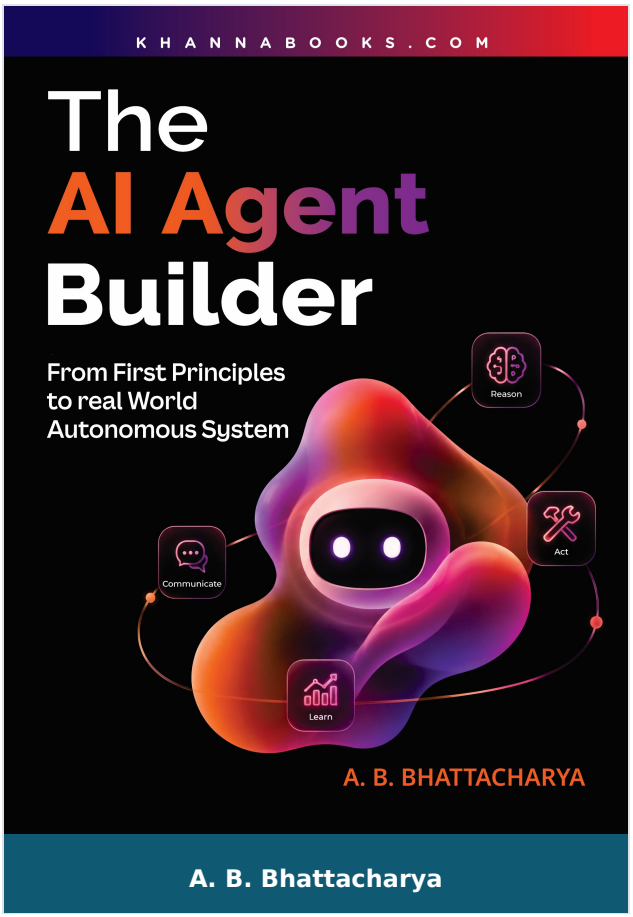


The AI Agent Builder (From First Principles to real World Autonomous System

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Product Description

The AI Agent Builder: From First Principles to Real-World Autonomous Systems is a comprehensive guide that introduces the concepts, architecture, development, and deployment of AI agents through a balanced combination of theoretical foundations and practical implementation. Intended for students, researchers, developers, and AI practitioners, the book explains agent architectures, large language models, memory systems, reasoning, planning, tool integration, multi-agent collaboration, safety, evaluation, deployment, and real-world applications.

Salient Features

- **AI Agent Foundations:** Explains the evolution of AI agents, agent architectures, environments, perception, reasoning, action, and large language models through a structured first-principles approach.
- **Practical Agent Development:** Covers memory systems, planning strategies, reasoning techniques, tool integration, autonomous execution, and multi-agent collaboration with exercises and project-based learning.
- **Modern AI Technologies:** Introduces APIs, function calling, external knowledge integration, vector databases, retrieval-augmented generation, and scalable deployment methods for intelligent autonomous systems.
- **Safety and Evaluation:** Explains performance benchmarking, reliability testing, hallucination detection, AI safety principles, prompt injection protection, guardrails, and responsible deployment practices.
- **Real-World Applications:** Demonstrates AI agent implementations for research assistance, customer support, data analysis, productivity, and other practical domains through representative application scenarios.
- **Practice-Oriented Learning:** Reinforces understanding through practical exercises, project ideas, short-answer questions, and multiple-choice questions that

strengthen conceptual and implementation skills.

