

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	 OPEN ACCESS
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 Address	No 46-141, Meenakshipuram Rd, Near Post Office, 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 (Advisory / Peer Review)

Editor-in-Chief	
Dr.S.Vijikumar Director, TamilNadu Scientific Research Organisation Pudukkottai-622003, Tamil Nadu. India.	
Editorial Committee Members (Advisory / Peer Review)	
	Specialization
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 Mail: c.anandharamakrishnan@gmail.com Mobile: +91-97509 68404	Chemical Engineering
Dr.NEELESH SHARMA Professor & Head, Visiting Professor (South Korea and Brazil), ICAR-International Fellow, NAAS Associate, Veterinary Sciences & Animal Husbandry, SKUAST-J, R.S. Pura, Jammu, UT of Jammu & Kashmir-181 102, India. Email: drneeshsharma@gmail.com Mobile: +91-94192 48061	Veterinary Sciences & Animal Husbandry,
Dr.M.KRISHNAN Vice Chancellor, Central University of Tamil Nadu, Thiruvarur, Tamil Nadu. India. Mob: 9443998251, Mail: vc@cutn.ac.in	Biotechnology
Dr. B. VASEEHARAN Professor and Head, Department of Animal Health and Management, Alagappa University, Karaikudi – 630003 Tamil Nadu, India Mail : vaseeharanb@alagappauniversity.ac.in Mobile : +91 9894720893	Animal Health
Dr.PRAKASH.M Professor, Department of Genetics and Plant Breeding, Faculty of Agriculture, Annamalai University, Annamalai nagar- 608002.Cuddalore District. Mail: geeth_prakash@yahoo.co.in Mobile: 9443405026	Genetics and Plant Breeding
Dr.G.RAMA RAO Registrar, ANGR Agricultural University, Guntur, Andhra Pradesh, India Email ID: rrgutha@yahoo.com Mobile: 0863-2347101	Crop Physiology

<p>Dr.C.BALUSAMI Assistant Professor, Department of Livestock Production and Management, College of Veterinary and Animal Sciences, Pookode-673576.Kerala, India.</p>	Veterinary and Animal Sciences
<p>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. E.mail :Ravi@aakash.green Mobile: +91 96004 86256.</p>	Tissue Culture & Hydroponics
<p>Dr.M.RAMESH Professor, Department of Biotechnology, Alagappa University, Karaikudi-630003,Sivagangai Dt, TamilNadu, India. Mail : rameshm@alagappauniversity.ac.in Mobile : +91 9442318200 +91 7904270252</p>	Biotechnology
<p>Dr.S.YAMINI SUDHA LAKSHMI Assistant Professor, Department of Medical Biochemistry, University of Madras,Taramani Campus, Chennai-600113,TamilNadu,India. Mail: sudha.yasula2000@gmail.com Mobile: 9444153155</p>	Medical Biochemistry
<p>Dr. R. SIVARAMAN Associate Professor, Department of Mathematics, Dwaraka Doss Goverdhan Doss Vaishnav College Arumpakkam, Chennai, Tamil Nadu, India Mail: rsivaraman1729@yahoo.co.in Mobile:7845014341</p>	Mathematics
<p>Dr.C.THAMARASELVI Assistant Professor, Department of Biotechnology Mother Teresa Women's University Kodaikanal-624101,TamilNadu,India. Mail: thamaraibiotechnology@gmail.com Mob: +8903403375</p>	Biotechnology
<p>Dr.M.BIRUNTHA Assistant Professor, Department of Animal Health and Management, Alagappa University, Karaikudi, TamilNadu,India Mail: biruntha6675@gmail.com Mobile: 9487588765</p>	Zoology
<p>Dr. KOMALAVALLI NARAYANASWAMY Associate Professor and Head, PG and Research Department of Botany, Alagappa College of Arts & Science, Karaikudi, Tamil Nadu, India. Mail:nkomalavalli@gmail.com, Mob: +91 94425 16227</p>	Botany
<p>Dr. K.GURUNATHAN Professor & Head, Department of Nano science & Technology, Alagappa University, Karaikudi, TamilNadu, India. Mail: gurukar50@gmail.com Mob: +91 9487412949</p>	Nano Science & Technology

<p>Dr. H. SYED JAHANGIR, Associate Professor, Department of Botany, Jamal Mohamed College (Autonomous) Tiruchirappalli- 620 020 Tamil Nadu, India Email: syedsanu@yahoo.co.in Mob: 91 94438 17623</p>	Botany, Microbiology
<p>Dr. SUJATHA ILANGO VAN, Assistant Professor and Head, PG & Research Department of Zoology Holy Cross College (Autonomous) Tiruchirappalli- 620002, Tamil Nadu, India Mail: sujaram03@yahoo.com Mobile No:-87603 50460, 86670 30469</p>	Zoology
<p>Dr. K. KUMARASWAMY Emeritus Professor, ICSSR-Senior Fellow Department of Geography, School of Earth Sciences Bharathidasan University Tiruchirappalli - 620 024, TN, INDIA Mail: kkumargeo@gmail.com, editorigs1926@gmail.com Mob : 91 9442157347 ; Office : 0431 2407079</p>	Geography
<p>Dr. S. BALASUBRAMANIAN Assistant Professor, Department of Mathematics, Government Arts College (A), Karur – 639 005, Tamil Nadu, India, Mail: mani5568215@gmail.com Mobile: 9788430724; (0)9440249972</p>	Mathematics
<p>Prof. K.RAMANATHAN Assistant Professor, Department of Microbiology, Maruthupandiyar College, Thanjavur, TamilNadu, India. Mob: +91 81100 27313, Mail: ramanathanbio@gmail.com</p>	Bioinformatics
<p>Dr.SUBBIAH POOPATHI Scientist-G/ Director Grade ICMR-Vector control Research Centre, Medical complex, Indira Nagar,Pondicherry-605006,India Contact: +91-9443957479, Email: Subbiahpoopathi@rediffmail.com</p>	Medical Entomology, Molecular Biology and Biotechnology
<p>Dr.P.GOVINDARAJ Head & Associate Professor in Chemistry Department of Chemistry, SBK College, Aruppukottai - 626 101, TamilNadu, India Mob: 9487264394, Mail : govindsbk@gmail.com govindchem@sbkcollegeapk.in</p>	Chemistry
<p>Dr.SINDHU. K Assistant Professor, Department of Veterinary Pharmacology and Toxicology , Veterinary College, Gadag – 582101, Karnataka, India. Mobile : 9148130207, Email : drsindhu.vet@gmail.com</p>	Veterinary Pharmacology and Toxicology
<p>Dr. S. UMAMAHESWARI Assistant Professor, Department of Environmental Biotechnology, School of Environmental Sciences Bharathidasan University, Tiruchirappalli – 620 024, Tamil Nadu, India Mobile: +91 -9487254294 M-mail: umamaheswari@bdu.ac.in</p>	Environmental Biotechnology

