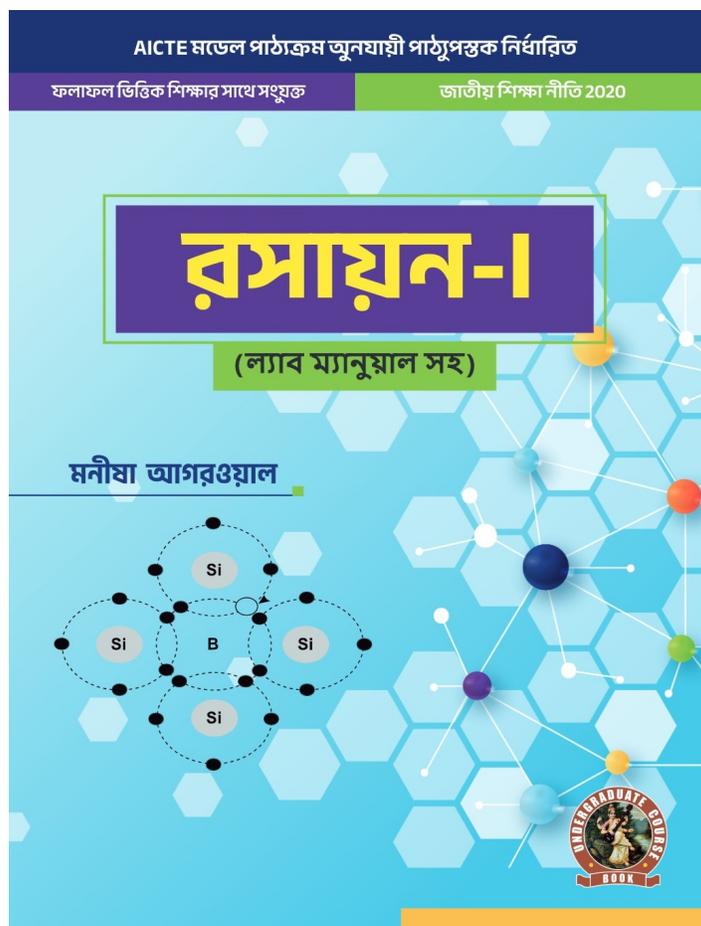
1. Introduction to CAD Software
2. Drawing Aids and Editing
3. Basic Dimensioning and Annotations in AutoCAD
4. Hatching, Blocks and Views in AutoCAD
5. Viewport and Isomeric Drawing in AutoCAD
6. Printing and plotting in AutoCAD
7. Machine Drawing Practice Using AutoCAD

Co And Po Attainment Table Index

Author

Dr. Kanak Kalita Associate Professor, Dept. of Mechanical Engineering (ME), Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai, Tamil Nadu





Chemistry I (with Lab Manual)

| | |
|-------------------------|--|
| Author : | Manisha Agrawal |
| ISBN 13 : | 978-93-55381-02-6 |
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| Condition Type : | New |
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Product Description

“Chemistry-I” is a compulsory paper for the first year Undergraduate course in Engineering & Technology. Syllabus of this book is strictly aligned as per model curriculum of AICTE, and academic content is amalgamated with the concept of outcome based education. Book covers seven topics- Atomic and molecular structure, Spectroscopic Technique and applications, Inter-molecular Forces and Potential Energy Surfaces, Use of Free Energy in Chemical Equilibrium, Periodic Properties, Stereo-chemistry, Organic Reactions and Synthesis of Drug Molecules. Each topic is written in easy and lucid manner. Every chapter contains a set of exercise at the end of each unit to test student’s comprehension. Salient Features: Content of the book aligned with the mapping of Course Outcomes, Programs Outcomes and Unit Outcomes. Book Provides lots of recent information, interesting facts, QR Code for E-resources, QR Code for use of ICT, Projects group discussion etc. Students and teacher centric subject materials included in book with balanced and chronological manner. Figures, tables, chemical equations and comparative charts are inserted to improve clarity of the topics. Short questions, objective questions and long answer exercises are given for practice of students after every chapter. Solved and unsolved problems including numerical examples are solved with systematic steps.



