

Journal of Discrete Mathematical Sciences & Cryptography

VOLUME 29

NUMBER 2-B

FEBRUARY 2026

Special Issue on

Advances in Discrete Mathematics and Secure Network Technologies (Part-B)

Guest Editors

Ramesh Chandra Poonia

Kamal Upreti

Sonali Gaur

Sheela Hundekari

Jyoti Parashar

Smriti Khanna

Soumi Ghosh

Anup Lal Yadav

G.V Radhakrishnan

Agnieszka Góra-Błaszczkowska

26/03/26
SB



TARU PUBLICATIONS

Journal of Discrete Mathematical Sciences & Cryptography

Volume 29, Number 2-B, February 2026

Special Issue on

Advances in Discrete Mathematics and Secure Network Technologies (Part-B)

CONTENTS

- P. K. DESHMUKH, S. K. VERMA, P. D. JADHAV, S. I. BALTABAEVICH,
V. VIJAYKUMAR AND A. KHATRI
AI-based cryptanalysis of classical and post-quantum
encryption methods 759–767
- P. BAGANE, S. KOTHARI, A. GOYAL, C. SENGAR, S. DONGRE AND
S. PRABHAKAR
Cryptanalysis of ciphers using machine learning 769–777
- C. M. ANISH, A. JADHAV, H. N DATIR, G. S. MATE, A. ASHIROVA
AND A. RAWAT
Lightweight AI-supported ECC algorithms for security in IoT
and edge devices 779–787
- P. C. GOLAR, P. D. SHOBHANE, S. I. BALTABAEVICH, P. KAREMORE,
S. KEDAR AND P. DUBEY
Designing AI-driven information security protocols using
discrete mathematical models 789–796
- P. BAGANE, S. KOTHARI, A. GOYAL, K. JOSHI, M. GARG,
N. NAMBOODIRI AND P. K. KRISHNA
CyberCraft : Encryption and decryption tool for images using
AES, DES, and chaotic logistic map 797–806
- G. D. PURI, D. M. GOHIL, R. S. PATIL AND A. GAIKWAD
Graph-driven side-channel attack detection using AI and
discrete math 807–815
- P. BAGANE, S. KOTHARI, A. GOYAL, P. PATEL, S. CHAUHAN, S. GUPTA
AND T. GUPTA
AI in enhancing cybersecurity incident response 817–826

M. VISHWAKARMA, S. P. PATRA AND P. VAISHNAV Recent developments and emerging trends : Authentication and access control for mobile IoT devices using biometric features	827-837
S. THAKUR, L. YADAV, K. T. PUNJ, Y. SOOD, V. K. BHOSALE AND S. K. SWARNKAR Addressing quantum threats to cryptographic security systems with advanced quantum-resistant algorithms	839-847
N. TULI, R. PHURSULE, S. BANSAL, B. M. NANCHE, S. KATOCH AND A. RAINA Investigating discrete structures in network algorithms for optimizing traffic flow and reducing congestion in urban areas	849-856
K. KUMAR, M. MESHAM, A. GAURAV, S. SINGH, A. GUPTA AND F. M. MAGTIBAY Enhancing wireless network performance using discrete structures and graph theory for efficient data transmission and routing	857-865
V. KUMAR, P. B. DASARWAR, S. BHAN, J. ALI, S. K. SWARNKAR AND A. YADAV Application of advanced algebraic structures in cryptography to improve security protocols in decentralized network systems	867-876
N. B. POKALE, P. PRAVEEN, Y. SOOD, V. KUMAR, N. VAIRAPERUMAL AND V. K. VIJAYA Exploring the integration of discrete mathematics and applied algebra in designing robust network architectures for IoT	877-884
S. SHARMA, M. SHARMA, V. BHAVNAGAR AND R. JAIN Utilizing discrete structure and applied algebra to model and analysis network resilience against cyber attack	885-893
M. RANI, T. KAUR, P. SARKAR, M.V.V. P. KANTIPUDI, P. GUPTA AND R. S. M. L. PATIBANDLA Geometric and algebraic machine learning methods in computer graphics and vision systems	895-904
T. A. WANI, P. BORKAR, R. SURASKAR, J. JABEZ, V. MAMATHA AND D. SHARMA Developing novel theorems in graph theory for computational algorithm enhancement	905-912
D. DHABLIYA, A. LAVHALE, S. THAKUR, R. M. GOMATHI, A. KUMAR AND S. DE Enhancing cryptographic security through zero-knowledge proofs in theoretical mathematics	913-921

