

Irrigation Engineering N N Basak

India's Transport System has several deficiencies such as inadequate capacity, poor safety record, emission of pollutants and outmoded technology. But as the economy is poised for a big growth in the coming years transportation engineers will have to come up with innovative ideas. The book addresses these issues and it is hoped that the engineering students studying transportation engineering will have a clear idea of the problems involved and how they can be overcome in their professional career.

The book covers the syllabi of diploma, degree and AMIE courses and a few topics are also included to aid practising engineers. The examination papers of various boards of technical education and AMIE have been included in the appendix along with hints and solutions. Environmental Studies covers the course requirements for undergraduate students of all disciplines. It aims to educate the readers about nature, ecosystems, natural resources, biodiversity, pollution, and the current challenges faced by environmentalists. It integrates the social impact associated with environmental issues through national and international case studies.

IRRIGATION WATER MANAGEMENT
FUNDAMENTALS OF SURVEYING

Principles of Fermentation Technology
Irrigation and Drainage Engineering
Volume 1

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.

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

This book is the first volume in a three-volume set on Solid Waste Engineering and Management. It provides an introduction to the topic, and focuses on legislation, transportation, transfer station, characterization, mechanical volume reduction, measurement, combustion, incineration, composting, landfilling, and systems planning as

it pertains to solid waste management. The three volumes comprehensively discuss various contemporary issues associated with solid waste pollution management, impacts on the environment and vulnerable human populations, and solutions to these problems.

Practical Civil Engineering

Introduction to Environmental Engineering with Unit Conversion Booklet

Basic Environmental Engineering

Irrigation and Water Power Engineering

Surveying and Levelling

For Civil Engineering Students of All Indian Universities and Practicing Engineers

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.

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.

TRANSPORTATION ENGINEERING

Surveying Vol. I

Sustainable Sewage Sludge Management and Resource Efficiency

First International Symposium on Urban Development: Koya as a Case Study

Hydrology : Principles, Analysis And Design

After the publication of the third edition of this book, new AISC Specification was released in 2010 that contains combined provisions for ASD and ARFD methods and formulas in non-dimensional format to be used both for the FPS and the SI units. This fourth edition is prepared after revising the original book in the light of the new Specification of AISC 2016. The book contains tables required for the 345 Grade Steel and BS sections. The author is highly thankful

to all the engineers and students who have participated in the improvement of this book through their questions and queries. As before, the detailed design procedure of the steel structures is explained in a separate book titled “ Steel Structures ” which frequently refers to this book for the properties tables and the design aids. Suggestions for further improvement of the presentation will be highly appreciated and will be incorporated in the future editions. This book will be immensely useful to researchers, teachers and students, officers of command area development authorities, extension workers and above all the farming community of India. Any progress made in land reclamation programs with the help of this book will give us immense satisfaction.

Engineering surveying involves determining the position of natural and man-made features on or beneath the Earth ' s surface and utilizing these features in the planning, design and construction of works. It is a critical part of any engineering project. Without an accurate understanding of the size, shape and nature of the site the project risks expensive and time-consuming errors or even catastrophic failure. This fully updated sixth edition of Engineering Surveying covers all the basic principles and practice of the fundamentals such as vertical control, distance, angles and position right through to the most modern technologies. It includes:

- * An introduction to geodesy to facilitate greater understanding of satellite systems
- * A fully updated chapter on GPS, GLONASS and GALILEO for satellite positioning in surveying
- * All new chapter on the important subject of rigorous estimation of control coordinates
- * Detailed material on mass data methods of photogrammetry and laser scanning and the role of inertial

technology in them With many worked examples and illustrations of tools and techniques, it suits students and professionals alike involved in surveying, civil, structural and mining engineering, and related areas such as geography and mapping.

