INDIAN JOURNAL OF NATURAL SCIENCES (IJONS)

BIMONTHLY INTERNATIONAL JOURNAL (PRINT)

Editor-in-Chief Dr.S.Vijikumar

Published by

TAMILNADU SCIENTIFIC RESEARCH ORGANISATION

Regd.Off.: NO 46-141, MEENAKSHIPURAM RD, NEAR POST OFFICE, ARIMALAM 622 201, PUDUKKOTTAI, TAMIL NADU, INDIA

Admin. Off.: PLOT NO 39, MURA BHAVAN, KOODAL NAGAR, RAJAGOPALAPURAM POST, PUDUKKOTTAI, TAMIL NADU, INDIA.

ijonstnsro@gmail.com, editorijons@gmail.com-www.tnsroindia.org.in

Editor-in-Chief, Editorial Board and Publisher take no responsibility for inaccurate, misleading data, opinion and statements appeared in the articles and advertisements published in this journal. It is the sole responsibility of the contributors and advertisers. No part of this journal can be reproduced without the written permission of the Editor-in-Chief who also holds the copyright © of the "Indian Journal of Natural Sciences (IJONS)".

JOURNAL PARTICULARS

Journal Name	INDIAN JOURNAL OF NATURAL SCIENCES (IJONS)
Frequency	Bi-monthly (Feb, Apr, Jun, Aug, Oct, Dec)
ISSN	0976 – 0997 (Print)
Publisher	TamilNadu Scientific Research Organisation,
	Pudukkottai, Tamil Nadu, India
Chief Editor	Dr.S.Vijikumar
Copy right	TamilNadu Scientific Research Organisation (TNSRO)
	Pudukkottai, Tamil Nadu, India.
Starting Year	2010
Subject	Multi Disciplinary Science Subjects
Review Process	Double Blind Review Process
Language	English
Publication Format	Print
Access	OPENICCESS
License	Creative Commons Attribution License 4.0
Phone Nos:	04322- 458193, 04322 –261088 (10.00 A.M to 05.00 P.M)
Email	ijons@tnsroindia.org.in & ijonstnsro@gmail.com
Website	https://www.tnsroindia.org.in/
Registered office	No 46-141, Meenakshipuram Rd, Near Post Office,
Address	Arimalam 622 201, Pudukkottai, Tamil Nadu, India.
Admin. Office Address	Plot No 39, Mura Bhavan, Koodal Nagar,
	Rajagopalapuram Post, Pudukkottai, Tamil Nadu, India.

Indian Journal of Natural Sciences (IJONS)

Editorial Committee Members (ECM)

Editor–in–Chief	Dr.S.Vijikumar Director TamilNadu Scientific Research Organisation Pudukkottai-622003, Tamil Nadu. India.
	Editorial Committee
Honorable Chief Advisor	Dr.Neelesh Sharma Professor, Sher-E-Kashmir University of Agricultural Sciences and Technology of Jammu (SUKAST), Jammu, University in Wadoora, Jammu & Kashmir
Honorable Chief Advisor	Dr.C.Anandharamakrishnan Director, CSIR – National Institute for Interdisciplinary Science and Technology (NIIST) Council of Scientific and Industrial Research (CSIR), Ministry of Science and Technology, Government of India, Industrial Estate PO, Thiruvananthapuram, India
Honorable Chief Advisor	Dr.G.G.Hammad Ahmad Shadab Associate Professor, Department of Zoology, Aligarh Muslim University, Aligarh-202002,Uttar Pradesh, India
Honorable Chief Advisor	Dr. B. Vaseeharan Professor and Head, Department of Animal Health and Management, Alagappa University, Karaikudi – 630003 TamilNadu, India
Honorable Member	Dr. T.S. Saravanan Sr.Professor of Biotechnology, Dr.M.G.R Educational and Research Institute University, Periyar E.V.R High Road, Maduravoyal, Chennai-600095.
Honorable Member	Dr. K.Gurunathan Prof & Head, Department of Nano science & Technology, Alagappa University, Karaikudi, TamilNadu, India.
Honorable Member	Dr.C.Balusami Assistant Professor, Department of Livestock Production and Management, College of Veterinary and Animal Sciences Pookode-673576.Kerala, India.
Honorable Member	Dr. Rajashekhar O, Patil Assistant Professor, Department of Environmental Management, Sant Gadge Maharaj College of Commerce & Economics, Mumbai 400004, India
Honorable Member	Professor.G.Ganesan Professor, Department of Mathematics, Adikavi Nannaya University,Rajahmundry-533105, Andhra Pradesh, India
Honorable Member	Dr.M.Krishnan Vice Chancellor, Central University of Tamil Nadu, Thiruvarur, Tamil Nadu. India

