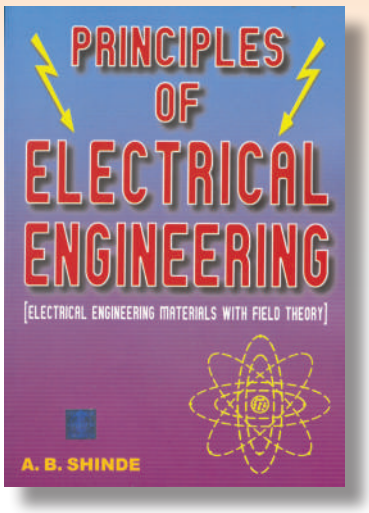

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PRINCIPLES OF ELECTRICAL ENGINEERING

[ELECTRICAL ENGINEERING MATERIALS WITH FIELD THEORY]

By
A. B. Shinde

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ABOUT THE BOOK

In this textbook the author has compiled the topics of Electricity, Magnetism and Materials as a one subject, which are the three foundation pillars of *Electrical and Communication Engineering*. These are presented with a little different method of approach to ensure the students to grasp the whole subject matter of the book easily.

The static electricity is the science of static charge including that of electric induction and the motional charge is an electric current. Magnetism in fact is an effect of electric current and electromagnetic induction is the interconsequence of varying electricity and magnetism. Since as per modern theory of atom, the electricity and magnetism have the origins in the matter itself. Therefore chapter of Electric Properties of Matter after Static Electricity and chapter of Magnetic Properties of Matter after Magnetism are introduced. These two chapters thus give introduction of conducting, insulating, semi-conducting and magnetic materials used in Electrical Engineering. Therefore, in the book before the chapters of materials, their related theories are given, and then chapters of materials are dealt. The chapter of Electric Current and Circuits being a link between electricity and magnetism is introduced as a fourth chapter. The chapter one of Introduction deals with the systems of units, which is a proper place for it. The book therefore presents a sound and comprehensive account of fundamental principles and their application orderly arranged.

The book now in its 14 Chapters contains:

* 143 Neatly drawn self-explanatory diagrams
* 42 Worked Examples
* 21 Useful Tables
* 237 Unsolved problems with answers at the end of each chapter
* 212 Objective Questions.

The book therefore covers adequately the most recent requirements of various important examinations. It is the fervent hope of the author that this book will satisfy the needs of the Engineering students preparing for the B.Tech/B.E. examinations of almost all the Indian Universities, Diploma examinations conducted by various Boards of Technical Education, Certificate courses as well as for the A.M.I.E., U.P.S.C., G.A.T.E. and other similar competitive and professional examinations. It should also be of an immense help to the practising engineers.

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