Selected Water Resources Abstracts

Engineering Surveying

Waste Water Engineering

Irrigation and Water Resources Engineering

Irrigation Engineering And Hydraulic Structures

Instant Access to Civil Engineering Formulas Fully updated and packed with more than 500 new formulas, this book offers a single compilation of all essential civil engineering formulas and equations in one easy-to-use reference. Practical, accurate data is presented in USCS and SI units for maximum convenience. Follow the calculation procedures inside Civil Engineering Formulas, Second Edition, and get precise results with minimum time and effort. Each chapter is a quick reference to a well-defined topic, including: Beams and girders Columns Piles and piling Concrete structures Timber engineering Surveying Soils and earthwork Building structures Bridges and suspension cables Highways and roads Hydraulics, dams, and waterworks Power-

generation wind turbines Stormwater Wastewater treatment
Reinforced concrete Green buildings Environmental protection
An attempt is made to place before students (degree and post-
degree) and professionals in the fields of Civil and
Agricultural Engineering, Geology and Earth Sciences, this
important branch of Hydrosience, i.e., Hydrology. It deals with
all phases of the Hydrologic cycle and related topics in a lucid
style and in metric system. There is a departure from
empiricism, with emphasis on collection of hydrological data,
processing and analysis of data, and hydrological design on
sound principles and matured judgement. Large number of
hydrological design problems are worked out at the end of each
article, to illustrate the principles involved and the design
procedure. Problems for assignment are given at the end of each
chapter, along with objective type and intelligence questions.
This book contains papers presented at the International
Symposium on Urban Development held in the Kurdistan region of
Iraq, organised by the Faculty of Engineering at Koya
University. The Kurdistan region is rich in oil, gas, mineral
resources and underground water. However, until recently the

political and security issues were such that the region was unable to take advantage of those resources. Nowadays, Kurdistan is emerging as one of the fastest developing areas in the Middle East, with its universities playing a major role in this process. The aim of the meeting was to focus the research carried out at academic and government institutions with the needs of Society. The International Symposium papers included in this volume cover a wide range of topics and are written by people with different specialisations and perspectives.

Water Supply Engineering

Irrigation Engineering and Hydraulic Structures

Mihir's Handbook of Chemical Process Engineering (Excerpts)

Solid Waste Engineering and Management

This book reviews contemporary research on urban infrastructure in 76 Ethiopian cities. It examines urban infrastructure issues in these cities and covers a wide range of topics from sustainability and smart cities to research methods employed by urban infrastructure investigators with regard to Ethiopian cities. Research on urban infrastructure legitimacies and modalities has established its value worldwide in recent years, though it is still fairly young in the

Ethiopian context. The first chapter outlines ongoing issues of debate concerning urban infrastructures, including but not limited to discourses on sustainability, smart cities, innovative financing methods, and potential partnerships. Urban infrastructure issues in Ethiopian cities are examined in the second chapter, while the third chapter presents a review of the most relevant literature for researchers. Findings show that the citations in the research reports are mainly from the materials available over the internet, including WHO, UN-Habitat and unpublished local materials. The fourth chapter identifies patterns in the findings and recommendations of the research reports discussed. The results reveal that there is a wider gap between supply and demand with regard to urban infrastructure in Ethiopian cities, a situation that is further aggravated because of the growing urban population and already existing backlogs. The fifth chapter reviews the essential methods employed by urban infrastructure investigators in Ethiopian cities. In this regard, the cross-sectional study method with the use of survey method has been broadly adopted among investigators. Lastly, the book presents a summary and recommendations. It was observed that the urban infrastructure boom in Ethiopia is primarily concentrated in the key cities, and the current pattern of urban infrastructure provision does not incorporate the notion of sustainability. Hence, the book calls for setting the agenda

of future research on urban infrastructure and services in Ethiopian cities together with the universities, private sector and government, who should ideally collaborate to produce the knowledge needed to improve quality of life, welfare, productivity, and economic growth. This second edition has been thoroughly updated to include recent advances and developments in the field of fermentation technology, focusing on industrial applications. The book now covers new aspects such as recombinant DNA techniques in the improvement of industrial micro-organisms, as well as including comprehensive information on fermentation media, sterilization procedures, inocula, and fermenter design. Chapters on effluent treatment and fermentation economics are also incorporated. The text is supported by plenty of clear, informative diagrams. This book is of great interest to final year and post-graduate students of applied biology, biotechnology, microbiology, biochemical and chemical engineering.