<p>Dr. P. SANTHANAM Associate Professor, Department of Marine Science, School of Marine Sciences, Bharathidasan University, Tiruchirappalli, Tamil Nadu. India Mobile : +91 9894223482 E-mail: santhanam@bdu.ac.in</p>	Marine Science,
<p>Dr. S. JAYACHANDRAN Professor & Head, Dept. of Oral Medicine and Radiology, Tamil Nadu Govt. Dental College and Hospital, Chennai -600003, Tamil Nadu, India. Mobile No: 94441 85662. Email : drsjayachandranmds@yahoo.com</p>	Oral Medicine and Radiology,
<p>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. Mob: 8870638155 Mail : vmagri@rediffmail.com</p>	Plant Pathology
<p>Dr. RINA POONIA Associate Professor & Head, Department of Physical Education , Sports and Yoga, Faculty of Arts & Law, Manipal University, Jaipur, India email: rina.poonia@jaipur.manipal.edu Mobile: 8560097932</p>	Physical Education , Sports and Yoga
<p>Dr. M. LEKESHMANASWAMY Associate Professor, Head and Principal, PG and Research Department of Zoology, Kongunadu Arts and Science College G.N. mills (PO), Coimbatore-641 029, TamilNadu, India.</p>	Zoology
<p>Dr. N. BALAKRISHNAN Professor (Agrl. Entomology), Directorate of Research, Tamil Nadu Agricultural University, Lawley Road, Coimbatore, Tamil Nadu, India - 641003. Mail: balakrishnan.n@tnau.ac.in Mob: 8778947536</p>	Agrl. Entomology
<p>Dr. H. E. SYED MOHAMED Assistant Professor, P.G. Department of Zoology, Jamal Mohamed College (Autonomous), Tiruchirappalli – 620 020, Tamilnadu, India E.mail : syedmdjmc@gmail.com Mobile : +91 97901 12105</p>	Radiation Ecology & Thermal Ecology
<p>Dr.N.RAMAN Head and Associate Professor of Chemistry, VHNSN College (Autonomous), Virudhunagar-626 001, Tamil Nadu, India. Mob: 9245165958, Mail: raman@vhnsnc.edu.in</p>	Bio-Inorganic Chemistry
<p>Dr.A.DINAKARA RAO Professor, Center for Bioinformatics, School of Life Sciences, Pondicherry University, Puducherry, India Mob: +91-413-2654946 Mail: ampasaladr@bicpu.edu.in</p>	Bioinformatics

<p>Dr.K.SIVAKUMAR Professor, Department of Botany, Annamalai University, Annamalai Nagar, TamilNadu, India Mob: 9894801529, Mail: kshivam69@gmail.com</p>	<p>Water Algae, Taxonomy, Ecology and Biochemistry of Marine Macro Algae."(Seaweeds)</p>
<p>Dr.A.KALYANA SUNDARAM Associate Professor(Entomology), Tamil Nadu Agricultural University, Lawley Road Coimbatore, Tamil Nadu, - 641003.</p>	<p>Agri. Entomology</p>
<p>Dr.S.SENTHIL MURUGAN Associate Professor, Department of Animal Nutrition, College of Veterinary and Animal Sciences, Pookode, Wayanad, Kerala, India Mobile: - 9446233030 Email: - senthil@kvasu.ac.in</p>	<p>Animal Nutrition</p>
<p>Dr.V.VIOLET DHAYABARAN Associate Professor, Department of Chemistry, Bishop Heber College (Autonomous), Puthur, Tiruchirappalli, Tamil Nadu, India. E-mail : violetdhaya@gmail.com Mob : 9994291637</p>	<p>Chemistry</p>
<p>Dr.ANANTH NAG B Lecturer, Department of Environmental Science, Kuvempu University,Shivamogga, Karnataka, India. Mob: 9742617839 E-Mail: ananth_acc@rediffmail.com</p>	<p>Environmental Science</p>
<p>Dr.G. RUBALAKSHMI Scientist & Director, GRD Bio Research Centre #3/41, Nanbargal Nagar, Muthukalipatty, Rasipuram TK, Namakkal DT- 37401 Tamil Nadu ,India. Mob: 09994953165 E-mail:rubalakshmig@yahoo.com</p>	<p>Biotechnology</p>
<p>Dr. S. EZHIL VENDAN Scientist, Food Protectants & Infestation Control Dept., CSIR-Central Food Technological Research Institute, Mysore – 570 020, Karnataka, Mobile: 9591714567 Mail: ezilvendan@cftri.res.in / geneezil@yahoo.co.in</p>	<p>Entomology</p>
<p>Dr.T.SHANMUGASUNDARAM Research Associate (Horticulture), Department of Vegetable Crops, Horticultural College and Research Institute, Tamil Nadu Agricultural University, Coimbatore-641 003, Tamil Nadu, India. Mob: 8903694612 Mail: drshanhort@gmail.com</p>	<p>Fruits, Vegetable Science and Hydroponics</p>
<p>Dr.C.KATHIRVELAN Assistant Professor, Department of Animal Nutrition Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Namakkal -637002. Tamil Nadu, India. Mob: +91-91762 17887 Mail: kadhirc@gmail.com</p>	<p>Animal Nutrition</p>

