

# Reinforced Concrete Design By A K Jain

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Basic Civil Engineering - Dr. B.C. Punmia 2003-05

*Reinforced Concrete* - Dr. H. J. Shah 2008-01-01

This volume elucidates the designs of various types of foundation and structures like retaining walls, water tanks, various types of slabs, multi-storied buildings formwork, detaining of reinforcements and elements of prestressed concrete, based on latest Indian standards mainly using Limit State Method. A complete multi-storied building design example is also included.

**Concrete Structures, 3rd Edition** - Zahid Ahmad Siddiqi

This book is prepared according to the 2014 ACI Code for buildings and AASHTO LRFD Specifications for bridges. The units used throughout the presentation are the SI units, however, the expressions and examples are also given in US Customary units in the starting chapters to keep continuity with the traditional system of units. It is tried that the three main phases of structural design, namely load determination, design calculations and detailing are introduced to the beginner. This book is useful with the 2nd part of the same book. After the printing of the first and second editions, the comments sent by colleagues, fellow engineers and students are acknowledged with thanks. Suggestions for further improvement of the presentation will be highly appreciated and will be incorporated in the future editions.

**System-Based Vision For Strate** - Franco Bontempi 2003-01-01

Objective of conference is to define knowledge and technologies needed to design and develop project processes and to produce high-quality, competitive, environment- and consumer-friendly structures and constructed facilities. This goal is clearly related to the development and (re)-use of quality materials, to excellence in construction management and to reliable measurement and testing methods.

*FUNDAMENTALS OF REINFORCED CONCRETE DESIGN* - M. L. GAMBHIR 2006-10-07

Designed primarily as a text for undergraduate students of Civil Engineering for their first course on Limit State Design of Reinforced Concrete, this compact and well-organized text covers all the fundamental concepts in a highly readable style. The text conforms to the provision of the latest revision of Indian Code of Practice for Plain and Reinforced Concrete, IS : 456 (2000). First six chapters deal with fundamentals of limit states design of reinforced concrete. The objective of last two chapters (including design aids in appendix) is to initiate the readers in practical design of concrete structures. The text gives detailed discussion of basic concepts, behaviour of the various structural components under loads, and development of fundamental expressions for analysis and design. It also presents efficient and systematic procedures for solving design problems. In addition to the discussion of basis for design calculations, a large number of worked-out practical design examples based on the current design practices have been included to illustrate the basic principles of reinforced concrete design. Besides students, practising engineers would find this text extremely useful.

Reinforced Concrete Design - S. U. Pillai 1988-01-01

**Advanced Reinforced Concrete Design** - N. K. Raju 2016-03-30

**Reinforced Concrete Design** - S. N. Sinha 2014

Innovation in Concrete Structures - Ravindra K. Dhir 1999

Concrete will be the key material for Mankind to create the built environment of the next millenium. The requirements of this infrastructure will be both demanding, in terms of technical performance and economy, and yet be greatly varied, from architectural masterpieces to the simplest of utilities. Innovation in Concrete Structures: Design and Construction forms the proceeding of the three day International Conference held during the Congress, Creating with Concrete, 6-10 September 1999, organised by the Concrete Technology University. Topics discussed include civil engineering structures, sub-structures, high-rise structures, deep basements, precast concrete construction and housing.

**Building Construction** - B. C. Punmia 2008-04

**DESIGN OF CONCRETE STRUCTURES** - J. N. BANDYOPADHYAY 2008-07-07

This text primarily analyses different methods of design of concrete structures as per IS 456: 2000 (Plain and Reinforced Concrete—Indian Standard Code of Practice, 4th revision, Bureau of Indian Standards). It gives greater emphasis on the limit state method so as to illustrate the acceptable limits for the safety and serviceability requirements of structures. Besides dealing with yield line analysis for slabs, the book explains the working stress method and its use for designing reinforced concrete tension members, theory of redistribution of moments, and earthquake resistant design of structures. This well-structured book develops an effective understanding of the theory through numerous solved problems, presenting step-by-step calculations. The use of SP-16 (Design Aids for Reinforced Concrete to IS: 456-1978) has also been explained in solving the problems. KEY FEATURES : Instructional Objectives at the beginning of the chapter highlight important concepts. Summary at the end of the chapter to help student revise key points. Sixty-nine solved illustrative examples presenting step-by-step calculations. Chapter-end exercises to test student's understanding of the concepts. Forty Tests to enable students to gauge their preparedness for actual exams. This comprehensive text is suitable for undergraduate students of civil engineering and architecture. It can also be useful to professional engineers.

