

# Journal of The Institution of Engineers (India): Series A

Volume 103 · Issue 1 · March 2022

## ORIGINAL CONTRIBUTIONS

**Evaluation of the Behaviour Coefficient of an Elevated RC Tank**

O. Ider · H. Hammoum · K. Bouzelha · A. Aliche 1

**A Framework for Analysing Energy Consumption Factors in Commercially Built Environments**

J. Tippu · S. Saravanasankar · B. Sankaranarayanan · S.S. Qarnain 17

**Generalized Design Aids for Reinforced Concrete Columns**

R.K. Desai 31

**Estimation of High frequency Decay Factor to Simulate Earthquake Ground Motion for Indo-Gangetic Plain**

B. Naresh · K. Venkatesh · L.K. Mishra 39

**A Comparison between Conventional and Advanced Maintenance for Office Buildings in Saudi Arabia**

M.A. Qahtani · O. Alshamrani 47

**Tri-directional Floor Response Spectra in Irregular Building**

M.V. Landge · R.K. Ingle 57

**Optimization of Performance Parameters of Onion Digger with Cutter Bar Topping Unit**

M.A. Naik · R.N. Pateriya · Ch. Ramulu 71

**Research on the Improvement of Environmental Pollution by Garden Landscape Design using different Vegetation Configurations**

X. Wei · H. Chen · S.H. Hyun 81

**Extreme Event Simulation to Ascertain Cyclonic Condition in the Vicinity of a Major Port**

P. Pallav · M. Phani Kumar · S.K. Murthy 89

**Technology to Develop a Smokeless Stove for Sustainable Future of Rural Women and also to Develop a Green Environment**

R.C. Nayak · M.K. Roul 97

**Immobilization Remediation of a Heavy Metals Contaminated Soil: A Case Study of Dump Site at Bangalore, India**

J. Sumalatha · P.V. Sivapullaiah · R. Prabhakara 105

**A Sustainable approach to reduce Embodied and Operational Cooling Energy for an Elevated Metro Rail Station of Ahmedabad, India, using Building Information Modelling (BIM) and Factor Comparison Method**  
H. Bapat · D. Sarkar · R. Gujar 115

**Identification of Reasons for Contractor Insolvency in the Indian Construction Industry**

R.N. Patel · R. Trivedi · D. Pandit · C.N. Patel 129

**Feasibility of Geo-Grid as confining Reinforcement in RC Columns: An Experimental Investigation**

S.A. Waseem · A.B.D. Roy · R.S. Chidambaram · G. Ghangas 139

**Noise Monitoring and Perception Survey of Urban Road Traffic Noise in Silence Zones of a Tier II City—Surat, India**

R.B. Ranpise · B.N. Tandel 155

**Study on Outdoor Wind Flow and Mean Wind Pressure around the 'T' Plan Shape Tall Building**

V. Rajendran · P. Shanmugasundaram 169

**Damage Analysis of Toe for Wall Type Breakwaters**  
V. Kumaran · Manu · S. Rao 185

**Development and Performance Evaluation of Forced Convection Mobile Solar Tunnel Dryer for Drying of Silkworm Pupae**

D. Manvi · Shriramulu 195

**Measurement of Propelling Power and Clutch Actuating Force of a Self-Propelled Electric Paddy Seeder in Wetland**

S. Hensh · H. Raheman 203

**Influence of Drainage Blanket on the Sustenance of an Earthen Dam with a Cracked Central Core**

P. Talukdar · A. Dey 215

**Feasibility Study on Biocomposite as a Self-Healer of Cracks**

S. Girish · G.V. Lingaraj · A. Girish · T. Soumya 227

**Performance of an Electric Vertical Conveyor Reaper vis-à-vis Conventional Reaper for Harvesting of Paddy Crop**

A.U. Sahoo · H. Raheman 239

**Supervised Learning Aided Multiple Feature Analysis for Freshness Class Detection of Indian Gooseberry (*Phyllanthus emblica*)**

T. Sarkar · A. Mukherjee · K. Chatterjee 247

**Investigation of Seismic Coefficient Factor for Divergent Bracing Frame with TADAS Damper Utilizing the FEMA P695**

H. Sedaghatnezhad · A. Fallah · M.M. Yazdi · P. Katal Mohseni 263

#### CASE STUDY

**Study on Iterative Modification Method of Parameters in the Health Monitoring of Large-Span Continuous Rigid Frame Bridges**

D. Wu · L. Liu 271

**Prediction of Various Sizes of Particles in Deep Opencast Copper Mine Using Recurrent Neural Network: A Machine Learning Approach**

S. Gautam · A.K. Patra · J. Brema · P.V. Raj · K. Raimond · S.S. Abraham · K.R. Chudugudu 283

#### REVIEW PAPERS

**Mechanization in Onion Harvesting and its Performance: A Review and a Conceptual Design of Onion Harvester from Indian Perspective**

L. Kumawat · H. Raheman 295

**Reductive Transformation of Aqueous Pollutants Using Heterogeneous Photocatalysis: A Review**

B.R. Shah · U.D. Patel 305

**Causal Analysis of Slow BIM Adoption in Eastern India with a Special Focus on Green Building Sector**

A. Mohanta · S. Das 319

#### CORRECTION

**Correction to: 3D Simulation of Transient Thermal Response of Mucuna Seed subjected to Laser Heating: A Parametric Study Approach**

I.T. Horsfall · A.O. Igbozulike · N.R. Nwakuba · M.C. Ndukwu · O.I. Daniel · M. Simo-Tagne 339

Further articles can be found at [link.springer.com](http://link.springer.com)

Instructions for Authors for *J. Inst. Eng. India Ser. A* are available at <http://www.springer.com/40030>