	3 0 D 7 1
Honorable Member	Mis D.Kalpana Asst.Professor, Department of Chemistry, Bon Secours College for Women, Vilar by pass road, Thanjavur TamilNadu, India.
Honorable Member	Dr.H.Syed Jahangir Associate Professor, P.G. and Research Department of Botany, Jamal Mohamed College (Autonomous) Trichirappalli-620020, TamilNadu, India.
Honorable Member	Dr.Sujatha Ilangovan Assistant Professor, PG & Research Department of Zoology, Holy Cross College, Tiruchirapalli-620002. TamilNadu, India.
Honorable Member	Dr.Vasudevan Ayyappan, Post Doctoral Research Associate, Department of Biotechnology, Delaware State University, Dover, Delaware – 19901
Honorable Member	Prof.K.Kumarasamy Emeritus Professor, ICSSR-Senior Fellow Department of Geography, School of Earth Sciences Bharathidasan University Tiruchirappalli - 620 024, TN, INDIA
Honorable Member	Dr. S. Balasubramanian Assistant Professor, Department of Mathematics, Government Arts College (A), Karur – 639 005, Tamilnadu, India.
Honorable Member	Dr.R.Muthukrishnan Associate Professor (SS&AC) & HOD (Crop Management) Department of Soil Science and Agricultural Chemistry, Vanavarayar Institute of Agricultural Manakkadavu, Pollachi-642- 103, TamilNadu, India
Honorable Member	Dr.Subbiah poopathi Scientist-G/ Director Grade ICMR-Vector control Research Centre, Medical complex, Indira Nagar,Pondicherry-605006,India
Honorable Member	Dr.P.Govindaraj Head & Associate Professor in Chemistry Department of Chemistry, SBK College, Aruppukottai - 626 101, TamilNadu, India
Honorable Member	Dr.Sindhu. K Assistant Professor, Department of Veterinary Pharmacology and Toxicology Veterinary College, Gadag – 582101, Karnataka, India.
Honorable Member	Dr. S. Umamaheswari Assistant Professor, Department of Environmental Biotechnology School of Environmental Sciences Bharathidasan University, Tiruchirappalli – 620 024, Tamil Nadu
Honorable Member	Dr. P. Santhanam Associate Professor, Department of Marine Science, School of Marine Sciences, Bharathidasan University, Tiruchirappalli. Tamil Nadu. India

Honorable Member	Dr. S. Jayachandran Professor & Head, Dept. of Oral Medicine and Radiology, Tamil Nadu Govt. Dental College and Hospital, Chennai -600003, Tamil Nadu, India.
Honorable Member	Dr. Komalavalli Narayanaswamy Associate Professor and Head , PG and Research Department of Botany, Alagappa College of Arts & Science, Karaikudi, Tamil Nadu, India
Honorable Member	Dr.V.M. Srinivasan Assistant Professor (Plant Pathology) Department of Crop Protection Thanthai Roever Institute of Agriculture and Rural Development, Valikandapuram Post, Perambalur - 621115., Tamil Nadu.
Honorable Member	Dr.Rina Poonia Associate Professor, Department of Arts, Faculty of Arts & Law, Manipal University, Jaipur, India.
Honorable Member	Dr.M.Shanthasheela Professor Department of Agricultural Extension and Rural Sociology Tamil Nadu Agricultural University, Lawley Road Coimbatore, Tamil Nadu, India - 641003
Honorable Member	Dr. M. Lekeshmanaswamy Principal, PG and Research Department of Zoology, Kongunadu Arts and Science College G.N. mills (PO), Coimbatore-641 029, TamilNadu, India.
Honorable Member	Dr. N. Balakrishnan Professor, Directorate of Research Tamil Nadu Agricultural University, Lawley Road, Coimbatore, Tamil Nadu, India - 641003.
Honorable Member	Dr.Syed Mohamed Asst. Prof. Dept. of Zoology, Jamal Mohamed College Tiruchirappalli, TamilNadu, India
Honorable Member	Dr.N.Raman Associate Professor, Department of Chemistry, VHNSN College, Virudhunagar-626 001, TamilNadu, India.
Honorable Member	Dr.Komal Kumar Javarappa Institute of Molecular Medicine Finland, University of Helsinki, Finland, Biomedicum Helsinki 2U, G315b, Finland- 00014.
Honorable Member	Dr.A.Dinakara Rao Professor, Center for Bioinformatics, School of Life Sciences, Pondicherry University, Puducherry, India