<p>Dr. JOHN ABRAHAM Professor, Livestock Production & Management College of Veterinary and Animal Sciences, Pookode, Wayanad. 673576, Kerala, India. Mob: - 9447617194 E.mail: john@kvasu.ac.in</p>	<p>Livestock Production & Management</p>
<p>Dr.P.KAVITHA Assistant Professor, Department of Zoology and Biotechnology, AVVM Sri Pushpam College (Autonomous), Poondi,Thanjavur, TamilNadu, India. Mob: 9443451776 Mail: rameshkavi.dharaka@gmail.com</p>	<p>Zoology and Biotechnology</p>
<p>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 Mobile- +91 9884304202 Mail: gopalmuthukrishnan@gmail.com</p>	<p>Microbiology</p>
<p>Dr.RANJITH.D Assistant Professor, Department of Veterinary Pharmacology and Toxicology, College of Veterinary and Animal Sciences, Pookode, Wayanad – 673576. Kerala, India Mail: ranjithd@kvasu.ac.in</p>	<p>Veterinary Pharmacology and Toxicology</p>
<p>Dr. AJAY ANIL GURJAR Professor & Dean Academics, Sipna College of Engineering & Technology, Amravati(M.S)- 444606,India. Mail: prof_gurjar1928@rediffmail.com</p>	<p>-Electronics & Telecommunication Engineering</p>
<p>Dr.N.MAHESH Sr.Assistant Professor, Department of Chemistry & Biosciences, SASTRA University Srinivasa Ramanujan Centre, Kumbakonam,Thanjavur Dist, Tamil nadu, India Mail: magi.mbbt.src.sastra.edu</p>	<p>Chemistry & Biosciences</p>
<p>Dr. SUMIT KUMAR GUPTA Dean of Science, Department of Physics, Parishkar College of Global Excellence , Jaipur, Rajasthan, India</p>	<p>Physics</p>
<p>Dr.M.N.HARISHA Guest Lecturer, Department of Wildlife and Management, Kuvempu University, Jnanasahyadri, Shankaraghatta - 577451. Shimoga, Karnataka, India Mob: 9986143991 E.Mail: harishwild@gmail.com</p>	<p>Wildlife Management,</p>
<p>Dr.P.JEYASEELAN Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, Annamalai Nagar – 608 002, Cuddalore, Tamil Nadu, India Mob: 9894870355 Mail : jeyachris@rediffmail.com</p>	<p>Agricultural Extension</p>

<p>Dr. ARUNACHALAM MUTHURAMAN Associate Professor, Faculty Coordinator AIMST University, 08100 Bedong, Kedah, Malaysia. Mob: +60 - 0174509806 Mail: muthuraman.a@aimst.edu.my</p>	Pharmacology, Toxicology, and Basic Health Sciences
<p>Dr.Y.V. KRISHNA REDDY Asst.Professor, Department of Agricultural Engineering, Aditya Engineering College, Surampalem- 533437, East –Godavari, Andhra Pradesh, India Mob: 8978157071 Mail: krishnareddy029@gmail.com</p>	Water System Technolog
<p>Dr. PUSHPA S MURTHY Senior Principal scientist & Head Department of Plantation Products, Spices and Flavour Technology, Professor, Academy of Scientific and Innovative Research, CSIR-Central Food Technological Research Institute, Mysuru-570020,Karnataka,India Mob: 91-821-2514990 , E-mail: pushpa@cftri.res.in</p>	Biotechnology
<p>Dr.MATHEWS PLAMOOTTIL Principal, EKNM Government College Elerithattu Elerithattu P.O. Nileshwar Via. Kasaragod Dist. Kerala - 671314 mail: mathewsplamoottil@gmail.com Mob: 9447059690</p>	Zoology
<p>Dr.N.VIJAYAKUMAR Assistant Professor, Dept.of Biochemistry & Biotechnology, Annamalai University, Annamalai Nagar -608 002, Tamil Nadu, India. Mob: 9842574258, Mail: nvkbiochem@yahoo.co.in</p>	Biochemistry & Biotechnology
<p>Dr. E.EMIMAL VICTORIA Assistant Professor, Department of Zoology Sri Meenakshi Govt. Arts College for Women, Madurai, TamilNadu, India</p>	Zoology
<p>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. Mail: kansbiotech@gmail.com</p>	Zoology
<p>Dr.A.RADHA Assistant Professor, Department of Zoology Kunthavai Naacchiyar Govt Arts College for Women, Thanjavur-7, Tamil Nadu, India. Mobile : 8825858679 Mail: radhanov1969@gmail.com</p>	Zoology
<p>Dr.B.KALEESWARAN Assistant Professor, Dept. of Zoology & Biotechnology, A.V.V.M.Sri Pushpam College, Poondi, Thanjavur, TamilNadu, India. Mob: 9894542489 Mzookaleesh@gmail.com</p>	Zoology and Biotechnology

<p>Dr.K.NAGARAJAN Associate Professor & Head PG & Research Department of Zoology, VHN Senthikumara Nadar College (Autonomous) Virudhunagar TamilNadu, India. Mob: 9486746215 Mail: gurunagan@gmail.com</p>	Zoology
<p>Dr.S.LINGATHURAI Assistant Professor, Department of Zoology and Research Centre, at Aditanar College of Arts & Science, Virapandianpattinam, Tiruchendur - 628 216 Thoothukudi District Mob: 986576062 Mail: lings02@gmail.com</p>	Zoology
<p>Dr.D.SIVARAMAN Scientist-C, Department of Pharmacology, Sathyabama University, Jeppiaar Nagar, Rajiv Gandhi road, Chennai- 600 119. TamilNadu, India. Mob: 9841575334 Mail: sivaramand83@gmail.com</p>	Pharmacology
<p>Dr.S.V.SAI PRASAD Principal Scientist & Head ICAR-IARI, Regional Station, Near Agriculture College, Indore – 452 001, Madhya Pradesh, India Mail: sprasad98@gmail.com Mob: 9425957920</p>	Genetics
<p>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 Mob: (+91)- 9400128781 Mail: subuchem@gmail.com</p>	Material Science
<p>Dr.Ga.BAKAVATHIAPPAN Associate Professor & HOD Department of Zoology SBK College, Aruppukottai - 626 101, TamilNadu, India Mob: 94876 13732 E.Mail: ga.bakavathiappan@gmail.com</p>	Zoology
<p>Dr.OMKAR PRASAD BAIDYA Assistant Professor, ESI-PGIMSR and ESIC Medical College, Joka, Kolkata, West Bengal, India Mail: omkarprasadbaidya@gmail.com</p>	