R. S. PATIL, A. P. ADSUL, S. S. BHATI, V. DESHPANDE, P. KRISHNANJANEYULU AND E. MOUNIKA Quantum machine learning : Developing hybrid quantum- classical algorithms for enhanced computational power	923-931
C. K. SHARMA, D. S. ASUDANI, R. SURASKAR, K. GUPTA, N. DUA AND P. AJITHA Enhancing network security protocols with discrete mathematics application methods	933-941
S. CHOUDHARY, K. SHANTI, T. SINGH, G. T. CHAVAN, R. S. BULBULE AND A. D. SONAWANE Security challenges in mobile ad hoc networks : Investigating vulnerabilities and proposing robust solutions for secure communication	943-951
A. K. AGARWAL, POOJA, M. JOSHI, S. SHEORAN, L. BANDA AND G. SAINI Practical implementations of homomorphic encryption examining performance and security in real-world privacy-preserving applications	953-960
C. P. SELVAN, V. S. GULHANE, R. GANGARDE, S. SAOJI, N. TUKHTAEVA AND H. M. BHAGAT Applications of discrete mathematics in developing intelligent AI systems	961-970
N. M. PAWAR, R. M. SAIRISE, P. KAREMORE, A. JADHAV, D. TURAEV AND S. N. AJANI ML-based verification systems using discrete mathematical models	971-978
A. K. RAJPOOT, D. DHABLIYA, V. N. TRUPTI, T. A. WANI, K. GUPTA AND L. LAKSHMANAN Quantum cryptography assessing the security and practicality of quantum key distribution in modern communication networks	979-986
G. S. CHAE AI-driven graph coloring for frequency assignment in wireless networks	987-994
S. GAMBHIRE, A. R. PANHALKAR, D. H. PATIL, S. KEDAR, M. KUMAR AND B. Y. PANCHAL Leveraging formal languages and automata theory in natural language processing (NLP)	995-1004

V. BHANGE AND P. SHENDE Discrete mathematical approaches to blockchain consensus algorithms and security	1005–1012
K. S. SHINDAGI, A. JAYAKKANAVAR, B. FADANIS, P. K. SONWALKAR, V. HIREMANI AND A. GOYAL Enhancing RSA security : Analyzing vulnerabilities and mitigation strategies using machine learning and trigonometric functions	1013–1021
E. SEBASTIAN AND R. C. POONIA Entropy diagnostics for cryptographic key material from random circuit sampling	1023–1032
A. KHADE, A. B. DESHMUKH, G. MIRAJKAR, G. JORVEKAR, P. GHOSH AND S. I. BALTABAEVICH Exploring advanced data security challenges and solutions in intelligent network substation	1033–1040
V. LATKE, A. R. PANHALKAR, G. S. MATE, D. H. PATIL, S. SABIROV AND A. S. PATIL Utilizing game theory to develop innovative applications for enhancing communication system	1041–1048
Y. HASAN, S. ARYA, V. S. RANA, G. BHUTKAR, T. V. S. RAO AND B. KALYANI Implementing adaptive security measures in intelligent networks within the gaming industry to prevent cyber threats	1049–1057
V. N. P. RAJ, A. A. CHANDI, A. SINGH, V. KUMAR, M. R. KUMAR AND K.D.V. PRASAD Application of quantum computing for optimization in cryptographic protocols within information transmission	1059–1066
M. K. SRIVASTAVA, V. KUMAR, L. AGRAWAL, I. M. C. FEBIULA, A. A. CHANDI AND N. SINGH Designing robust cybersecurity measures using optimization techniques in enterprise information	1067–1075
K. N. R. PRAVEEN, D. P. YADAV, A. V. YENKIKAR, J. R. R. KUMAR, S. SRINIVASULU AND S. DESAI Real-time cyber threats and unauthorized access detection using embedded AI	1077–1085
L. RAJA, C. S. LAMBA, P. C. VERMA, V. SHARMA, H. GOCHAR, S. SHARMA AND C. PATEL Performance evaluation of wireless sensor networks using adaptive clustering and homomorphic polynomial encryption schemes	1087–1095

- R. JAIN, B. BATRA, B. KANWER, L. RAJA AND V. BHATNAGAR
Transforming network security through zero trust architecture:
Principles, challenges, and future directions 1097–1106
- R. MITTAL, P. KUMAR AND K. GAUR
A framework for secure cloud operations via homomorphic
encryption and Euclidean biometric matching 1107–1115
- Z. AALAM, S. VHATKAR, R. MANE, S. KAULGUD, A. B. MARATHE
AND A. A. MAHA
Graph isomorphism algorithms using group theory in social
network analysis 1117–1124
- B. KUMAR, J. N. CHELTHA, P. K. YADAV, M. K. SHARMA,
P. DADHEECH AND S. S. MANAKTALA
Secure and transparent artificial intelligence through
uncertainty-infused algebraic frameworks 1125–1134