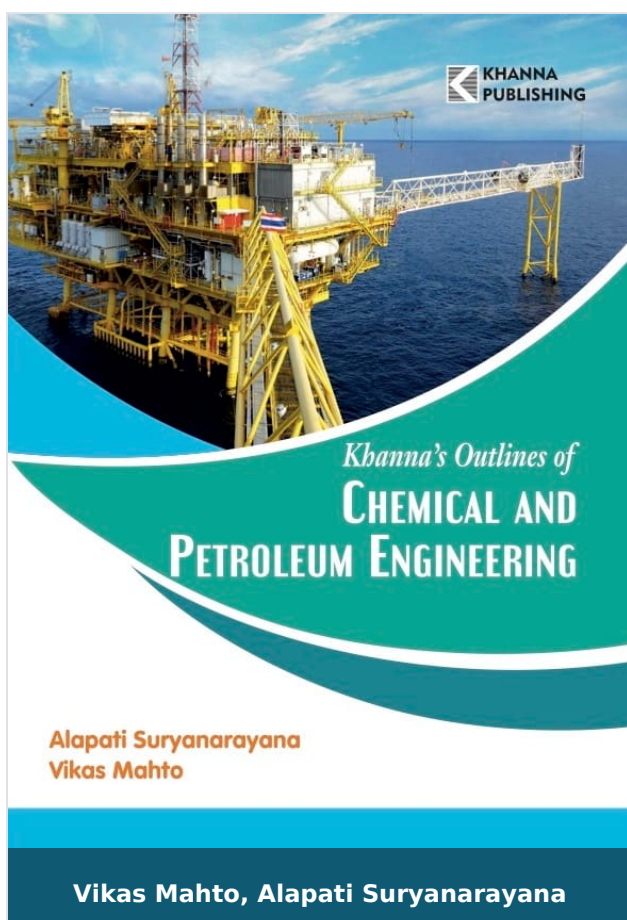




Khanna's Outlines of CHEMICAL & PETROLEUM ENGINEERING

Author : Vikas Mahto, Alapati Suryanarayana

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Condition Type : New

Country Origin : India

Product Description

This book of chemical & Petroleum Engineering Contains of Various Topics. It covers different type of question with their Answers and Fill in the Blanks. Required data and equations are given for day to day calculations of Chemical Engineering topics. This book is necessary tool or an instrument for Chemical & Petroleum Engineers.

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- Stiochiometry
- Mechanical Operations
- Fuels and Combustion
- Chemical Technology
- Fluid Mechanics
- Heat Transfer
- Mass Transfer
- Thermodynamics
- Chemical Reaction Engineering
- Instrumentation and Process Control
- Equipment Design and Economics
- Computers
- Petroleum Engineering
- Energy Conservation and Safety
- Optimization
- Environmental Engineering
- Summary of Wquations
- Mathematics
- Material Science and Engineering
- Corrosion Engineering
- Safety Engineering
- Petroleum Engineering (Multiple Choice Question)
- Appendix

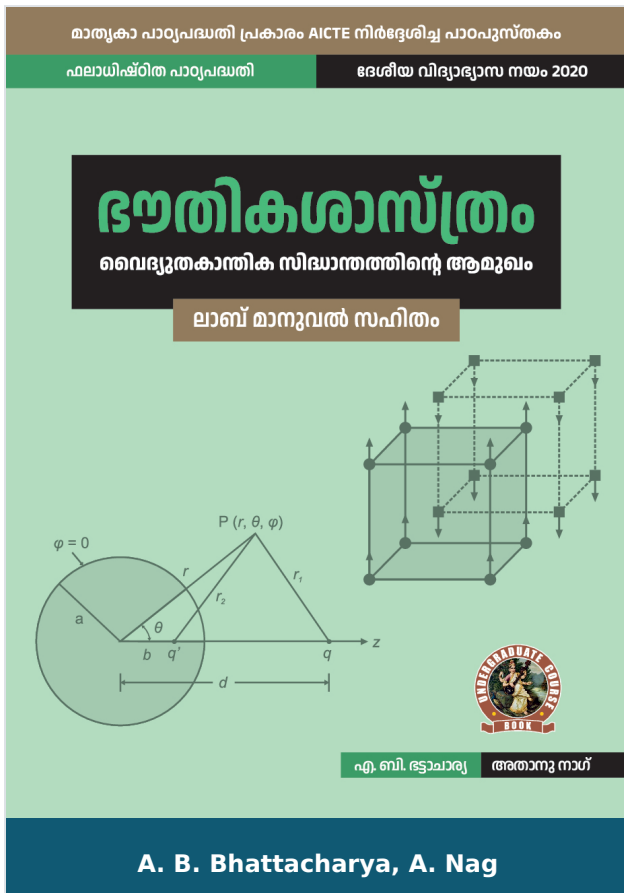
Author

Vikas Mahto

Dr. Vikas Mahto is an Associate Professor in the petroleum Engineering Department of Indian School Of Mines Dhanbad, India. He has received his Ph.D. degree in petroleum Engineering from Indian School of Mines Dhanbad in 2004. He is having more than 12 years of teaching experience in the field of Chemical Engineering and Petroleum Engineering. He is the author of more than 100 technical papers in different national/International journals 7 conferences of repute. He has completed three research projects sponsored by UGC-ISM, UGC New Delhi and CSIR New Delhi and currently working on collaborative project with Oil India India Ltd, Duliajan, Assam. He has filed two Indian Patents. He is the reviewer and member of editorial boards of many national and international journals.

