

Irrigation Engineering By Rk Sharma Free

Agriculture Engineers must have the knowledge of Basics of Agriculture to perform the services in their respective field. The book entitled "Basics of Agriculture for Engineers" is a scientific approach for understanding of the problems concerning soil, plants, agricultural equipments and their management. In this book almost all the aspects related to basics of Agriculture has been covered with the balanced approach. Language of the book is simple, presentation is lucid and unambiguous for understanding of the subject matter. This book will be highly useful for agricultural engineers and students as well as to those who are working in the relevant fields.

Irrigation Engineering and Hydraulic Structures comprehensively deals with all aspects of Irrigation in India, soil moisture and different types of irrigation systems including but not limited to Sprinkler, Tubewell, Canal and Micro-Irrigation. The book also focuses on Engineering Hydrology, Dams, Water Power Engineering as well as Irrigation Water Management. Special care has been taken to highlight the principles, practices and design procedures that have been widely recommended as well as suggest improvements in the application of existing methods and adoption of latest techniques used in other parts of the world.

Applications of Furrow and Micro Irrigation in Arid and Semi-Arid Regions, the fifth volume in the Research Advances in Sustainable Micro Irrigation series, addresses the ever-challenging need for irrigation systems in arid and semi-arid regions of the world, areas that are suffering from severe water shortages. These areas, such as Egypt, Tunisia, most of Africa, and parts of South America, Central America, and Australia, find it a struggle to grow crops sustainably with the water available. This important book emphasizes sustainable agriculture practices to promote increased water usage efficiency in dry areas for growing of crops. It presents a variety of research and studies on such topics as: • Meteorological instruments for water management • Buried micro irrigation laterals for soil water retention • Water vapor flux models • Performance of various crops grown under different irrigation methods • Scheduling of irrigation • Phyto-monitoring techniques This valuable book is a must for those finding it a challenge to maintain sustainable crop production in the midst of continuous water shortages in areas where water is not naturally plentiful. With contributions from authors with hands-on experience in the field, the book will be an invaluable reference and guide to effective micro irrigation methods.

Now includes Worked Examples for lecturers in a companion pdf! The fourth edition of this volume presents design principles and practical guidance for key hydraulic structures. Fully revised and updated, this new edition contains enhanced texts and sections on: environmental issues and the World Commission on Dams partially saturated soils, small amenity dams, tailing dams, upstream dam face protection and the rehabilitation of embankment dams RCC dams and the upgrading of masonry and concrete dams flow over stepped spillways and scour in plunge pools cavitation, aeration and vibration of gates risk analysis and contingency planning in dam safety small hydroelectric power development and tidal and wave power wave statistics, pipeline stability, wave–structure interaction and coastal modelling computational models in hydraulic engineering. The book's key topics are explored in two parts - dam engineering and other hydraulic structures – and the text concludes with a chapter on models in hydraulic engineering. Worked numerical examples supplement the main text and extensive lists of references conclude each chapter. Hydraulic Structures provides advanced students with a solid foundation in the subject and is a useful reference source for researchers, designers and other professionals.

?ABOUT THE BOOK: The earlier fifth editions of the book have received immensely encouraging response from the students as well as the teachers. This has enabled bringing out of the sixth edition of the book so soon. While the main objectives of the fifth edition are identical with those of the fourth edition, the book has been thoroughly revised and several new articles have been added. The subject matter has been presented in a simple language. The basic principles involved in the design of various irrigation works have been thoroughly explained. The book covers the complete syllabus of this subject for the students studying at first degree course of the various Indian universities. Some advanced topics included in the book will be useful for the students studying at the post graduate level. The book will be quite useful for the various competitive examinations such as Engineering services and ICS examinations and it will be equally suitable for the students preparing for AMIE examinations. ?RECOMMENDATIONS: [S.I. UNITS] (A textbook for all Engineering Branches, Competitive Examination, ICS, and AMIE Examinations) ?ABOUT THE AUTHOR: B.E., M.E., Ph.D. Former Professor of Civil Engineering, M.R. Engineering College, (Now M.N.I.T.), Jaipur. ?BOOK DETAILS: ISBN: 978-81-87401-29-0 Pages: 1214 + 18 Paperback Edition: 11th, Year - 2020 Size(cms): L-24.2, B-18.3, H-5.2 ?For more Offers visit our Website: www.standardbookhouse.com