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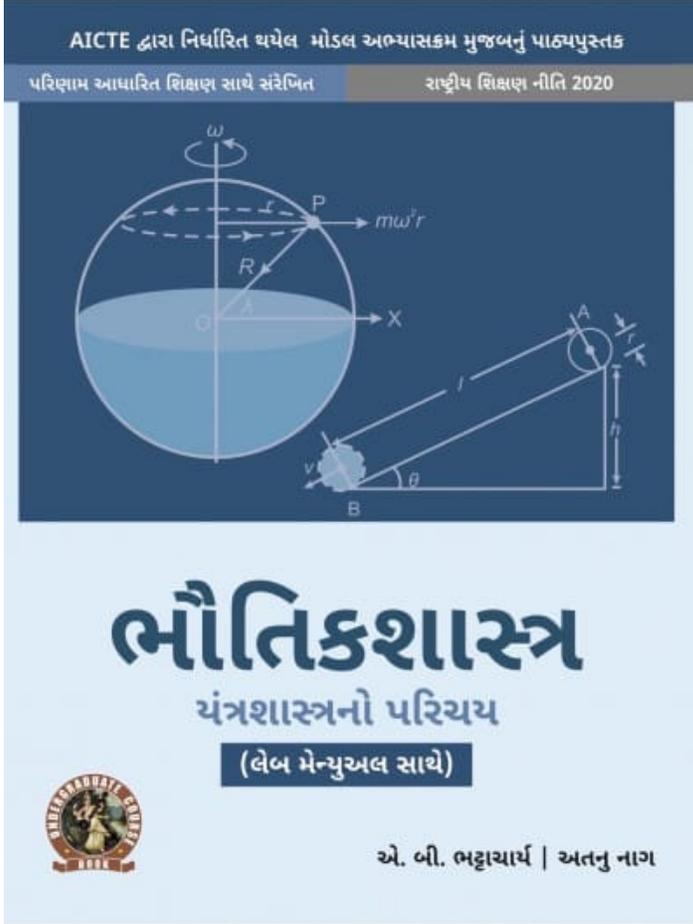
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Foreword Acknowledgement Preface Outcome Based Education Course Outcomes Abbreviations and Symbols List of Figures List of Tables Guidelines for Teacher Guidelines for Students Chapter 1: Atomic and Molecular Structure. Chapter 2: Spectroscopic Techniques and Applications. Chapter 3: Intermolecular Forces and Potential Energy Surfaces. Chapter 4: Use of Free. Energy in Chemical Equilibria Chapter 5: Periodic Properties. Chapter 6: Stereochemistry and Organic Reactions. Chapter 7: Organic Reactions Synthesis of Drug Molecules. Chapter 8: Annexure. Chapter 9: Appendices.

Author

Dr. Manisha Agarwal is Dean, Basic Sciences at Chhattisgarh Swami Vivekanand Technical University Bhilai. Professor and head, Department of Chemistry at Rungta College of Engineering & Technology, Bhilai, (C.G.). She completed Ph. D. from Pt. Ravishankar Shukla University, Raipur in 1999. Since then she has been engaged in teaching and research. Dr. Manisha has authored several papers which have been published in SCI indexed International and National journals. She has organised more than 10 Conferences and workshops as convener among them four were International Conferences. She has credited five books as author, three patents as inventor and applicant and six Research Project Grants as Principal Investigator from Government Funding agencies like AICTE, CCOST and CSVTU. She has supervised 5 M. Phil. Students, 12 BE and Diploma students. Presently 6 research scholars are perusing Ph. D. under her supervision.