<p>Dr. HORNE IONA AVERAL IQAC Coordinator, Associate Professor PG Research Department of Zoology, Holy Cross College (Autonomous), Trichy, Tamil Nadu, India. Mobile: 9443644858, E.Mail: profionahorne@gmail.com</p>	Zoology
<p>Dr. S. SUGANYA KANNA Professor & Head (Agrl. Entomology) Department of Plant Protection Technology, Horticultural College and Research Institute, Periyakulam-625 604, Tamil Nadu, India. Phone: 9486257636 , Email: muthiah2007@yahoo.co.in</p>	Agrl. Entomology
<p>Dr.K.SARAVANAN Assistant Professor , PG & Research Dept. of Zoology, Nehru Memorial College (Autonomous), Puthanampatti, Tiruchirappalli, TamilNadu,India, Mob: 9360313909 EMail: kaliyaperumalsaravanan72@gmail.com</p>	Zoology
<p>Dr.S.SASIKALA Head & Associate Professor, Department of Computer Applications, Hindusthan College of Arts and Science, Coimbatore - 641 028, Tamilnadu, India. Mail: iamsasikalamohit@gmail.com Mob: +0-91-9942333764</p>	Computer Science
<p>Dr. (Mrs.) MANIGOPA CHAKRABORTY Chief Scientist-cum-University Professor Maize Research Project (A.I.C.R.P.) Dept. of Plant Breeding and Genetics & Head, Dept. of Statistics & Computer Application Birsa Agricultural University, Kanke, Ranchi Jharkhand – 834006, Mob: +91-98357-66845 (M) Mail: drmanigopa@gmail.com</p>	Genetics & Plant Breeding
<p>Dr.ARVIND PRASAD DWIVEDI Lecturer, Department of Biochemistry, Govt. Sanjay Gandhi Smriti College, Sidhi, Madhya Pradesh, India. Mob: 7869822746, Mail: adarvindchitrakoot@gmail.com</p>	Biochemistry
<p>Dr.A.SUGANYA Associate Professor (SS&AC), Soil Science & Agricultural Chemistry Department of Agricultural Science, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India. Mob: 9442319028, Mail: suganssac2010@tnau.ac.in</p>	Soil Science & Agricultural Chemistry
<p>Dr.M.KARTHIKEYAN Assistant Professor (Plant Pathology) Department of Vegetable Crops ,HC&RI Tamil Nadu Agricultural University ,Coimbatore TamilNadu,India, Mob: 9788231129 Mail: karthikeyan.m@tnau.ac.in</p>	Plant Pathology

<p>Dr. VIJAYA BHASKARA REDDY.MUTHA Lecturer Faculty of Public Health, St Theresa International University, 1 Moo 6 Rangsit-Nakhon Nayok Road (Klong 14), Bungsan,Ongkharak – 26120 Nakhon Nayok, Thailand Mail: vijaybhaskar24@gmail.com</p>	Public Health Research Biotechnology
<p>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. Mail: thirumalkumar.d@gmail.com Mob: +91- 86562 95915</p>	Biotechnology, Bioinformatics, Computational Biology
<p>Dr. SAIKAT SEN Professor, Dean of Faculty, Faculty of Pharmaceutical Sciences, Assam down town University, Panikhaiti, Guwahati, Assam - 781026, India Mob: +91-8638603899/ +91-9678210021 Email: saikat.pharm@rediffmail.com</p>	Pharmacology
<p>Dr. P. CHANDRAMANI Professor and Head, (Agricultural Entomology), Department of Entomology, Agricultural College and Research Institute, Madurai Agriculture College Tamil Nadu Agricultural University Madurai., Tamil Nadu, India Mail: pcento12@gmail.com, Mob: 9789557307</p>	Agricultural Entomology
<p>Dr.S.PREMA Assistant Professor and Head Department of Computer Applications, Arulmigu arthanareeswarar arts and science college, Tiruchengode, Tamil Nadu, India Mail: premashanmuga11@gmail.com Mob: 9842979939</p>	Computer Science
<p>Dr. T.S.POORNAPPRIYA 12/29, Keela Kallukara Street, Eda Street, Tiruchirappalli – 620 001, Tamil Nadu, India. Mail: Poorna230priya@gmail.com Mob: 7010973534</p>	Computer Science
<p>Prof. G.GANESAN Professor, Department of Mathematics, Adikavi Nannaya University,Rajahmundry-533105, Andhra Pradesh, India, Mail: prof.ganesan@yahoo.com</p>	Mathematics
<p>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.</p>	Zoology.
<p>Dr. RAJASHEKHAR O, PATIL Assistant Professor, Department of Environmental Management, Sant Gadge Maharaj College of Commerce & Economics, Mumbai 400004, India</p>	Environmental Management

<p>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</p>	Soil Science and Agricultural Chemistry
<p>Dr.K.KANIMOZHI Assistant Professor, Department of Chemistry UCE – BIT Campus, Tiruchirappalli 620 024 Contact no: 9841004769 Mail. ID: kanirams47@gmail.com</p>	Chemistry
<p>Dr.J.NESARAJAN Assistant Professor, Department of Zoology, Bishop Heber College, Tiruchirappalli – 17, Tamil Nadu, India E-mail : nesarajan.zy@bhc.edu.in Phone : 9080986713</p>	Zoology
<p>Dr. S.JEGAN KARUPPIAH Assistant Professor, Department of Rural Development Science, Arul Anandar College, Karmathur - 625 514, Madurai. Tamil Nadu, India E.Mail: jegan@aactni.edu.in</p>	Rural Development Science
<p>Dr.S.MARAGATHAM Professor (SS&AC) , Soil Science & Agricultural Chemistry, Tamil Nadu Agricultural University, Tamil Nadu Agricultural University, Coimbatore - 641 003, Tamil Nadu, India. Mail: maragatham.s@tnau.ac.in Mob: 9843214101</p>	Soil Science & Agricultural Chemistry
<p>Dr.PRANTOSH K. PAUL Assistant Professor And Coordinator, Department of Computer & Information Science, Raiganj University, Raiganj, West Bengal-733 134, India.</p>	Computer Science
<p>Dr.R.RAJKUMAR Senior Scientist, Village Resource Centre M S Swaminathan Research Foundation Pudukkottai, TamilNadu, India. Mail: rajkumar@mssrf.res.in</p>	Agricultural Economics
<p>Dr.N.SHRUTHI Scientist Division of Animal Biochemistry, ICAR- IVRI, Izatnagar, Bareilly, Uttar Pradesh – 243 122. India. Mail: shruti.shruti@icar.gov.in</p>	Animal Biochemistry
<p>Dr. N. JEYAPANDIYAN, Assistant Professor, Department Agriculture, School of Agriculture and Biosciences Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu-641114 .Mail: jeyapandiyankarunya.edu; jp.agmet@gmail.com</p>	Agricultural Microbiology

