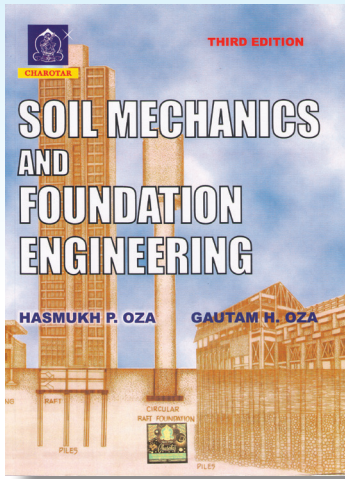


# SOIL MECHANICS AND FOUNDATION ENGINEERING



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. *Système 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.

## CONTENT

### PART I : GENERAL AND INDEX PROPERTIES

- 1: ROCKS
- 2: SOILS
- 3: SOIL PARTICLES
- 4: DRY SOIL
- 5: SOIL MOISTURE
- 6: UNIT WEIGHT
- 7: SOIL CLASSIFICATION

### PART II : DERIVED PROPERTIES

- 8: PERMEABILITY
- 9: SEEPAGE AND UPLIFT
- 10: DISTRIBUTION OF PRESSURE
- 11: COMPRESSIBILITY AND CONSOLIDATION
- 12: SHEAR STRENGTH
- 13: LABORATORY MEASUREMENT OF SHEAR STRENGTH
- 14: EARTH PRESSURES
- 15: BEARING CAPACITY

### PART III : FIELD INVESTIGATIONS

- 16: SITE INVESTIGATION
- 17: FIELD EQUIPMENT
- 18: FIELD TESTS
- 19: INSTRUMENTATION

### PART IV : DESIGNS

- 20: EARTH RETAINING WALLS
- 21: CUTS AND EMBANKMENTS
- 22: FOUNDATIONS - GENERAL
- 23: SHALLOW FOUNDATIONS – FOOTINGS AND RAFTS
- 24: DEEP FOUNDATIONS – PILES AND UNDER REAMED PILES
- 25: TIEBACKS AND ANCHORS
- 26: MACHINE FOUNDATIONS
- 27: ROADS AND RUNWAYS
- 28: SLABS ON GRADE
- 29: REINFORCED EARTH
- 30: DAMS

### PART V : MISCELLANEOUS

- 31: DRAINAGE AND DEWATERING
- 32: SWELLING SOILS
- 33: SOIL STABILIZATION
- 34: SOME CASE HISTORIES
- 35: THE STORY OF SOIL MECHANICS

APPENDICES

REFERENCES

ACKNOWLEDGEMENTS

INDEX

**Checklist**

**SOIL MECHANICS AND FOUNDATION ENGINEERING**  
**DETAILED CONTENTS**

**PART I : GENERAL AND INDEX PROPERTIES**

**Chapter 1 ROCKS**

- 1-1 The Origin
- 1-2 Identifying Rocks
- 1-3 Indian Geology
- Exercise 1

**Chapter 2 SOILS**

- 2-1 Particle Size
- 2-2 Formative Classification
- Exercise 2

**Chapter 3 SOIL PARTICLES**

- 3-1 Particle – Structure and Shape
- 3-2 Soil Structure
- 3-3 Particle-size Determination
- 3-4 Indian Standard Sieves
- 3-5 Stokes' Law
- 3-6 Water as Medium
- 3-7 Sedimentation Analysis
- 3-8 Particle-size Distribution Curves
- 3-9 Illustrative Examples
- Exercise 3

**Chapter 4 DRY SOIL**

- 4-1 Dry Unit Weight
- 4-2 Void Ratio
- 4-3 Porosity
- 4-4 Relative Density
- 4-5 Specific Gravity
- 4-6 Illustrative Examples
- Exercise 4

