

# Building Materials By Varghese

Building Technology involves selecting suitable materials and carrying out building construction neatly. This book comprehensively covers all aspects of the subject and is written as per the requirements of civil engineering diploma students of West Bengal. The text is presented in simple, precise and reader-friendly language. It is amply supported by figures and tables.

**KEY FEATURES**

- Detailed coverage of Kerala University syllabus
- Simple and precise explanations
- Text sufficiently illustrated by figures and tables
- Relevant IS Codes listed
- Exhaustive questions given

**ABOUT THE BOOK:** feel proud in issuing the

## Read Online Building Materials By Varghese

Seventh Edition of the book "Building Construction and Materials". The subject " Building Construction and Materials" is a very vast and tedious subject of Civil Engineering. Author has tried to explain all the aspects of this subject in a very simple and lucid language. The Book is entirely in SI Units. The book covers the syllabi prescribed by all the Indian universities, State Technical Boards and A.M.I.E. (India) examinations. The book is also very useful for Engineers involved in construction industry. All the relevant I.S.I. Recommendations and other useful data have been incorporated in the book. Author has tried to explain all the aspects with the help of lot of neat drawings. It is hoped that the book will satisfy all the needs of the

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students and practising engineers in regard to this subject. In order to increase the usefulness of the book basic engineering materials have been added in this revised 17th edition. Basic engineering material like stone, bricks, lime, cement, timber and iron has been added in this edition. **RECOMMENDATIONS:** A textbook for all Engineering Branches, Competitive Examination, ICS, and AMIE Examinations In S.I Units For Degree, Diploma and A.I.M.E. (India) Students and Practicing Civil Engineers. **ABOUT THE AUTHOR:** Dr. Gurcharan Singh Joint Director (Retd.) Directorate of Technical Education Rajasthan, Jodhpur **BOOK DETAILS:** ISBN : 978-81-89401-21-4 Pages: 933 + 26 Edition: 17th, Year-2019 Size(cms): L-23.7, B-15.8,

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Advanced Construction Technology offers a comprehensive, practical, illustrative guide to many aspects of construction practice used for industrial and commercial buildings.

Solve your Go problems using a problem-solution approach. Each recipe is a self-contained answer to a practical programming problem in Go. Go Recipes contains recipes that deal with the fundamentals of Go, allowing you to build simple, reliable, and efficient software. Other topics include working with data using modern NoSQL databases such as MongoDB and RethinkDB. The book provides in-depth guidance for

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building highly scalable backend APIs in Go for your mobile client applications and web client applications. All this means that you ' ll be able to write programs that get the most out of multicore and networked machines, using Go ' s novel type system that enables flexible and modular program construction. You'll see how to test your Go applications so they are ready for deployment, as well as learning how to write HTTP servers to offer you maximum flexibility when dealing with remote clients. What You'll Learn Work with the core fundamentals of Go Persist data into NoSQL databases Build scalable backend APIs Test your Go applications Create HTTP web servers in Go Who This Book Is For Experienced programmers who have some

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or no prior experience with Go.

Understanding Witchcraft and Sorcery in Southeast Asia

Quilted Projects from Scraps and Stash

Building Material and Construction (WBSCTE)

FOUNDATION ENGINEERING

Clay-Polymer Nanocomposites

Advances in Civil Engineering

This practice-oriented book, now in its second edition, presents a lucid yet comprehensive coverage of the engineering properties and uses of the materials commonly used in building construction in India.