Honorable Member	Dr.K.Sivakumar Professor, Department of Botany, Annamalai University, Annamalai Nagar, TamilNadu, India
Honorable Member	Dr.A.Kalyana Sundaram Associate Professor(Entomology), Tamil Nadu Agricultural University, Lawley Road Coimbatore, Tamil Nadu, - 641003.
Honorable Member	Dr.P.Ramachandran Director & Head, Trichy Institute of Regenerative Medicine, Thillai Nagar West,Trichy,TamilNadu, India.
Honorable Member	Dr.S.Senthil Murugan Assistant Professor, Department of Animal Nutrition, College of Veterinary and Animal Sciences, Pookode, Wayanad, Kerala, India
Honorable Member	Dr.V.Violet Dhayabaran Associate Professor ,Department of Chemistry, Bishop Heber College (Autonomous), Puthur, Tiruchirappalli, Tamil Nadu, India.
Honorable Member	Dr.Ananthnag B Lecturer, Department of Environmental Science, Kuvempu University, Shivamogga, Karnataka, India.
Honorable Member	Dr.G. Rubalakshmi Scientist & Director, GRD Bio Research Centre #3/41, Nanbargal Nagar, Muthukalipatty, Rasipuram TK, Namakkal DT- 37401. T.N. ,India.
Honorable Member	Dr.M.Ramesh Professor, Department of Biotechnology, Alagappa University, Karaikudi-630003,Sivagangai Dt, TamilNadu,India.
Honorable Member	Dr.S.Ezhil Vendan, Scientist, Food Protect ants & Infestation Control Department, CSIR-Central Food Technological Research Institute, Mysore-570 020,Karnataka,India.
Honorable Member	Dr.S.Yamini Sudha Lakshmi Assistant Professor, Department of Medical Biochemistry, University of Madras, Taramani Campus, Chennai-600113, TamilNadu, India.

Honorable Member	Dr.V.L.Madhu Prasad Directorate of Extension, University of Agricultural Science, Hebbal,Bangaluru-560024. Karnataka,India.
Honorable Member	Dr.T.Shanmugasundaram Department of Vegetable Crops, Horticultural College and Research Institute, Tamil Nadu Agricultural University, Coimbatore-641 003, Tamil Nadu,India.
Honorable Member	Dr.C.Thamaraiselvi Assistant Professor, Dept. of Biotechnology Mother Teresa Women's University Kodaikanal-624101, TamilNadu, India.
Honorable Member	Dr.R.Selvaraj Department of Veterinary Physiology, Centre for Laboratory Animal Technology & Research (CPCSEA approved), Sathyabama University, Chennai – 600 119.
Honorable Member	Dr. Hasan S.A. Jawad Animal Production Department, Agricultural Faculty, University of Baghdad, Baghdad, Iraq.
Honorable Member	Dr.C.Kathirvelan Assistant Professor, Department of Animal Nutrition Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Namakkal -637002. TamilNadu, India.
Honorable Member	Dr. John Abraham Assistant Professor, Department of L.P.M.,College of Veterinary and Animal Sciences, Pookode, Wayanad. 673576, Kerala, India
Honorable Member	Dr.P.Kavitha Assistant Professor, Department of Zoology and Biotechnology AVVM Sri Pushpam College (Autonomous) Poondi,Thanjavur, TamilNadu, India.
Honorable Member	Dr. Gopal Muthu Scientist -'C', DHR-Model Rural Health Research Unit ICMR-National Institute of Epidemiology Government of India, Primary Health Centre Campus Kallur-627 010, Tirunelveli District, Tamil Nadu, India