**Chapter 5 SOIL MOISTURE**

- 5-1 Surface Area
- 5-2 Hygroscopic Moisture
- 5-3 Capillary Water
- 5-4 Capillary Force
- 5-5 Gravitational Water
- 5-6 Submerged Unit Weight
- 5-7 Quick-sand and Boiling
- 5-8 Determination of Moisture Content
- 5-9 Saturation
- 5-10 Atterberg Limits
- 5-11 Determination of Atterberg Limits
- Exercise 5

**Chapter 6 UNIT WEIGHT**

- 6-1 Measurement of Unit Weight
- 6-2 Compaction
- 6-3 Compaction Measurement
- 6-4 Illustrative Examples
- Exercise 6

**Chapter 7 SOIL CLASSIFICATION**

- 7-1 Methods of Classifying Soils
- 7-2 Triangle Textural Classification
- 7-3 General Engineering Classification
- Exercise 7

**PART II : DERIVED PROPERTIES**

**Chapter 8 PERMEABILITY**

- 8-1 Darcy's Law
- 8-2 Poiseuille's Law
- 8-3 Factors Influencing Permeability
- 8-4 Permeability of Stratified Layers of Soils
- 8-5 Laboratory Determination of Permeability
- 8-6 Constant Head Permeameter
- 8-7 Variable Head Permeameter
- 8-8 Field Determination of Permeability
- 8-9 Illustrative Examples
- Exercise 8

**Chapter 9 SEEPAGE AND UPLIFT**

- 9-1 Laplace Equations
- 9-2 Buoyancy
- 9-3 Uplift on Gravity Dams
- 9-4 Uplift in Bridge Piers
- 9-5 Uplift in Dock Walls
- 9-6 Uplift in Dry Docks
- Exercise 9

**Chapter 10 DISTRIBUTION OF PRESSURE**

- 10-1 Contact Stresses
- 10-2 Contact Pressures for Eccentric Loads
- 10-3 Linear Pressure Distribution
- 10-4 Kögler Method of Pressure Distribution
- 10-5 Boussinesq Theory of Pressure Distribution
- 10-6 Westergaard Equations
- 10-7 Mindlin's Theory of Pressure Distribution
- 10-8 Experimental Results
- 10-9 Illustrative Examples
- Exercise 10

**Chapter 11 COMPRESSIBILITY AND CONSOLIDATION**

- 11-1 Terms in Common Use
- 11-2 Elastic Compression
- 11-3 Compressibility
- 11-4 Modulus of Volume Change
- 11-5 Compression Index
- 11-6 Illustrative Examples
- 11-7 Process of Consolidation
- 11-8 Illustrative Example
- 11-9 Terzaghi Theory of Consolidation
- 11-10 Application of Terzaghi Theory of Consolidation
- 11-11 Illustrative Example
- 11-12 Laboratory Tests for Consolidation
- 11-13 Settlement Correction
- 11-14 Russian Method for Estimating Settlement
- 11-15 Illustrative Examples
- Exercise 11

**Chapter 12 SHEAR STRENGTH**

- 12-1 Stress Notation
- 12-2 Strain Notation
- 12-3 Mohr's Circle
- 12-4 Shear Resistance
- 12-5 Coulomb's Law
- 12-6 Shear Failure and Mohr's Circles
- 12-7 Effective Stress and Neutral Stress
- 12-8 Modified Coulomb's Law
- 12-9 Estimation of Shear Strength Parameters
- 12-10 Strength Theories
- 12-11 Illustrative Examples
- Exercise 12

**Chapter 13 LABORATORY MEASUREMENT OF SHEAR STRENGTH**

- 13-1 Shear Box Test
- 13-2 Unconfined Compression Test
- 13-3 Triaxial Compression Test
- 13-4 Vane Shear Test
- 13-5 Factors Influencing the Tests
- 13-6 Selection of Test and Technique
- 13-7 Review of Test Results
- 13-8 Illustrative Examples
- Exercise 13

**Chapter 14 EARTH PRESSURES**

- 14-1 Earth Pressure at Rest
- 14-2 Illustrative Example
- 14-3 Earth Pressures
- 14-4 Illustrative Example
- 14-5 Rankine's Theory
- 14-6 Coulomb-Résal – Bell Theory
- 14-7 Illustrative Example
- 14-8 Wall Friction
- 14-9 Coulomb's Wedge Theory

