



Analysis and Design of Foundations and Retaining Structures Subjected to Seismic Loads, 1/e

Swami Saran

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About the Book

The book offers a systematic treatment of the analysis and design of foundations and retaining structures subjected to dynamic loads. Written for graduate students and practicing geotechnical engineers, this book is designed to help reader understand the fundamental principles and procedures of analysing and designing geotechnical structures subjected to dynamic loads. Topics covered in the book include: Dynamic soil properties & liquefaction; Dynamic earth pressures shallow, pile and well foundations; rigid and water front retaining structures, bridge abutments; reinforced earth and soils nailed walls. A number of solved examples are included in each chapter. All the formulae, charts and examples are given in SI units. Both analysis and design methodology are based on the latest state-of-the-art and IS codes available on the particular theme.

Salient Features

Spread in eleven chapters, it covers the aspects related to analysis and design of foundations and retaining structures subject to seismic loads. Each chapter is preceded with an overview, and ends with illustrative examples, references, and practice problems.

SI units have been used everywhere in the book.

All-important results have been derived using case by case method.

Profusely illustrated with charts and force diagrams and photographs.

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About the Author

Swami Saran :- Dr. Swami Saran, Professor Emeritus in the Department of Earthquake Engineering, Indian Institute of Technology, Roorkee, obtained Ph.D. 1969 from the university of Roorkee. An established teacher, researcher and active consultant, he is the recipient of Khosla Research Awards (three times), IGS Awards (six times) including the prestigious Kuckulmann Award and also awards from I.S.E.T., I.S.T.E. and I.S.C.M.S. He has guided 27 Ph.D theses, 73 Master's theses, published 185 research papers and 5 books. Dr. Saran has initiated research work on reinforced soil, analysis of foundation using constitutive laws and displacement dependent static dynamic analysis of retaining walls. He has provided consultancy to more than 300 projects of national importance, including multistoried buildings, cement and tyre factories, thermal plants, machine foundation, towers and chimneys, bridges, oil storage tanks, historical monuments, ground improvement problems etc. He visited UK in 1974 under an exchange programme and AIT Bangkok as a Visiting Professor in 1987. He has also visited USA, Australia and Nepal to attend conferences. He is a member of several national and international professional bodies. A national Conferences (NCFRS-2007) was organized at IIT Roorkee to honor him.