Alapati Suryanarayana

Alapati Suryanarayana



Physics - Introduction to Electromagnetic Theory (with Lab Manual)

Author : A. B. Bhattacharya, A. Nag

ISBN 13 : 978-93-55381-55-2

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Categories : [AICTE Prescribed Textbooks, Book Store, Ebooks, Malayalam Books](#)

Condition Type : New

Country Origin : India

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:

- Expose basic science to the engineering students to the fundamentals of physics and to enable them to get an insight of the subject.
- 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.
- Some essential information for the users under the heading "know More" for clarifying some basic
- Information as well as comprehensive synopsis of formulae for a quick revision of the basic principles.
- 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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- Guidelines for Students
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- Electrostatics in Linear Dielectric Medium.
- Magnetostatics.
- Magnetostatics in Linear Dielectric Medium.
- Faraday's Law.
- Maxwell's Equations.
- Electromagnetic Waves.
- Table of Physical Constants
- Appendices
- Annexures
- References for Further learning
- CO and PO attainment Table
- Index

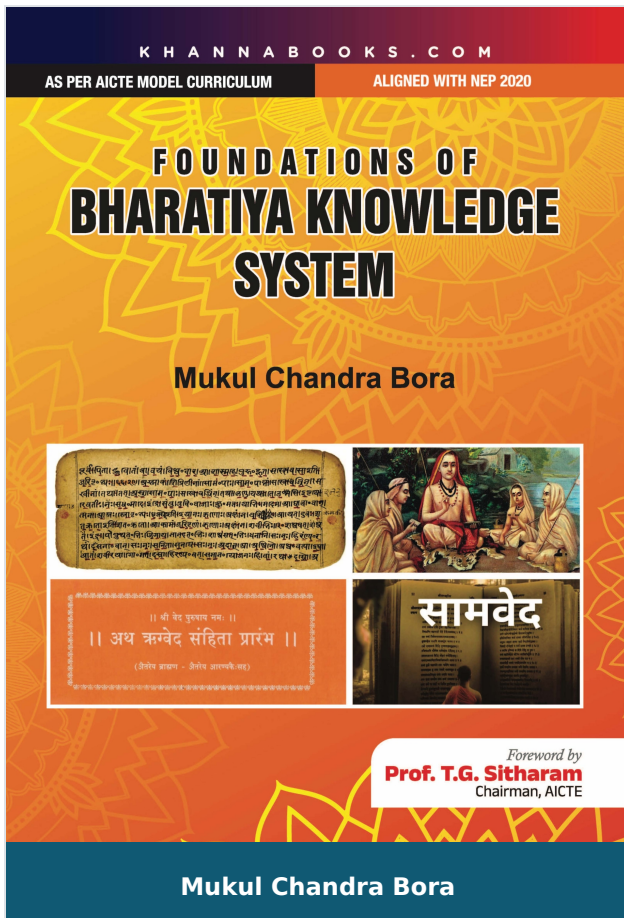
Author

A. B. Bhattacharya

Prof. A. B. Bhattacharya did his MSc and PhD degree from the University of Calcutta in Physics and Post-doc from the Massachusetts Institute of Technology (MIT), Cambridge, USA. He worked in close collaboration with the leading laboratories like Lincoln Laboratory; Milestone Hill Observatory; Earth, Atmospheric and Planetary Sciences division of MIT and many other well recognized laboratories in India and abroad. He served as Professor & Head of the Department of Physics, University of Kalyani; Dean of Research and Head of the ECE Department, Techno India University; Pro Vice Chancellor of JIS University and Director of Brainware University. He has published 32 text books for Science and Engineering students, two popular books for general readers and over 400 research articles in reputed International Journals. Under his supervision 24 scholars received their doctoral degree. He is a fellow of the Institute of Electronics and Telecommunication Engineers and member of many scientific organizations. India International Friendship Society awarded him the prestigious "Shiksha Ratna Award" and Certificate of Excellence for meritorious services, outstanding performance and significant contribution to education. The International Institute of Success Awareness honored him with their globally recognized "Glory of India Gold Medal" for his outstanding contribution to the national stature of India. A few words from the certificate issued by Prof. Williams of MIT may be quoted "Our collaborative effort was directed at the wavelength dependence of radar echoes observations with the Millstone Hill UHF radar in Westford. He made use of the Charles River Data System computer in the Weather Radar Laboratory for these calculations. His results help to make a convincing case that the volume reflectivity associated with lighting is a diminishing function of radar wavelength, contrary to contemporary thinking". Dr.

A. Nag

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.



Foundations of Bharatiya Knowledge System

Author : Mukul Chandra Bora

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Publisher : Khanna Publishing House

M.R.P : Rs 449.00

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[Education & Knowledge Systems](#)

Condition Type : New

Country Origin : India

Product Description

In recent times, there has been a growing discussion about the Bharatiya Knowledge System. However, many of us lack a deep understanding of its foundations, which is akin to achieving sustainability without acknowledging the importance of mother nature and the Earth. After Conduction three Years of research in this field, the author discovered that although people often mention the Bharatiya Knowledge System, most of us are not well- versed in the fundamental Knowledge and interpretation of the Sanskrit Literature of Ancient India. Therefore, it is crucial to first delve in to the foundations of the Bharatiya Knowledge System and subsequently explore its relevance in the modern scientific world. Just as a building or structure cannot be constructed without a solid foundation, acquiring a comprehensive understanding of the Bharatiya Knowledge System necessitates studying the Vedic Texts and Literature. Consequently, the author has divided this book into two volumes as Volume I: Foundations of Bharatiya Knowledge System which simply covers the foundations of the Bharatiya Knowledge System in a simple and easy-understandable language; Volume II: Bharatiya Knowledge System and Modern World which examines the scientific and modern theories found in the ancient texts.