Profusely illustrated with tables and diagrams, the book

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brings into light the basics of building materials and their specifications. Besides giving information regarding the traditional building materials, the text now acquaints the reader with up-to-date and in-depth information pertaining to modern materials available in the market. The references to IS codes and standards make this text suitable for further study and field use. The second edition possesses some substantial changes in Chapters 12, 13, 14 and 20. Now, the book offers a new section on durability of concrete in Chapter 12; a modified section regarding revision of IS 10262 (1982) code on concrete mix design to IS 10262 (2009) and a new section on classification of exposure

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conditions in Chapter 13; and a new section relating to large advances made in concrete construction and repair chemicals in Chapter 14. Besides, the content of Chapter 20 has been completely updated, with a particular emphasis on the extensive use of aluminium in building construction. Primarily intended for the students pursuing undergraduate degree (B.E./B.Tech.) and diploma courses in civil engineering and architecture, the book, on account of lecture-based presentation of the subject, should also prove eminently utilitarian for the young teachers to use it in their classroom lectures as well as for practising engineers to get a clear understanding of the



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fundamentals of the subject. NEW TO THE SECOND EDITION Review questions at the end of each chapter enable the reader to recapitulate the topics Considerable attention is given on field practice Syllabus of laboratory work on construction materials and a model question paper (Anna University) are given in appendices to guide the reader.

This book gathers peer-reviewed contributions presented at the International Conference on Structural Engineering and Construction Management (SECON'21), held on 12-15 May 2021. The meeting served as a fertile platform for discussion, sharing sound knowledge and introducing novel ideas on issues

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related to sustainable construction and design for the future. The respective contributions address various aspects of numerical modeling and simulation in structural engineering, structural dynamics and earthquake engineering, advanced analysis and design of foundations, BIM, building energy management, and technical project management. Accordingly, the book offers a valuable, up-to-date tool and essential overview of the subject for scientists and practitioners alike, and will inspire further investigations and research. .

Take a deep dive into web development using the Go programming language to build web apps and RESTful

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services to create reliable and efficient software. Web Development with Go provides Go language fundamentals and then moves on to advanced web development concepts and successful deployment of Go web apps to the cloud. Web Development with Go will teach you how to develop scalable real-world web apps, RESTful services, and backend systems with Go. The book starts off by covering Go programming language fundamentals as a prerequisite for web development. After a thorough understanding of the basics, the book delves into web development using the built-in package, net/http. With each chapter you'll be introduced to new concepts for gradually building a

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real-world web system. The book further shows you how to integrate Go with other technologies. For example, it provides an overview of using MongoDB as a means of persistent storage, and provides an end-to-end REST API sample as well. The book then moves on to demonstrate how to deploy web apps to the cloud using the Google Cloud platform. Web Development with Go provides: Fundamentals for building real-world web apps in Go Thorough coverage of prerequisites and practical code examples Demo web apps for attaining a deeper understanding of web development A reference REST API app which can be used to build scalable real-world backend services in Go A thorough

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demonstration of deploying web apps to the Cloud using the Google Cloud platform Go is a high-performance language while providing greater level of developer productivity, therefore Web Development with Go equips you with the necessary skills and knowledge required for effectively building robust and efficient web apps by leveraging the features of Go. Complete coverage of earthquake-resistant concrete building design Written by a renowned seismic engineering expert, this authoritative resource discusses the theory and practice for the design and evaluation of earthquakeresisting reinforced concrete buildings. The book addresses the behavior of

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reinforced concrete materials, components, and systems subjected to routine and extreme loads, with an emphasis on response to earthquake loading. Design methods, both at a basic level as required by current building codes and at an advanced level needed for special problems such as seismic performance assessment, are described. Data and models useful for analyzing reinforced concrete structures as well as numerous illustrations, tables, and equations are included in this detailed reference. Seismic Design of Reinforced Concrete Buildings covers: Seismic design and performance verification Steel reinforcement Concrete Confined concrete Axially

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loaded members Moment and axial force Shear in  
beams, columns, and walls Development and  
anchorage Beam-column connections Slab-column and  
slab-wall connections Seismic design overview Special  
moment frames Special structural walls Gravity framing  
Diaphragms and collectors Foundations  
Thermosets

Engineering Materials (Material Science).