<p>Dr. V. JANAHIRAMAN Assistant Professor (Agricultural Microbiology) Krishna College of Agriculture and Technology, Srirengapuram - 625532, Usilampatti, Madurai-Dt Affiliated by Tamil Nadu Agricultural University. Tamil Nadu, India. E.mail: greenramanhorti@gmail.com, Mobile: 91-9488362087</p>	Agricultural Microbiology
<p>Dr. R.MARY SUJA Director, Williams Research Centre, Nagarcoil – 1 Kanyakumari Dist, Tamil Nadu, India Mob: +91 87605 09942 Mail; rmsuja.83@gmail.com</p>	Botany
<p>Dr.S.ALAGUMANIAN Head & Assistant Professor, PG &Research Dept. of Botany, H.H. The Rajash’s Collage, Pudukkottai, Tamilnadu, India, Mobile No. 9788211945 E.Mail: salagumanian@yahoo.co.in</p>	Botany
<p>Dr.N.VASANTHAKUMAR Librarian, The American College, Madurai – 625 002, Tamilnadu, India Mob: 9486026488 Mail: nvasanth74@gmail.com</p>	Library and Information Science
<p>Dr.R.JAYAPANDI Assistant Professor, Department of Bio Chemistry, The American College, Madurai – 625 002, Tamilnadu, IndiaMobile : 8489030173 Email : jeyapandi@americancollege.edu.in</p>	Biochemistry-Zoology
<p>Dr.K.F.BHARATI Assistant Professor, Department of Computer Science and Engineering, JNTUA College of Engineering, Ananthapuramu - 515002, Andhra Pradesh, India. Mob: 9441377789 email id: kfbharathi@gmail.com</p>	Computer Science and Engineering
<p>Dr. VIKAS SHARMA Chief Scientist , Agronomy (Crop Production) Regional Agricultural Research Station SKUAST- JAMMU, Tandwal-Rajouri, Teh. And District Rajouri, State Jammu and Kashmir, India Mail: vsagron@gmail.com, Mob: 09419135427</p>	Agronomy
<p>Dr.E.SELVARAJAN Assistant Professor Department of Genetic Engineering School of Bioengineering SRM Institute of Science and Technology Kattankulathur-603203, Chennai,Tamilnadu, India, Mob: 9843430425 Mail: selvarae@srmist.edu.in</p>	Environmental Biotechnology
<p>Dr.R.PARIMALAN Scientist (Agri. Biotech) & Hon. Faculty (QAAFI, UQ), Division of Genomic Resources, ICAR-National Bureau of Plant, Genetic Resources, PUSA Campus, New Delhi-110012, Mail: parimalan.r@gmail.com Phone: 011-25802889</p>	Biotechnology

<p>Dr.P.SIVAKUMAR, Associate Professor (Biotechnology) Dr. M. S. Swaminathan Agricultural College and Research Institute, Tamil Nadu Agricultural University, Eachangkottai, Thanjavur, Tamil Nadu, India Mail: ponsivakumar@gmail.com, Mob: 9585871780</p>	<p>Biotechnology</p>
<p>Dr. M. PANDIYAN Professor (PBG), Genetics and Plant Breeding Dr. M. S. Swaminathan Agricultural College and Research Institute, Tamil Nadu Agricultural University, Eachangkottai, Thanjavur, Tamil Nadu, India Mail: mpandiyan8@yahoo.co.in Mob: 9865173633</p>	<p>Genetics and Plant Breeding</p>

INDIAN JOURNAL OF NATUREL SCIENCES (IJONS)
(BI-MONTHLY - PRINT)

POLICIES

OPEN ACCESS AND LICENSING

Indian Journal of Natural Sciences is loyal to open access for academic/research work. All the original articles and review papers published in this journal are free to access immediately from the date of publication. We don't charge any fees for any reader to download articles and reviews for their own scholarly use. The Indian Journal of Natural Sciences also operates under the Creative Commons Licence CCBY- NC-ND 3.0 (Creative Commons Attribution-Non Commercial - No Derivs 3.0 Unported). This allows for the reproduction of articles, free of charge, for non-commercial use only and with the appropriate citation information. All authors publishing with the IJONS accept these as the terms of publication.

The full terms of the CC BY-NC-ND licence are incorporated below and may also be accessed here: https://creativecommons.org/licenses/by-nc-nd/3.0/deed.en_US

ETHICS

Policies on Ethics, Conflict of Interest, Human and Animal Rights, and Informed Consent

Ethics

The publication of an article in a peer-reviewed journal is an essential building block in the development of a coherent and respected network of knowledge. It is a direct reflection of the quality of the work of the authors and the institutions that support them. Peer-reviewed articles support and embody the scientific method. It is therefore important to agree upon standards of expected ethical behaviour for all parties involved in the act of publishing: the author, the journal editor, the peer reviewer, the publisher and the society of society-owned or sponsored journals.

Conflict of Interest

Authors are required to disclose all sources of institutional, private and corporate financial support for their study. Donors of materials (for free or at a discount from current rates) should be named in the source of funding and their location (town, state/county, country) included. Other donors will be identified in the text. If no funding has been available other than that of the author's institution, this should be specified upon submission. Authors are also required to disclose any potential conflict of interest. These include financial interests (for example patent, ownership, stock ownership, consultancies, speaker's fee,) or provision of study materials by their manufacturer for free or at a discount from current rates. Author's conflict of interest (or information specifying the absence of conflicts of interest) and the sources of funding for the research will be published under a separate heading entitled "Conflict of Interest and Sources of Funding Statement". Any experiments involving animals must be demonstrated to be ethically acceptable and where relevant conform to national guidelines for animal usage in research.

Human and Animal Rights

Medicine, Radiology, Pathology and Surgery encourages authors submitting manuscripts reporting from a clinical trial to register the trials registries & bear a clinical trial registration number and name of the trial. Authors must state that the protocol for the research project has been approved by a suitably constituted Ethics Committee of the institution within which the work was undertaken and that it

conforms to the provisions of the Declaration of Helsinki. The Journal retains the right to reject any manuscript on the basis of unethical conduct of either human or animal studies. All investigations on human subjects must include a statement that the subject gave informed consent. Patient anonymity should be preserved. Photographs need to be cropped sufficiently to prevent human subjects being recognized or an eye bar should be used.