Honorable Member	Dr.Ranjith.D Assistant Professor, Department of Veterinary Pharmacology and Toxicology, College
	of Veterinary and Animal Sciences, Pookode, Wayanad – 673576. Kerala, India
Honorable Member	Dr.Prantosh K. Paul Assistant Professor, Department of Computer & Information Science,
Honorable Member	Raiganj University, Raiganj, West Bengal-733 134, India.
Honorable Member	Dr. Ajay Anil Gurjar Professor & Dean Academics,
	Sipna College of Engineering & Technology, Amravati(M.S)- 444606,India.
	Dr.V.E.Nethaji Mariappan Scientist"F"
Honorable Member	Centre for Remote Sensing and Geoinformatics Sathyabama University, Rajiv Gandhi Road,
	Sholinganallur, Chennai – 600119,Tamil Nadu Dr.N.Mahesh
	Assistant Professor – III
Honorable Member	Department of Chemistry & Biosciences SASTRA University Srinivasa Ramanujan Centre, Kumbakonam, Thanjavur Dist, Tamilnadu, INDIA
	Dr.Sumit Kumar Gupta
Honorable Member	Dean of Science, Department of Physics, Parishkar College of Global Excellence,
	Jaipur, Rajasthan, India
	Mr.S.M.Prasad Assistant Professor,
Honorable Member	Department of Nutrition and Dietetics,
	Sadakathullah Appa College, Rahmath Nagar, Tirunelveli-627011. T.N.India
	Dr.Prakash.M Professor,
Honorable Member	Department of Genetics and Plant Breeding,
	Faculty of Agriculture, Annamalai University, Annamalai nagar- 608002. Cuddalore District
	Dr.M.N.Harisha
Honorable Member	Guest Lecturer, Department of Wildlife and Management,
	Kuvempu University, Jnanasahyadri, Shankaraghatta - 577451. Shimoga, Karnataka, India
	Mr.Sridhar Ramachandran
Honorable Member	Assistant Professor, Department of Biological Science,
	Gojan College of Teacher Education , Chennai-600 052, TamilNadu, India
	, , , , , , , , , , , , , , , , , , , ,

Honorable Member	Dr.P.Jeyaseelan Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar – 608 002, Cuddalore
Honorable Member	Dr.Suja George Principal Scientist, Department of Biotechnology, M.S. Swaminathan Research Foundation, Taramani, Chennai 600113.
Honorable Member	Dr.Muthuraman A., Senior Lecturerm , Pharmacological unit, AIMST University, 08100 Bedong, Kedah, Malaysia
Honorable Member	Dr.G.Rama Rao Principal Scientist &Head, Dept.of Crop Physiology, RARS Lam, Guntur-522034, ANGR Agricultural University, Andhra Pradesh, India
Honorable Member	Dr.Y.V. Krishna Reddy Department of Agricultural Engineering, Aditya Engineering College, Surampalem- 533437, East –Godavari, A.P., India
Honorable Member	Dr.Pushpa S Murthy Senior Scientist, Department of Spice and Flavor Science, AcSIR Associate Professor (Biological Sciences), CSIR - Central Food Technological Research Inst. MYSURU, Karnataka, INDIA
Honorable Member	Dr.Mathews Plamoottil Asst. Professor in Zoology, Govt. College Chavara, Kollam, Kerala, India
Honorable Member	Dr.N.Vijayakumar Assistant Professor Dept.of Biochemistry & Biotechnology Annamalai University, Annamalainagar-608 002, Tamilnadu, India.
Honorable Member	Dr. E.Emimal Victoria Assistant Professor, Department of Zoology Sri Meenakshi Govt. Arts College for Women, Madurai, TamilNadu, India
Honorable Member	Dr.C.Kandeepan Asst.Professor and Head, PG Department of Zoology, A.P.A College of Arts and Culture, Palani-624601, Dindigul Dt. Tamil Nadu,India.

Honorable Member	Dr.A.Radha Assistant Professor, Dept. of Zoology Kunthavai Naacchiyar Govt Arts College for Women, Thanjavur-7,TamilNadu, India.
Honorable Member	Dr.P.Ramachandran Director & Head, Trichy Institute of Regenerative Medicine, Thillai Nagar West,Trichy,Tamil Nadu,India.
Honorable Member	Dr.B.Kaleeswaran Assistant Professor, Dept. of Zoology & Biotechnology, A.V.V.M.Sri Pushpam College, Poondi, Thanjavur, TamilNadu, India.
Honorable Member	Dr.S.Yamini Sudha Lakshmi Assistant Professor, Department of Medical Biochemistry, University of Madras, Taramani Campus, Chennai-600113, TamilNadu, India.
Honorable Member	Dr.K.Nagarajan Associate Professor & Head Department of Zoology VHN Senthikumara Nadar College, Virudhunagar, TamilNadu, India.
Honorable Member	Dr.S.Lingathurai Assistant Professor, Department of Zoology and Research Centre, at Aditanar College of Arts & Science, Virapandianpattinam, Tiruchendur - 628 216 Thoothukudi District.
Honorable Member	Dr.D.Sivaraman Scientist-C Department of Pharmacology, Sathyabama University, Jeppiaar Nagar, Rajiv Gandhi road, Chennai- 600 119. TamilNadu, India.
Honorable Member	Dr.Suja George Principal Scientist, Department of Biotechnology, M.S. Swaminathan Research Foundation, Taramani, Chennai 600113.
Honorable Member	Dr.S.V.Sai Prasad Principal Scientist & Head ICAR-IARI, Regional Station, Near Agriculture College, Indore – 452 001, Madhya Pradesh, India