Design and Technology of a Sustainable Architecture

Go Recipes

Proceedings of SECON'21

Building Scalable Web Apps and RESTful Services

The construction of buildings and structures relies

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on having a thorough understanding of building materials. Without this knowledge it would not be possible to build safe, efficient and long-lasting buildings, structures and dwellings. Building materials in civil engineering provides an overview of the complete range of building materials available to civil engineers and all those involved in the building and construction industries. The book begins with an introductory chapter describing the basic properties of building materials. Further chapters cover the basic properties of building materials, air hardening cement materials, cement,



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concrete, building mortar, wall and roof materials, construction steel, wood, waterproof materials, building plastics, heat-insulating materials and sound-absorbing materials and finishing materials. Each chapter includes a series of questions, allowing readers to test the knowledge they have gained. A detailed appendix gives information on the testing of building materials. With its distinguished editor and eminent editorial committee, Building materials in civil engineering is a standard introductory reference book on the complete range of building materials. It is aimed at

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students of civil engineering, construction engineering and allied courses including water supply and drainage engineering. It also serves as a source of essential background information for engineers and professionals in the civil engineering and construction sector. Provides an overview of the complete range of building materials available to civil engineers and all those involved in the building and construction industries Explores the basic properties of building materials featuring air hardening cement materials, wall and roof materials and sound-absorbing materials Each

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chapter includes a series of questions, allowing readers to test the knowledge they have gained Building Construction covers the entire process of building construction in detail, from the stage of planning and foundation building to the finishing stages like plastering, painting, electricity supply and woodwork. Each of the basic components of a building are covered separately, including doors, windows, floors, roof, walls, partitions, as are the basic finishing works like plumbing, damp-proofing, ventilation, air conditioning and so on. Essential features of construction like accoustics,

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fire-resistance and earthquake-resistant design are also covered. In keeping with contemporary needs, the book also includes a chapter on the environmental impact of a building and how to make it green. The text, presented in simple, precise and reader-friendly language, is amply supported by figures and tables. Together with its companion volume, Building Materials, the book will meet the academic requirements of degree, as well as diploma courses in civil engineering and architecture.

Foundation Engineering is of prime importance to

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undergraduate and postgraduate students of civil engineering as well as to practising engineers. For, there is no construction - be it buildings (government, commercial and residential), bridges, highways, or dams - that does not draw from the principles and application of this subject. Unlike many textbooks on Geotechnical Engineering that deal with both Soil Mechanics and Foundation Engineering, this text gives an exclusive treatment and an indepth analysis of Foundation Engineering. What distinguishes the text is that it not merely equips the students with the necessary knowledge

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for the course and examination, but provides a solid foundation for further practice in their profession later. In addition, as the book is based on the Codes prescribed by the Bureau of Indian Standards, students of Indian universities will find it particularly useful. The author is specialized in both Soil Mechanics and Structural Engineering; he studied Soil Mechanics under the guidance of Prof. Terzaghi and Prof. Casagrande of Harvard University - the pioneers of the subject. Similarly, he studied Structural Engineering under Prof. A.L.L. Baker of Imperial College, London, the pioneer of

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Limit State Design. These specializations coupled with over 50 years of teaching experience of the author make this text authoritative and exhaustive. Intended as a text for undergraduate (Civil Engineering) and postgraduate (Geotechnical Engineering and Structural Engineering) students, the book would also be found highly useful to practising engineers and young academics teaching the course.

This book explores the creation of imperial identities in Britain and several of its colonies - South Africa, India, Australia, Wales - and the ways

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in which the Victorian press around the world shaped and reflected these identities. The concept of co-histories, borrowed from Edward Said and Frantz Fanon, helps explain how the press shaped the imperial and national identities of Britain and of the colonies into co-histories that were thoroughly intertwined and symbiotic. Exploring a variety of press media, this book argues that the press was a site of resistance and revision by colonized authors and publishers, as well as a force of colonial authority for the British government. editors, and publishers, who projected a view of the empire to



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their British, colonial, and colonized readers. Topics include The Journal of Indian Art and Industry produced by the British art schools in India, women's periodicals, Indian writers in the British press, The Imperial Gazetteer published in Scotland, the rise of telegraphic news agencies, the British press's images of China seen through exhibitions of its art, the Tory periodical Blackwood's Magazine, and the Imperial Press Conference of 1909.