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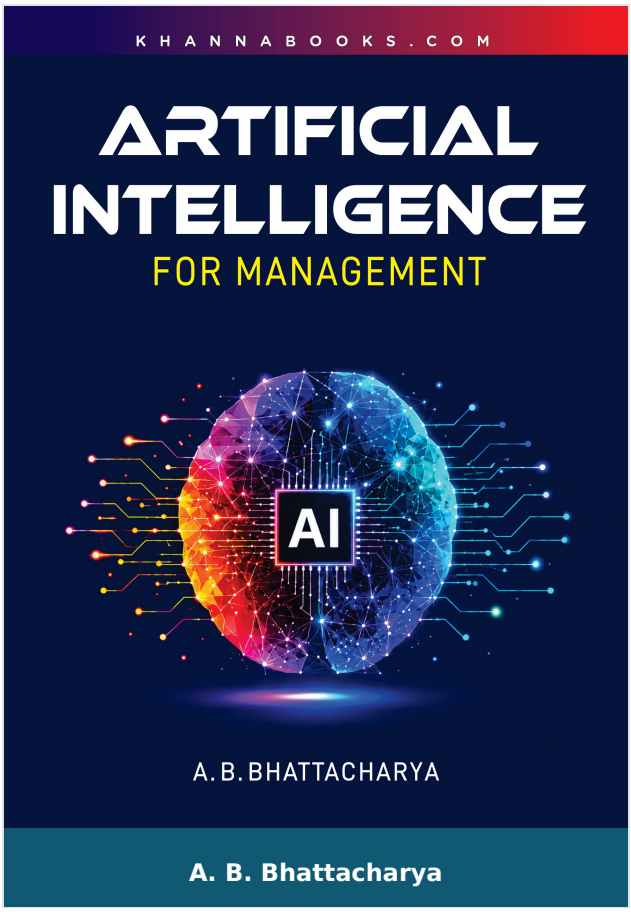
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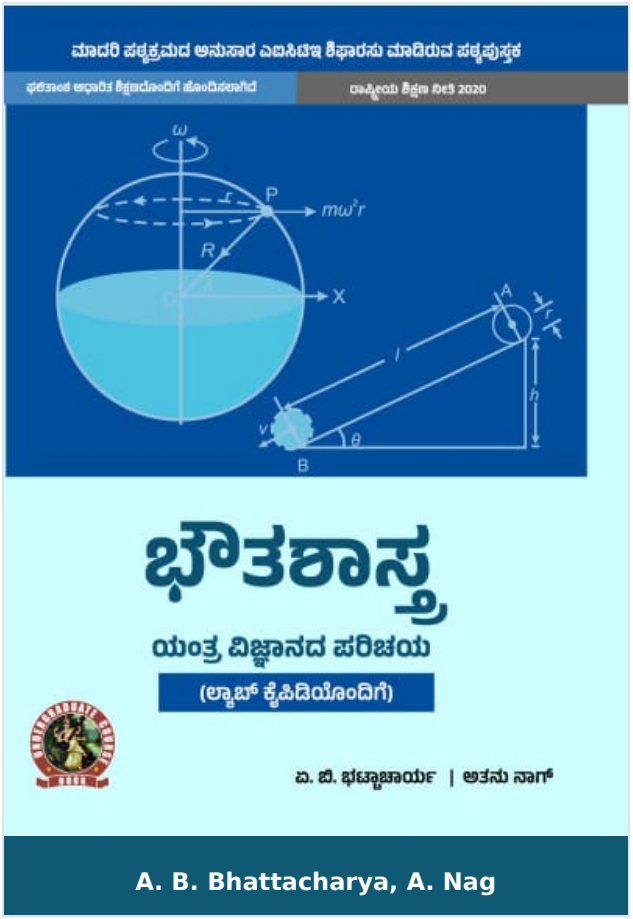
A. B. Bhattacharya

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Physics (Introduction to Mechanics)

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Product Description

Physics: Introduction to Mechanics 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 Mechanics to tackle 21 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 type of medium and advanced level

3. Under problems in a very logical and systematic manner.

4. Some essential information for the user the heading “Know more” for clarifying some basic 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 sectors or in national laboratories at the very forefront of technology.

