

1. Record Nr.	UNINA9910736002503321
Autore	Vilventhan Aneetha
Titolo	Advances in Construction Materials and Management : Select Proceedings of ACMM 2022 // edited by Aneetha Vilventhan, Shamsher Bahadur Singh, Venkata Santosh Kumar Delhi
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2023
ISBN	9789819925520 9819925525
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (528 pages)
Collana	Lecture Notes in Civil Engineering, , 2366-2565 ; ; 346
Altri autori (Persone)	SinghShamsher Bahadur DelhiVenkata Santosh Kumar
Disciplina	624.068
Soggetti	Buildings - Design and construction Construction industry - Management Building materials Building Construction and Design Construction Management Building Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Contents -- About the Editors -- Advances in Construction Management -- Gaining Competitive Advantage Using Human Resource Management in Indian Construction Industry -- 1 Introduction -- 1.1 Human Resource Management in Construction -- 1.2 Competitive Advantage -- 2 Literature Review -- 3 Objectives -- 3.1 Research Methodology -- 3.2 Hypothesis Testing -- 3.3 Descriptive Analysis of Responses -- 4 Path Analysis -- 4.1 Inference of Path Analysis -- 5 Recommendation -- 6 Conclusion -- References -- Mapping the Project Complexity of Metro Rail Project Using DEMATEL Technique -- 1 Introduction -- 2 Literature Review -- 2.1 Project Complexity Measurement -- 3 Research Methodology -- 3.1 Complexity in the Context of Bangalore Metro Rail Projects -- 3.2 Application of the DEMATEL Method -- 4 Results and Discussion -- 5 Conclusions -- References -- Contractor Selection Approaches and Pre-qualification Criteria on Construction Projects: A Review -- 1

Introduction -- 1.1 General -- 1.2 Need of the Study -- 1.3 Research Gap -- 2 Literature Survey -- 2.1 Pre-qualification Criteria -- 2.2 Contractor Selection Approaches -- 3 Discussion -- 3.1 Prequalification Criteria -- 3.2 Contractor Selection Approaches -- 3.3 Significant Issues in Contractor Selection Process -- 4 Conclusion -- References -- Delay Analysis of Residential Construction by Using Augmented Reality and Virtual Reality -- 1 Introduction -- 1.1 General -- 2 Literature Survey -- 2.1 Research Gap -- 3 Methodology -- 4 AR and VR in the Construction Industry -- 4.1 Augmented Reality in Construction -- 4.2 Virtual Reality in Construction -- 5 Case Study -- 5.1 Observations and Results -- 6 Conclusion -- References -- Identification of Challenges Influencing the Adoption of Building Information Modelling (BIM) and Facility Management for Metro Rail Projects in India.