Despite the increasing population (the Food and Agriculture Organization of the United Nations estimates 70% more food will be needed in 2050 than was produced in 2006), issues related to food production have yet to be completely addressed. In recent years, Internet of Things technology has begun to be used to address different industrial and technical challenges to meet this growing need. These Agro-IoT tools boost productivity and minimize the pitfalls of traditional farming, which is the backbone of the world's economy. Aided by the IoT, continuous monitoring of fields provides useful and critical information to farmers, ushering in a new era in farming. The IoT can be used as a tool to combat climate change through greenhouse automation; monitor and manage water, soil and crops; increase productivity; control insecticides/pesticides; detect plant diseases; increase the rate of crop sales; cattle monitoring etc. Agricultural Informatics: Automation Using the IoT and Machine Learning focuses on all these topics, including a few case studies, and they give a clear indication as to why these techniques should now be widely adopted by the agriculture and farming industries.

The Ganges is one of the most complex yet fascinating river systems in the world. The basin is characterized by a high degree of heterogeneity from climatic, hydrological, geomorphological, cultural, environmental and socio-economic perspectives. More than 500 million people are directly or indirectly dependent upon the Ganges River Basin, which spans China, Nepal, India and Bangladesh. While there are many books covering one aspect of the Ganges, ranging from hydrology to cultural significance, this book is unique in presenting a comprehensive inter-disciplinary overview of the key issues and challenges facing the region. Contributors from the three main riparian nations assess the status and trends of water resources, including the Himalayas, groundwater, pollution, floods, drought and climate change. They describe livelihood systems in the basin, and the social, economic, geopolitical and institutional constraints, including transboundary disputes, to achieving productive, sustainable and equitable water access. Management of the main water-use sectors and their inter-linkages are reviewed, as well as the sustainability and trade-offs in conservation of natural systems and resource development such as for hydropower or agriculture.

Data science is an emerging field and innovations in it need to be explored for the success of society 5.0. This book not only focuses on the practical applications of data science to achieve computational excellence, but also digs deep into the issues and implications of intelligent systems. This book highlights innovations in data science to achieve computational excellence that can optimize performance of smart applications. The book focuses on methodologies, framework, design issues, tools, architectures, and technologies necessary to develop and understand data science and its emerging applications in the present era. This book will be useful for the research community, start-up entrepreneurs, academicians, and data centered industries and professors that are interested in exploring innovations in varied applications and areas of data science.

In this book, a chapter on stability of slopes has been included as most of the universities cover this in the first course of Geotechnical Engineering. The contents of this volume are written at a basic level suitable for a first course in Geotechnical Engineering. This book highlights the basic principles of soil mechanics along with applications to many problems in Geotechnical Engineering. The material is covered in a very simple, clear and logical manner. A number of solved and exercise problems have been included in each chapter.

Here, at last, is the massively updated and augmented second edition of this landmark encyclopedia. It contains approximately 1000 entries dealing in depth with the history of the scientific, technological and medical accomplishments of cultures outside of the United States and Europe. The entries consist of fully updated articles together with hundreds of entirely new topics. This unique reference work includes intercultural articles on broad topics such as mathematics and astronomy as well as thoughtful philosophical articles on concepts and ideas related to the study of non-Western Science, such as rationality, objectivity, and method. You'll also find material on religion and science, East and West, and magic and science.

The natural resources of the Earth are indispensable for the survival of humans, plants, and animals and for the state of biodiversity. The way they are managed determines the extent to which they will be preserved for future generations. Climate change underscores the need for the proper use of natural resources. This book brings together reviews of literature and the results of research studies on the status and management of soil, water, plant, and wildlife resources, especially as they relate to the biological sciences, in Africa, Asia, Europe, North America, and Latin America. It covers work on classification and inventories, impacts of anthropogenic activities, and exploitation and conservation. The book will be of interest to scientists and practitioners of natural resource management worldwide.

The Book Conforms To The Modern Concept Of Treating The Diversified Problems Of Water Resources Engineering Through A Multi-Disciplinary And Integrated Approach And Incorporating It In The Educational Curriculum For Effective And Comprehensive Teaching. It Specifically Deals With The Principal Segments Of Water Resources Engineering Which Include Hydrology, Ground Water, Water Management For Irrigation And Power, Flood Control, Engineering Economy In Water Resources Projects For Flood Control, Project Planning In Water Resources, Concrete And Earth Dams. Because Of The Multi-Disciplinary Nature Of Water Resources Engineering Problems, It Is Seldom Possible To Do Full Justice To The Subjects Unless The Teaching Imparts Background Knowledge Of The Allied Disciplines, Viz., Probability And Statistics, Engineering Economics And Systems Engineering. The Book Represents An Attempt To Fulfill This Primal Need. The Book Would Primarily Benefit Students Doing Graduation In Civil Engineering And Those Appearing In Section-B Examination Of The Institution Of Engineers (India). Besides, Some Of The Topics Covered In The Book Would Also Be Of Much Use By Post-Graduate Students In Water Resources Engineering.