University.

Network Algorithmics

A House Builder's Handbook Building Materials,

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Construction and Maintenance

Essential Technical Information for Laymen

Undertaking House Construction and for the

General Use of Students

Piezoelectric Energy Harvesting

The Crystallization of the Arab State System,

1945-1954

Design of Reinforced Concrete Shells and Folded

Plates

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***The transformation of vibrations into***

*electric energy through the use of piezoelectric devices is an exciting and rapidly developing area of research with a widening range of applications constantly materialising. With Piezoelectric Energy Harvesting, world-leading researchers provide a timely and comprehensive coverage of the electromechanical modelling and applications of piezoelectric energy harvesters. They present principal modelling approaches, synthesizing*

*fundamental material related to mechanical, aerospace, civil, electrical and materials engineering disciplines for vibration-based energy harvesting using piezoelectric transduction. Piezoelectric Energy Harvesting provides the first comprehensive treatment of distributed-parameter electromechanical modelling for piezoelectric energy harvesting with extensive case studies including experimental validations, and is the*

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*first book to address modelling of various forms of excitation in piezoelectric energy harvesting, ranging from airflow excitation to moving loads, thus ensuring its relevance to engineers in fields as disparate as aerospace engineering and civil engineering. Coverage includes: Analytical and approximate analytical distributed-parameter electromechanical models with illustrative theoretical case studies as well as extensive*

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*experimental validations Several problems of piezoelectric energy harvesting ranging from simple harmonic excitation to random vibrations Details of introducing and modelling piezoelectric coupling for various problems Modelling and exploiting nonlinear dynamics for performance enhancement, supported with experimental verifications Applications ranging from moving load excitation of slender bridges to airflow excitation*

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*of aeroelastic sections A review of standard nonlinear energy harvesting circuits with modelling aspects.*

*This book presents select proceedings of the International Conference on Sustainable Construction and Building Materials (ICSCBM 2018), and examines a range of durable, energy-efficient, and next-generation construction and building materials produced from industrial wastes and byproducts. The topics covered include alternative, eco-*

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*friendly construction and building materials, next-generation concretes, energy efficiency in construction, and sustainability in construction project management. The book also discusses various properties and performance attributes of modern-age concretes including their durability, workability, and carbon footprint. As such, it offers a valuable reference for beginners, researchers, and professionals interested in sustainable*



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*construction and allied fields.*

*Building Materials covers in detail the properties and uses of various building materials, including stones, bricks, tiles, timber, cement, sand, lime, mortar, concrete, glass, plastics and so on. Ferrous and non-ferrous metals, bitumen, asphalt, tar, plastics, paints and varnishes are included, as are non-traditional materials like fibre reinforced plastics and smart materials. For each material, its*

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*manufacture, properties, uses, advantages and disadvantages, and so on, are discussed. The text, presented in simple, precise and reader-friendly language, is amply supported by figures and tables. The book will meet the academic requirements of degree as well as diploma students. Relevant IS codes have also been listed for the benefit of practising engineers.*

**Structural Engineering and Construction Management**

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*Web Development with Go*

**MAINTENANCE, REPAIR & REHABILITATION**

**AND MINOR WORKS OF BUILDINGS**

**BUILDING CONSTRUCTION**

*Advanced Research on Nanotechnology for*

*Civil Engineering Applications*

**Alternative Building Materials**

**Technology**

*This volume contains a comprehensive examination of the crucial first ten years of the Arab League and of the continuing dilemma it faces in juggling opposing*

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*local and regional interests.*

*This text on building materials includes discussion of structural clay products, rocks and stones, wood, materials for making concrete, ferrous and non-ferrous metals, and miscellaneous materials.*

