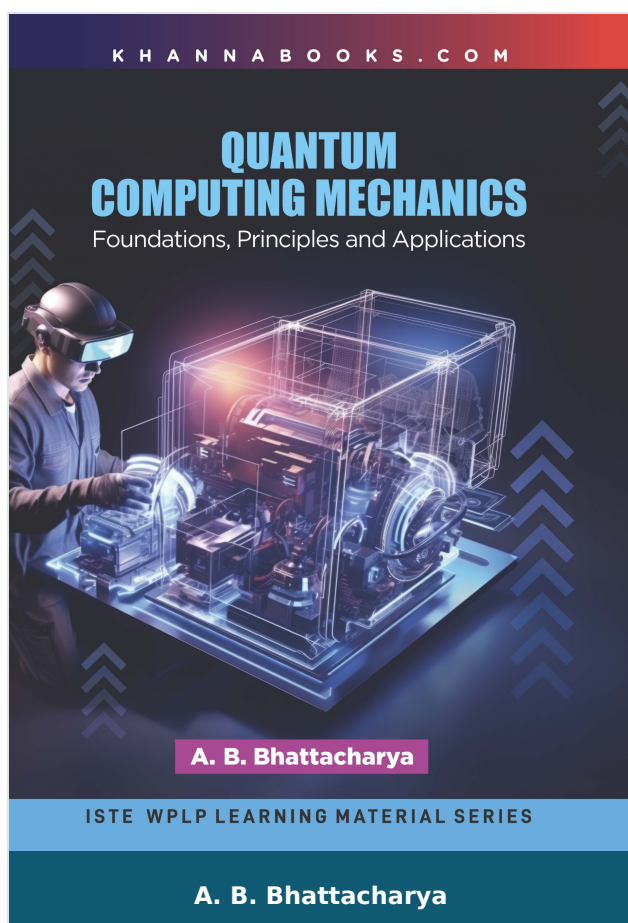




Quantum Computing Mechanics(Foundations, Principles and Applications)

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Product Description

Quantum Computing Mechanics(Foundations, Principles and Applications) **Unlock the Quantum Frontier Quantum Computing Mechanics:** Foundations, Principles and Applications is a comprehensive journey into the heart of one of the 21st century's most transformative scientific revolutions. Bridging the disciplines of quantum mechanics and computational theory, this book presents a lucid and in-depth exploration of quantum computing—from its theoretical foundations to its real-world applications. **Whether you are a curious student, a passionate researcher, or an industry professional, this volume offers:**

- A rigorous yet accessible introduction to the principles of quantum mechanics and how they power next-generation computation.
- Core topics like qubits, quantum gates, superposition, entanglement, and interference, laid out clearly with diagrams, examples, and circuit design.
- Step-by-step walkthroughs of groundbreaking quantum algorithms including Grover's, Shor's, and the Quantum Fourier Transform.
- Essential coverage of error correction, fault tolerance, and the global push toward quantum supremacy.
- Extensive practice sections with short questions, multiple-choice quizzes, solved numerical problems, and innovative project ideas—making it ideal for self-study or academic use.

From the roots of classical logic to the surreal domain of entangled qubits, **Quantum Computing Mechanics** brings clarity to complexity. It does not merely teach you what quantum computing is—it shows you why it matters.

Table Of Contents

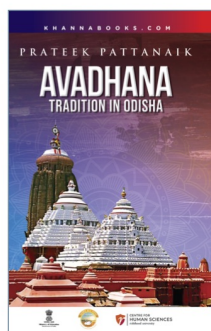
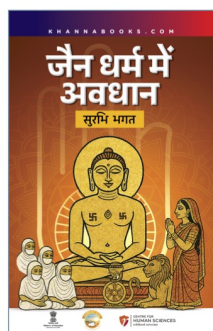
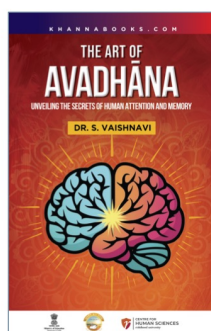
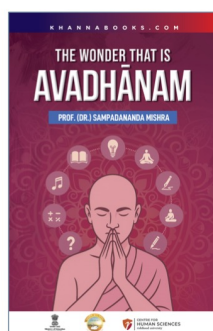
- Preface
- Acknowledgements
- FOUNDATIONS IN QUANTUM COMPUTING MECHANICS
- OUTLINES OF QUANTUM MECHANICS
- THE QUBIT AND QUANTUM GATES AS BUILDING BLOCKS
- QUANTUM LOGIC GATES AND CIRCUITS
- QUANTUM PARALLELISM AND INTERFERENCE
- QUANTUM ENTANGLEMENT AND NONLOCALITY
- QUANTUM ALGORITHMS
- QUANTUM ERROR CORRECTION AND FAULT TOLERANCE
- APPENDICES

Author

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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

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**Prateek Pattanaik, Sampadananda Mishra,
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Prateek Pattanaik is a researcher and a Musician. an Odissi vocalist and Binakara, he was initiated into music by his grandmother, then continued training under Guru Brundabana Khandual and finally Pt Ramarao Patro, in the lineage of early 20th-century maestro 'Astabadhani Acharjya' Tarini Charan Patra. He is currently engaged as a research scholar on the 17th-century treatise 'Sangitanarayana' in the Department of Odia, Berhampur University. His work primarily deals with palm leaf manuscripts, early gramophone records and neglected musical forms across the state. He is the author of two books on Odissi music and the Odia Language.

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Surbhi Bhagat

S. Vaishnavi Sampadananda Moshra Prateek Pattanaik Surabhi Bhagat