Honorable Member	Subburaj. M Authorised Officer, Kolkata Seaport, Kolkata International Airport and Haldia port Food Safety and Standards Authority of India Ministry of Health and Family welfare, Govt. of India Benfish Tower, 31 GN Block, Sector V, Salt lake city Kolkata -700091, India
Honorable Member	Dr.Ga.Bakavathiappan Associate Professor in Zoology SBK College, Aruppukottai - 626 101, TamilNadu, India E.Mail: ga.bakavathiappan@gmail.com
Honorable Member	Dr.Omkar Prasad Baidya Assistant Professor, ESI-PGIMSR and ESIC Medical College, Joka, Kolkata, West Bengal, India
Honorable Member	Dr. Preethi Balasundaram Post-Doctoral Fellow, Wieden Group Alberta RNA Research & Training Institute Department of Chemistry and Biochemistry University of Lethbridge, 4401 University Drive Lethbridge, Alberta, Canada T1K 3M4
Honorable Member	Dr. Horne Iona Averal IQAC Coordinator, Associate Professor PG Research Department of Zoology, Holy cross college (Autonomous), Trichy. TamilNadu, India.
Honorable Member	Dr. S. Thenmozhi Assistant Professor (SS & AC) Soil Fertility and Irrigation Water Management TNAU, Coimbatore, Tamil Nadu, India
Honorable Member	Dr. S. Suganya Kanna Associate Professor, (Agricultural Entomology), Agricultural College and Research Institute, Tamil Nadu Agricultural University. Coimbatore, Tamil Nadu, India
Honorable Member	Dr.K.Saravanan Assistant Professor ,PG & Research Dept. of Zoology, Nehru Memorial College (Autonomous), Puthanampatti, Tiruchirappalli, TamilNadu,India
Honorable Member	Dr.C.Ravinder Singh Chief Scientist - Tissue Culture & Hydroponics AAKASH GREEN RESEARCH PRIVATE LIMITED 14B/1, Bryant Nagar, 9th Street East Thoothukudi, Tamil Nadu - 628008, India.

Honorable Member	Dr.M.Biruntha Assistant Professor, Department of Animal Health and Management, Alagappa University, Karaikudi, TamilNadu, India
Honorable Member	Dr.S.Sasikala Head&Associate Professor, Department of Computer Applications, Hindusthan College of Arts and Science, Coimbatore - 641 028, Tamilnadu, India.
Honorable Member	Dr.Y.V. Krishna Reddy Department of Agricultural Engineering, Aditya Engineering College, Surampalem- 533437, East –Godavari, A.P., India
Honorable Member	Dr.Manigopa Chakraborty Chief Scientist cum University Professor Department of Genetics & Plant Breeding, Birsa Agricultural University, Kanke, Ranchi, Jharkhand – 834006., India.
Honorable Member	Dr.Huda Falah Hasan Radi Alqaraghuli Assistant Professor, College of Veterinary Medicine, University of Baghdad, Baghdad, Iraq.
Honorable Member	Dr.Arvind Prasad Dwivedi Lecturer, Department of Biochemistry, Govt. Sanjay Gandhi Smriti College, Sidhi, Madhya Pradesh, India.
Honorable Member	Dr.A.Suganya Associate Professor, Department of Agricultural Science, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India.
Honorable Member	Dr.M.Karthikeyan Assistant Professor (Plant Pathology) Department of Vegetable Crops ,HC&RI Tamil Nadu Agricultural University ,Coimbatore TamilNadu,India
Honorable Member	Vijaya Bhaskara Reddy.MUTHA Asst. Prof.Faculty of Public Health, St Theresa International College, 1 Moo 6 Rangsit-Nakhon Nayok Road (Klong 14), Bungsan,Ongkharak – 26120 Nakhon Nayok, Thailand

Honorable Member	Dr.Thirumal Kumar D Assistant Professor(Jr) Department of Integrative Biology, School of Bio Sciences and Technology Vellore Institute of Technology Vellore – 632014, Tamilnadu, India.
Honorable Member	Dr. Saikat Sen Dean of Faculty, Faculty of Pharmaceutical Sciences Assam down town University, Panikhaiti, Guwahati, Assam - 781026, India
Honorable Member	Dr. P. Chandramani Professor, (Agricultural Entomology), Agricultural College and Research Institute, Tamil Nadu Agricultural University Kudumiyanmalai – 622 104. Pudukkottai Dist., Tamil Nadu, India
Honorable Member	Dr.S.Prema Associate Professor of Computer Science, Arulmigu arthanareeswarar arts and science college, Tiruchengode, Tamilnadu