*In designing a network device, you make dozens of decisions that affect the speed with which it will perform—sometimes for better, but sometimes for worse. Network Algorithmics provides a complete, coherent methodology for maximizing speed while meeting your other design goals. Author*

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*George Varghese begins by laying out the implementation bottlenecks that are most often encountered at four disparate levels of implementation: protocol, OS, hardware, and architecture. He then derives 15 solid principles—ranging from the commonly recognized to the groundbreaking—that are key to breaking these bottlenecks. The rest of the book is devoted to a systematic application of these principles to bottlenecks found specifically in endnodes, interconnect devices, and specialty functions such as security and*

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measurement that can be located anywhere along the network. This immensely practical, clearly presented information will benefit anyone involved with network implementation, as well as students who have made this work their goal. FOR INSTRUCTORS: To obtain access to the solutions manual for this title simply register on our textbook website ([textbooks.elsevier.com](http://textbooks.elsevier.com)) and request access to the Computer Science subject area. Once approved (usually within one business day) you will be able to access all of the

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*instructor-only materials through the "Instructor Manual" link on this book's academic web page at [textbooks.elsevier.com](http://textbooks.elsevier.com). Addresses the bottlenecks found in all kinds of network devices, (data copying, control transfer, demultiplexing, timers, and more) and offers ways to break them Presents techniques suitable specifically for endnodes, including Web servers Presents techniques suitable specifically for interconnect devices, including routers, bridges, and gateways Written as a*

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*practical guide for implementers but full of valuable insights for students, teachers, and researchers Includes end-of-chapter summaries and exercises Modelled on the concept of Industry 4.0, the idea of Construction 4.0 is based on a confluence of trends and technologies that promise to reshape the way built environment assets are designed, constructed, and operated. With the pervasive use of Building Information Modelling (BIM), lean principles, digital technologies, and offsite construction,*



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*the industry is at the cusp of this transformation. The critical challenge is the fragmented state of teaching, research, and professional practice in the built environment sector. This handbook aims to overcome this fragmentation by describing Construction 4.0 in the context of its current state, emerging trends and technologies, and the people and process issues that surround the coming transformation. Construction 4.0 is a framework that is a confluence and convergence of the following broad themes*

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*discussed in this book: Industrial production (prefabrication, 3D printing and assembly, offsite manufacture) Cyber-physical systems (actuators, sensors, IoT, robots, cobots, drones) Digital and computing technologies (BIM, video and laser scanning, AI and cloud computing, big data and data analytics, reality capture, Blockchain, simulation, augmented reality, data standards and interoperability, and vertical and horizontal integration) The aim of this handbook is to describe the Construction*

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*4.0 framework and consequently highlight the resultant processes and practices that allow us to plan, design, deliver, and operate built environment assets more effectively and efficiently by focusing on the physical-to-digital transformation and then digital-to-physical transformation. This book is essential reading for all built environment and AEC stakeholders who need to get to grips with the technological transformations currently shaping their industry, research, and teaching.*

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*ADVANCED REINFORCED CONCRETE DESIGN  
Structure, Properties, and Applications  
Building Materials in Civil Engineering  
Seismic Design of Reinforced Concrete  
Buildings  
Design of Reinforced Concrete Foundations  
Building Construction*

Provides instructions for a variety of small quilted projects made from vintage quilt blocks, fabric scraps, beads, and other embellishments, and features a gallery of finished items.

This volume comprises select peer reviewed papers presented at the international conference - Advanced

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Research and Innovations in Civil Engineering (ARICE 2019). It brings together a wide variety of innovative topics and current developments in various branches of civil engineering. Some of the major topics covered include structural engineering, water resources engineering, transportation engineering, geotechnical engineering, environmental engineering, and remote sensing. The book also looks at emerging topics such as green building technologies, zero-energy buildings, smart materials, and intelligent transportation systems. Given its contents, the book will prove useful to students, researchers, and professionals working in the field of civil engineering.

