WIRELESS COMMUNICATIONS

For the Students of B.E./B.Tech. of all Technical Universities of India

Er. RISHABH ANAND

S. CHAND

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Dedicated to
My Mother whose love and affection
made me capable of writing this book
and
Shri Guru Maharaj Ji of Shri Anandpur.

PREFACE

Today, the subject of ***Wireless Communications*** embraces an ever increasing body of knowledge. It spans a broad range of functions, from basic kinds of signaling and circuitry used, to kind of cables and wireless broadcast techniques used to transfer data from sender to receiver. The fundamental concepts and techniques covered in the book are based on those used in concepts and techniques covered in the book are based on those used in existing techniques in various parts of the world. We present a large number of examples that pertain to be most popular in Asia, USA, Japan and Canada. The main objective was to provide the students and practicing engineers with a clear and logical presentation of the basic concepts and principles of wireless and cellular systems.

The importance of Wireless Communications is well known in various engineering fields. The book is structured to cover the key aspects of the subject Wireless Communications.

The extent coverage in this book is meant to give learner enough material to help him understand how wireless communication works.

The book uses plain, lucid language to explain fundamentals of this subject. The book provides logical method of explaining various complicated concepts and stepwise methods to explain the important topics. Each chapter is well supported with necessary illustrations, practical examples and solved problems. All care has been taken to make students comfortable in understanding the basic concepts of the subject.

This book is for everyone who wants to explore the concepts in wireless communication and discover the techniques behinds the communication.

The book not only covers the entire scope of the subject but explains the philosophy of the subject. This makes the understanding of this subject but explains the philosophy of the subject. This makes the understanding of this subject more clear and makes it more interesting. The book will be very useful not only to the students but also to the subject teachers.

The author hopes that the book will fulfill the pressing need of interested readers and welcome any suggestions towards the improvement of the book.

Er. Rishabh Anand

ACKNOWLEDGEMENT

We all marvel at the beautiful rose, the rose, with all its beauty and grandeur. But seldom we pause and thank the kind of gardener who patiently manured and watered it. The book I have written is the fruit of such unseen hands.

I wish to express my profound thanks to the people around me who helped to make this book a reality.

I am especially grateful to my teachers and my colleagues specially Mrs. Aparna Mahajan, Mr. Sanjeev Kumar, Mrs. Rashmi Mahajan, Wg.cdr. P. Patnayak, Gp. Capt. H.S. Dua, Wg.cdr. Onkar Singh, Mrs. Dimple Saproo, Mrs. Naresh Kumari, Mrs. Chitra Kaul, Director M.M. Jha, Mrs. Savita Khazanchi, Mrs. Meenakshi and other faculty members who influenced my academic grown during my study.

There was, in and always will be the love of my students whom I taught, for what is written in this book has been the fruit of experience that I taught them. Finally, thanks to my parents and to rest of my family for their patience and support during the long hours of writing this book and above all there is the one Almighty whose humble children we are. It is his blessings we cherish and pray for. It is the blessing I wish for you.

I deeply express my heartful thanks to the S. Chand & Co. Ltd., for publishing this book in such a beautiful get-up and well in time.

Er. Rishabh Anand

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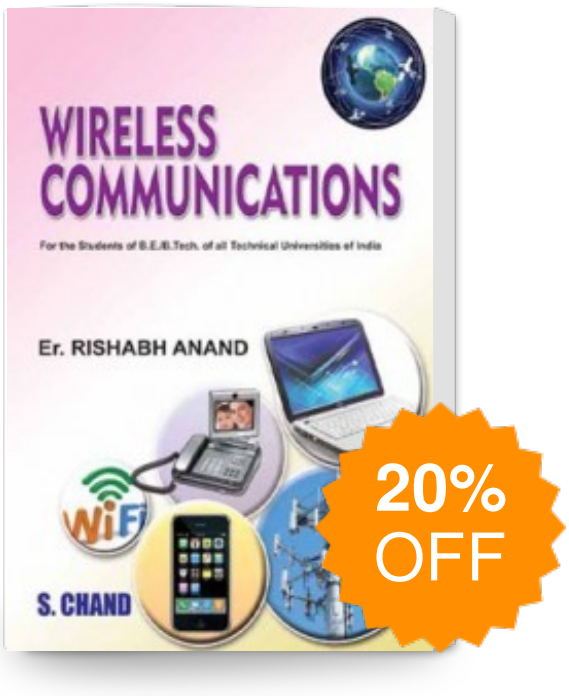

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