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

Civil Engineering · Architectural Engineering · Environmental Engineering · Agricultural Engineering





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

Volume 106 · Issue 2 · June 2025

ORIGINAL CONTRIBUTIONS

Optimization of Fermentation Time, Temperature, and Tea Bed Thickness in CFM to Enhance the Biological Composition of CTC Black Tea

A. Hoque · M. Padhiary · G. Prasad · A. Tiwari 305

Assessment of Qualitative Performances of Structures in Architecture, Case Studies: Space Frame Structures in Tehran, Iran

S. Sadeghi · M. Mahmoudi Kamelabad · H. Kamelnia · M. Hoseinpour Jajarm 319

Comprehensive Seismic Analysis and Design Strategies for Enhanced Building Resilience: A Comparative Study of Regular and Irregular Structures

D. Telvidor, M.K. Son, S. Chakraverty, 329

D. Talukdar \cdot M.K. Sen \cdot S. Chakravarty 329

Assessing Structural Performance: A Combined Qualitative and Quantitative Approaches Using Multi-Criteria Decision-Making Method
S. Sadeghi · M. Mahmoudi Kamelabad ·

S. Sadeghi · M. Mahmoudi Kamelabad

H. Kamelnia 347

Mitigating Urban Traffic Congestion Through OPSAM in Delhi: A YOLO-v4 Based Parking Guidance and Information System

A. Ahad · F.A. Kidwai 357

Design and Development of IoT Smart Drip Irrigation and Fertigation Prototype for Small and Medium Scale Farmers. Acase Study of Tomato Farmers in Tanzania D.H. Ngoma · D. Nkongo · H.M. Abdul-Rahman · B.H. Muna · A.P. Buberwa · E. Ngaiza · H. Rhee 373

Challenges and Opportunities in Heritage Conservation and Tourism Development: A Case Study of Jagdishpur (Formerly Islamnagar), Madhya Pradesh, India

V. Chettry 397

An Experimental Assessment of Piled Raft Foundation Under Axial and Eccentric Loading in the Scenario of Granular Soil Conditions

M. Aagib · M.Y. Shah 409

Multi-indexing Approach for Groundwater Suitability Near a Municipal Solid Waste Dumpsite for Drinking and Irrigation Purposes

A. Dixit · D. Singh 425

Theoretical Method of Computing Resilient Modulus of Subgrade

B.K. Narzary · J. Narzary 445

Environmental Sustainability Assessment of Urban Development Indicators

S.H. Shamaee · H. Yousefi · R. Zahedi 455

Evaluating the Safety of Spillway Structures in Concrete Gravity Dams: A Comprehensive Risk Analysis Under Diverse Loads
P.A. Anajwala · A.K. Desai · J.N. Patel 469

Prediction of Pavement Maintenance Cost for Rural Roads at Network Level

V. Arun · S.N. Suresha 489

An Assessment of the Appropriateness of a Gradient Damage Plasticity Model to Accurately Predict the Behaviour of Composite Beam-to-column Junctions M. Thilak · S.R.S. Kumar 511

Exploring Noise Pollution Levels Across Various Land Use Categories and Evaluating the Effects of COVID-19 Lockdown and Unlockdown Phases on the Urban Soundscape of Delhi

L. Pradeep · S.M.S. Nagendra 531

Engineering Properties of Various Seeds for Development of a Multi Crop Seed Metering Mechanism Suitable for Intercropping

S. Choudhary · M. Jain · G. Upadhyay · V. Rani ·

B. Patel · Naresh 553

Activated Charcoal and Natural Soil Granules for Removing Fluoride from Aqueous Solution and Groundwater

M.S. Dhaduti · A.M. Hunashyal · S.K. Rajappa · S. Kadabinakatti · S.S. Hubballi 567

Predicting Urban Vartur Lake Health:
A Multi-context Machine Learning Approach
to Water Quality Assessment
P.P. Teggi · B. Malakreddy · S. Natarajan · M.S. Dhaduti ·
N. Harivinod 577

Innovative Seismic Resilience of High-Rise Structures Featuring Composite Columns and Shear Walls on Sloping Ground

R. Verma · K.K. Pathak · V. Pathak · R. Agrahari 591

Effect of Stepped Sidewalls on the Performance of Trapezoidal Labyrinth Weirs and Piano Key Weirs: An Experimental Study

M. Hamidinia · M. Heidarnejad · M.H. Purmohammadi · A. Masjedi 605

Leveraging PROMETHEE to Map Solutions Approach for Eliminates the Barriers of Women's Professional Advancement in Indian Urban Planning and Urban Development Industries

L.P. Patel · C.R. Patel 615

Optimizing Wind Load Performance through Shape Modifications and Corner Configurations in High-Rise Buildings: A Computational Fluid Dynamics Study S. Pandey · N.K. Thakur · P. Nath · D. Sharma · R. Raj 631

Prediction of Reliability for Water Distribution System Using ANN and Benchmark Table S.S. Nair · P.L. Meyyappan 649

Further articles can be found at link.springer.com

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