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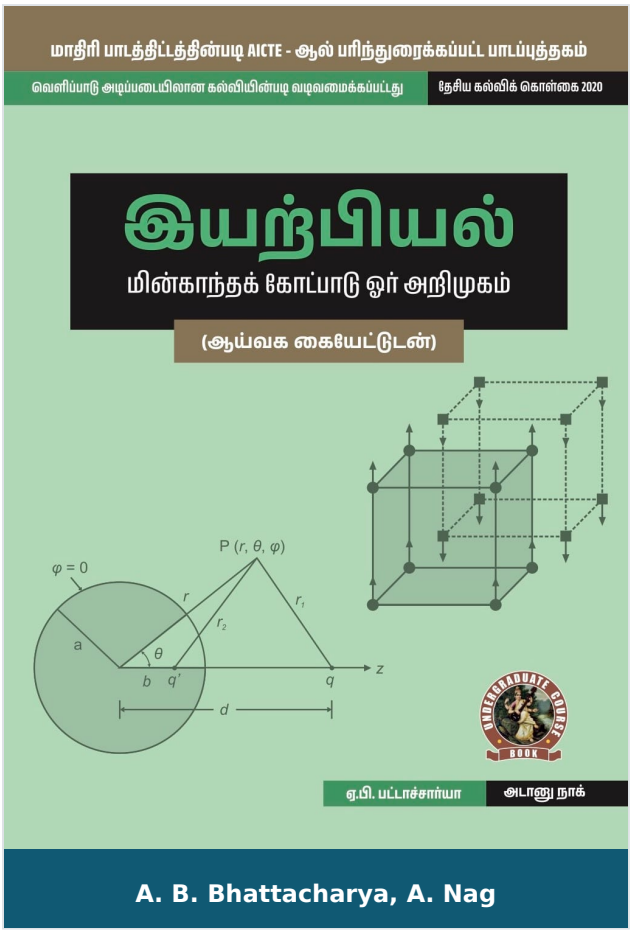
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Physics (Introduction to Electromagnetic Theory) (with Lab Manual)

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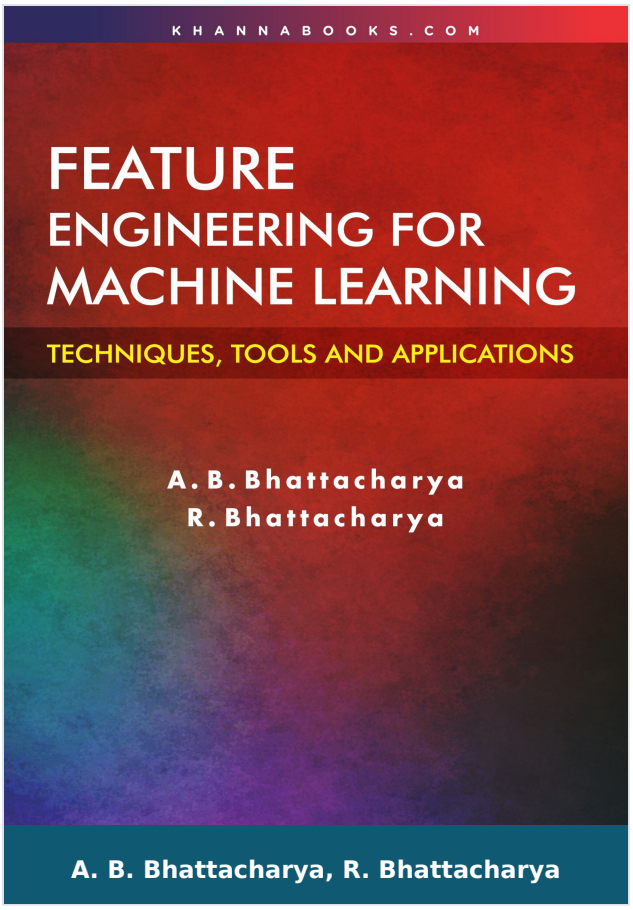
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Feature Engineering for Machine Learning (Techniques, Tools and Applications)

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Feature Engineering for Machine Learning (Techniques, Tools and Applications)

Feature engineering is where machine learning success is truly built.

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- Turn raw data into predictive features
- Apply domain knowledge to engineer smarter signals
- Handle categorical, temporal, and high-dimensional data
- Avoid common pitfalls that sabotage model performance
- Build scalable, reproducible feature pipelines

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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