Reports of randomized clinical trials should present information on all major study elements, including the protocol, assignment of interventions (methods of randomization, concealment of allocation to treatment groups), and the method of masking (blinding), based on the CONSORT statement (Moher D, Schulz KF, Altman DG: The CONSORT Statement: Revised Recommendations for Improving the Quality of Reports of Parallel- Group Randomized Trials. Consent for Identifying Information if any identifying information is included in any part of the manuscript, you must obtain a written, informed consent from the patient and submit a copy of the document to the concerned Journal's Editorial Office.

PEER REVIEW (DOUBLE BLIND) POLICY

We are committed to prompt evaluation and publication of fully accepted papers in IJONS. To maintain a high-quality publication, all submissions undergo a rigorous review process. Characteristics of the peer review process are as follows:

- Simultaneous submissions of the same manuscript to different journals will not be tolerated.
- Manuscripts with contents outside the scope will not be considered for review.
- Papers will be refereed by at least 2 experts as suggested by the editorial board.
- In addition, Editor(s) will have the option of seeking additional reviews when needed.
Authors will be informed when Editor(s) decide further review is required.
- All publication decisions are made by the journal's Editor-in-Chief on the basis of the referees' reports.
Authors of papers that are not accepted are notified promptly.
- All submitted manuscripts are treated as confidential documents. We expect our Board of Reviewing Editor(s) and reviewers to treat manuscripts as confidential material as well.
- Editor(s) and reviewers involved in the review process should disclose conflicts of interest resulting from direct competitive, collaborative, or other relationships with any of the authors, and remove oneself from cases in which such conflicts preclude an objective evaluation. Privileged information or ideas that are obtained through peer review must not be used for competitive gain.
- Our peer review process is confidential and identities of reviewers cannot be revealed.

PUBLICATION ETHICS AND MALPRACTICE STATEMENT

Section A: Publication and authorship

All submitted papers are subject to strict peer-review process by at least two international reviewers that are experts in the area of the particular paper. Reviewers are being selected by Editor in Chief or the committee formed by Editor. Author also can propose reviewers for some journals and article types.

1. The factors that are taken into account in review are relevance, originality, readability, statistical validity and language.
2. The possible decisions include acceptance, minor revisions, major revision or rejection.

3. If authors are encouraged to revise and resubmit a submission, there is no guarantee that the revised submission will be accepted.
4. Rejected articles will not be re-reviewed.
5. The paper acceptance is constrained by such legal requirements as shall then be in force regarding libel, copyright infringement and plagiarism.
6. No research can be included in more than one publication, whether within the same journal or in another journal.

Section B: Authors' responsibilities

1. Authors must certify that their manuscript is their original work.
2. Authors must certify that the manuscript has not previously been published elsewhere, or even submitted and been in reviewed in another journal.
3. Authors must participate in the peer review process and follow the comments.
4. Authors are obliged to provide retractions or corrections of mistakes.
5. All Authors mentioned in the paper must have significantly contributed to the research.
6. Level of their contribution also must be defined in the "Authors' Contributions" section of the article.
7. Authors must state that all data in the paper are real and authentic.
8. Authors must notify the Editors of any conflicts of interest.
9. Authors must identify all sources used in the creation of their manuscript.
10. Authors must report any errors they discover in their published paper to the Editors.
11. Authors must not use irrelevant sources that may help other researches/journals.
12. Authors cannot withdraw their articles within the review process or after submission, or they must pay the penalty defined by the publisher.

Section C: Peer review/responsibility for the reviewers

1. Reviewers should keep all information regarding papers confidential and treat them as privileged information.
2. Reviews should be conducted objectively, with no personal criticism of the author. No self-knowledge of the author(s) must affect their comments and decision.
3. Reviewers should express their views clearly with supporting arguments in 500 to 1000 words.
4. Reviewers may identify relevant published work that has not been cited by the authors.
5. Reviewers should also call to the Editor in Chief's attention any substantial similarity or overlap between the manuscript under consideration and any other published paper of which they have personal knowledge.
6. Reviewers should not review manuscripts in which they have conflicts of interest
7. resulting from competitive, collaborative, or other relationships or connections with
8. any of the authors, companies, or institutions connected to the papers.

Section D: Editorial responsibilities

1. Editors (Associate Editors or Editor in Chief) have complete responsibility and authority to reject/accept an article.
2. Editors are responsible for the contents and overall quality of the publication.
3. Editors should always consider the needs of the authors and the readers when attempting to improve the publication.
4. Editors should guarantee the quality of the papers and the integrity of the academic record.
5. Editors should publish errata pages or make corrections when needed.
6. Editors should have a clear picture of a research's funding sources.
7. Editors should base their decisions solely on the papers' importance, originality, clarity and relevance to publication's scope.
8. Editors should not reverse their decisions nor overturn the ones of previous editors without serious reason.

9. Editors should preserve the anonymity of reviewers (in half blind peer review journals). Editors should ensure that all research material they publish conforms to international accepted ethical guidelines.
10. Editors should only accept a paper when reasonably certain.
11. Editors should act if they suspect misconduct, whether a paper is published or
12. unpublished, and make all reasonable attempts to persist in obtaining a resolution to the problem.
13. Editors should not reject papers based on suspicions; they should have proof of misconduct.
14. Editors should not allow any conflicts of interest between staff, authors, reviewers and board members.
15. Editors must not change their decision after submitting a decision (especially after reject or accept) unless they have a serious reason.

Section E: Publishing Ethics Issues

1. All editorial members, reviewers and authors must confirm and obey rules defined by COPE.
2. Corresponding author is the main owner of the article so she/he can withdraw the article when it is incomplete (before entering the review process or when a revision is asked for).
3. Authors cannot make major changes in the article after acceptance without a serious reason.
4. All editorial members and authors must will to publish any kind of corrections honestly and completely.
5. Any notes of plagiarism, fraudulent data or any other kinds of fraud must be reported completely to COPE.

ANTI-PLAGIARISM POLICY

Indian Journal of Natural Sciences (IJONS) regards plagiarism as a very serious offence. It is an illegal form of copying. Plagiarism is defined as the unacknowledged use of the work of others as if this were your own original work.

Examples of plagiarism

- Copying and pasting from the Internet and posting somewhere else without proper citation
- Putting your name on another person's essay or project
- Copying exact wording from another person's text
- Using another person's photo, diagram, tables, sounds, or ideas without proper Citation
- Presenting research in your own words without providing references
- Purchasing another person's text and using it as your own
- Presenting ideas in the same format and order as your research source

By submitting paper for publication to the journal, Author(s) certify that:

- I/We are fully aware that plagiarism is wrong
- I/We know that plagiarism is the use of another person's idea or published work and to pretend that it is one's own.
- I/ We declare that each contribution to your project from the work(s) of other peoples published works or unpublished sources have been acknowledged and source of information have been referenced.
- I/We certify that you are solely responsible for any incomplete reference that may remain in my/our work.