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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

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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,

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beams, columns and footings of ordinary buildings. Geology is the science of earth's crust (lithosphere) consisting of rocks and soils. While mining and mineralogical engineers are more interested in rocks, their petrology (formation) and mineralogy, civil engineers are equally interested in soils and rocks, in their formations, and also in their properties for civil engineering design and construction. This book is so written that the subject can easily be taught by a civil engineering faculty member specialised in soil mechanics. Dexterously organized into four parts, this book in Part I (Chapters 1 to 11) deals with the formation of rocks and soils. The classification of soils, lake deposits, coastal deposits, wind deposits



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along with marshes and bogs are described in Part II (Chapters 12 to 20). As the book advances, it deals with the civil engineering problems connected with soils and rocks such as landslides, rock slides, mudflow, earthquakes, tsunami and other natural phenomena in Part III (Chapters 21 to 24). Finally, in Part IV (Chapters 25 to 30), this text discusses the allied subjects like the origin and nature of cyclones, rock mass classification and soil formation. Designed to serve as a textbook for the undergraduate students of civil engineering, this book is equally useful for the practising civil engineers. **SALIENT FEATURES :** Displays plenty of figures to clarify the concepts Includes chapter-end review exercises to

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enhance the problem-solving skills of the students  
Summary at the end of each chapter brings into  
focus the essence of the chapter Appendices at the  
end of the text supply extra information on important  
topics

Building Construction Materials and Techniques

Recollections of Death

National Identities and the British and Colonial Press

Advanced Construction Technology

LIMIT STATE DESIGN OF REINFORCED

CONCRETE

Select Proceedings of ICSCBM 2018

***A recent initiative within the civil  
engineering field is the use of***

***nanotechnology and materials within the construction industry. While there has been great success in the adoption of various nanomaterials, there is still room for development and improvement. Advanced Research on Nanotechnology for Civil Engineering Applications highlights emergent research and theoretical concepts in the implementation of nanotechnology within the construction, geotechnical, and transportation engineering fields. Examining the application of nanomaterials, current trends within the topic area, and the***

***potential health impacts of material usage on the environment, this book is a pivotal reference for professionals, engineers, students, and researchers.***

***Building one's own house is a dream entertained by every person, whatever be its size or level of amenities. This book aims to serve as a guide to all those who wish to undertake house construction, in relation to architectural and structural design, selection of the right set of materials for construction, methods of construction and carrying out maintenance as a routine***

***periodic activity. In short, the book tells the reader how much of engineering goes into every aspect of house construction which they ought to know, rather than choosing to remain blissfully ignorant of it. The topics covered include, among others, municipal requirements, engineering design and drawing, types of soils and foundations, cement, steel, timber, ceramic products, production of sound concrete, damp-proofing and water-proofing, painting, plumbing, electrical connections, earthquake resistance and retrofitting,***

***concrete repair chemicals, corrosion inhibition in steel, repair of leakages, anti-termite treatment, rain water harvesting, Vasthu, bar chart, cost estimating, etc. The book also meets the needs of diploma and degree students in civil engineering. It also serves as a source providing the necessary background material for postgraduate students of construction management (as part of the management stream) who may not have the necessary background in civil engineering.***

***For a number of years, the healthy and***

***environment-friendly building material earth, in common use for thousands of years, has been enjoying increasing popularity, including in industrialized nations. In hot dry and temperate climate zones, earth offers numerous advantages over other materials. Its particular texture and composition also holds great aesthetic appeal. The author's presentation reflects the rich and varied experiences gained over thirty years of building earth structures all over the world. Numerous photographs of construction sites and drawings show the***

***concrete execution of earth architecture. Building Construction Materials and Techniques follows a unique approach to the subject by including both materials and construction techniques in a combined text as per the latest trends in university curriculums. It also caters to the needs of the universities where these subjects are offered across two semesters as well. Of the 32 chapters in this book,13 are dedicated to building construction materials while the remaining 19 focus on conventional as well as modern techniques in construction. The***