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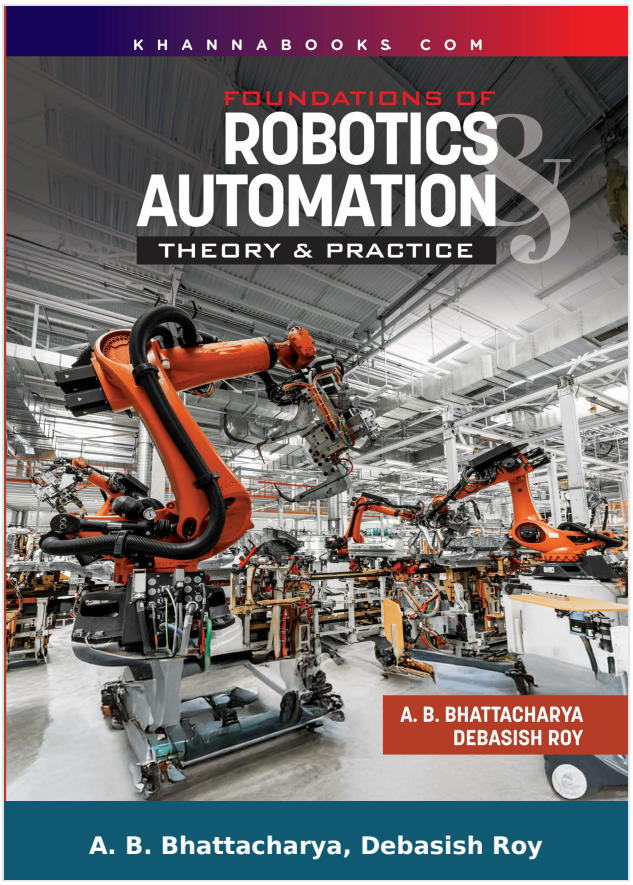
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A. B. Bhattacharya, Debasish Roy

Foundations of Robotics & Automation (Theory & Practice)

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Debasish Roy

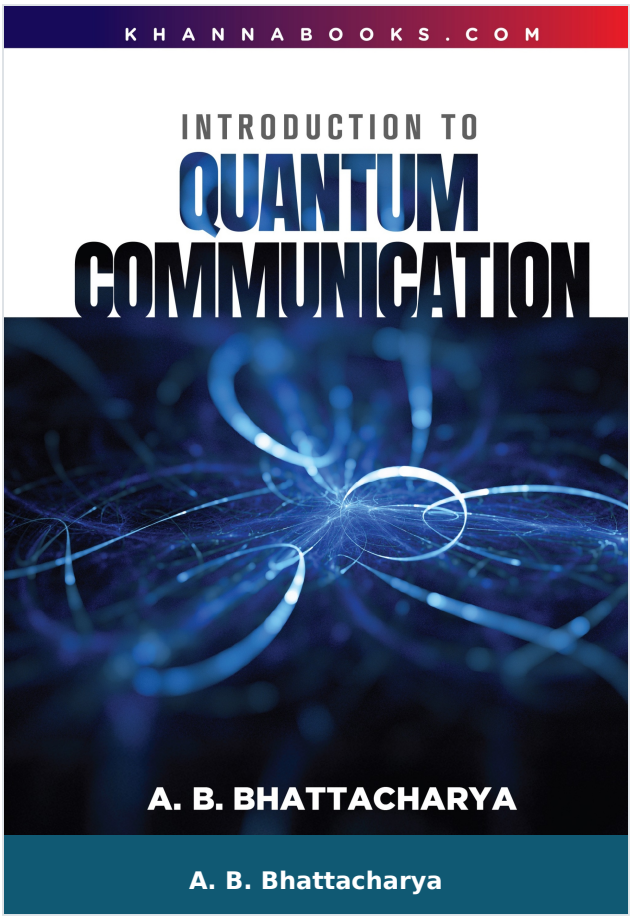
Dr. Debasish Roy is a highly accomplished and motivated professional with a robust academic background in Information Technology, including an MCA, MBA M. Tech, and PhD. He was currently the Director General(Railways) at a top-level position in the Indian Police Service (IPS). He received the Indian Police Medal and President's Police Medal in 2000 and 2010. He is well known for pioneering contributions in land mobile radio systems. He is highly recognized for spearheading strategic planning and execution of security measures for the railways network, implementing innovative technologies to enhance railway security and counteract emerging day-to-day operations efficiently. He

has provided expert guidance on implementing land mobile radio system for public safety agencies and conducted groundbreaking research in cryptanalysis, leading to development of advanced techniques for enhancing cyber security. He successfully led a team in designing and implementing secure communication protocols for land mobile radio systems, ensuring robust and encrypted communication. He has published numerous research papers in reputed conferences. He mentored and guided students at the postgraduate and doctoral levels. He has a proven track record of effective leadership and team management, besides all his strategies planning and execution in high-stakes environments. He received many honors and awards for his outstanding contributions to the field and was recognized for exceptional leadership and innovation in technology-driven security initiatives. He completed an Executive Program in Quantum Company and Machine Learning from IIT Delhi in 2023. He participated in the Workshop on Machine Learning for Cryptology (ML4Crypto 2023) at ISI, Kolkata from November 8-10, 2023, organized by SAG, DRDO. His recent paper on " Iterative Quantum Algorithm for Linear System Solving" has been accepted at the International Conference SAI, Computing, 2024 London, organized by Microsoft Corporation.

