



ISBN: 978-93-48542-48-9

e-ISBN: 978-93-48542-98-4

Pages: 376

2026

 Printed Copy

Paperback ₹ 995/-

# Methods of Soil Physical Analysis

Soil physical analysis provides the foundational tools needed to understand how soils behave, respond to management, and support plant, water, and environmental functions. These methods quantify key physical attributes—such as texture, structure, density, porosity, water retention, infiltration, aeration, and thermal properties—that determine the movement of water, air, and heat in the soil–plant–atmosphere continuum. The book provides fully illustrated, step-by-step protocols for every major soil physical test with advanced and digital techniques in laboratory and field conditions. Photographs, flowcharts, and instrument diagrams with highlighting notes make complex methods easy to understand. This feature makes the book invaluable for graduate and post-graduate students learning techniques, teachers running laboratory classes, and researchers conducting field experiments. Beyond measurement, the book teaches how to analyse and interpret results, which is often missing in other manuals. It includes numerical examples, data tables, and sample calculations, useful for teachers and students/ researchers. The key concepts per chapter, including review questions and answers, make the book classroom-friendly. The book uniquely integrates soil physical methods used across Agronomy, Soil Science, Soil Water Engineering, Environmental Science, Hydrology, and Physical Geography. This book is a holistic teaching and research companion as per the 6th Deans' Committee Recommendations.

Prasanta Kumar Bandyopadhyay

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