*chapters are supplemented by a plethora of self-explanatory illustrations for easy comprehension. Relevant references to IS codes and standards make this text ideal for extended learning.*

*A Medical Investigation*

*Select Proceedings of ARICE 2019*

*Imperial Co-histories*

**ENGINEERING GEOLOGY FOR CIVIL**

**ENGINEERS**

*Innovations in Structural Engineering and Construction*

**BUILDING MATERIALS**

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This edition published by results of "International Conference on Innovations in Structural Engineering and Construction" (icISEC, 29 - 30 July, 2016). The topics of edition include advancements analysis, modeling and design of structures, structural stability dynamics, structural monitoring, repair and strengthening, structural conservation, earthquake engineering, soil structure interaction, sustainable construction, advanced construction techniques and its management, recycling of concrete and new trends in concrete technology.

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 details on detailing of steel to make the book more useful to practicing engineers. The chapter on Limit State of Durability for Environm

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has been completely revised and the new provisions of the code such as those for design for shear in reinforced concrete, rules 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 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.

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This well recognized and established book, a companion volume to the author's book on Building Materials, explains the basics of building construction practices in an accessible style. It discusses in detail every element of building construction from start to the finish—from site preparation to provision of services (such as water supply, drainage and electricity supply). Besides, the text describes acoustics and maintenance of buildings, which are important considerations in building construction. This book is primarily designed as an introductory text for undergraduate students of civil engineering as well as those pursuing diploma courses in civil engineering and architecture. Practicing engineers and any person who has a keen interest in the construction and maintenance of his/her own building will also find the book very helpful.

Clay-Polymer Nanocomposites is a complete summary of the

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existing knowledge on this topic, from the basic concepts of synthesis and design to their applications in timely topics such as high-performance composites, environment, and energy issues. This book covers many aspects of synthesis such as in-situ polymerization within the interlamellar spacing of the clays or the reaction of pristine or pre-modified clays with reactive polymers and prepolymers. Indeed, nanocomposites can be prepared at industrial scale by melt mixing. Regardless the synthesis method, much is said in this book about the importance of the clay pre-modification step, which is demonstrated to be effective, on many occasions, in obtaining exfoliated nanocomposites. Clay-Polymer Nanocomposites reports the background to numerous characterization methods including solid state NMR, neutron scattering, diffraction and vibrational techniques as well as surf-

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analytical methods, namely XPS, inverse gas chromatography and nitrogen adsorption to probe surface composition, wetting and textural/structural properties. Although not described in dedicated chapters, numerous X-ray diffraction patterns of clay-polymer nanocomposites and reference materials are displayed to account for the effects of intercalation and exfoliations of layered aluminosilicates. Finally, multiscale molecular simulation protocols are presented for predicting morphologies and properties of nanostructured polymer systems with industrial relevance. As far as applications are concerned, Clay-Polymer Nanocomposites examines structural composites such as clay-epoxy and clay-biopolymers, the use of clay-polymer nanocomposites as reactive nanocomposite fillers, catalytic clay-(conductive) polymers and similar nanocomposites for the uptake of hazardous compounds.

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or for controlled drug release, antibacterial applications, energy storage, and more. The most comprehensive coverage of the state of the art in clay-polymer nanocomposites, from synthesis and design to opportunities and applications Covers the various methods of characterization of clay-polymer nanocomposites - including spectroscopy, thermal analyses, and X-ray diffraction Includes a discussion of a range of application areas, including biomedicine, energy storage, biofouling resistance, and more  
An Innovation Platform for the Built Environment  
Building with Earth