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Introduction to Quantum Communication

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Explore the unbreakable Future of Communication

Welcome to a new era where communication is no longer limited by classical boundaries. “Introduction to quantum communication” is your definitive guide to understanding the intricate and revolutionary field that merges quantum physics with information technology.

From the foundations of quantum mechanics to the cutting-edge protocols and technologies that power secure quantum networks, this book offers a clear, structured, and comprehensive journey through the quantum realm, whether you’re a student, researcher, or tech enthusiast, you’ll discover how photons, entanglement, and no-cloning theorems are reshaping the way we think about privacy, data transfer, and global connectivity.

What you’ll learn inside:

- The fundamental difference between classical and quantum communication systems
- The secrets behind quantum key distribution (BB84, E91, B92, DI-QKD)
- Practical implementations like quantum teleportation and quantum internet
- The role of entanglement, dense coding, secret sharing, and quantum bit commitment
- Security threats such as eavesdropping and their quantum countermeasures
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- PR5ACTICAL IMPLEMENTATIONS AND TECHNOLOGIES
- SECURITY ASPECTS OF QUANTUM COMMUNICATION
- FUTURE DIRECTIONS AND APPLICATIONS

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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

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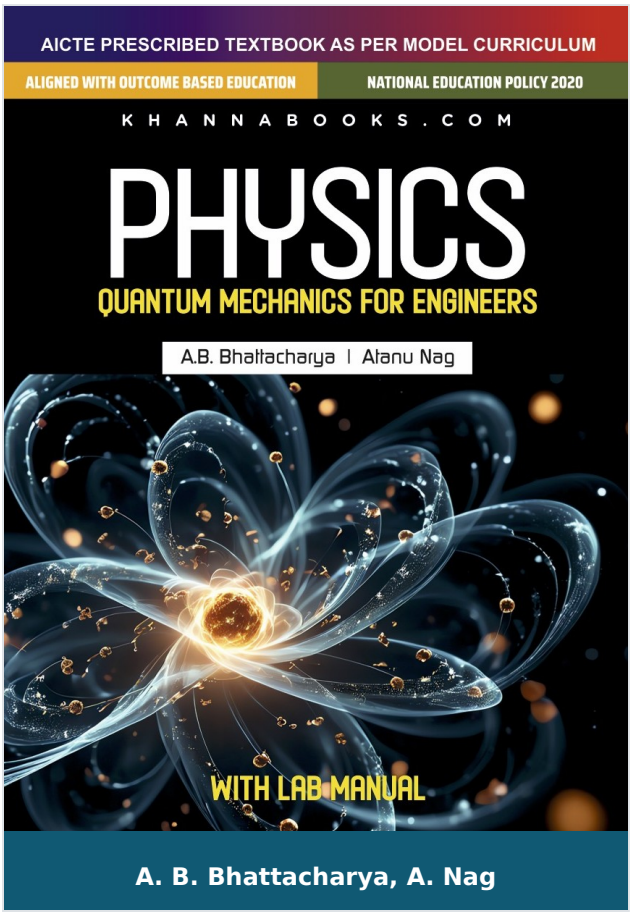
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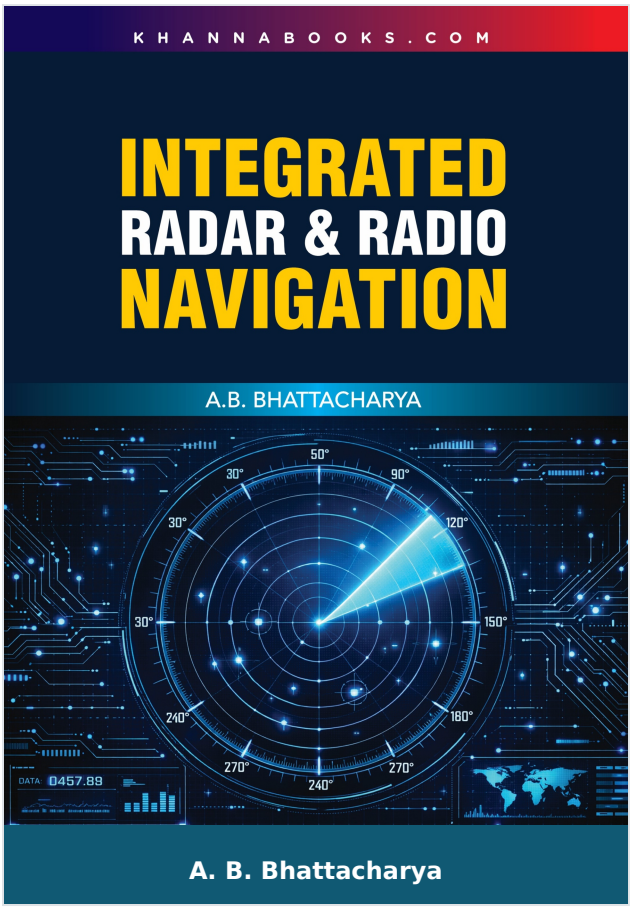
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Integrated Radar & Radio Navigation

