



# STRUCTURES IN PRACTICE

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## ABOUT THE BOOK

This book is an outcome of extensive experience of the author in a design office as a consulting professional engineer.

The book deals with elements or systems which are significant parts of the “structure” as a whole and some stand-alone structures. Some cogent information or case studies related to the chapter are given as Annexes to the respective chapter.

Also included are several Design Aids and Appendices which the author found immensely useful; hopefully, the design engineer will be at an advantage with these handily available. Whereas most of the discussion in the book is related to RC (Reinforced Concrete) structures, some common and predominantly steel structures have been included viz. portal frames, Vierendeel girders, chimneys and parking structures.

For easy reading, the book is divided into self-contained chapters dealing with each topic. It contains useful tables of data and is profusely illustrated with diagrams and photographs to assist the reader. Fundamental concepts are lucidly presented and derived and empirical formulae given with clarity of underlying assumptions.

Some case histories have been included. One is design of a large span (84.0 m) portal frame. It gives the exact procedure that was followed while designing a large span portal frame, when posed with a peculiar problem during the professional practice. The aim in presenting this “case” is to acquaint the readers to almost all the aspects of such a structure, with emphasis not only on the design but also on execution. Almost all the salient parameters related to the design and execution are included. The second “case” is of another peculiar problem; making an opening for an additional flue duct in an existing 100 m high RC chimney. The salient information for planning and devising the scheme for execution is given. For both these cases, detailed drawings and the specific instruction sheets prepared for proper and fault free execution are included. These are meant for the students with inquisitive minds and the practicing engineers seeking guidance when faced with not so usual problems.

Some worked examples have been given in the book; these are given at the ends of the respective chapters. These should help the engineer in dealing with the problems during practice.

The book comprehensively covers the subject for degree courses (graduate and post-graduate) in engineering of all the Indian Universities and examinations of professional bodies. Written in a simple language, with illustrative references, it will be useful to students to grasp the subject and to the practicing engineers in designing of the structures.

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