

WATER RESOURCES AND IRRIGATION ENGINEERING

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A Division of Visual Soft India Pvt. Ltd.

ISBN-13: 978-93-86258-48-9
FIRST EDITION, MAY 2017, INDIA

Typeset, Printed & Published by:
VSRD Academic Publishing
(A Division of Visual Soft India Pvt. Ltd.)

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Printed & Bound in India

VSRD ACADEMIC PUBLISHING
A Division of Visual Soft India Pvt. Ltd.

REGISTERED OFFICE

154, Tezabmill Campus, Anwarganj, KANPUR–208003 (UP) (IN)
Mb: 99561 27040, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

MARKETING OFFICE (NORTH INDIA)

Basement-2, Villa-10, Block-V, Charmwood Village, FARIDABAD–121009 (HY)(IN)
Mb: 98999 36803, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

MARKETING OFFICE (SOUTH INDIA)

340, FF, Adarsh Nagar, Oshiwara, Andheri(W), MUMBAI–400053 (MH)(IN)
Mb: 99561 27040, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

P R E F A C E

Growing concerns on various environmental issues that include water, air and land warrant better awareness among engineers, scientists, planners, policy makers, administrators, etc. Of those, water related quantity and quality aspects take a prime seat as it is more sensitive than other two. Sustainability of water resources is to be maintained for better utility of this scarce resource for comfort living. Though the total water availability in the earth is constant, its spatial and temporal variation required a thorough understanding of its sub components for a better water management. Regarding various water usage of agricultural, industrial and domestic sectors, the first one consumes the most where irrigation plays the vital role for better yields to meet the growing populations' requirements. Hence, the subject of Water Resource and Irrigation Engineering.

This text book is written in accordance with the latest syllabus prescribed by Anna University for the seven semester B.E Civil Engineering Students. There are five chapters in this book exactly corresponding to the five units of the syllabus. Initial two chapters containing the materials on water resources engineering and water Management and the remaining three chapters are focusing on the Irrigation Engineering aspects.

 *M. Santhoshkumar*

 *R. Suresh*

ACKNOWLEDGEMENT

We wish to record our sincere gratitude to the Managing Director **Er. B. Maha Ajay Prasath**, Mahendra College of Engineering, for his constant encouragement and kind support in all our endeavors.

We deem it a proud privilege to extend our greatest sense of gratitude to **Dr. R Samson Ravindran**, Executive Director Mahendra Engineering Colleges for the inspiring guidance and valuable suggestions throughout the pursuance of this report.


We express our profound thanks to **Dr. R Asokan**, Principal, Mahendra College of Engineering, for his great enthusiasm and inspiration which enabled us to bring this venture to fruition.

We express our sincere thanks to **Dr. N. Malmurugan**, Dean Academics, Mahendra College of Engineering who extended their whole hearted cooperation and moral support for completion of this book.

We would like to express a special note of gratitude to the fantastic editing team of **VSRD Academic Publishing (A Division of Visual Soft India Private Limited)** in releasing this book.

Finally, this work would not have been possible without the love and support of **our colleagues, family members and friends**. We are extremely grateful to one and all.

 *M. Santhoshkumar*

 *R. Suresh*



Thirumigu. M.G.BHARATHKUMAR
Founder & Chairman, Mahendra Educational Trust

FORWARD

"Engineering is the art of modelling materials we do not wholly understand, into shapes we cannot precisely analyse so as to withstand forces we cannot properly assess, in such a way that the public has no reason to suspect the extent of our ignorance."

 **Dr. AR Dykes**

Civil Engineering as an academic discipline has evolved to embrace a set of intellectual challenges on a par with other sciences. This fact, combined with the undeniable impact of water management on the modern world, demands an introductory college text book comparable with commonly-used textbooks in physics, chemistry, or biology. Accordingly, this book is intended to meet the need for an introductory college text in Civil Engineering. The distinctive feature of the book is that it has broader coverage of the field than is found in many texts that are currently in use.

I am delighted to note that the Faculties of Civil Engineering of Mahendra College of Engineering Mr.M.Santhoshkumar along with Mr.R.Suresh have written this book on "Water Resources and Irrigation Engineering" nicely, for the benefit of student community. They have accomplished this goal, and I trust their work will encourage and enlighten all who have an interest in the field of water bodies and irrigation.

M.G.BHARATHKUMAR

Founder & Chairman, Mahendra Educational Trust

**Dedicated
to
Our Family, Friends & Students**

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