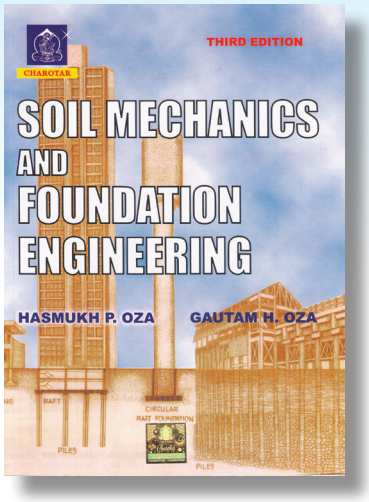

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SOIL MECHANICS AND FOUNDATION ENGINEERING

By

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ABOUT THE BOOK

This book is an outcome of extensive experiences of practicing engineers who have worked in the professional field as well as those of research and teaching. The students and the practicing engineers, through the book, can share the knowledge and experience acquired during their long professional careers.

An engineer must know the basic design aspects even if he opts to be a construction engineer or a manager and, more so if he prefers to be a designer or a research worker. This has been kept in view.

The entire subject matter is treated in following 5 parts:

Part I : General and Index Properties;

Part II : Derived Properties;

Part III : Field Investigations;

Part IV : Designs;

Part V : Miscellaneous.

Keeping in mind the technological advancement and changing techniques, new chapters on *Instrumentation, Shallow Foundations, Deep Foundations, Tiebacks and Anchors, Reinforced Earth, Slabs on Grade,* and *Soil Stabilization* have been added in this edition. Also included are some useful case histories and a history in brief of Soil Mechanics.

Theoretical analysis has been presented with clear formulation of the underlying assumptions. Equations have generally been developed from the first principles and illustrated by suitable examples. Laboratory tests have been briefly described for understanding the testing procedures and for the appreciation of their merits. Field tests and their essential correlations are given in so far as they are useful to a design engineer.

Following Salient features should facilitate better understanding of the related matter of the book:

*** 317 Neatly Drawn Self Explanatory Figures**

*** 51 Photographs**

*** 173 Useful Tables**

*** 90 Illustrative Worked Examples**

*** 264 Exercises at the ends of chapters.**

Other cogent information has been included in the form of new Appendices. *Systéme Internationale d'Unités, generally referred to as SI Units, has been introduced in the Appendix VI. And, the relevant Indian Standards have been grouped together in Appendix VII.* These should be useful to the students as well as to the practicing engineers.

The book fully covers the syllabii of ***Soil Mechanics and Foundation Engineering*** for Civil Engineering students preparing for the Degree courses and also partly covers the post-graduate curriculum of almost all the Indian Universities. It will be useful to students of 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., I.E.S. and other similar competitive and professional examinations. It is, nevertheless, written with a design bias and it is intended that this book is a reliable and useful companion in professional career.

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