

Preface to the First Edition

This book is intended for a one-semester course in Probability, Statistics and Random Processes for undergraduate level Electrical/Electronics/Computer Engineering and Information Technology students. The various chapters also cover the syllabus content of 'Probability and Statistics' introduced recently for the BE (CSE and IT) course by the Madurai Kamaraj University of Tamil Nadu.

Most engineering students, who are used to a deterministic outlook of Physics and Engineering problems, find the theory of probability unreliable, vague and difficult. This is due to inadequate understanding of the basic concepts of probability theory and the wrong impression that the subject is an advanced branch of Mathematics.

The book is written in such a manner that beginners may develop an interest in the subject and may find it useful to pursue their studies. Basic concepts and proofs of theorems are explained in as lucid a manner as possible. Although the theory of probability is developed rigorously based on measure theory, it is developed in this book by a simple set-theory approach.

As engineering students find it easier to generalize specific results and examples than to specialize general results, considerable attention is devoted to working of problems. Nearly 300 problems including those with applications to communication theory are worked out in various chapters. Unless the students become personally involved in solving exercises, they cannot really develop an understanding and appreciation of the ideas and a familiarity with the pertinent techniques. Hence, in addition to a large number of short-answer questions under Part-A, over 350 problems have been given under Part-B of the Exercises in various chapters. Answers are provided at the end of every chapter.

Though chapters 7 and 8 are meant for Electrical/Electronics Engineering students, the other chapters that deal with probability theory, random variables, probability distributions and statistics may be useful to students of any discipline, such as those doing MCA and M.Sc courses who have Mathematical Statistics as a subject of their study.

I am sure that the students and the faculty will find this book very useful.

Critical evaluation and suggestions for improvement of the book will be highly appreciated and gratefully acknowledged.

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I have great pleasure in dedicating this book to my beloved students, past and present.

T VEERARAJAN