Physics (Introduction to Mechanics) (with Lab Manual)

| | |
|-------------------------|---|
| Author : | A. B. Bhattacharya |
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| ISBN 10 : | 93-55381-66-2 |
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| Condition Type : | New |
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Product Description

Engineering Physics: Introduction to Electromagnetic Theory has been written for the first year students of B. Tech Engineering Degree Courses of all Indian Universities following the guideline and syllabus as recommended by AICTE. The book, written in a very simple and lucid way, will be very much helpful to reinforce understanding of different aspects to meet the engineering student's needs. Writing a text-cum manual of this category poses several challenges providing enough content without sacrificing the essentials, highlighting the key features, presenting in a novel format and building informative assessment. This book on engineering physics will prepare students to apply the knowledge of Electromagnetic Theory to tackle 21st century and onward engineering challenges and address the related questions. Some Salient Features of the Book: 1. Expose basic science to the engineering students to the fundamentals of physics and to enable them to get an insight of the subject. 2. To develop knowledge on critical questions, solved and supplementary problems covering all types of medium and advanced level problems in a very logical and systematic manner. 3. Some essential information for the users under the heading "know More" for clarifying some basic. 4. Information as well as comprehensive synopsis of formulae for a quick revision of the basic principles. 5. Constructive manner of presentation so that an Engineering degree students can prepare to work in different sector or in national laboratories at the very forefront of technology.



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Unit 2: Electrostatics in Linear Dielectric Medium.

Unit 3: Magnetostatics.

Unit 4: Magnetostatics in Linear Dielectric Medium.

Unit 5: Faraday's Law.

Unit 6: Maxwell's Equations.

Unit 7: Electromagnetic Waves.

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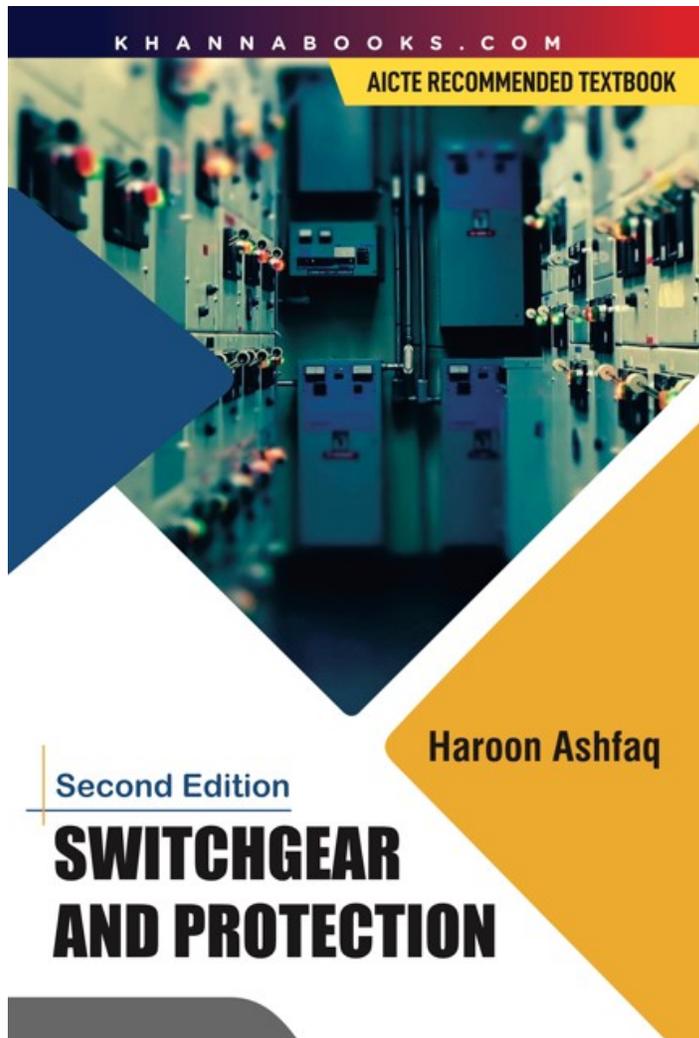
A. B. Bhattacharya

Prof. A. B. Bhattacharya, Pro-Vice-Chancellor of JIS University, did his M. Sc. and Ph. D. degree in Physics from the University of Calcutta. He did his Post-doc from the Massachusetts Institute of Technology, USA and subsequently joined in the Department of Physics, Kalyani University. He has published 256 Research papers in high-impact Journals and over 150 proceeding papers in conferences. He has successfully guided 24 scholars for their Ph.D. and has written a large number of invited articles in many Journals. He is the author of 29 textbooks written for engineering and science students and also for general readers from many reputed publishers like Infinity Science Press, Taylor & Francis, etc. International Institute of Success Awareness honored him with their most coveted Institutional and globally reputed “Glory of India Gold Medal” for remarkable contributions to India’s national prestige. He is a Life Fellow of the Institution of Electronics and Telecommunication Engineers.