Anti-plagiarism declaration

I have read and understood the IJONS rules on plagiarism. I hereby declare that this piece of written work is the result of my own independent scholarly work, and that in all cases material from the work of others (in books, articles, essays, dissertations, and on the internet) is acknowledged, and quotations and

paraphrases are clearly indicated. No material other than that listed has been used. This written work has not previously or not yet been published.

Tips for Avoiding Plagiarism

- Learn the citation expectations for each course.
- When you take notes for a paper, be sure to cite sources so you don't get mixed up later.
- When you research online, be sure to find the original source of the information (Many Websites Plagiarize).
- If you are really worried, ask your prof. if you can submit a rough draft so she /he can check your citations.
- When in doubt, cite! It is better to have too many citations than few.

AI GENERATED CONTENT POLICY

Indian Journal of Natural Sciences (IJONS) has an exacting policy on AI generated content in research manuscripts. Authors are instructed to ensure that the research manuscript which would submit for the publication should be unique and innovative. The publishers and editors are not responsible for any abuse and it is clearly announced that authors are fully responsible for their manuscript.

Authors are insisted to disclose the use of artificial intelligence (AI) tools in the preparation of manuscript. It should not be in the form of AI generated and assisted text, images, tables, graphs, data interpretation and language modifications. Failure to disclose AI assisted content will be deemed a violation of research ethics and your manuscript will not be considered for publication. The Journal does not validate the usage of AI contents in the manuscript and if the AI content would be identified in the manuscript, the authors are sole responsibility. It is informed that the AI tool will not be accepted as an author and it is clearly stated that authorship must be given only to the human contributors. All authors in the manuscript are insisted to acknowledge their involvement in the preparation of manuscript. The corresponding author must ensure that no AI generated contents in the manuscript and it is not represented for human work.

It is clearly instructed that the publisher and editorial board are not responsible for AI generated content in submitted manuscripts. The full responsibility of the corresponding author is to ensure that AI generated content does not include in factual inaccuracies, Biases, Plagiarism and data manipulation. Authors are sole responsible for any errors or misinformation arising from AI assistance. Indian Journal of Natural Sciences will not accept AI errors and it will be considered as an ethical violations.

Immediate withdrawal

If the manuscript is detected to hold undisclosed or unethical AI generated content, it will be immediately removed from the journal website, without any reconsideration.

Author Suspension

The authors are strictly instructed that if the violation of AI content will be found in the manuscript and it would be barred from publishing in the journal for one year. During this period, they will not be permitted to submit any manuscripts.

Permanent Black listing of authors

Repeated violations will results in permanent blacklisting for the authors from submitting manuscripts to IJONS.

Indian Journal of Natural Sciences (IJONS)
(Bi- Monthly – Print)

Volume XVI (16)		DEC 2025
CODEN: IJONS (93) (2025)	ISSUE 93	ISSN: 0976 - 0997

S. No	CONTENTS	Page No.
156	A Study on the Role of Artificial Intelligence in Recruitment and Talent Acquisition P. K. Anjani	104856-104863
157	Autism Spectrum Disorder and Ayurvedic Management – A Case Study Siddhi Patil and Swapnil Raskar	104864-104874
158	Bioactive Metabolites: Unlocking Nature’s Therapeutic Potential through Advanced Extraction and Sustainable Innovation Jayita Das, Jiaul Ahmed Mazumder, Md Iqbal Husain, Rupajit Bhattacharjee, Subrata Das, Priyanka Majumder, Panchami Das, Paromita Dutta Choudhury and Bandana Das	104875-104888
159	A Vicennium (2001-2025) of Quorum Quenching by Higher Plants against Bacteria Introduction – A Review Jayanthi.J, Ahanya.T and Ragunathan.M.G	104889-104910
160	A Contingent Scrutiny on Management of Diabetes Mellitus K Lavanya Sai, and E. Rathna Sabapathi	104911-104920
161	Diagnosis of Chronic Diseases using a Triangular Fuzzy Relational Matrix Model Sarla Chouhan and Prasad Neve	104921-104930
162	Assessment Cardiovascular Risk in Patients with Type II Diabetes : A Prospective Observational Study Daniel Sundar Singh, Anand Pithadia and S. Lavanya	104931-104938
163	Hybrid Swarm Intelligence - based Energy - Efficient Routing Protocol for MANET’s using EBAT and Adaptive Sparrow Search Algorithm P.Sudarmani and K.Anandapadmanabhan	104939-104949
164	Inflammatory Bowel Disease: A Comprehensive Review of Conventional Therapies, Targeted Drug Delivery and Emerging Applications of Artificial Intelligence Nisha Shri Chengamaraju, Niharika Boyini, NVL Suvarchala Reddy V, M. Ganga Raju	104950-104960
165	I-DEEL Methodology : Resisting Educational Homogenization : A Culturally Rooted Framework for AI Integration Punitha Andrews	104961-104966
166	Leveraging AI based e-HRM for Environmental Sustainability: Evidence from IT companies in Bangalore. Priya. A, Shailashri. V. T and P. Radha	104967-104975
167	Optimization and Evaluation of Clopidogrel Bisulphate Effervescent Floating Drug Delivery System Fariya Fatima, Sandhya Bandaru, Fariya Begum and Balusu Haarika	104976-104985
168	Analysing Customer Preferences and Behavioural Trends towards Fintech-Enabled Investment Products: A Study on Commercial Banks in Bengaluru Aruna C.S and Suhashini A	104986-104994