**SOIL MECHANICS AND FOUNDATION ENGINEERING**  
**DETAILED CONTENTS**

- 14-10 Illustrative Example
- 14-11 Graphical Methods – Cohesionless Backfills
- 14-12 Coulomb's General Solution for Cohesionless Backfill
- 14-13 Curved Surfaces of Rupture
- 14-14 Illustrative Example
- 14-15 General Solutions for Cohesive – Frictional Backfill
- 14-16 Illustrative Example
- 14-17 Pressures on Lateral Supports in Open Cuts  
Exercise 14

**Chapter 15 BEARING CAPACITY**

- 15-1 Definitions
- 15-2 Safe Bearing Capacity According to Soil Type
- 15-3 Analytical Methods for Calculating Bearing Capacity
- 15-4 By the Theory of Elasticity
- 15-5 With Earth Pressure Theory
- 15-6 According to the Theory of Plasticity – Prandtl's Theory
- 15-7 Terzaghi's Theory for Shallow Foundations
- 15-8 Illustrative Example
- 15-9 Brinch Hansen's Contribution
- 15-10 Illustrative Examples
- 15-11 Field Tests
- 15-12 Deep Foundations
- 15-13 Factor of Safety
- 15-14 Permissible Settlements  
Exercise 15

**PART III : FIELD INVESTIGATIONS**

**Chapter 16 SITE INVESTIGATION**

- 16-1 Objective
- 16-2 Scope
- 16-3 Reconnaissance
- 16-4 Earlier Uses
- 16-5 Disposition of Pits and Bores
- 16-6 Depth of Foundation
- 16-7 Ground-Water Table
- 16-8 Methods of Sampling
- 16-9 Methods of Sub-soil Exploration
- 16-10 Special Programme of Investigation  
Exercise 16

**Chapter 17 FIELD EQUIPMENT**

- 17-1 Exploratory Drilling
- 17-2 Undisturbed Sampling  
Exercise 17

**Chapter 18 FIELD TESTS**

- 18-1 Empirical field tests
- 18-2 Standard Penetration Test
- 18-3 Illustrative Example
- 18-4 Cone Penetration Test
- 18-5 CBR Test
- 18-6 Direct field tests
- 18-7 Plate Load Test
- 18-8 Vane Shear Test
- 18-9 Permeability Test
- 18-10 Field Density Test
- 18-11 Pressuremeter Test (PMT)  
Exercise 18

**Chapter 19 INSTRUMENTATION**

- 19-1 Purpose of Instrumentation
- 19-2 Deciding for Instrumentation
- 19-3 Instruments
- 19-4 Applications
- 19-5 Guidelines for Instrumentation  
Exercise 19

**PART IV : DESIGNS**

**Chapter 20 EARTH RETAINING WALLS**

- 20-1 Forces Acting on an Earth Retaining Wall
- 20-2 Stability Considerations
- 20-3 Earth Pressures
- 20-4 Drainage and Weep Holes
- 20-5 Hydraulic Pressure
- 20-6 Selection of Type of the Wall

- 20-7 Gravity Walls
- 20-8 Illustrative Examples
- 20-9 Reinforced Concrete Walls
- 20-10 Sheet Pile Wall
- 20-11 Design of Anchored Sheet Pile Wall
- 20-12 Illustrative Examples  
Exercise 20

**Chapter 21 CUTS AND EMBANKMENTS**

- 21-1 Cohesionless Soils
- 21-2 Illustrative Example
- 21-3 Cohesive Soils
- 21-4 Stability Analysis
- 21-5 Natural Slopes
- 21-6 Illustrative Examples  
Exercise 21