A. Nag

Dr. Atanu Nag did his M. Sc. in 2007 and Ph. D. in 2013 from the University of Kalyani. He has published over 50 Journal papers and 5 books for Science & Engineering students. Presently he is the Head and Associate Professor in the Department of Physics, Modern Institute of Engineering & Technology, Hooghly, West Bengal.





Switchgear and Protection

| | |
|-------------------------|--|
| Author : | Haroon Ashfaq |
| ISBN 13 : | 978-93-80016-07-8 |
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Product Description

This book is intended to serve as a textbook for course 'switchgear and protection' for B. Tech/B.E. Degree students of Electrical Engineering. It will also serve as a text reference for the students of diploma in electrical engineering. The common topics included in the syllabi of almost all engineering institutions in India are covered in this book.



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Chapter 1: Protection Systems. **Chapter 2:** Electromagnetic & Electro-Thermal Relays. **Chapter 3:** Static Relays. **Chapter 4:** Over Current Protection. **Chapter 5:** Distance Protection. **Chapter 6:** Transformer Protection. **Chapter 7:** Generator and Motor Protection. **Chapter 8:** Transmission Line and Busbar Protection. **Chapter 9:** System Neutral Grounding. **Chapter 10:** Over voltage Protection. **Chapter 11:** Circuit Breaking. **Chapter 12:** Circuit Breakers.

Author

Haroon Ashfaq Haroon Ashfaq is Assistant Professor, Department of Electrical Engineering, Jamia Millia Islamia, New Delhi. He is did his B.Tech in Electrical Engineering, M.Tech in Power Systems & Drives and has a doctorate in Electric Drives from Aligarh Muslim University, Aligarh. He has co-authored successful books which includes Network Analysis & Synthesis. He also has several international and national research publications to his credit.



AICTE विहित पाठ्यपुस्तक आदर्श अभ्यासक्रमानुसार

परिणाम आधारित शिक्षणाधी सुसंगत

राष्ट्रीय शैक्षणिक धोरण 2020

आयटी प्रणालींचा परिचय

(प्रयोगशाळा नियमपुस्तिकेसह)



प्रशांत जोशी

Introduction to IT Systems (with Lab Manual)

| | |
|-------------------------|--|
| Author : | Prashant Joshi |
| ISBN 13 : | 978-93-55380-36-4 |
| ISBN 10 : | 93-55380-36-4 |
| E-ISBN 13 : | 978-93-55380-36-4 |
| Edition : | First |
| Pages : | 244 |
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| Weight (g) : | 300.00 |
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| Publisher : | Khanna Publishing House |
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| Country Origin : | India |

Product Description

“INTRODUCTION TO SYSTEMS” is a compulsory paper for the first year Diploma in Engineering & Technology. Syllabus of this book is strictly aligned as per model curriculum of AICTE, and academic content is amalgamated with the concept of outcome based education. Book covers five units- Internet Skills and Computer Basics, Operating Systems, HTML and CSS, open Office Tools. And information Security Best Practices. Each topic in units is written in each and lucid manner. Every unit contains a set of exercise at the end of each unit to test 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. Practical are included with each unit for better understanding of the theoretical concepts. 3. Book Provides interesting facts and various activities pertaining to topic. QR Codes are used for additional E-resources, use of ICT, online code editors, online quiz etc. 4. Student and teacher centric subject materials included in balanced and chronological manner. 5. Figures, tables, source code for web programming, numerous examples and applications are included to improve clarity of the topics. 6. Objective questions, subjective questions and crossword exercise are given for practice of students after every chapter.