Salient Features of this book Include an Exploration of the:

1. Vedic Period of Bharat.
2. The History of Sanskrit Literature.
3. An Introduction to Rigveda, Yajurveda, Atharvaveda, Samaveda, Brahmanas, and Upanishads.
4. Although there is an extensive treasure trove of Sanskrit Literature.
5. This Book Focuses solely on the original Vedas, Brahmanas and Upanishads.
6. Ancient Bharat's Seat of Learning.

7. How the Western People got our Ancient Rishi's Wisdom and converted it to materialistic use.

8. Why do we have to know our heritage which was neglected for many thousands of years by our own people?

In the final chapters, there sections are dedicated to provide glimpses of our ancient education and its application in the modern world. These chapters are intended to stimulate readers' minds and help them recognize the relevance of the Bharatiya Knowledge System in their own academic lives. Fostering a sense of pride in the Vast practical knowledge of ancient India. This book is entirely devoted to establishing the foundations of the Bharatiya Knowledge System, Supplemented by a few examples of its application in today's world.

Table Of Contents

- Brief Introduction of Bharatvarsha
- Introduction to Science In Vedic Literature
- Vedic Period Of Bharat
- History of Sanskrit Literature
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- Rigvedic Society of Bharat
- Introduction to Atharvaveda
- Introduction to Samaveda
- The Brahmanas and Upanishads
- Scientific Evidence of Sanskrit Literature
- Great Learning Places of Ancient Bharat
- Glimpses of Ancient Bharatiya Knowledge in Modern World
- Suggested Reading
- Brief Introduction to Bharatiya Knowledge System Vol II

Author

Mukul Chandra Bora

Dr. Mukul Chandra Bora has an extensive academic background in civil engineering, reflecting his commitment to scholarly excellence. He earned a Ph.D. in Civil Engineering from the Indian Institute of Technology (IIT) Guwahati in 2011, following an M. Tech in Geotechnical Engineering from IIT Kharagpur in 2000. His journey in the field began with a B.E. in Civil Engineering from Dibrugarh University in 1988. With decades of professional experience, Dr. Bora has held key academic and administrative roles. Since August 2012, he has been the Director of the Institute of Engineering & Technology, Dibrugarh.

University. Previously, he served as State Project Administrator for the Northeast State Project Implementation Unit (2017-2021) of TEQIP - III project of Ministry of Education, Government of India. His teaching career includes a tenure at Technical Education Department of Government of Assam together with professional experience as a Quantity Surveyor at PBS Limited, Guwahati (1991-1995) and a Site Engineer at M.L. Dalmiya & Co. Ltd., Kolkata (1989-1991). Dr. Bora's research and consultancy work focus on ground improvement techniques, geosynthetics, rainfall impact on groundwater, non-biodegradable waste in construction, and slope stabilization. He has contributed significantly to materials characterization and geotechnical investigations for major infrastructure projects, including power plants and industrial facilities. He is a fellow of the Institution of Engineers (India), a Senior Member of the Asia Pacific Chemical, Biological and Environmental Engineering Society (Hong Kong), and a Member of the International Association for Life Cycle Civil Engineering (Italy). Additionally, he serves as a reviewer for reputed journals, including Springer's Journal of the Institution of Engineers (India), Series A. Beyond civil engineering, Dr. Bora has made remarkable contributions to the Bhartiya Knowledge System (BKS), which encompasses philosophy, science, mathematics, astronomy, Ayurveda, linguistics, and traditional Indian technologies. Rooted in ancient texts like the Vedas and Upanishads, BKS has profoundly influenced Indian civilization. Dr. Bora is dedicated to reviving and integrating traditional Indian knowledge with modern research and education, bridging the gap between ancient wisdom and contemporary advancements. His book, "Foundations of Bhartiya Knowledge System" (2023), published by Khanna Publishing House, delves into the fundamental principles of India's knowledge systems, promoting their relevance in the modern era. Through his work, Dr. Bora continues to advance both civil engineering and India's intellectual heritage, fostering a deeper appreciation of Bhartiya wisdom among scholars and students.



Mati Kahe Pukar Ke

Author : Girish Chand Agarwal

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E-ISBN 13 : 978-93-90779-10-9

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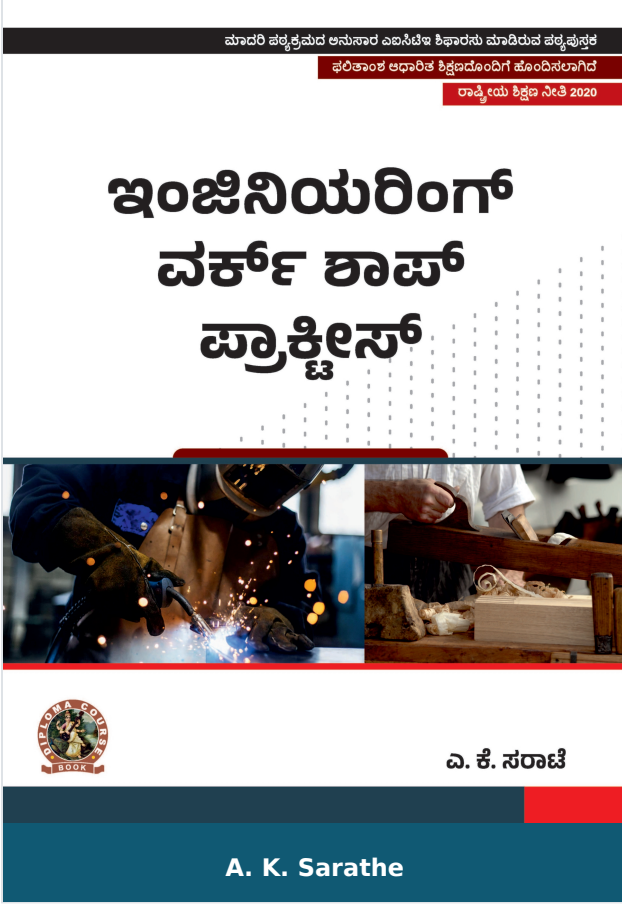
Country Origin : India