**Chapter 22 FOUNDATIONS – GENERAL**

- 22-1 Preliminary Selection of the Type of Foundation
- 22-2 Distribution of Pressure
- 22-3 Bearing Capacity
- 22-4 Settlement
- 22-5 Uplift
- 22-6 Materials of Construction and Environmental Corrosion
- 22-7 Foundation Types
- 22-8 Piers and Caissons
- 22-9 Special Techniques  
Exercise 22

**Chapter 23 SHALLOW FOUNDATIONS – FOOTINGS AND RAFTS**

- 23-1 Footings
- 23-2 Illustrative Example
- 23-3 Raft Foundations
- 23-4 Illustrative Example  
Exercise 23

**Chapter 24 DEEP FOUNDATIONS – PILES AND UNDER REAMED PILES**

- 24-1 Piles – General
- 24-2 Timber Piles
- 24-3 Illustrative Examples
- 24-4 Precast Reinforced Concrete Piles
- 24-5 Illustrative Examples
- 24-6 Steel Piles
- 24-7 Bored Piles and Shell Piles
- 24-8 Under Reamed Piles
- 24-9 Bored Compaction Piles
- 24-10 Large Diameter Bored Piles  
Exercise 24

**Chapter 25 TIEBACKS AND ANCHORS**

- 25-1 Tiebacks
- 25-2 Anchors with Normal Pressure Grouts
- 25-3 High Pressure Grouts
- 25-4 Anchors with High Pressure Grouts
- 25-5 Tendons
- 25-6 Creep and Cyclic Loading
- 25-7 Corrosion Protection
- 25-8 Uplift  
Exercise 25

**Chapter 26 MACHINE FOUNDATIONS**

- 26-1 Types of Machine Foundations
- 26-2 General Requirement of Machine Foundations
- 26-3 Design Parameters
- 26-4 Physical Properties of Elastic Base – Soil Below Foundation
- 26-5 Expression for Spring Stiffness of Elastic Supports
- 26-6 Couzens' Table for Weight of Foundations
- 26-7 Foundations for Impact Type Machine
- 26-8 Illustrative Example
- 26-9 Block Type Machine Foundations
- 26-10 Single-Mass Spring System
- 26-11 Semi-empirical Design of a Block Foundation as a Single-mass Spring System



**SOIL MECHANICS AND FOUNDATION ENGINEERING**  
**DETAILED CONTENTS**

- 26-12 Illustrative Example
- 26-13 Foundations for Reciprocating Machines
- 26-14 Foundation for Heavy Rotary Machines
- 26-15 Frequencies and Permissible Amplitudes (For Reciprocating and Rotary Machines)
- 26-16 Foundations for High Speed Rotary Machines
- 26-17 Other Machines
- 26-18 Constructional Aspects / Construction Considerations
- 26-19 Vibration Isolation  
Exercise 26

**Chapter 27 ROADS AND RUNWAYS**

- 27-1 Flexible Road Pavements
- 27-1-1 History of the Development of Design Methods
- 27-1-2 Present Design Methods
- 27-1-3 Design in Practice
- 27-1-4 Design Based on Traffic – As per IRC
- 27-2 Illustrative Examples
- 27-3 Rigid Road Pavements
- 27-3-1 Estimation of Total Thickness
- 27-3-2 Simplified Approach
- 27-3-3 Westergaard Theory
- 27-3-4 Equivalent Single-wheel Load
- 27-3-5 Modulus of Subgrade Reaction
- 27-3-6 Warping Stresses in Concrete Pavement
- 27-3-7 Suggested Thicknesses
- 27-3-8 Mud Pumping
- 27-3-9 Design of Rigid Pavements
- 27-3-10 Design of Joints
- 27-4 Illustrative Examples
- 27-5 Load Distribution Theory of Road Pavements
- 27-5-1 Concrete Pavements
- 27-5-2 Pavement for Load Distribution
- 27-5-3 Initial Pressure Distribution
- 27-5-4 Conclusions
- 27-6 Illustrative Examples
- 27-7 Runway Pavements
- 27-7-1 Equivalent Single-Wheel Loads
- 27-7-2 Gear Arrangements or Configurations
- 27-7-3 Coverages
- 27-7-4 Designs of Runway Pavements
- 27-8 Illustrative Example
- 27-9 History of Concrete Roads and Concrete Roads in India
- 27-9-1 History of Concrete Roads in Europe
- 27-9-2 History of Concrete Roads in USA
- 27-9-3 Concrete Roads in India
- 27-10 Subgrade Improvement
- 27-10-1 Soil Admixture
- 27-10-2 Lime or Cement Admixture
- 27-10-3 Thermal Treatment
- 27-10-4 Sand Piles
- 27-10-5 Water Proofing
- 27-11 Points for Design of Pavements on Expansive Soils
- 27-12 Geotextiles
- 27-13 Rehabilitation of Existing Pavements – Overlays
- 27-13-1 Bituminous Overlays
- 27-13-2 Cement Concrete Overlays  
Exercise 27