Indian Journal of Natural Sciences (IJONS)

Volume XV (15) April 2024 CODEN: IJONS (83) (2024) ISSUE 83 ISSN: 0976 - 0997

S. No.	CONTENTS	Page No.
287	Application of MCDM using PROMETHEE II Techniques in the Case of Fertilizer Selection for Agriculture A.Rajkumar, A.Ezhilarasi and J.Sharmila Jessie Ignatia	73269-73275
288	Separation and Higher Separation Axioms in Topological Bispace K.Karpagam, G.Ramesh and N. Anbarasi	73276-73281
289	Importance of Starch Modification in the Ruminant Nutrition Lalu.K, George Sherin .K, Dipu .M. T and Rejeesh .R	73282-73286
290	On Symmetric Circulant Neutrosophic Fuzzy Matrices N. Premalatha and V.Revathi	73287-73293
291	Optimization of Process Parameters for TIG Welding of Aluminium Alloy 3000 using RSM Technique Manjeet Bohat and Rahul Modgil	73294-73300
292	Evaluating Milk Adulteration in Bangalore: A Preliminary Study Umme Salma Razak, Fathima Zohra, Mithra Thomas, Himani Sharma	73301-73306
293	Evaluation of <i>Trichoderma</i> spp. from Rhizospheric Soil against <i>Colletotrichum truncatum</i> (Syn. <i>C.capsici</i>) Causing Fruit rot of Chilli (<i>Capsicum annum</i> L.) R. Karthikeyan and C. Kannan	73307-73314
294	A Comparative Clinical Trial of "Yogam Therapy" and "Asuwathi Chooranam" (Internal) in the Management of "Athithoolam" (Obesity) M.Vanitha, P. Sugasini², P.Samundeswari and N.J.Muthu Kumar	73315-73320
295	Simultaneous Spectrophotometric Analysis of Multicomponent Pharmaceutical Mixtures: Validation and Method Comparison Karthick.S, K.Vinod Kumar, V.Charani, H.Tanveer, R.Aparna, P.Vamshi, K.Divya and Shaik Nuzhath	73321-73337
296	Designing Single Sampling Plans Integrated with Supply Chain Contract - A Simulation Study Based on Weibull Distribution and Gamma Distribution S.Ravi Sankar and J. Sinthiya	73338-73347
297	Some Basic Concepts of Circulant <i>M</i> – Polar Fuzzy Matrices G.Punithavalli and M.Rajeswari	73348-73353
298	Semi Closed Sets in Interval Valued Neutrosophic Topological Spaces S.Sathiya and A.Puspalatha	73354-73362
299	Isolation, Optimization and Purification of Alkaline Protease from Bacillus subtilis Isolated from Trash Fish Hydrolysate R.Anburaj, G. Roseline Jebapriya, P.Sivaranjani, S.Vanmathi vidhyashini, K.Raja	73363-73371
300	Study of Serial Channels with various customers' behaviour linked with Non-Serial Service Channels showing balking behaviour Sangeeta, Man Singh, Deepak Gupta	73372-73384