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Product Description

Integrated Radar and Radio Navigation: From Classroom Fundamentals to Industry Frontiers by Prof. A.B. Bhattacharya is a comprehensive guide designed to bridge the gap between academic theory and modern industrial application. The text provides a unified exploration of radar systems, satellite-based GNSS, and ground-based radio aids, offering a holistic view of modern navigation architecture. It is specifically tailored for students in electronics, communication, and aviation engineering, as well as professionals seeking to align with global standards like ICAO and IMO.

The book moves beyond traditional pedagogy by integrating AI-enabled autonomous platforms and quantum navigation concepts. With a focus on practical mastery, it features numerous numerical problems, MCQs, and real-world project ideas. This blend of foundational electromagnetic principles and cutting-edge technological trends ensures readers are well-equipped for the evolving demands of the aerospace and maritime sectors.

Salient Features

• Unified Navigation Architecture: Explores the integration of radar, radio aids, and GNSS to ensure high-integrity positioning for modern maritime and aviation operations.

• Global Standard Alignment: Content is meticulously mapped to international regulatory frameworks, including ICAO, IMO, and IEEE, ensuring industry-relevant professional knowledge.

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Author

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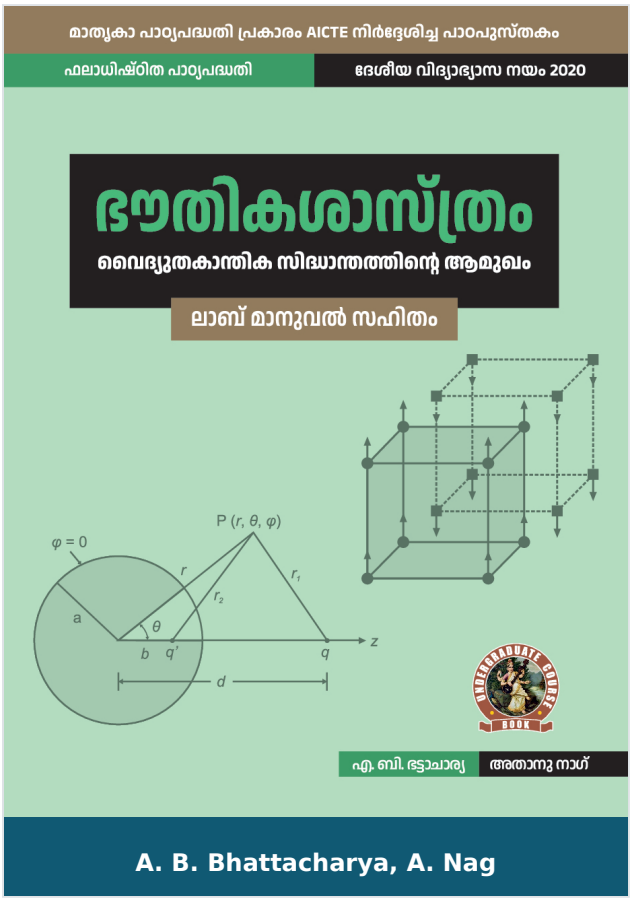
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Physics - Introduction to Electromagnetic Theory (with Lab Manual)