1 Introduction -- 2 Literature Review -- 2.1 Review of the Indian Metro Rail Projects -- 2.2 Overview of BIM in FM Applications -- 3 Research Methodology -- 3.1 Identification of the Challenges of BIM-FM for Metro Rail Projects -- 4 Research Results -- 4.1 Questionnaire Results -- 4.2 Status of BIM Enables FM for Metro Projects Practices -- 5 Discussion and Analysis -- 6 Conclusions and Recommendations -- References -- Evaluation of Operational Energy for Institutional Building - A Case Study -- 1 Introduction -- 2 Literature Review -- 3 Methodology -- 3.1 Methodology Flow Chart -- 4 Results -- 4.1 All Summer Simulation -- 4.2 Simulation for Hottest Week -- 4.3 Base Case -- 4.4 CASE 1: Change of Lighting (LED) -- 4.5 Case 2 Change of Window Glazing -- 4.6 Case 3 Change of Roof Materials -- 5 Conclusions -- References -- Interactions of Lean and BIM Integrated Augmented Reality in Underground Utility Relocation Projects -- 1 Introduction -- 2 Literature Review -- 3 Methodology -- 4 BIM Model Development and Application -- 5 BIM Lean Interaction -- 6 BIM-AR Functionalities -- 7 AR-BIM Lean Interactions -- 8 Discussion -- 9 Conclusion -- References -- Inventory Management of Construction Project Through ABC Analysis: A Case Study -- 1 Introduction -- 1.1 ABC Analysis -- 2 Objectives of the Study -- 3 Research Methodology -- 4 Results and Discussion -- 4.1 Earning Level of Selected Projects -- 4.2 Categories the Material Through ABC Analysis -- 4.3 Evaluation of Inventory Management Practices -- 5 Conclusions -- References -- Crisis Management Due to Covid-19 in Indian Construction Industry - An Overview -- 1 Introduction -- 2 Crisis Management -- 3 Impact of Covid-19 on the Construction Industry -- 3.1 Loss of Life -- 3.2 Economic Setback -- 3.3 Reputation Loss -- 3.4 Labour Loss -- 4 Coronavirus Crisis Management Opportunities -- 5 Conclusions. References -- Studies on the Factors Influencing Occupational Accidents on Health Hazards of Labours in Thermal Power Plant Construction -- 1 Introduction -- 2 Study Objectives -- 3 Research Methodology -- 3.1 Labor Demographic Profile -- 3.2 Data Internal Consistency -- 3.3 Socio-Demographic Wise Occupational Accidents -- 4 Results -- 5 Discussion -- 6 Conclusion -- References -- Studies on the Status of the Women Construction Workers Before and During Covid-19 Situation in Warangal Districts -- 1 Introduction -- 2 Methodology of the Study -- 3 Results and Discussion -- 3.1 Age Composition -- 3.2 Marital Status -- 3.3 Educational Status -- 3.4 Present Scenario of Women Workers Due to Covid-19 Lockdown -- 3.5 Present Income Scenario of Women Workers -- 3.6 Families Depends on the Women Wages -- 4 Suggestions -- 5 Conclusions -- References -- Comparative Study on the Cost Analysis of Embodied Energy of Construction Materials: Cellular Lightweight Concrete (CLC) Versus Conventional Brick Systems -- 1 Introduction -- 2 Green Processes --

3 Limitations in Burnt Bricks Walling System -- 3.1 Erosion of Top Soil -- 3.2 Power and Fuel Consumption -- 3.3 Small Size -- 3.4 Inadequate Supply -- 3.5 Different Quality -- 4 Advantages of CLC Walling Process -- 4.1 Reduced Dead Weight of Building Components -- 4.2 Cost and Material Savings -- 4.3 Reduced Costs of Transportation -- 4.4 Ease of Handling -- 4.5 Hilly Construction Sites -- 4.6 Environment Friendly -- 4.7 Thermal Insulation -- 4.8 Fire Protection -- 4.9 Fast-track Construction -- 4.10 Saving of Steel -- 4.11 Embodied Energy in CLC -- 5 Methodology and Case Application -- 6 Results and Discussions -- 6.1 Direct Cost Savings Due to Onsite CLC Block Production and Walling System -- 6.2 Indirect Cost Savings -- 7 Conclusions -- References.

An Exploratory Study on the Integration of Digital BIM and IOT in Structural Health Monitoring Practices -- 1 Introduction -- 1.1 Objectives -- 2 Literature Review -- 3 Methodology -- 3.1 Integration of IoT and BIM -- 4 Case Study -- 4.1 Data Capturing and Analysis -- 4.2 Data Transformation -- 4.3 Monitoring, Communication and Hardware Setup -- 4.4 Developing a Digital BIM Model with Dynamo -- 4.5 Results and Summary -- 5 Conclusion -- References -- Quantitative and Qualitative Benefits of BIM Implementation in Hospital Management: A Case Study Analysis -- 1 Introduction -- 2 Literature Review -- 2.1 Cost-Benefit Analysis -- 2.2 Time-Effort Distribution Method -- 3 Research Methodology -- 3.1 Collecting Data to Develop the Time-Effort Distribution Curves -- 3.2 Data Processing and Developing Time-Effort Distribution Curves -- 3.3 Determining Costs/Benefits of BIM Implementation -- 3.4 Data Collection -- 3.5 Quantitative Assessment -- 3.6 Qualitative Assessment -- 4 Results and Discussion -- 4.1 Result Significance -- 5 Conclusion -- References -- Advances in Construction Materials -- Effective Reuse of Concrete Debris in Soil-Column Study -- 1 Introduction -- 2 Material and Methodology -- 3 Results and Discussion -- 3.1 Experimental Results -- 3.2 Numerical Analysis -- 4 Conclusion -- References -- Comparative Study to Investigate the Suitability of Sustainable Alternatives in Enhancing Strength Characteristics of Black Cotton Soil -- 1 Introduction -- 2 Methodology -- 3 Materials -- 4 Experimental Studies -- 5 Experimental Results -- 5.1 Effect of Lime on BC Soil -- 5.2 Effect of Sisal Fiber Content on BC Soil -- 5.3 Effect of Brick Powder Mix on Lime Blended BC Soil -- 5.4 Effect of Phosphogypsum on Lime Blended BC Soil -- 6 Discussion on Test Results -- 7 Conclusions -- 8 Scope for Further Work -- References.