301	Fuzzy Analysis of Priority Queuing Model by using Two Different Approach Aarti Saini, Vandana Saini and Deepak Gupta	73385-73392
302	Electroactive Metals Salts Inorganic Solvents, a Novel Electrolyte Material for Designing Super capacitors with Enhanced Energy Density and Overall Performance Vivek Chaudhry and Joginder Singh	73393-73400
303	Z- Intuitionistic Fuzzy Relations and Their Properties R.A.Latha Devi and G. Velammal	73401-73407
304	Nanocarrier Mediated Transdermal Drug Delivery Systems for the Management of Psoriasis : A Review Virendra Kumar Singh, Hiteshkumar A Patel, Ramesh Singh and Bharat Mishra	73408-73418
305	Authentication and Access using the Multi-Layer Information Security (MLIS) Technology for E-Commerce Applications Jagan Raj Jayapandiyan and Anchal Kumari	73419-73426
306	Survival Analysis for Predicting Heart Failure Risk Sivaranjani P and Muthukumar M	73427-73431
307	Laser Micro-Etched Crown and Bridge Restorative Materials: A Simple, Cost-Effective Technique for Personal Identification Bhupender Yadav, Taniya Malhotra, Pankaj Ritwal, Omkar Shetty, Jaiveer Yadav and Reshu Madan	73432-73437
308	Phytochemical Screening, <i>In vitro</i> Antioxidant, Antidiabetic, Anti-Inflammatory, Anti-Arthritic and Antibacterial Activities in the Leaf Extract of <i>Kedrostis foetidissima</i> (Jacq.)cogn. N.Karthiha and V.Nivya	73438-73448
309	The Lattice of Convex Sublattices of S(B_N× C_M) Aaswin J and Vethamanickam A	73449-73455
310	Mathematical Modeling of Avian Influenza Transmission Dynamics and its Stability Analysis: A Pandemic Awareness A. Joshua Cyril Yagan and D. Jasmine	73456-73465
311	A View on Separation Axioms via Neutrosophic Open Sets C. Reena and K. S. Yaamini	73466-73473
312	On Alpha Product of Hesitancy Fuzzy Graphs and Intuitionistic Hesitancy Fuzzy Graphs Sunil M P and J Suresh Kumar	73474-73478
313	Exploring Methodologies and Applications of Data Science Integration in Electrical and Electronics Engineering Ramya Hyacinth L., William Christopher I., Anitha Juliette A.	73479-73488
314	A pilot study on the use of Annona squamosa extract in the application of Wet Wipes Sujatha Raghu, Ilakkia Sivaji, Sivapriya.s	73489-73494
315	Rainfall Forecasting: A Harmonic Analysis Perspective R. Shanmugapriya, R. Shenbagavalli and Hemalatha N C	73495-73499
316	MAGDAM ROBLEM WITH NEUTROSOPHIC FUZZY SET R. Shenbagavalli, R. Shanmugapriya and M. Rajeswari	73500-73505

317	Demand Forecasting on Pharmacy Sales using Deep Learning Approach Roopesh Makwana and Vaishali Gupta	73506-73512
318	Density Functional Theory (DFT) and Time - Dependent DFT Investigations on the Geometric, Optical Properties and Molecular Descriptors of a Varied Array of Ureidopeptidomimetics (UPM) Y. Pavani, S. Aravind, M. Yanadirao, K. V. Padmavathi and M. Subba Rao	73513-73527
319	Role and Responsibilities of Teachers for Promoting Environmental Ethics among Students P.Pachaiyappan, Radhika Vidyasagar and B.Venkatarathanam	73528-73535
320	Can Physical Impairments Pose a Threat to Eradication of Poverty Owing to Culture of Poverty? Tamilarasu Sampath, N R.Suresh Babu, Indhira priyadharshini M, Chandramathi Ramaswamy and Sigamani Panneer	73536-73543
321	Split Domination Number of Some Generalized Graph's Line Graph Shaikh Jamir and Pranjali Kekre	73544-73552
322	Fixed Point Theorems for General Contractive Conditions of Integral Type in CompleteS-Metric Spaces Surabhi Bhatt , Rashmi Tiwari and Kamal Wadhwa	73553-73560
323	On (1,2)^*-g "Continuous Function in Intuitionistic Fuzzy Bitopological Space S. Mukesh Parkavi and A. Arivu Chelvam	73561-73566
324	Minimization of Complete Awaiting Duration of Tasks in Multi-Stage Flow Shop Scheduling Deepak Gupta and Malvika Sharma	73567-73573
325	Application-Specific Efficiently Approximated Adders and Multipliers Design and Its Metrics Evaluation Yogeswari .P, Ishwarya.S, Kathirvelu.M and Arul.A	73574-73581
326	The Impact of Smartphone use on Social Relationships among Young People Bijoy Das, Anupam Chanda and Rituparna Roy	73582-73587
327	GC-MS Based Phytoconstituents Profiling of Ethanolic Extracts of Leaves, Callus, Root and Stem of <i>Anisomeles malabarica</i> Bhuvaneshwari R and R. Anandhan	73588-73595
328	A Review of Technologies and Challenges Over Wind Power in the Context of Renewable Energy Sources Ayyappan.P, Abirami P, Kiruthika A V and Rajeswari B	73596-73600
329	Synthesis and Biological Evaluation of Some Novel 1, 3, 5-Triaryl-2-Pyrazolines Derivatives J. Subbarao, S. Ravi Chandra and Venkata Rao	73601-73609
330	A Markovian Queue with Second Optional Working Vacation K.Santhi and T.Senthamizhselvi	73610-73616
331	A Study of <i>In- vitro</i> Regeneration of Traditional Medicinal Rice, Njavara (Navara) S.V.Bakiya Lakshmi and R. Kalaivani	73617-73623
332	Passive Heat Withdrawal from a Concrete Roof: An Eco-Friendly Approach of Space Cooling S.V.Prayagi, Prasad.A.Hatwalne, A.P.Kedar, Prashant D. Kamble and Vikrant Pradip Katekar	73624-73630