This book on Reinforced Concrete has been comprehensively revised with a view to make it more suitable for the updated syllabus of various Technical Institutes and Engineering Colleges of different Universities.

Groundwater is an important source of water for the industrial and agricultural sectors. The course book on soil and groundwater pollution from agricultural activities introduces the reader to major agricultural activities in India and their impact on soil and groundwater.

This textbook focuses specifically on the combined topics of irrigation and drainage engineering. It emphasizes both basic concepts and practical applications of the latest technologies available. The design of irrigation, pumping, and drainage systems using Excel and Visual Basic for Applications programs are explained for both graduate and undergraduate students and practicing engineers. The book emphasizes environmental protection, economics, and engineering design processes. It includes detailed chapters on irrigation economics, soils, reference evapotranspiration, crop evapotranspiration, pipe flow, pumps, open-channel flow, groundwater, center pivots, turf and landscape, drip, orchards, wheel lines, hand lines, surfaces, greenhouse hydroponics, soil water movement, drainage systems design, drainage and wetlands contaminant fate and transport. It contains summaries, homework problems, and color photos. The book draws from the fields of fluid mechanics, soil physics, hydrology, soil chemistry, economics, and plant sciences to present a broad interdisciplinary view of the fundamental concepts in irrigation and drainage systems design.

The Book Irrigation And Water Resources Engineering Deals With The Fundamental And General Aspects Of Irrigation And Water Resources Engineering And Includes Recent Developments In Hydraulic Engineering Related To Irrigation And Water Resources Engineering. Significant Inclusions In The Book Are A Chapter On Management (Including Operation, Maintenance, And Evaluation) Of Canal Irrigation In India, Detailed Environmental Aspects For Water Resource Projects, A Note On Interlinking Of Rivers In India, And Design Problems Of Hydraulic Structures Such As Guide Bunds, Settling Basins Etc. The First Chapter Of The Book Introduces Irrigation And Deals With The Need, Development And Environmental Aspects Of Irrigation In India. The Second Chapter On Hydrology Deals With Different Aspects Of Surface Water Resource. Soil-Water Relationships Have Been Dealt With In Chapter 3. Aspects Related To Ground Water Resource Have Been Discussed In Chapter 4. Canal Irrigation And Its Management Aspects Form The Subject Matter Of Chapters 5 And 6. Behaviour Of Alluvial Channels And Design Of Stable Channels Have Been Included In Chapters 7 And 8, Respectively. Concepts Of Surface And Subsurface Flows, As Applicable To Hydraulic Structures, Have Been Introduced In Chapter 9. Different Types Of Canal Structures Have Been Discussed In Chapters 10, 11, And 13. Chapter 12 Has Been Devoted To Rivers And River Training Methods. After Introducing Planning Aspects Of Water Resource Projects In Chapter 14, Embankment Dams, Gravity Dams And Spillways Have Been Dealt With, Respectively, In Chapters 15, 16 And 17. The Students Would Find Solved Examples (Including Design Problems) In The Text, And Unsolved Exercises And The List Of References Given At The End Of Each Chapter Useful.

This is a concise, systematic and complete treatment of the design and construction of pile foundations. Discusses pile behavior under various loadings and types of piles and their installation, including consideration of soil parameters. It provides step-by-step design procedures for piles subject to vertical loading and pullout, lateral, inclined and eccentric loads, or dynamic loads, and for piles in permafrost. Also describes load test procedures and their interpretation and buckling of long, slender piles with and without supported length. The closing chapter presents case histories of prediction and performance of piles and pile groups. Includes numerous solved problems.

This new book, Sustainable Micro Irrigation Design Systems for Agricultural Crops, brings together the best research for efficient micro irrigation methods for field crops, focusing on design methods and best practices. Covering a multitude of topics, the book presents research and studies on: Indigenous alternatives for use of saline and alkali waters Hydraulic performance Distribution of moisture Fertigation technology Buried micro irrigation laterals Drip irrigation scheduling Rainwater harvesting Adoption and economic impact of a micro irrigation model This book is a must for those interested in irrigation planning and management, namely, researchers, scientists, educators, and students.