Product Description

Author

Girish Chand Agarwal

Girish Chand Agarwal



Engineering Workshop Practice

Author : A. K. Sarathe

ISBN 13 : 978-93-55380-05-0

ISBN 10 : 9355380054

E-ISBN 13 : 978-93-55380-05-0

Edition : 1

Pages : 188

Type of book : Physical

Year : 2023

Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 395.00

Categories : [AICTE Prescribed Textbooks,](#)
[Kannada Books, Book Store,](#)
[Ebooks](#)

Condition Type : New

Country Origin : India

Product Description

“ Engineering Workshop Practice Manual” is a common paper for the first year Diploma 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.

Engineering Workshop Practice manual covers five units- First unit deals with the carpentry, second unit is about fitting , third unit focuses on welding, fourth units discusses about sheet metal working and the fifth unit deals with electrical house wiring . The manual comprises of total seventeen workshop practical from P1 to P17 and the same are arranged in hierarchical manner from simple to complex so that students should not only focus on completing the practical and getting the marks/ grades but will also be motivated to create useful products incorporating their creative and critical thinking as well.

Some salient features of the book:

1. Content of the manual aligned with the mapping of Course Outcomes, Programs Outcomes and practical outcomes.
2. Relevant theory has been included at the beginning of each practical.
3. The manual has been developed to ensure alignment with the Outcome Based Education philosophy and consisting of total seventeen workshop practical.
4. Unit wise practical are arranged in hierarchical manner from simple to complex.
5. Manual provides recent information and QR Code for E-resources etc.
6. Figures, photographs and table are inserted to improve clarity of the content.

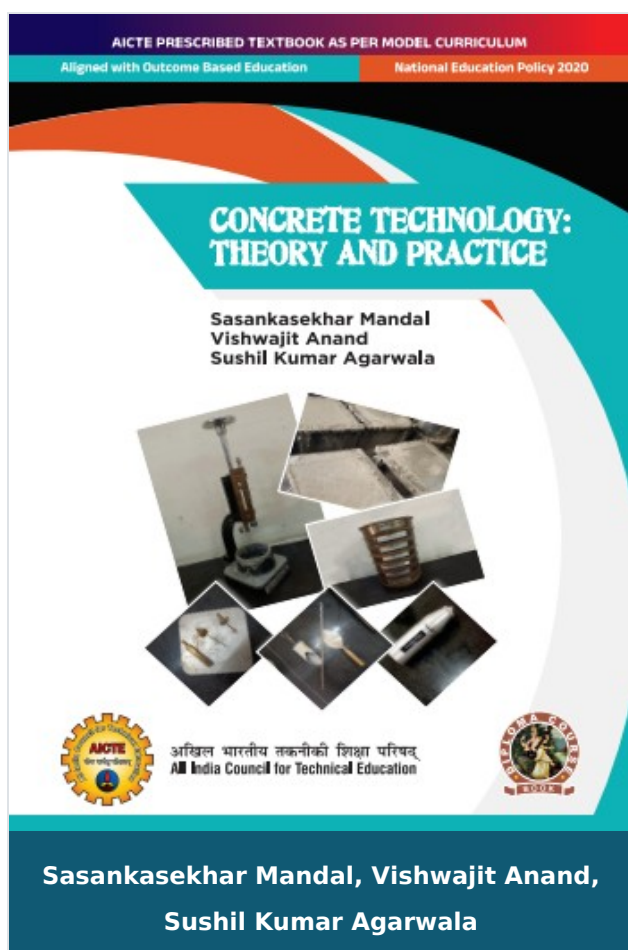
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- Fitting
- Welding Tools and Equipment
- Sheet Metal Working
- Electrical House wiring
- Index

Author

A. K. Sarathe

A. K. Sarathe



Concrete Technology: Theory and Practice

Author : Sasankasekhar Mandal, Vishwajit Anand, Sushil Kumar Agarwala

ISBN 13 : 978-93-55382-65-8

ISBN 10 : 9355382650

E-ISBN 13 : 978-93-55382-65-8

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Type of book : Physical

Year : 2026

Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 398.00

Categories : [AICTE Prescribed Textbooks,](#)
[English Books, Book Store](#)

Condition Type : New

Country Origin : India

Product Description

Concrete Technology: Theory and Practice

This book is intended to provide students and professionals, a deep understanding of concrete technology. It explains the fundamental concepts, material characteristics and related laboratory experiments on concrete and its ingredients. It also includes latest relevant provisions of Indian standards such as IS 456, IS 10262, IS 383, IS 2386 and IS 516.

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.
- Solved and unsolved problems including numerical examples are solved with systematic steps.