333	A Hydrogeo Chemical Approach to Study the Seasonal Variation of Groundwater Samples of Hunsur Taluk, Mysuru, Karnataka, India Noushin Afshan, D.Nagaraju, Pradeep Raju .N and Sudeep .S.R.	73631-73643
334	Monophonic Cover Pebbling Number (MCPN) of Middle Graph of Standard Graphs A. Lourdusamy, S. Kither iammal and I. Dhivviyanandam	73644-73650
335	Edge Double Italian Domination of Graphs Jyothi V and J. Suresh Kumar	73651-73655
336	Predictive Analytics on Intrusion Detection in Internet of Things Sunil Raj Y	73656-73663
337	Detour t-Pebbling Number of Star Related Graphs A.Lourdusamy, F. Joy Beaula And F. Patrick	73664-73667
338	Aggregate Edge Degree of Some Hesitancy Fuzzy Graphs Parvathy Haridas and Shery Fernandez	73668-73674
339	Novel Similarity Measure between Picture Fuzzy Sets and its Applications in Clustering Analysis Rozy, Gurdas Ram and Satish kumar	736175-73683
340	A Critical Analysis of the Attributes of Images Embedded in the Designed E-Content from the Learner's Perspective Seema Rani Thappa and J.N. Baliya	73684-73693
341	Impatient Customers in a Markovian Queue with Multiple Working Vacation, Setup Time and Server Breakdown K. Sethu Raman, A.Ashok and P. Manoharan	73694-73701
342	On Solving Simultaneous Diophantine Equations $m +- S = u^2$, $(m/d) -+ S = v^2$ for the Analysis of Algebraic Patterns of Numbers A. Hari Ganesh and K. Mahalakshmi	73702-73714
343	Phytochemical Screening and Antioxidant Activity of Methanolic Leaf Extract <i>Sphaeranthus indicus</i> Packianathan Jeganathan and Kannaiyan Pugazhendy	73715-73721
344	A Study on Brand Loyalty among Youth towards Private Label Brands T.Kalakumari	73722-73727
345	The Stability of an Intuitionistic Fuzzy 2-Normed Space Generalized Cubic Functional Equation G. Mayelvaganan and R. Shenbagavalli	73728-73739

Editorial...



The United Nations has declared this year as the International Year of Camelids 2024. Camels are generally adapted to dry deserts with low rainfall. The ancestral species of the

camel appeared in North America about 45 million years ago. Then they migrated southwards. Today, camels have evolved into a specialized animal that survives in extreme heat and water scarcity in the widespread deserts. Indigenous peoples and local communities living in more than 90 countries around the world depend on camels for their livelihood. Camels include alpacas, bactrians, dromedaries, guanacos, llamas and vicunas. Camels play an important role in food security, nutrition and economic development. Camels provide strong cultural and social significance to various communities in the world. In particular, from providing milk, meat products and fiber to transporting organic fertilizers, camels are capable of living in places where other livestock species cannot.

Camels play an important role in advancing the Sustainable Development Goals (SDGs) related to the eradication of extreme poverty, the fight against hunger, the empowerment of women and the sustainable use of terrestrial ecosystems. Camels play an essential role in the culture, economy, food security and livelihoods of communities in arid and semi-arid lands, including indigenous peoples in Asia and Africa. There are nine registered dromedary camel species in India. In the challenging desert ecosystems of states like Rajasthan and Gujarat, camels are lifelines for communities like Raika/Rabari. The International Camel Festival in Bikaner, Pushkar Mela, Ran Utsav in Kutch and related arts showcase the enduring cultural heritage of camels. Camel-based tourism activities provide many economic benefits to people.

The International Year of Camelids 2024 provides a unique opportunity to raise awareness about the role of camels in combating climate change. The year also aims to call for investment in research, capacity building, and the use of innovative practices and technologies in sectors where camels contribute. Awareness workshops, training camps, exhibitions, seminars, publication of pamphlets, formulation of policy documents, marketing of camel food products and other resources can be implemented to celebrate International Year of Camelids. We are delighted to participate in this special awareness program through our research journal. Let's celebrate and protect camels, an animal that completely dedicates itself to the welfare of Human kind.

Editor, IJONS

Cover page image: Camel in Desert / Credit: © Denys Gromov & FAO