



Advanced Electrical Machines: Theory and Practicals

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Product Description

Advanced Electrical Machines: Theory and Practicals “Advanced Electrical Machines: Theory and Practical’s” is a course that equips engineering students with a comprehensive understanding of advanced concepts in AC electrical machines, enabling them to analyze, design, and evaluate machine performance. This textbook offers a well-structured, student friendly introduction to AC machines, specifically tailored for fourth semester undergraduate students of core engineering branches. Drawing upon the AICTE’s revised model curriculum, the material presents a balanced integration of theory and practical applications. It covers key topics such as the fundamentals of AC machine windings, the behavior of pulsating and revolving magnetic fields, the operational characteristics of induction and synchronous machines, and single-phase motor theory. Emphasis is placed on understanding the underlying electromagnetic principles, performance characteristics, and modern methods for control and testing. Book will help students in building a strong foundation and to gain both analytical and practical competencies. By the end of this course, students will be able to understand, analyze, and characterize the AC machines. Salient Features:

- Content of the book aligned with the mapping of Course Outcomes, Program Outcomes, and Unit Outcomes.
- At the beginning of each unit learning outcomes are listed to make the student understand what is expected of him/her after completing that unit.
- The book provides a lot of recent information, interesting facts, references for further reading, simulation codes, etc.
- Student and teacher-centric subject materials included in the book in a balanced and chronological manner.
- Figures, tables, and output waveforms are included to improve the clarity of the topics.
- Apart from essential information a ‘Know More’ section is also provided in each unit to extend the learning beyond the syllabus.
- At the end of each chapter, short questions, objective questions, and long answer exercises are given for the students to practice.
- Problems including numerical examples are solved with systematic steps provided.



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