Creating decent living conditions for all people while decoupling economic growth from the increasing use of virgin resources and environmental impacts is the major challenge of this millennium. There are many approaches suggested for solving these problems, including changing consumption behavior from material products to services, finding technological solutions to create more closed loops for materials, and using fewer virgin resources and energy obtained from

clean renewable sources. A main issue to address is sludge formation during wastewater treatment. As such, this book, over seven chapters divided into two sections, investigates the application of biosolids or sewage sludge together with possible resources for sustainable development. It also presents information on resource efficiency from a more complex perspective, looking at several resources and the causal links between them in order to point out new pathways towards a more sustainable use of resources.

Soil Mechanics and Foundations

Applied Modeling of Hydrologic Time Series

Civil Engineering Formulas

Urban Infrastructure Research

Transportation Engineering

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

The book covers the topics in depth, yet at the same time in a concise and student friendly way. The content has been arranged in a very organized and graded manner- (e.g. Chapter 6 on Tension Members) The flow is very well structured and topics have been.

This comprehensive new edition tackles the multiple aspects of environmental engineering, from solid waste disposal to air and noise pollution. It places a much-needed emphasis on fundamental concepts, definitions, and problem-solving while providing updated problems and discussion questions in each chapter. Introduction to Environmental Engineering also includes a discussion of environmental legislation along with environmental ethics case studies and problems to present the legal framework that governs environmental engineering design.

Salt Affected Soils : Reclamation And Management
Irrigation Engineering

IRRIGATION AND WATER POWER ENGINEERING

A Review of Ethiopian Cities

A Textbook of Strength of Materials

The book, now in its second edition, fulfills the need for an up-to-date comprehensive text on irrigation water management for students of agriculture both at the undergraduate and postgraduate levels. The scope of the book

makes it a useful reference for courses in agricultural engineering, agronomy, soil science, agricultural physics and environmental sciences. It can also serve as a valuable guidebook to persons working with farming communities. The coverage in sixteen chapters brings out different aspects of irrigation including irrigation situation in the world, rainfall, evaporation, water wealth and progressive development of irrigation in India, measurement of soil water and irrigation water, methods of irrigation, irrigation with saline water, formulating cropping pattern in irrigated area and management of high water table. In the second edition, a new chapter on 'On-farm Irrigation System' has been included and a few chapters have been updated to include latest development. The book has useful research data and a large number of diagrams for easy comprehension of the topics. The end-of-chapter problems and numerous worked-out examples serve to aid further understanding of the subject. The book also contains an extensive glossary. An advanced, practical approach to the first and second laws

of thermodynamics Advanced Engineering Thermodynamics bridges the gap between engineering applications and the first and second laws of thermodynamics. Going beyond the basic coverage offered by most textbooks, this authoritative treatment delves into the advanced topics of energy and work as they relate to various engineering fields. This practical approach describes real-world applications of thermodynamics concepts, including solar energy, refrigeration, air conditioning, thermofluid design, chemical design, constructal design, and more. This new fourth edition has been updated and expanded to include current developments in energy storage, distributed energy systems, entropy minimization, and industrial applications, linking new technologies in sustainability to fundamental thermodynamics concepts. Worked problems have been added to help students follow the thought processes behind various applications, and additional homework problems give them the opportunity to gauge their knowledge. The growing demand for sustainability and energy efficiency has shined a spotlight

on the real-world applications of thermodynamics. This book helps future engineers make the fundamental connections, and develop a clear understanding of this complex subject. Delve deeper into the engineering applications of thermodynamics Work problems directly applicable to engineering fields Integrate thermodynamics concepts into sustainability design and policy Understand the thermodynamics of emerging energy technologies Condensed introductory chapters allow students to quickly review the fundamentals before diving right into practical applications. Designed expressly for engineering students, this book offers a clear, targeted treatment of thermodynamics topics with detailed discussion and authoritative guidance toward even the most complex concepts. Advanced Engineering Thermodynamics is the definitive modern treatment of energy and work for today's newest engineers.