Basic And Applied Soil Mechanics Is Intended For Use As An Up-To-Date Text For The Two-Course Sequence Of Soil Mechanics

And Foundation Engineering Offered To Undergraduate Civil Engineering Students. It Provides A Modern Coverage Of The Engineering Properties Of Soils And Makes Extensive Reference To The Indian Standard Codes Of Practice While Discussing Practices In Foundation Engineering. Some Topics Of Special Interest, Like The Schmertmann Procedure For Extrapolation Of Field Compressibility, Determination Of Secondary Compression, Lambes Stress - Path Concept, Pressure Meter Testing And Foundation Practices On Expansive Soils Including Certain Widespread Myths, Find A Place In The Text. The Book Includes Over 160 Fully Solved Examples, Which Are Designed To Illustrate The Application Of The Principles Of Soil Mechanics In Practical Situations. Extensive Use Of Si Units, Side By Side With Other Mixed Units, Makes It Easy For The Students As Well As Professionals Who Are Less Conversant With The Si Units, Gain Familiarity With This System Of International Usage. Inclusion Of About 160 Short-Answer Questions And Over 400 Objective Questions In The Question Bank Makes The Book Useful For Engineering Students As Well As For Those Preparing For Gate, Upsc And Other Qualifying Examinations. In Addition To Serving The Needs Of The Civil Engineering Students, The Book Will Serve As A Handy Reference For The Practising Engineers As Well. This book features selected high-quality papers from the International Conference on Innovation in Electrical Power Engineering, Communication, and Computing Technology (IEPCCT 2019), held at Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, India, on 13–14 December 2019. Presenting innovations in power, communication, and computing, it covers topics such as mini, micro, smart and future power grids; power system economics; energy storage systems; intelligent control; power converters; improving power quality; signal processing; sensors and actuators; image/video processing; high-performance data mining algorithms; advances in deep learning; and optimization methods.

So far working stress method was used for the design of steel structures. Nowadays whole world is going for the limit state method which is more rational. Indian national code IS:800 for the design of steel structures was revised in the year 2007 incorporating limit state method. This book is aimed at training the students in using IS: 800 2007 for designing steel structures by limit state method. The author has explained the provisions of code in simple language and illustrated the design procedure with a large number of problems. It is hoped that all universities will soon adopt design of steel structures as per IS: 2007 and this book will serve as a good textbook. A sincere effort has been made to present design procedure using simple language, neat sketches and solved problems.

The land degradation due to salinity and waterlogging is a global phenomenon, afflicting about one billion hectares within the sovereign borders of at least 75 countries. Besides staring at the food security, it has far reaching and unacceptable socio-economic consequences since a large proportion of this land is inhabited by smallholder farmers. The anthropogenic-environmental changes and the climate change are further adding to the problem of salinity and waterlogging. The phenomenon of sea-level rise will bring more areas under waterlogged salinity due to inundation by sea water. Thus, dealing with the salinity in reality is becoming a highly onerous task owing to its complex nature, uncertainty and differential temporal and spatial impacts. Nevertheless, with the need to provide more food, feed, fuel, fodder and fiber to the expanding population, and non-availability of new productive land, there is a need for productivity enhancement of these lands. In fact, the salt-affected and waterlogged lands cannot be neglected since huge investments have been made throughout the world in the development of irrigation and drainage infrastructure. The social, economic and environmental costs being high for the on-and/off-farm reclamation techniques, saline agriculture including agroforestry inculcated with modern innovative techniques, is now emerging as a potential tool not only for arresting salinity and waterlogging but for other environmental services like mitigate climate change, sequester carbon and biodiversity restoration. This publication attempts to address a wide range of issues, principles and practices related to the salinity involved in rehabilitation of waterlogged saline soils and judicious use of saline waters including sea water. Many of the site specific case studies typical to the saline environment including coastal ecologies sustaining productivity, rendering environmental services, conserving biodiversity and mitigating climate change have been described in detail. Written by leading researchers and experts of their own fields, the book is a must, not only for salinity experts but also for policy makers, environmentalists, students and educationists alike. More importantly, it contributes to reversing the salinity trends and teaches to sustain with salinity ensuring the livelihood of resource-poor farming families leaving in harsh ecologies including coastal areas which are more vulnerable to climate change.

Including Dams Engineering, Hydrology and Fluid Power Engineering. For the student of B.E./B.Tech. Civil Engg., Institution of Engineers (India) U.P.S.C. Exam & Practising Engineers.