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Foreword, Acknowledgement, Preface, Outcome Based Educations, Course Outcomes, List of Abbreviations List of Figures, Guidelines for Teachers, Guidelines for Students, UNIT 1: Internet skills and computer Basics. **UNIT 2:** Operating Systems. **UNIT 3:** HTML AND CSS. **UNIT 4:** Open Office Tools. **UNIT 5:** Information Security Best Practices. **Annexure Appendices Index**

Author

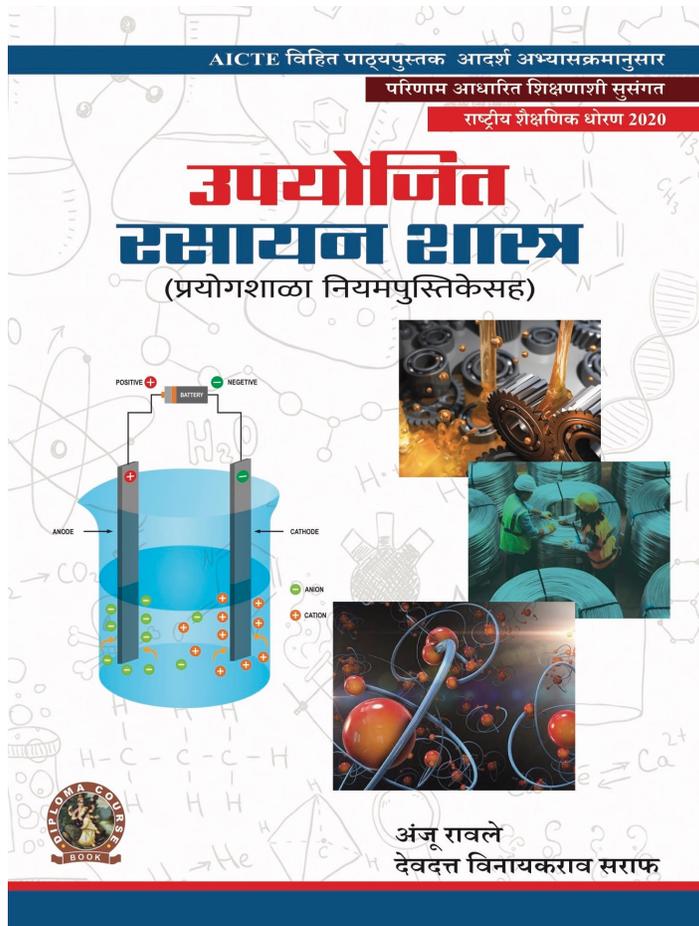
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Applied Chemistry (with Lab Manual)

| | |
|-------------------------|--|
| Author : | Anju Rawley |
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Product Description

This text book o “Applied Chemistry” is development as per AICTE model curriculum ,2018, for compulsory course on Applied Chemistry of first years Diploma Program in Engineering and Technology. Atomic Structure, Chemical Bonding & Solution, Water, Engineering Materials, Chemistry of fuels & Lubricants and Electrochemistry are the five units of this book, comprising of both practical and theory. Some salient features of the book: 1. Course Outcomes and Unit Outcomes are written specifically and are mapped with program Outcomes. 2. Utmost care have been taken to amalgamate the philosophy of outcome based education. 3. The structure of the textbook is comprehensive, where in practical exercises are integral part of each unit. 4. The text is presented in a very simple way with illustrations, examples, tables, flow chart, self -assessment questions and their solutions. 5. Micro projects, points/issue for the creative inquisitiveness & curiosity, know more, video links, case study and summary points are integral part of each unit to facilitate the students to develop the attitude of scientific inquiry, investigate the cause and effect relationship, systematic, scientific & logical thinking , ability to observe, analyse and interpret. 6. To meet the requirement of outcome based education (OBE) and outcome based assessment (OBA), criterion referenced testing (CRT) have been used as an integral part of assessment in each practical. 7. Sample QR codes have been provided in each units on some topics/sub topics for supplementary reading and reinforcing the learning.

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