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- Concrete Mix Design and Testing of Concrete
- Quality Control of Concrete and Concreting Operations
- Admixtures and Types of Special Concrete
- Laboratory Tests on Concrete and its Ingredients
- CO and PO Attainment Table
- Index

Author

Sasankasekhar Mandal

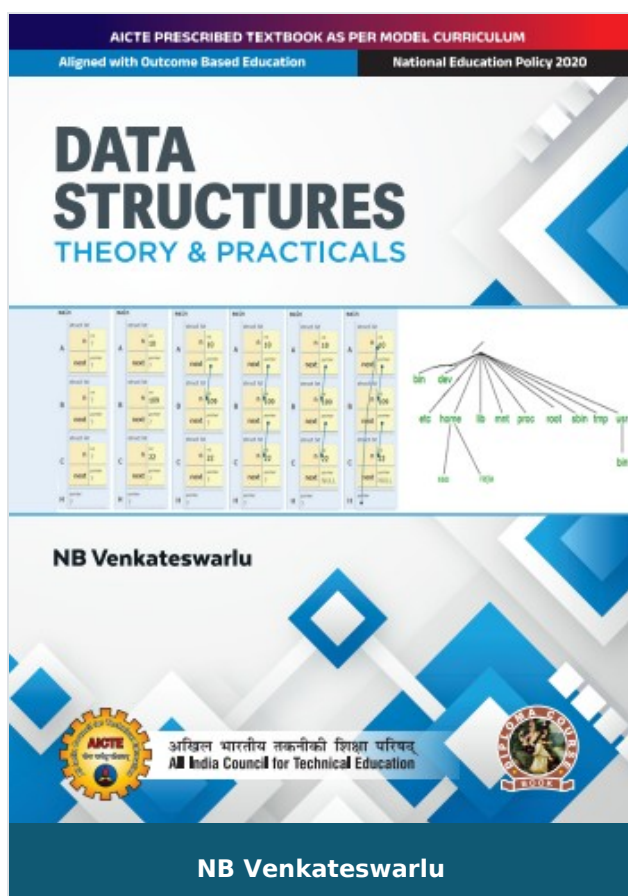
Prof. Sasankasekhar Mandal Professor, Department of Civil Engineering, IIT (BHU),
Varanasi, India Prof.

Vishwajit Anand

Dr. Vishwajit Anand Assistant Professor, Department of Civil Engineering, IIT (BHU),
Varanasi, India

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Prof. Sushil Kumar Agarwala Former Professor, Department of Civil Engineering, IIT
Roorkee, India Dr.



Data Structures: Theory & Practicals

Author : NB Venkateswarlu

ISBN 13 : 978-93-55387-68-4

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Edition : First

Pages : 320

Type of book : Physical

Year : 2026

Language : English

Publisher : Khanna Publishing House

M.R.P : Rs 598.00

Categories : [AICTE Prescribed Textbooks,](#)
[English Books, Book Store](#)

Condition Type : New

Country Origin : India

Product Description

Data Structures: Theory & Practicals

This book introduces data structures to the reader. Data structures is one of the vital courses in computer science, information technology curriculum across various programs. This book introduces how to write programs of design the algorithms that utilizes available CPU time and RAM (memory) in the most optimal manner. Concepts such as data abstraction, stacks, queues, linked lists, binary trees, graphs are introduced in the lucid manner along with practical examples. The content of this book is very much aligned with the outcome-based education as per national education policy (NEP) 2020.

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.

- Solved and unsolved problems including numerical examples are solved with systematic steps.

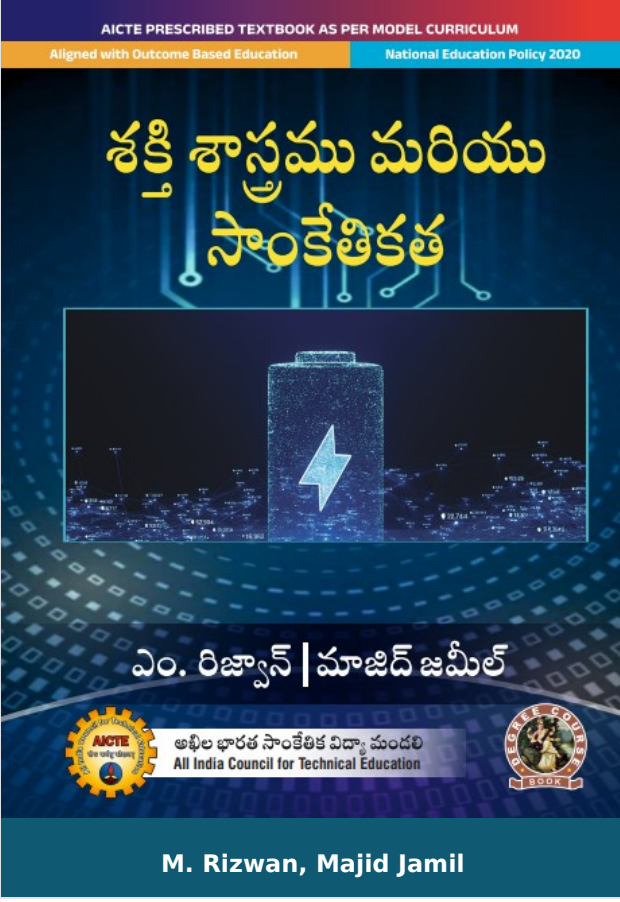
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- Non-Linear Data Structures.
- List of Appendices
- Co and Po Attainment Table