Comprehensive Design of Steel Structures - 1998

**Reinforced Concrete Structures Vol. I** - Dr. B. C. Punmia 1992-05

*Structural Concrete* - M. Nadim Hassoun 2012-05

Emphasizing a conceptual understanding of concrete design and analysis, this revised and updated edition builds the student's understanding by presenting design methods in an easy to understand manner supported with the use of numerous examples and problems. Written in intuitive, easy-to-understand language, it includes SI unit examples in all chapters, equivalent conversion factors from US customary to SI throughout the book, and SI unit design tables. In addition, the coverage has been completely updated to reflect the latest ACI 318-11 code.

**Reinforced Concrete Structures Vol. I** - Dr. B.C. Punmia 1992

Reinforced Concrete Design: Principles And Practice - Raju N. Krishna 2007

This Book Systematically Explains The Basic Principles And Techniques Involved In The Design Of Reinforced Concrete Structures. It Exhaustively Covers The First Course On The Subject At B.E./ B.Tech Level. Important Features: \* Exposition Is Based On The Latest Indian Standard Code Is: 456-2000. \* Limit State Method Emphasized Throughout The Book. \* Working Stress Method Also Explained. \* Detailing Aspects Of Reinforcement Highlighted. \* Incorporates Earthquake Resistant Design. \* Includes A Large Number Of Solved Examples, Practice Problems And Illustrations. The Book Would Serve As A Comprehensive Text For Undergraduate Civil Engineering Students. Practising Engineers Would Also Find It A Valuable Reference Source.

Dynamics of structures with MATLAB® applications - Ashok K. Jain 2016

This book is designed for undergraduate and graduate students taking a first course in Dynamics of Structures, Structural Dynamics or Earthquake Engineering. It includes several topics on the theory of structural dynamics and the applications of this theory

**Reinforced Concrete: Analysis and Design** - S. S. Ray 1995-02-27

This book covers the analysis and design of reinforced concrete elements in foundations and superstructures in a logical, step-by-step fashion. The theory of reinforced concrete and the derivation of the code formulae have been clearly explained. The text is backed up by numerous illustrations, design charts and tables referring frequently to the relevant codes of practice. A large number of worked examples cover almost all types of reinforced concrete elements. The step-by-step approach will ensure that all design requirements are logically adhered to, a standardized approach is established in a design office and that a simplified procedure for checking and for quality assurance can be implemented.

**LIMIT STATE DESIGN OF REINFORCED CONCRETE** - P. C. VARGHESE 2008-09-23

This substantially revised second edition takes into account the provisions of the revised Indian Code of practice for Plain and Reinforced Concrete IS 456 : 2000. It also provides additional data on detailing of steel to make the book more useful to practicing engineers. The chapter on Limit State of Durability for Environment has been completely revised and the new provisions of the code such as those for design for shear in reinforced concrete, rules for shearing main steel in slabs, lateral steel in columns, and stirrups in beams have been explained in detail in the new edition. This comprehensive and systematically organized book is intended for undergraduate students of Civil Engineering, covering the first course on Reinforced Concrete Design and as a reference for the practicing engineers. Besides covering IS 456 : 2000, the book also deals with the British and US Codes. Advanced topics of IS 456 : 2000 have been discussed in the companion volume Advanced Reinforced Concrete Design (also published by Prentice-Hall of India). The two books together cover all the topics in IS 456 : 2000 and many other topics which are so important in modern methods of design of reinforced concrete.