Designed primarily as a textbook for the undergraduate students of civil and agricultural engineering, this comprehensive and well-written text covers irrigation system and hydroelectric power development in lucid language. The text is organized in two parts. Part I (Irrigation Engineering) deals with the methods of water distribution to crops, water requirement of crops, soil-water relationship, well irrigation and hydraulics of well, canal irrigation and different theories of irrigation canal design. Part II (Water Power Engineering) offers the procedures of harnessing the hydropotential of river valleys to produce electricity. It also discusses different types of dams, surge tanks, turbines, draft tubes, power houses and their components. The text emphasizes on the solutions of unsteady equations of surge tank and pipe carrying water to power house under water hammer situation. It also includes computer programs for the numerical solutions of hyperbolic partial differential equations. **KEY FEATURES :** Provides worked out examples and problems (in SI units). Presents all possible methods of design including Ranga-Raju-Misri's new approach of canal design. Gives numerous illustrations to reinforce the understanding of the subject. Besides undergraduate students, this book will also be of immense use to the postgraduate students of water resources engineering.

Theoretical Foundation Engineering provides up-to-date, state-of-the-art reviews of the existing literature on lateral earth pressure, sheet pile walls, ultimate bearing capacity of shallow foundations, holding capacity of plate and helical anchors in sand and clay, and slope stability analysis. The discussion of the ultimate bearing capacity of shallow foundations is the most comprehensive presentation on the subject to be found anywhere, and the review of earth anchors is unique to this book. In addition, each chapter includes several topics which have never appeared in any other book. The treatment is primarily theoretical and does not in any way compete with existing foundation design books. This is the only textbook of its kind. Not only will it be welcomed by teachers and first-year graduate students of geotechnical engineering, but it will be a useful reference for graduate students and consultants in the the field, as well as being a valuable addition to any civil engineering library.

After air, water is the most crucial resource for human survival. To achieve water sustainability, we will have to deal with its scarcity and quality, and find ways to reclaim it from various sources. Chemistry and Water: The Science Behind Sustaining the World's Most Crucial Resource applies contemporary and sophisticated separation science and chromatographic methods to

address the pressing worldwide concerns of potable water for drinking and safe water for irrigation to raise food for communities around the world. Edited and authored by world-leading analytical chemists, the book presents the latest research and solutions on topics including water quality and pollution, water treatment technologies and practices, watershed management, water quality and food production, challenges to achieving sustainable water supplies, water reclamation techniques, and wastewater reuse. Explores the role water plays to assure our survival and maintain life Provides valuable information from world leaders in chemistry and water research Addresses water challenges and solutions globally to ensure sustainability

The First Edition of this treatise on Irrigation Engineering duly subsidised by national Book trust, Government of India, published in 1984. was highly acclaimed by the engineering teachers and taughts and its revised edition appeared in 1990. The dynamism inherent in the subject necessitated drastic changes in the text, prompted by the overwhelming response of irrigation and agriculture engineering students and practising engineers in the country and abroad duly patronised by the publications, Shri Ravindra Kumar Gupta, Managing Director, S.Chand & Company Ltd., New Delhi

Abiotic stresses are known to adversely impact agricultural productivity on millions of hectares globally, and it is projected that these problems are likely to increase, primarily due to anthropogenic interventions as well as climatic changes. Understanding abiotic stresses—especially salt stress on soil—calls for an interdisciplinary approach because salt-stressed soils need hydro-technical, chemical, and agronomic interventions as well as an understanding of plant response when exposed to these stresses. This volume explores and conveys the latest information on emerging technologies in the management of abiotic salt stress and their field applications. It brings together experts from various fields (academia, technology, and engineering) to provide the latest information and knowledge on this important challenge.

Completely covers the diploma syllabus of various State Boards of Technical Education and AMIE Section – B for the course in Environmental Engineering.

The book provides primary information about civil engineering to both a civil and non-civil engineering audience in areas such as construction management, estate management, and building. Basic civil engineering topics like surveying, building materials, construction technology and management, concrete technology, steel structures, soil mechanics and foundations, water resources, transportation and environment engineering are explained in detail. Codal provisions of US, UK and India are included to cater to a global audience. Insights into techniques like modern surveying equipment and technologies, sustainable construction materials, and modern construction materials are also included. Key features:

- Provides a concise presentation of theory and practice for all technical in civil engineering.
- Contains detailed theory with lucid illustrations.
- Focuses on the management aspects of a civil engineer's job.
- Addresses contemporary issues such as permitting, globalization, sustainability, and emerging technologies.
- Includes codal provisions of US, UK and India.

The book is aimed at professionals and senior undergraduate students in civil engineering, non-specialist civil engineering audience

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