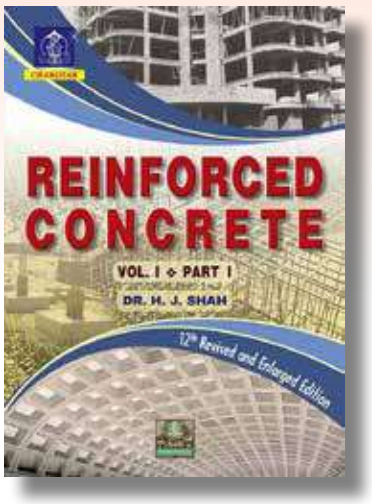

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ABOUT THE BOOK

This book presents the basic principles involved in Analysis and Design of Reinforced Concrete Structures. This 12th edition of Vol. I has been thoroughly revised and extensively enlarged in two parts. Almost all chapters are revised with adding a plenty of new matter, examples and figures. Mix design as per latest IS:10262 with excel programs is added. A number of excel programs have been added to clarify the subject matter and design the elements of structure. As per prevailing market conditions the default combination of materials is revised to M20 grade concrete and Fe 500 grade steel, however, the other combinations of materials have not been completely ignored.

The outline of the book ***"Reinforced Concrete Vol. I – Part I"*** is as mentioned below:

Chapter 1 to 3 discuss mainly Concrete Technology. Chapter 1 introduces the subject, while chapter 2 deals with properties of ingredients of concrete. Chapter 3 deals with properties of wet and set concrete. It explains design mix concrete and presents excel programs to design a concrete mix for standard concretes based on IS:10262-2019.

Chapter 4 to 6 discuss fundamentals of flexure design, also discuss working stress method as well as limit state method for flexure design. It designs singly and doubly reinforced rectangular and flanged beams for flexure.

Chapter 7 and 8 presents design for Shear and checking for Development Length, Deflection and Cracking.

Chapter 9 and 10 deal with the design of Simply Supported and Cantilever Beams and Slabs.

Chapter 11 Continuous beams and slabs capable of free rotation at supports are discussed, including redistribution of moments.

Chapter 12 and 13 Simple cases of torsion and stairs are discussed.

Chapter 14 and 15 Introduce the Load Calculations and Simple designs. Considering the fundamentals developed in earlier chapters, the load calculations on simple structures like Slabs and Beams, capable of free rotation at supports are considered. A few cases are designed in chapter 15.

Chapter 16 Designs of Framed Beams are introduced with examples considering it appropriate to discuss with the elements that are not free to rotate at their supports.

*Now this book **"Reinforced Concrete Vol. I – Part I"**, in its 16 Chapters and Appendix contains:*

- 350 Neatly drawn sketches
- 063 Useful tables
- 167 Design problems
- 243 Questions at the end of the chapters
- 019 Excel programs
- 316 Short questions with answers.

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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CHAPTER 9 SIMPLY SUPPORTED AND CANTILEVER BEAMS

CHAPTER 10 SIMPLY SUPPORTED AND CANTILEVER SLABS