Concrete Structures, Part-I - Zahid Ahmad Siddiqi 2020-02-01

This book is prepared according to the ACI Code 2019 for buildings and AASHTO LRFD Specifications for Bridges 2007. The units used throughout the presentation are the SI units, however, the expressions and examples are also given in US Customary units in the starting chapters to keep continuity with the traditional system of units. It is tried that the three main phases of structural design, namely load determination, design calculations and detailing are introduced to the beginner. This book is useful with the 2nd part of the same book. The comments on the previous editions of the book sent by colleagues, fellow engineers and students are incorporated in this edition. All persons who contributed in this regard are greatly acknowledged. Suggestions for further improvement of the presentation will be appreciated and will be incorporated in the future editions.

Limit State Design of Reinforced Concrete - B. C. Punmia 2007

**Comprehensive Rcc.Designs** - Dr. B.C. Punmia

CONTENTS: Part 1: Working Stress Method 1. Introduction 2. Theory of reinforced beams and Slabs 3. Shear and bond 4. Torsion 5. Doubly reinforced beams 6. T and L-Beams 7. Design of beams and Slabs 8. Design of stair cases 9. Reinforced brick and hollow tile roofs 10. Two-way slabs 11. Circular slabs 12. Flat slabs 13. Axially loaded columns 14. Combined direct and bending stresses 15. Continuous and isolated footings 16. Combined footings 17. Pile foundations 18. Retaining Walls Part 11: Water Tanks 19. Domes 20. Beams

curved in plan 21. Water tanks-1 Simple cases 22. Water tanks-11 Circular & INTZE Tanks 23. Water tanks-111: Rectangular tanks 24. Water tanks-IV: Underground tanks Part 111: Miscellaneous Structures 25. Reinforced concrete pipes 26. Bunkers and silos 27. Chimneys 28. Portal frames 29. Building frames Part IV: Concrete Bridges 30. Aqueducts and box culverts 31. Concrete Bridges Part V: Limit State Design 32. Design concepts 33. Singly reinforced section 34. Doubly reinforced sections 35. T and L-Beams 36. Shear bond and torsion 37. Design of beams and slabs 38. Axially loaded columns 39. Columns with Uniaxial and Biaxial bending 40. Design of stair cases 41. Two way slabs 42. Circular slabs 43. Yield Line theory and design of slabs 44. Foundations Part IV: Prestressed concrete and Miscellaneous Topics 45. Prestressed concrete 46. Shrinkage and creep 47. Form-Work 48. Tests for cement and concrete

Advances in Construction Management - Lee Yee Loon 2022

This book presents the select proceedings of the International Conference on Advances in Construction Materials and Management (ACMM 2021). It discusses the recent innovations towards construction management, building technology and new materials in practice in civil engineering. Various topics covered include architecture and urban planning, smart materials and structures, GIS in construction application, transportation materials and engineering, geotechnical applications in construction, energy and sustainability, green building technologies and materials and construction management. The book will be useful for beginners, researchers and professionals working in the area of civil engineering. .

**Seismic Design Aids for Nonlinear Pushover Analysis of Reinforced Concrete and Steel Bridges** - Jeffrey Ger 2016-04-19

Nonlinear static monotonic (pushover) analysis has become a common practice in performance-based bridge seismic design. The popularity of pushover analysis is due to its ability to identify the failure modes and the design limit states of bridge piers and to provide the progressive collapse sequence of damaged bridges when subjected to major earthquakes. Seismic Design Aids for Nonlinear Pushover Analysis of Reinforced Concrete and Steel Bridges fills the need for a complete reference on pushover analysis for practicing engineers. This technical reference covers the pushover analysis of reinforced concrete and steel bridges with confined and unconfined concrete column members of either circular or rectangular cross sections as well as steel members of standard shapes. It provides step-by-step procedures for pushover analysis with various nonlinear member stiffness formulations, including: Finite segment-finite string (FSFS) Finite segment-moment curvature (FSMC) Axial load-moment interaction (PM) Constant moment ratio (CMR) Plastic hinge length (PHL) Ranging from the simplest to the most sophisticated, the methods are suitable for engineers with varying levels of experience in nonlinear structural analysis. The authors also provide a downloadable computer program, INSTRUCT (INelastic STRUCTural Analysis of Reinforced-Concrete and Steel Structures), that allows readers to perform their own pushover analyses. Numerous real-world examples demonstrate the accuracy of analytical prediction by comparing numerical results with full- or large-scale test results. A useful reference for researchers and engineers working in structural engineering, this book also offers an organized collection of nonlinear pushover analysis applications for students.