Author

NB Venkateswarlu

NB VENKATESWARLU



Energy Science and Engineering

Author : M. Rizwan, Majid Jamil

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ISBN 10 : 9355385501

E-ISBN 13 : 978-93-55385-50-5

Edition : First

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Year : 2026

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M.R.P : Rs 348.00

Categories : [AICTE Prescribed Textbooks,](#)
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Condition Type : New

Country Origin : India

Product Description

Energy Science and Engineering

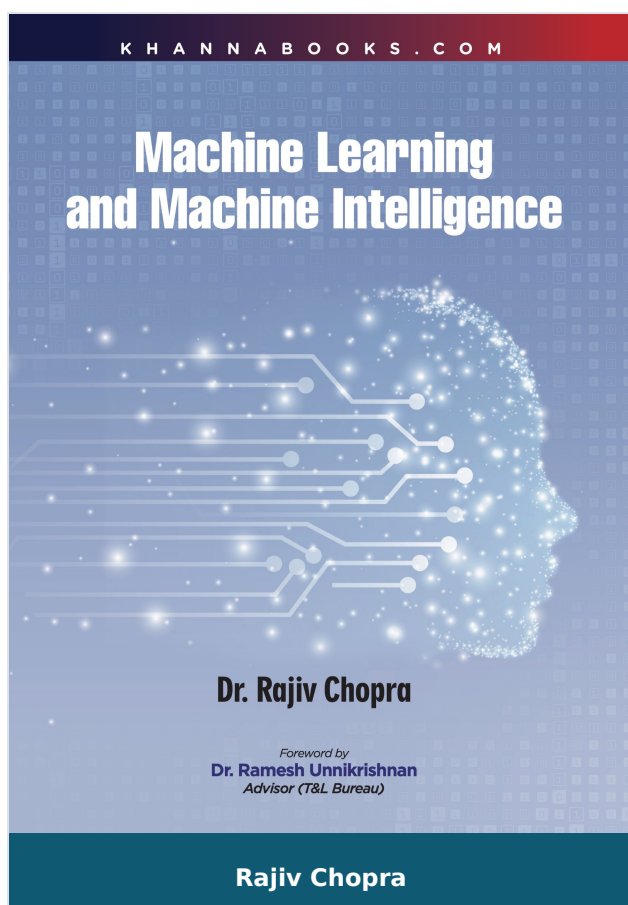
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Machine Learning And Machine Intelligence

Author :	Rajiv Chopra
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Publisher :	Khanna Publishing House
M.R.P :	Rs 498.00
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Condition Type :	New
Country Origin :	India

Product Description

Machine learning and Machine Intelligence is a complete book to read and perform practical in computer labs. Just reading theory cannot make you perform the practical(S). The present book is the composition of both, for the convenience of the students. Many of the Degrees or Diplomas or Certification Programs are being conducted in Machine Learning and Machine Intelligence fields. But it has become difficult for software companies to separate chaff from the grain. This book is an excellent guide for aspiring Data Science professionals and a valuable resource bank to perform experiments in AIDS and AIML branches.

Salient Feature:

1. Includes numerous illustrative examples to understand and perform the practical easily.
2. Demonstrates every experiment in a systematic and good programming style.
3. Students of all branches- B.E/ B. Tech. in CSE/IT/ECE, B. Tech. in AIML Branch, B. Tech. In AIDS Branches as well as B. Tech in CS (DS) and CS (ML) branches will be benefitted from this art.

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- Introduction to Machine and Deep learning
- Types of Learning
- Classification Families
- Learning Algorithms
- Unsupervised Learning and their Algorithms
- Reinforcement Learning and Control
- IOT and Machine Learning
- Project 1: Object Detection and Smudging Using Gradient Descent
- Project 2: Spam Filtering based on Text Classification Using Machine Learning Algorithms.
- Appendices-A: Glossary
- Appendices-B: Some Important Question for Revision
- Lab Manual of Machine Learning
- Experiments
- Suggested List of ML Projects
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- Index

Author

Rajiv Chopra

Dr. Rajiv Chopra has a Doctorate in Computer Science from Banasthali VidyaPith University. The author is M. Tech. in Information Technology from GGSIPU, Delhi. He did BE (CSE) from SDM College of Engg. and Technology, Dharwad and MIT from MAHE. He is working as an Associate Professor in CSE Department at Guru Tegh Bahadur Institute of Information Technology, GGSIPU Delhi. As an educator he has contributed to 21 research

publications in Refereed, cited International Conferences and International Journals and attended 21 conferences, workshops, FDPs and seminars. He is a prolific author with 26 Text and Reference books to his credit, for B. Tech. (CSE/IT), M. Tech. (CSE/IT), BCA, MCA and other courses of different Universities of India.