Primarily aimed to be an introductory text for the first course in surveying for civil, architecture and mining engineering students, this book, now in its second edition,

is also suitable for various professional courses in surveying. Written in a simple and lucid language, this book at the outset, presents a thorough introduction to the subject. Different measurement errors with their types and nature are described along with measurement of horizontal distances and electronic distances measurements. This text covers in detail the topics in levelling, angles and directions and compass survey. The functions and uses of different instruments, such as theodolites, tacheometers and stadia rods are also covered in the text. Besides, the book elaborates different fields of surveying, such as plane table surveying, topographical surveying, construction surveying and underground surveys. Finally, the book includes a chapter on computer applications in surveying.

KEY FEATURES : Includes about 400 figures to explain the fundamentals of surveying. Uses SI units throughout the book. Offers more than 170 fully-solved examples including the questions generated from premier universities. Provides a large number of problems and answers at the end of each

chapter. Incorporates objective questions from AMIE exams and Indian Engineering Services exams.

LRFD Steel Design Aids, 4th Edition

Design of Steel Structures

Irrigation Engineering (Including Hydrology)

Environmental Engineering

(in S.I. Units)

This book will aid the chemical engineer to carry out chemical process engineering in a very practical way. The process engineer can use the excel based calculation templates effectively to do correct and proper process design. Chemical engineering is a very vast and complex field. This book aims to simplify the process engineering design. Design of a chemical plant involves one being adept in technical aspects of process engineering. The book aims at making the chemical engineer proficient in the art of process design. Included are chemical engineering basics on simulation, stoichiometry, fluid property calculation, dimensionless numbers, thermodynamics and on chemical engineering equipment like pump, compressor, steam turbine, gas turbine, flare, motor, fired heater, incinerator,

heat exchanger, distillation column, fractionation column, absorber, stripper, packed column, solar evaporation pond, separator. Utility design of nitrogen, compressed air, water, effluent treatment, steam, condensate, desalination, fuel selection is covered. Many chemical engineering calculations have been included. Special process items like flame arrestor, demister, feed device, pressure reducing and desuperheating station (PRDS), vortex breaker, electric heater, manual valve have been covered. Process engineering design criteria, process control, material of construction, specialized process studies, safety studies, precommissioning and commissioning have been covered. Project engineer will also benefit from information provided on types of project (EPC, EPCM, Cost + Fee, etc) as well as interdisciplinary interaction between various engineering disciplines i.e. process, piping, mechanical, instrumentation, electrical, civil and THSE. Process engineering documentation like process design basis, process philosophies, process flow diagram (PFD), piping and instrumentation diagram (P&ID), block flow diagram (BFD), DP-DT diagram, material selection diagram (MSD), line list, summaries like utility

summary, effluent and emission summary, tie in summary and flare relief load summary have been covered with blank templates. Excerpts from few chapters have been provided.

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 Volume Is One Of The Two Which Offer A Comprehensive Course In Those Parts Of Theory And Practice Of Plane And Geodetic Surveying That Are Most Commonly Used By Civil Engineers. The First Volume Covers In 24 Chapters, The Most Common Surveying Operations. Each Topic Introduced Is Thoroughly Described, The Theory Is Rigorously Developed, And A Large Number Of Numerical Examples Are Included To Illustrate Its Application. General Statements Of Important Principles And Methods Are Almost

Invariably Given By Practical Illustration. Apart From Illustrations Of Old And Conventional Instruments, Emphasis Has Been Placed On New Or Modern Instruments, Both For Ordinary As Well As Precise Work. A Good Deal Of Space Has Been Given To Instrumental Adjustments With Thorough Discussion Of Geometrical Principles In Each Case. Many New Advanced Problems Have Also Been Added Which Will Prove Useful For Competitive Examinations. A Textbook of Transportation Engineering
Advanced Engineering Thermodynamics
Environmental Studies