Advances in Indian Earthquake Engineering and Seismology - M. L. Sharma 2018-06-22

This edited volume is an up-to-date guide for students, policy makers and engineers on earthquake engineering, including methods and technologies for seismic hazard detection and mitigation. The book was written in honour of the late Professor Jai Krishna, who was a pioneer in teaching and research in the field of earthquake engineering in India during his decades-long work at the University of Roorkee (now the Indian Institute of Technology Roorkee). The book comprehensively covers the historical development of earthquake engineering in India, and uses this background knowledge to address the need for current advances in earthquake engineering, especially in developing countries. After discussing the history and growth of earthquake engineering in India from the past 50 years, the book addresses the present status of earthquake engineering in regards to the seismic resistant designs of bridges, buildings, railways, and other infrastructures. Specific topics include response spectrum superposition methods, design philosophy, system identification approaches, retaining walls, and shallow foundations. Readers will learn about developments in earthquake engineering over the past 50 years, and how new methods and technologies can be applied towards seismic risk and hazard identification and mitigation.

**Reinforced Concrete** - B.S. Choo 2018-10-08

This new edition of a highly practical text gives a detailed presentation of the design of common reinforced concrete structures to limit state theory in accordance with BS 8110.

*Soil Mechanics and Foundations* - B. C. Punmia 2005

*Reinforced Concrete Structures Vol. II* - Dr. B.C. Punmia 1992

**ADVANCED REINFORCED CONCRETE DESIGN** - P. C. VARGHESE 2009-01-09

Intended as a companion volume to the author's Limit State Design of Reinforced Concrete (published by Prentice-Hall of India), the Second Edition of this comprehensive and systematically organized text builds on the strength of the first edition, continuing to provide a clear and masterly exposition of the fundamentals of the theory of concrete design. The text meets the twin objective of catering to the needs of the postgraduate students of Civil Engineering and the needs of the practising civil engineers as it focuses also on the practices followed by the industry. This text, along with Limit State Design, covers the entire design practice of revised Code IS456 (2000). In addition, it analyzes the procedures specified in many other BIS codes such as those on winds, earthquakes, and ductile detailing. What's New to This Edition Chapter 18 on Earthquake Forces and Structural Response of framed buildings has been completely revised and updated so as to conform to the latest I.S. Codes 1893 (2002) entitled Criteria for Earthquake Resistant Design of Structures (Part I - Fifth Revision). Chapters 19 and 21 which too deal with earthquake design have been revised. A Summary of elementary design of reinforced concrete members is added as Appendix. Valuable tables and charts are presented to help students and practising designers to arrive at a speedy estimate of the steel requirements in slabs, beams, columns and footings of ordinary buildings.

**R.C.C. Designs (Reinforced Concrete Structures)** - B. C. Punmia 2012-04-01

**Reinforced Concrete Structures Vol. II** - B. C. Punmia 1992

**R.C.C Design & Drawing** - Neelam Sharma (M.E.) 2009

**Prestressed Concrete Design** - M.K. Hurst 2017-12-21

Prestressed concrete is widely used in the construction industry in buildings, bridges, and other structures. The new edition of this book provides up-to-date guidance on the detailed design of prestressed concrete structures according to the provisions of the latest preliminary version of Eurocode 2: Design of Concrete Structures, DD ENV 1992-1-1: 1992. The emphasis throughout is on design - the problem of providing a structure to fulfil a given purpose - but fundamental concepts are also described in detail. All major topics are dealt with, including prestressed flat slabs, an important and growing application in the design of buildings. The text is illustrated throughout with worked examples and problems for further study. Examples are given of computer spreadsheets for typical design calculations. Prestressed Concrete Design will be a valuable guide to practising engineers, students and research workers.