Set of Two Books (Cyber Crime & Cyber Attacks)

Author :	Debtoru Chatterjee
ISBN 13 :	978-93-55383-81-5
ISBN 10 :	9355383818
E-ISBN 13 :	978-93-55383-81-5
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Condition Type :	New
Country Origin :	India

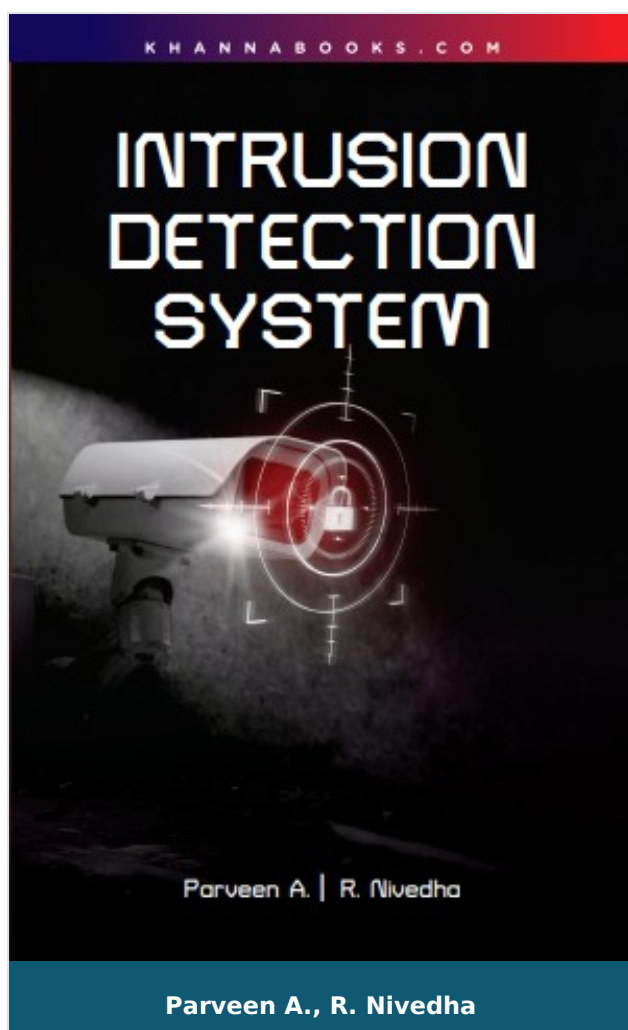
Product Description

Set of Two Books (Cyber Crime and Its Prevention in Easy Steps & Cyber Attacks and Counter-Measures Made Simple)

Author

Debtoru Chatterjee

Debtoru Chatterjee, an Indian Postal Service Officer (1994 batch), has served 11 years in a central police organization, including as an Inspector General, besides a five-year stint as an army Colonel. An honor graduate from Presidency College Calcutta, he holds an M.Sc. (Distinction) in Cyber Forensics and Information Security from the University of Madras; an MBA (IT Systems) (Distinction) from ICFAI; and a Master in Business Laws from National Law School, Bangalore. A keen student of Kali Linux and Python, he has also authored a companion book "Cyber-Crime and its Prevention in Easy Steps".



Intrusion Detection Systems

Author : Parveen A., R. Nivedha

ISBN 13 : 978-93-55382-47-4

ISBN 10 : 9355382472

E-ISBN 13 : 978-93-55382-47-4

Edition : First

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Type of book : Physical

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Publisher : Khanna Publishing House

M.R.P : Rs 148.00

Categories : [New Arrivals, Book Store,](#)
[Sathyabama Series](#)

Condition Type : New

Country Origin : India

Product Description

Intrusion Detection Systems

"INTRUSION DETECTION SYSTEMS" offers a comprehensive and vital resource for navigating the rapidly evolving domain of cybersecurity. Written in an academic yet accessible tone, this book provides a thorough introduction to Intrusion Detection Systems (IDS), exploring their historical evolution, foundational concepts, and critical role in protecting modern digital environments. The core purpose of this text is to bridge the gap between theoretical knowledge and real-world application, equipping readers with the expertise to implement robust security strategies against increasingly sophisticated threats.

The book highlights the transformative impact of Machine Learning (ML) and Artificial Intelligence (AI) on IDS, detailing deep learning approaches, ML models for anomaly detection, and feature engineering techniques. It goes beyond traditional methods to address the unique challenges of securing emerging technologies such as the Internet of Things (IoT), cloud-based networks, and blockchain. Furthermore, it delves into advanced techniques like fuzzy logic, genetic algorithms, hybrid models, and real-time IDS using big data analytics.

This indispensable guide is meticulously structured with five units and includes detailed case studies, making it an essential text for its target audience: students seeking foundational knowledge, professionals looking to upgrade their deployment strategies, and researchers exploring open challenges like adversarial ML attacks and autonomous IDS development. It serves as a definitive roadmap for enhancing network resilience against the ever-changing cyber threat landscape.

Salient Features:

- **Core IDS Fundamentals:** Explore the history, evolution, and foundational principles of IDS. Compare signature-based, anomaly-based, and hybrid models, and understand key evaluation metrics like TPR and FPR.
- **AI-Driven Detection:** Master the use of Machine Learning and Deep Learning, including CNNs and LSTMs, to enhance anomaly detection capabilities and prepare large-scale datasets for modern IDS.
- **Securing New Frontiers:** Learn to design and implement specialized IDS for emerging technologies like IoT, cloud computing, and blockchain. Focus on lightweight solutions for resource-constrained mobile and edge environments.
- **Advanced Threat Mitigation:** Investigate cutting-edge techniques such as fuzzy logic and genetic algorithms in IDS. Understand hybrid models, distributed architectures, and real-time big data analytics for large-scale networks.
- **Future Resilience & Research:** Analyze emerging threats and explore future trends like autonomous and self-healing IDS. Study the defense against adversarial ML attacks and the strategic integration with SIEM systems.
- **Real-World Application:** Apply theoretical knowledge through five detailed case studies, including enterprise deployment, advanced financial institution solutions, and securing smart city infrastructure.
- **Defense Architecture:** Clearly differentiate between the passive monitoring role of Intrusion Detection Systems (IDS) and the proactive blocking function of Intrusion Prevention Systems (IPS) in modern security.