Effect of Compressive Strength and Reinforcing Bar Diameter on Tensile and Cracking Aspects of Reinforced Concrete Prisms -- 1 Introduction -- 2 Experimental Program -- 2.1 Materials Used -- 2.2 Mix Proportioning, Casting and Curing of Specimens -- 2.3 Tests Conducted -- 2.4 Uni-axial Tension Test on RC Prisms -- 3 Results and Discussion -- 3.1 Tensile Behavior -- 3.2 Tension Stiffening Effect and Tension Stiffening Bond Factor -- 3.3 Cracking Behavior -- 4 Conclusions -- References -- Shear Strength and Settlement Analysis of Stabilized Soil with GGBS and Cement -- 1 Introduction -- 2 Materials and Methods -- 3 Results and Discussion -- 4 Conclusion -- References -- A Study on the Effect of Alccofine on the Stability of Soil Slopes -- 1 Introduction -- 2 Materials and Methods -- 2.1 Red Soil -- 2.2 Amended Red Soil -- 2.3 Slope Stability Analyses -- 3 Results and Discussions -- 3.1 Amended Red Soil -- 3.2 Results of Undrained Triaxial Tests -- 3.3 Factors of Safety -- 4 Conclusion -- References -- Evaluation of Axial Load Carrying Capacity of CFST Columns for Geometrical Cross-Sections -- 1 Introduction -- 2 Design Codes --

2.1 Euro Code-4(2004) -- 2.2 AISC Code (2005) -- 3 Experimental and Analytical modelling of CFST Columns -- 3.1 Materials -- 3.2 Experimental Set Up -- 3.3 FEM Modeling -- 3.4 Discussion and Outcomes -- 4 Data Validation using Design Codes -- 5 Conclusions -- References -- Upgrading Recycled Aggregates in Concrete by Using Waste Plastics -- 1 Introduction -- 2 Materials and Methods -- 2.1 Waste Plastic (Polypropylene) -- 2.2 Recycled Aggregates (RA) -- 2.3 Preparation of Plastic-Coated Aggregates (PCA) -- 2.4 Aggregate Analyses -- 2.5 Analyses of Concrete Cubes -- 3 Results and Discussion -- 3.1 Relative Aggregate Properties -- 3.2 Relative Concrete Cubes Performance -- 4 Conclusion -- References. Mechanical Performance of Rice Husk Ash Made Geopolymer Concrete with Partially Replaced Steel Slag as Fine Aggregate.

Sommario/riassunto

This book presents the select papers from the proceedings of the National Conference on Advanced Construction Materials and Management (ACMM 2022). The book discusses the ongoing research and advanced practices in building materials and construction project management. Various topics covered in the book include new/alternate/supplementary construction materials, deterioration mechanisms in construction materials, microstructure characteristics of concrete, special and recycled aggregate concretes, advanced construction techniques, contracts and arbitration, building information modeling (BIM), prefabricated and modular construction, augmented reality (AR) and virtual reality (VR) in construction management, and artificial intelligence and machine learning in construction. The book is a useful reference for researchers and professionals working in the fields of construction materials and management.