Reinforced Concrete Structure - IC Syal | AK Goel 2008

It has been gratifying to find the earlier editions of the book read and used in so many parts of the country. The new edition owes much to the useful comments and suggestions of the teachers, students and the practising engineers to whom the express their grateful thanks. A new chapter on Prestressed Concrete has been added to the new edition. In particular, the chapter discusses various aspects of prestressing, like types of prestressing, various methods of prestressing, materials used, losses in prestress, layout of cable profiles, analysis and methods of design of various elements and the detailed analysis and design of end Block.

*Staad Pro v8i for beginners* - T.S.Sarma 2014

This book is intended to give a basic knowledge of Staad Pro V8i to those who do not have previous exposure to this software. This is highly useful for students of civil engineering who want to develop design skills by using this software. Concrete and steel modelling and design examples have been given to increase the readers' knowledge about both steel and concrete structures. Any civil engineer can learn Staad Pro by following the step by step procedures explained in this book. This book is highly suitable for Indian Engineers, as in all examples Indian code methods have been followed. This will greatly benefit practising engineers and students in India as this is the first book on Staad Pro V8i with Indian examples.

*Concrete Structures Part-II, 2nd Edition* - Zahid Ahmad Siddiqi 2012-02-22

This book is prepared according to the 2011 ACI Code for buildings and AASHTO LRFD Specifications for bridges. The units used throughout the presentation are the SI units according to the official system of units in Pakistan. As in Part-I of the same series of books, it is tried that the three main phases of structural design, namely load determination, design calculations and detailing together are introduced to the beginner. Besides reinforced concrete design, basics of formwork design, plain concrete properties and repair / rehabilitation of concrete structures are also presented. This book is useful with the 1st part of the same book. Suggestions for further improvement of the presentation will be highly appreciated and will be incorporated in the future editions.

Design of R.C.C. Buildings using Staad Pro V8i with Indian Examples - T S Sarma 2017-12-16

This book is intended to give a basic knowledge of design of R.C.C buildings using Staad Pro V8i, to those who already have some knowledge in working in this software. This is highly useful for Civil Engineering Students who want to develop design skills in R.C.C. by using Staad Pro. Indian Code references were given where ever necessary and many snapshots of working example are inserted in almost every page of the book so that the reader can understand easily. This book is highly suitable for Indian Civil Engineers, as all the examples are in Indian Code methods. This will greatly benefit practicing engineers and students in India as this is the first detailed book on R.C.C building design using Staad Pro, with Indian Examples. Static method and Dynamic method of analysis has been explained by taking the same example problem, so that the reader can understand the differences in those methods.

**Reinforced Concrete Design** - W.H. Mosley 2012-04-10

The purpose of this text is to provide a straightforward introduction to the principles and methods of design for concrete structures. The theory and practice described are of fundamental nature and will be of use internationally.

**DESIGN OF REINFORCED CONCRETE STRUCTURES** - M. L. GAMBHIR 2008-02-16

Designed primarily as a text for the undergraduate students of civil engineering, this compact and well-organized text presents all the basic topics of reinforced concrete design in a comprehensive manner. The text conforms to the limit states design method as given in the latest revision of Indian Code of Practice for Plain and Reinforced Concrete, IS: 456 (2000). This book covers the applications of design concepts and provides a wealth of state-of-the-art information on design aspects of wide variety of reinforced concrete structures. However, the emphasis is on modern design approach. The text attempts to:

- Present simple, efficient and systematic procedures for evolving design of concrete structures.
- Make available a large amount of field tested practical data in the appendices.
- Provide time saving analysis and design aids in the form of tables and charts.
- Cover a large number of worked-out practical design examples and problems in each chapter.
- Emphasize on development of structural sense needed for proper detailing of steel for integrated action in various parts of the structure.

Besides students, practicing engineers and architects would find this text extremely useful.

*Reinforced Concrete Design to Eurocodes* - Prab Bhatt 2014-02-28

This established and popular textbook has now been extensively rewritten and expanded in line with the current Eurocodes. It presents the principles of the design of concrete elements and also the design of complete structures, and provides practical illustrations of the theory. It explains the background to the Eurocode rules and goes beyond the c