**Chapter 28 SLABS ON GRADE**

- 28-1 Forces in Slabs on Grade
- 28-2 Illustrative Examples
- 28-3 Joints in Slabs on Grade
- 28-4 Curling
- 28-5 Reinforced Slab on Grade
- 28-6 Slab on Grade as Foundation  
Exercise 28

**Chapter 29 REINFORCED EARTH**

- 29-1 Materials for Reinforced Earth
- 29-2 Design of Reinforced Structures
- 29-3 Construction of Reinforced Earth Structures  
Exercise 29

**Chapter 30 DAMS**

- 30-1 Introduction
- 30-2 Trends in Design
- 30-3 Seepage Analysis
- 30-4 Stability
- 30-5 Foundation Treatment
- 30-6 Causes of Failure  
Exercise 30

**PART V : MISCELLANEOUS**

**Chapter 31 DRAINAGE AND DEWATERING**

- 31-1 External Drainage
- 31-2 Internal Drainage
- 31-3 Dewatering  
Exercise 31

**Chapter 32 SWELLING SOILS**

- 32-1 Causes of Swelling
- 32-2 Origin of Swelling Soils
- 32-3 Prevalence of Swelling Soils
- 32-4 Identification Tests
- 32-5 Swell Pressures
- 32-6 Factors Influencing Swell Pressure
- 32-7 Swell Pressure and Moisture Content
- 32-8 Shearing Resistance
- 32-9 Treatment of Expansive Soils
- 32-10 Building Foundations
- 32-11 Road Subgrade and Embankment
- 32-12 Canals
- 32-13 Earth Dams  
Exercise 32

**Chapter 33 SOIL STABILIZATION**

- 33-1 Soil Stabilization for Types of Soils
- 33-2 Surface Compaction
- 33-3 Deep Stabilization
- 33-4 Drainage
- 33-5 Grouting  
Exercise 33

**Chapter 34 SOME CASE HISTORIES**

- 34-1 Retaining Walls
- 34-2 Foundations

**Chapter 35 THE STORY OF SOIL MECHANICS**

- 35-1 The Early Period
- 35-2 Mediaeval Times
- 35-3 Pre-modern Era
- 35-4 Present Phase
- 35-5 The Future Course

**APPENDICES**

**Appendix I ANGLES OF INTERNAL FRICTION, UNIT WEIGHTS AND LIQUIDITY FACTORS OF SOME MATERIALS**

**Appendix II SOIL BEARING CAPACITIES, PROPERTIES OF GRANULAR AND COHESIVE MATERIALS**

**Appendix III ENQUIRY DOCUMENT FOR GEOTECHNICAL INVESTIGATIONS**

**Appendix IV METRIC CONVERSIONS**

**Appendix V BRITISH AND METRIC EQUIVALENTS**

**Appendix VI SI UNITS**

**Appendix VII SOME RELEVANT CODES AND SPECIFICATIONS (OF BUREAU OF INDIAN STANDARDS AND OF INDIAN ROADS CONGRESS)**

**Appendix VIII THE GIANTS OF SOIL MECHANICS**

**REFERENCES**

**ACKNOWLEDGEMENTS**

**INDEX**