Table Of Contents

- Introduction to Intrusion Detection Systems
- Machine Learning and Artificial Intelligence In IDS
- IDS for Emerging Technologies
- Advanced Techniques and Hybrid Models
- Future Trends and Research Challenges

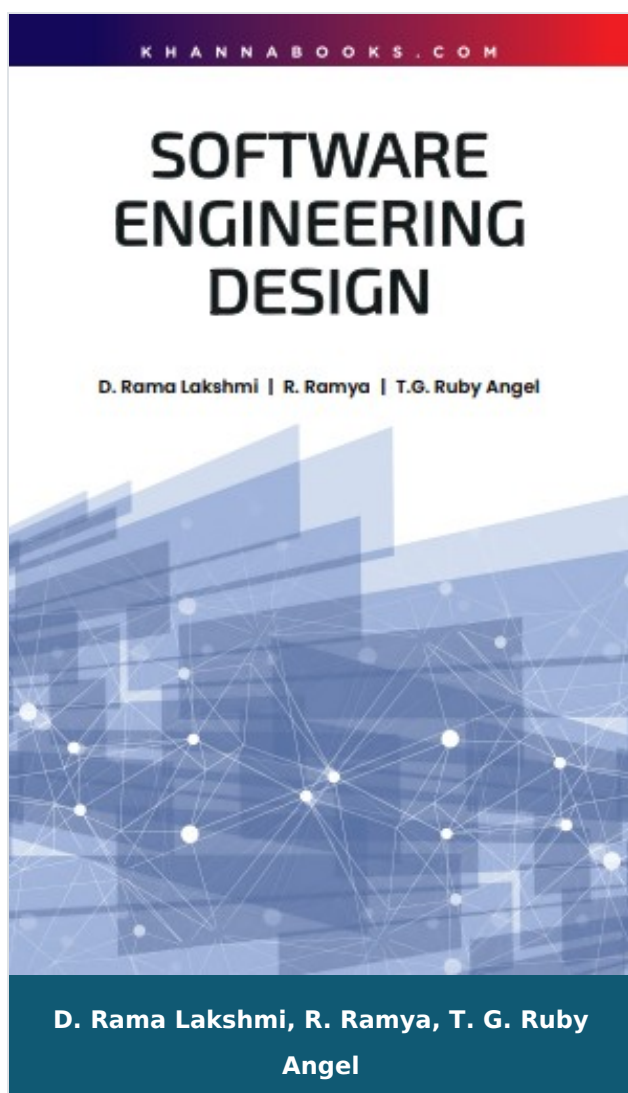
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Software Engineering Design

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Product Description

Software Engineering Design

Software Engineering Design is a comprehensive guide to the foundational discipline that dictates the success, scalability, and maintainability of all modern software systems. Recognizing that software design is at the heart of technological advancements, this essential resource transforms the complex challenges of system design into a structured, manageable process. Its core purpose is to bridge the gap between theoretical foundations and real-world applications, ensuring that readers gain both a vital conceptual understanding and practical expertise in creating robust software solutions.

The book covers the entire spectrum of the software development lifecycle. It begins with an exploration of various Software Life Cycle Models—from linear methods like the Waterfall Model to adaptive Agile methodologies. The text then provides a deep dive into Requirement Engineering, focusing on crucial tasks like requirements modeling (DFD, ERD) and rigorous validation, before moving into the central System Design phase. Here, readers learn about popular architectural paradigms (Layered, Data-Centered) and objective metrics, such as Coupling and Cohesion, used to measure the "goodness" of a design. The content concludes with a focus on Testing & Quality Assurance (Verification and Validation) and key management aspects, including risk mitigation (RMMM) and project estimation (COCOMO).

This text is specifically tailored for a broad audience: students beginning their academic journey, as well as experienced professionals and practitioners seeking to refine their design skills. By imparting technical knowledge and fostering a necessary design-oriented mindset, this book serves as an invaluable companion for building systems that are efficient, reliable, and sustainable.

Salient Features:

- **Structured Life Cycles:** Explore fundamental Software Life Cycle Models (Waterfall, Spiral, Prototyping) and modern, iterative approaches like Agile methodologies to ensure efficient project management and successful risk mitigation.
- **Precise Requirements:** Details the systematic process of Requirements Engineering, covering elicitation, visual modeling (DFD, ERD), and rigorous validation to align the final product with core business and user needs.
- **Core Design Architectures:** Focuses on System Design principles, exploring essential architectural paradigms such as Layered Systems, Data-Centered Systems, and the critical transition from requirements analysis to a final blueprint.
- **Design Quality Metrics:** Provides essential methods for quantifying design effectiveness, specifically detailing the metrics of Coupling and Cohesion to guide students and professionals toward building maintainable and robust software.
- **Quality Assurance & Testing:** Integrates the continuous processes of Verification and Validation (V&V), covering the various Levels of Testing and approaches (Functional/Non-Functional) required to achieve a high-performance system.
- **Project Management Tools:** Covers Umbrella Activities such as Risk Management (RMMM), Software Quality Assurance (SQA), and project cost/time estimation using industry models like the well-known COCOMO model.
- **Evolution & Reengineering:** Discusses software evolution through different forms of Maintenance (Corrective, Adaptive, Preventive) and the techniques of Software Reengineering to enhance system longevity and scalability.
- **Agile and DevOps Focus:** Offers a practical overview of Agile methodologies (Scrum, Kanban, Lean) and the principles of DevOps to facilitate rapid development, continuous integration, and seamless collaboration across teams.

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