CONSTRUCTION PLANNING AND MANAGEMENT

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Preface

Construction Management is a vital discipline within Civil Engineering that deals with the planning, organizing, coordinating, and controlling of resources to ensure the successful completion of construction projects. In today's rapidly developing world, the construction industry faces increasing challenges related to cost, time, quality, safety, sustainability, and technological advancement. Effective construction management plays a crucial role in overcoming these challenges and delivering projects efficiently.

This book has been prepared to provide students, educators, and industry professionals with a comprehensive understanding of the principles and practices of Construction Management. The contents have been carefully organized to cover the fundamental concepts of project planning, scheduling, estimation, resource management, site organization, quality control, safety management, contract administration, and modern construction techniques. Special emphasis has been placed on practical applications and real-world scenarios that are commonly encountered in construction projects.

The objective of this book is to bridge the gap between theoretical knowledge and practical implementation. Various topics have been explained in a simple and systematic manner to help readers develop the managerial skills required for successful project execution. Contemporary issues such as sustainable construction practices, environmental considerations, risk management, and the use of modern project management tools have also been included to reflect current industry trends.

This book is particularly designed for diploma and undergraduate students of Civil Engineering, following the curriculum prescribed by technical education boards and universities. It can also serve as a useful reference for practicing engineers, contractors, project managers, supervisors, and construction professionals seeking to enhance their knowledge and skills.

The author sincerely hopes that this book will contribute to the academic development of students and assist professionals in achieving excellence in construction project management. Suggestions and constructive feedback from readers will be highly appreciated and will help improve future editions of this work.

Acknowledgement

The successful completion of this book would not have been possible without the support, guidance, and encouragement of many individuals and organizations. I would like to express my sincere gratitude to all those who have directly or indirectly contributed to the preparation of this book.

First and foremost, I extend my heartfelt thanks to my teachers, mentors, and academic colleagues whose knowledge, experience, and valuable suggestions have greatly influenced the development of this work. Their dedication to the field of Civil Engineering and Construction Management has been a constant source of inspiration.

I am grateful to the various authors, researchers, and professionals whose published works, technical papers, standards, codes, and industry practices have provided valuable references and insights for the preparation of this book. Their contributions to the advancement of construction management knowledge have been invaluable.

I would also like to acknowledge the support of industry experts, project managers, site engineers, contractors, and construction professionals whose practical experiences have helped in presenting real-world perspectives and applications of construction management principles. Their contributions have enhanced the practical relevance of the contents of this book.

Special thanks are due to the educational institutions, libraries, and technical organizations that provided access to learning resources, reference materials, and research publications necessary for the successful completion of this work.

I am deeply indebted to my family members and friends for their unwavering encouragement, patience, and understanding throughout the writing process. Their moral support and motivation have been instrumental in bringing this book to completion.

Finally, I would like to express my gratitude to the students and readers for whom this book has been prepared. It is my sincere hope that this book will serve as a useful guide in understanding the principles and practices of Construction Management and contribute to academic and professional excellence in the construction industry.

Contents

Mr. Himanish De is an Assistant Professor in the Department of Civil Engineering at Abacus Institute of Engineering and Management. He holds a B.Tech in Civil Engineering from NSHM Knowledge Campus, Durgapur and M.Tech in Structural Engineering from National Institute of Technology, Srinagar with 3 years of teaching experience. His areas of interest include Structural Analysis and Design, Concrete's behaviour under Different Circumstances, Advancement in Construction Planning and Management and Green Building Designs.

Mr. Subhojit Chattaraj is Head and Assistant Professor of Civil Engineering at Greater Kolkata College of Engineering and Management, Kolkata, and a PhD scholar at Jadavpur University. With 6+ years of teaching and 3 years of industry experience, his research focuses on Geotechnical Engineering and Concrete Technology. He is a BIS Key Resource Person and received the 2023 Outstanding Paper Award at the 5th Regional Science and Technology Congress, West Bengal.

Mr. Sukhendu Bikash Banerjee is an Assistant Professor in the Department of Civil Engineering at Abacus Institute of Engineering and Management. He holds a Diploma in Civil Engineering under WBSCTE, B.Tech in Civil Engineering under WBUT, and M.Tech in Geotechnical Engineering Under MAKAUT with 12 years of teaching experience . His areas of interest include Advanced Foundation and Embedded Footing, Advancement in Construction Planning and Management and New Age Smart Materials in Construction.

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