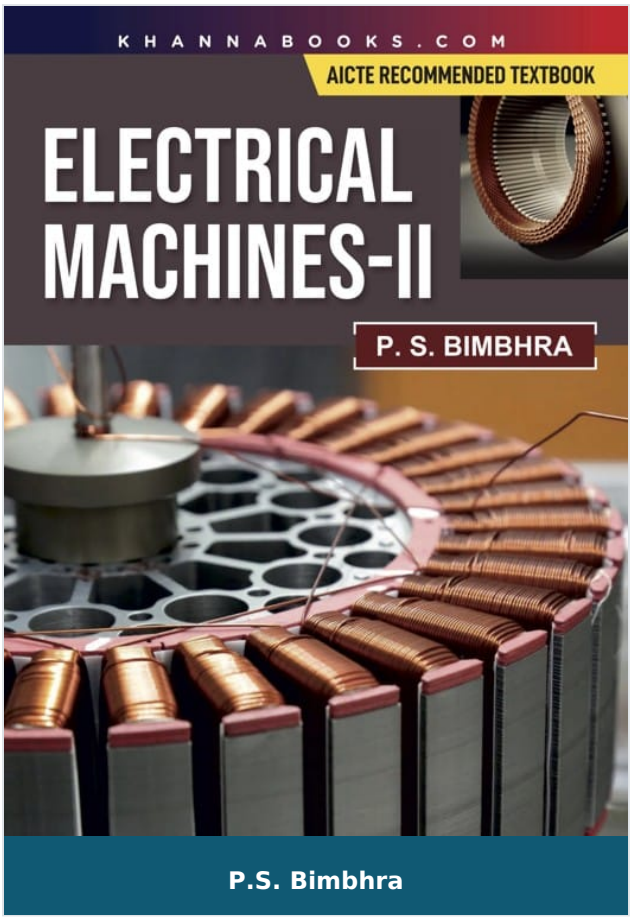

Electrical Machines - II

Author :	P.S. Bimbhra
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Product Description

This book on "Electrical Machines-II" is intended to serve as a text book for the students of Electrical Engineering in general and for those studying in institutions where AICTE model curriculum has been adopted. This book serves as a supplement to the already published book on "Electrical Machines-I". The topics covered in this book pertain to the syllabus contents as prescribed by AICTE for the course on "Electrical Machines II".

Chapter 1. Describes the fundamental of AC machine windings. Here general terms associated with armature winding are defined first. Then, air-gap mmf waves produced by concentrated and distributed windings are explained. Concepts of winding factor is also given in this chapter.

Chapter 2. Describes the concepts of constant magnetic field, pulsating magnetic field and rotation magnetic field.

Chapter 3. Three-phase induction motor is described in detail so far as its constructional features, principle of operation, rotor and stator equivalent circuits and torque-slip characteristics are three-phase induction generator working and doubly-fed induction machines.

Chapter 4: Constructional features, principle of operation, double-revolving field theory and starting methods of single-phase induction motor are described.

Chapter 5. Pertains to the analysis of three-phase synchronous machines. In this chapter both cylindrical-rotor type and salient-pole type machines are discussed in detail. Steady-state phasor diagram of each type is developed for analysis purposes. Steady-state power-angle characteristics and operating characteristics are also presented in this chapter.

The book contains a large number of worked examples to highlight the principles and concepts of the topics covered in this book. Unsolved problems at the end of each

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chapter are included for practice. Objective type questions included at the end of each chapter will help the readers to evaluate their comprehension of the chapter topics.

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Author

P.S. Bimbhra

Dr. P.S. Bimbhra retired as a professor of Electrical and Electronics Engineering from T.I.E.T. Patiala. A graduate of Punjab Engineering College, Chandigarh, he received his M.E. (Hons.) and Ph.D. from IIT Roorkee. He is fellow of the Institution of Engineers and a life member of ISTE. His areas of current interests include Electrical Machines, Power Electronics and Electric Drives.

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