A Problem-Solution Approach

Construction 4.0

An Interdisciplinary Approach to Designing Fast Networked

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### Devices

Witchcraft holds a perennial fascination for scholars and the public at large. In Southeast Asia malign magic and sorcery are part of the routine experience of villagers and urban dwellers alike, and stories appearing in the press from time to time bear witness to a persisting public concern. The essays presented in this volume describe what people believe and what actions result from those beliefs. Not surprisingly, given the range and variety of cultures, considerable differences exist in the region. Among some cultures, in Thailand and Indonesia for example, sorcerers are said to possess spirits that empower them to cause illness and misfortune. Elsewhere, in Malaysia and Sumatra, the power of the dukun derives from the accumulation of arcane knowledge and mystical practice. Contributors describe the witches and sorcerers they have met and



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suggest both how their societies look upon them and how we in turn should regard them. Understanding Witchcraft and Sorcery in Southeast Asia will appeal to scholars and students of social anthropology and comparative religion. Its substantial contribution to theoretical and comparative issues in a Southeast Asian context provides a fresh perspective on a stimulating topic.

In this new edition, *Thermosets: Structure, Properties, and Applications* builds on and updates the existing review of mechanical and thermal properties, as well as rheology and curing processes of thermosets, and the role of nanostructures in thermoset toughening. All chapters have been updated or re-written, and new chapters have been added to reflect ongoing changes and developments in the field of thermosetting materials and the applications of these materials. Applications of thermosets are the

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focus of the second part of the book, including the use of thermosets in the building and construction industry, aerospace technology and as insulation materials. Thermoset adhesives and coatings, including epoxy resins, acrylates and polyurethanes are also discussed, followed by a review of thermosets for electrical applications. New chapters include coverage of thermoset nanocomposites, recycling issues, and applications such as consumer goods, transportation, energy and defence. With its distinguished editor and international team of expert contributors, the second edition of Thermosets: Structure, Properties, and Applications is an essential guide for engineers, chemists, physicists and polymer scientists involved in the development, production and application of thermosets, as well as providing a useful review for academic researchers in the field. Links structure, properties, and applications, making this book

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relevant to both academia and engineers in industry Includes entirely new chapters on the use of thermosets in aerospace, transport, defense, and a range of consumer applications Enables practitioners to stay current on the latest developments in recycling of thermosets and their composites

The term Maintenance of a building refers to the work done for keeping an existing building in a condition where it can perform its intended functions. Usually, the buildings last only for 40 to 50 years in a good shape just because of regular inspection and maintenance that enable timely identification of deteriorated elements.

Overlooked dilapidation, inadequate maintenance and lack of repair works may lead to limited life span of a building. This comprehensive book, striving to focus on the maintenance, repair & rehabilitation and minor works of a building, presents useful

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guidelines that acquaint the readers with the traditional as well as modern techniques for upkeep and repairing of buildings already constructed. Dexterously organised into five parts, this book in Part I deals with the maintenance of buildings. Description of the construction chemicals, concrete repair chemicals, special materials used for repair, and repair of various parts of a building is given in Part II. Strengthening of reinforced concrete members by shoring, underpinning, plate bonding, RC jacketing and FRP methods are explored in Part III, which also highlights rebuilding of RC slabs and protection of earth slopes. Part IV of the book exposes the reader to the minor works done in a building such as construction of compound walls, gates, waters sumps, house garage, relaying of floors, joining two adjacent rooms and so on. Part V is based on some allied topics involving control on termites and fungus in

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buildings as well as introduction of Vaastu Shastra and its main recommendations for a single house in a plot. Using an engaging style, this book will prove to be a must-read for the undergraduate and postgraduate students of civil engineering as well as for the polytechnic and ITI diploma students. Besides, the book will also be of immense benefit to the technical professionals across the country.

**KEY FEATURES**

- The text displays several figures to make the concepts clear.
- Chapter-end references make the text suitable for further study.
- Appendices at the end of the text provide extra information on non-destructive field tests for survey of the condition of concrete buildings and rough estimation of the construction and maintenance costs of buildings.

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## Sustainable Construction and Building Materials