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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

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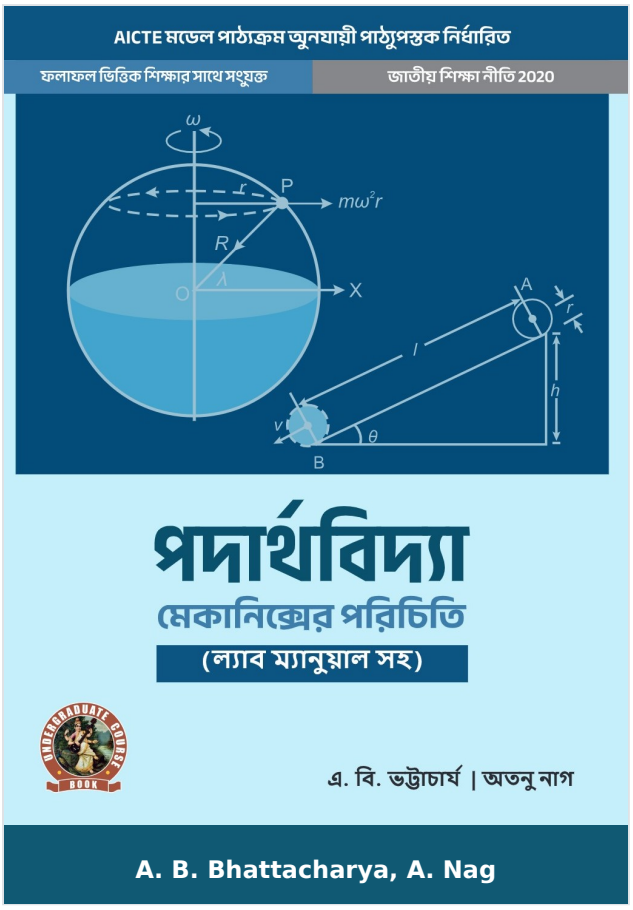
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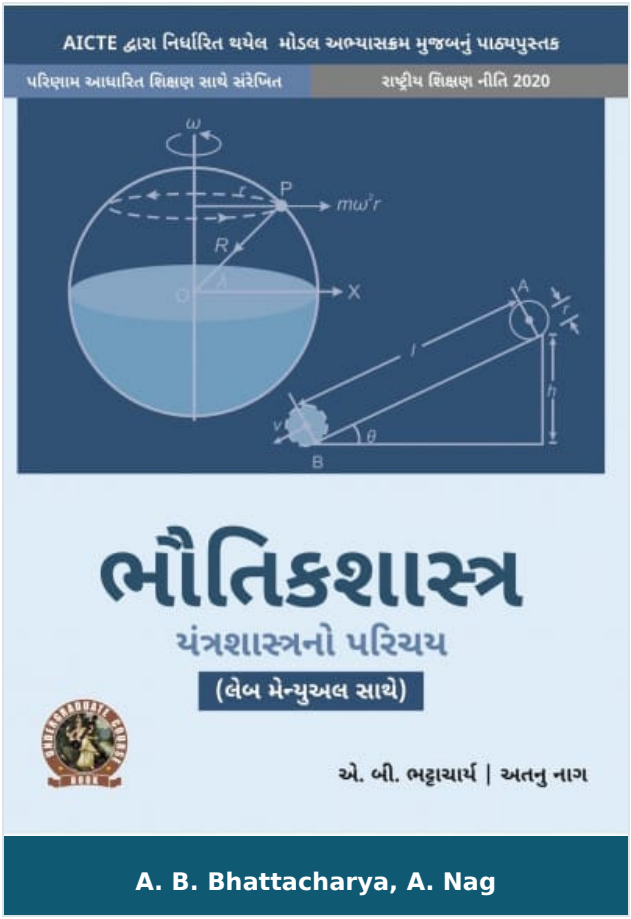
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Physics (Introduction to Mechanics) (with Lab Manual)

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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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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 hon0red 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

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