



Structural Analysis

Third Edition

Devdas Menon

Professor & PC Varghese Institute Chair
Department of Civil Engineering
Indian Institute of Technology, Madras
Chennai

2023 1232 pages 905 Figs. 185mm x 240mm Paperback ISBN: 978-81-8487-734-2 Rs. 1295.00

READERSHIP: Undergraduate Students, Teachers & Professional Structural Engineers

STRUCTURAL ANALYSIS a basic textbook for undergraduates, now in its third edition, has undergone revisions following its first publication since 2008, to provide for better clarity and understanding of the subject. The text has been well received for its comprehensive explanation of the fundamentals of structural analysis in an innovative manner. The method of learning advocated in the book helps in developing analytical and intuitive skills, truly enjoying the learning and practice of structural analysis – not only for the beginner, but for those interested in re-learning afresh.

Concepts that are crucial, such as the principle of virtual work, energy methods and displacement methods, have been explained in detail. All explanations are supplemented with numerous examples for better understanding and to develop a 'physical feel'. Various shortcut methods of analysing indeterminate structures that are very easy to implement are discussed.

KEY FEATURES:

- Comprehensive treatment of structural analysis
- Useful for both self-study and class room use
- Excellent refresher for postgraduate students and practicing engineers
- Especially useful as an instructive aid for teachers
- Special emphasis on relating deflection diagrams to force response
- Special treatment of work, energy and displacement methods
- Emphasis on short-cut methods of handling indeterminate structures
- 250 plus illustrative examples along with explanations
- Several questions and problems

CONTENTS: Fundamentals - Structure / Load / Response / **Force Response in Statically Determinate Structures** - Support Reactions / Internal Forces in Beams / Axial Forces in Trusses / Axial Forces in Cables and Funicular Arches / Internal Forces in Frames / Influence Lines / **Displacement Response in Statically Determinate Structures** - Deflection in Beams: Conventional Methods / Principle of Virtual Forces / Energy Methods / **Statically Indeterminate Structures: Force Methods** - Introduction to Force Methods / Method of Consistent Deformations / Theorem of Least Work / Column Analogy Method / Approximate Lateral Load Analysis of Building Frames / Deflections in Statically Indeterminate Structures / **Kinematically Indeterminate Structures Displacement Methods** - Introduction to Displacement Methods / Slope-Deflection Method / Moment Distribution Method / Kani's Method / Index.

For orders/queries contact below:

Narosa Book Distributors Pvt. Ltd.

22 Delhi Medical Association Road, Daryaganj, New Delhi – 110 002 Tel.: (011) 23258579 Fax: (011) 23258934 Email: info@narosa.com
35-36 Greams Road, Thousand Lights, Chennai – 600 006 Tel.: (044) 28295362 Fax: (044) 28290377 Email: narosamds@vsnl.net
306 Shiv Centre, Sector – 17, Vashi, Navi Mumbai – 400 703 Tel.: (022) 27890977 Fax: (022) 27891930 Email: narosamum@narosa.com
2F-2G Shivam Chambers, 53 Syed Amir Ali Avenue, Kolkata – 700 019 Tel.: (033) 22902891 Fax: (033) 22902892 Email: narosakol@narosa.com



Narosa Publishing House Pvt. Ltd.

22 Delhi Medical Association Road, Daryaganj, New Delhi- 110 002
Tel.: 23243415, 16, 17, Fax: 23243225 Email: info@narosa.com

PP-8094 / 13-01-23