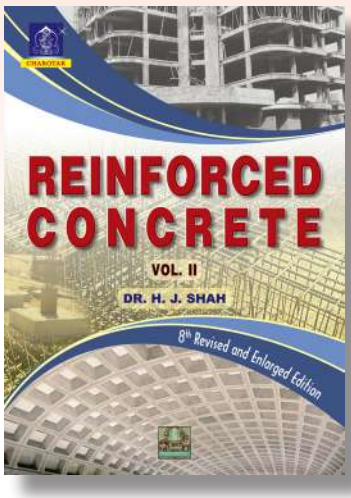

REINFORCED CONCRETE VOL. II

[ADVANCED REINFORCED CONCRETE]

NEW

By
Dr. H. J. Shah

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ABOUT THE BOOK

This book presents the basic principles involved in Analysis and Design of Reinforced Concrete Structures. This Eighth edition of Vol. II has been thoroughly revised and extensively enlarged. Some chapters from Seventh edition were transferred to Vol. I of this book. Now in this Vol. II, it is divided in two parts discuss the followings:

Part I : Multi-storeyed buildings *and* ***Part II : Water tanks: Liquid retaining structures.***

This is a unique book as it contains material complying with latest Indian codes with their respective amendments till October 2022. All chapters are revised with adding a plenty of new matter, examples and figures.

The outline of the book ***"Reinforced Concrete Vol. II – Part I : Chapter 01 to 12"*** *as mentioned below:*

Chapter 1 *Fundamentals of Multi-storeyed buildings* and discusses the overall understanding of the subject. ***Chapter 2*** contains an overview of *gravity load analysis and design* and explains how to calculate gravity loads on beams and columns of the building. ***Chapter 3*** is devoted for *basics of building dynamics*. Since the buildings are subjected to dynamic loads like wind and earthquake, it becomes necessary to understand some basics of building dynamics. Only a few basics necessary to understand the analysis and design of medium rise buildings are explained. ***Chapter 4*** gives information about *lateral loads*, viz., wind and earthquake loads. Dynamic nature of wind is not considered in the scope of this book. Therefore, static wind forces are explained and also calculated for buildings, while earthquake forces are only explained. Lateral loads result in lateral deformations of building. ***Chapter 5*** discusses about the deformations (horizontal as well as vertical) in the buildings. Overall deformation and inter-storey drift discussed in this chapter play very important role in design of these buildings. ***Chapter 6*** explains how to *calculate earthquake forces* on the building as a whole and also component-wise. Response spectrum method is adopted by IS:1893 for earthquake loads calculations. ***Chapter 7*** explains how to plan medium rise buildings to make them *earthquake resistant*. ***Chapter 8*** discusses the *ductile design* as per IS:13920 including amendments published so far. It is necessary for all buildings to follow the ductile design (Optional for earthquake zone II).

After getting this preliminary knowledge, an unbraced seven storeyed building (structurally seven storeys) is considered and analyzed; and designed and detailed for all practical considerations manually in ***chapters 9, 10 and 11***. All the chapters are completely based on an excel program. This will clarify the analysis and design of a complete building. ***Chapter 12*** is devoted for walls and shear wall design. Although the building design with shear walls is not considered in the scope of this book. Typically, shear walls are also used for medium rise buildings in modern scenario.

The outline of the book ***"Reinforced Concrete Vol. II – Part II : Chapter 13 to 20"*** *as mentioned below:*

These chapters discuss the design of ***liquid retaining structures*** by using limit state theory as was adopted in IS:3370-2009 and also in its 2021 revision. In this respect, it is a unique book.

It starts with fundamentals of *liquid retaining structures* in ***chapter 13*** and explains how such structures are different than conventional buildings. Limiting the crack width for no leakage of water from tanks is the key design of such structures. ***Chapter 14*** discusses designs of different members of liquid retaining structures. This chapter should be very helpful to appreciate the design of water tanks. Loads acting on such structures have to be treated in different manner than conventional buildings. ***Chapter 15*** gives good understanding of various loads acting on water tanks. Complete designs of *circular and rectangular tanks* resting on ground are treated in ***chapters 16 and 17*** respectively. Since calculation of earthquake loads is yet not known, these chapters assume earthquake loads by using thumb rules recommended by the author. ***Chapter 18*** is devoted for calculating earthquake loads on water tanks which is based on empirical formulae given by IS:1983(Part II). ***Chapter 19*** designs circular and rectangular overhead tanks subjected to all types of loads. ***Chapter 20*** designs an *intze tank* supported by peripheral columns with full practical details.

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Now this book *"Reinforced Concreted Vol. II,* in its 20 Chapters contains:

380	Neatly drawn sketches	209	Questions at the end of chapters
134	Useful tables	066	Examples for practice at the end of chapters.
109	Design examples		

The book in the present form will prove to be extremely useful to the students preparing for the Degree examinations in Civil Engineering and Architecture of all the Indian Universities, 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 should also be an immense use to practicing Civil Engineers.

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Charotar Publishing House Pvt. Ltd. Opposite Amul Dairy, Old Civil Court Road, Anand 388 001 India
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