169	Genz as a Revolution: Redesigning the organization culture and Traditional HRM Practices Salma Khanum	104995-105000
170	Comparative Efficacy of Short - Wave Diathermy Versus Interferential Therapy Combined with Stretching Exercises in Managing Piriformis Syndrome Among Young Adults Sarika Chauhan, C. Nageswari and B. Thillaiaswaran	105001-105006
171	The Study on the Impact of Green Marketing in Driving Sustainable and Eco-Friendly Practices in the Production Industry Nahila Viswamohan and Bhagya	105007-105010
172	Leadership Qualities and Styles: An Overview with a Focus on the Role of Effective Leadership in Organizational Growth Pradeep.PM. and Kavitha. L	105011-105021
173	Phytochemical Profiling and Basic Radical Analysis of <i>Musa acuminata</i> Flower Extract L.R. Lalin Mary and A. Jeena Pearl	105022-105028
174	Purification of Glucosidase Isolated from <i>Tamarindus indica</i> Seeds Shlini .P and K. R. Siddalinga Murthy	105029-105035
175	Quantifying Trust Calibration in Human–AI Decision Support Systems: An Empirical Study across Cultures. Rongali Yernaïdu and Dodda Rajesh	105036-105045
176	Balancing Motherhood and Aviation Careers - the Impact on Postpartum Transition on Female Employees Performance and Retention. Shifali.M	105046-105051
177	Comprehensive Overview of Implementing Time Series Forecasting using Python M. Malathi, A. Dinesh Kumar, B. Mohamed Harif and M. Vasuki	105052-105059
178	Clinical Efficacy of Traditional Ayurvedic Modalities in Apasmara: A Detailed Case Analysis Priyal Patel and Swapnil Raskar	105060-105066
179	AI Resume Screening and Hire Quality: A Multi-Firm Study of Tech Roles in Bangalore. S.Prasath and Bhuvaneshwari A	105067-105077
180	An Assessment on Determinants of Milk Production, Consumption, and Profitability: Evidence from Village Level Dairy Farming in Rural Tamil Nadu, India R. Kurinji Malar	105078-105089
181	Assessing Consumer Behaviour and Perception towards Green Marketing: An Analytical Study of Bengaluru Rural District Pavithra KJ and Naveen G	105090-105097
182	Role of Fintech in Financial Innovation of Payment Options: A Study on Commercial Banks Naveen Kumar K S and Saji George	105098-105104
183	Toothbrush Storage and Disinfection : A Cross - Sectional Study on Awareness and Behaviour in Central India Apurva Rahalkar, Amit Mani, Sumeet Mishra and Vandana Tripathi	105105-105109
184	Optimization of Single Cell Protein (SCP) using Different Fruit Peels by <i>Aspergillus niger</i> R. Mangalanayaki and R. Sineha	105110-105116

185	An Exploratory Study on Investor Awareness, Behavior, and Challenges in Sustainable Finance during the Green Transition in Karnataka Shwetha K Gowda and Kushini Prasad	105117-105126
186	Using Common AI Tools for Designing Sales Promotion Offers in Various Product Categories in Retail Stores: A Case Study with Reference to Tiruchirappalli District J. Mohan Raj and Bharath S	105127-105130
187	An Exploratory Study on the Adoption and Utilization of Financial Analytics among SMEs in Bengaluru Urban Manjula M and Bora Upendra Rao	105131-105137
188	Soft Robotics Sakshi Pote, Tejaswini Daund, Ganesh Shevalkar, Laxmikant Borse and Karuna Kadlag	105138-105150
189	FPGA based Design and Implementation of FBMC Spectrum Sensing Techniques for Cognitive Radio Systems Nileshkumar M. Bankar, Suhas H. Patel, Sandeep J. Rajput, Tejaskumar B. Sheth and Rajesh L. Zadfiya	105151-105159
190	Dimensions of Financial Literacy and Fintech Adoption: Evidence from Bengaluru's Banking Sector Mohan R and Annette Christinal	105160-105165
191	AI-Driven Cyber Threat Detection in Multi-Cloud Environments: Models and Performance Analysis Rachna Pandey and Chaithrashree .A	105166-105174
192	The Effect of Hybrid and Remote Work Environment on the Employee Engagement and Productivity Anjana AV	105175-105180
193	Analysis of Cognitive Radio Networks by Co-Operative Spectrum Sensing Technique Sharad Jain, Indra Kumar Shah, Amiteshwar Bhalavi, Angeeta Hirwe, Yogendra S. Dohare and Neha Singh Rathaur	105181-105197
194	Impact of Fintech Adoption on Customer Saving Behaviour: An Empirical Study on Commercial Banks in Bengaluru Amulya S and Saji George	105198-105205
195	The Impact of Emotional Intelligence on Team Collaboration and Productivity in Bengaluru's Tech Companies B. Imran Basha and A. Subangini Devi	105206-105214
196	Economic Analysis of Household Solar Energy Self-Consumption in Tiruchirappalli District of Tamil Nadu O. Noorul Fadil ^{1*} and R. Annadurai ²	105215-105220
197	The Role of Strategic HRM in Promoting Sustainable Employability: A Study of Healthcare Workers in Kollam District Bhagya Viswamohan	105221-105224
198	Analyzing the Impact of Digital Marketing Strategies on Consumer Purchase Intentions: An Analytical Study in Bengaluru Urban Nadiya P and Suma KG	105225-105234
199	Chlorpyrifos and its Residues in Surface Soil of Agricultural Fields and its Biodegradation Studies Sahana Nagarakere Chandranna, Shyni Daniel and Bharath .M	105235-105247

200	Microfinance in India: From Origins to Modern-Day Challenges and Growth AJayabal, Shailashri V T and N Thilagavathy	105248-105254
201	Corporate Social Responsibility as a Strategic Tool for Entrepreneurs: Roles, Responsibilities, and Impact on Society in India Pradeepp.P and Yashaswini B	105255-105264
202	Scientific Study of <i>Arka Kalpana viz-a-viz Gomutra Arka</i> K V. Anjali and V. Shreeshananda Sharma	105265-105271
203	Modernisation and Ecological Change: Redefining African Identities Vetriselvi G	105272-105281
204	Evaluating the Effectiveness of Influencer Marketing on Gen Z Purchase Behavior: A Study of Fashion and Lifestyle Brands Rakesh C	105282-105291
205	Financial Self-Efficacy among the Employees of Co-Operative Societies in Kottayam District, Kerala Haritha S Nair	105292-105299
206	Significance and Correlation of Sleep Disturbances and Dental Problems in Patients Reporting to the Dental Institution – Cross Sectional Questionnaire Study Deivanayagi M, Agatheeswaran T and Narmadha Chandran	105300-105307
207	A Study on Awareness of Pradhan Mantri Mudra Yojana (PMMY) among MSMEs in Ernakulam District, Kerala Krishna Veni	105308-105311
208	AI-Powered Credit Risk Assessment and Loan Valuation in Financial Institutions Sonia and Nikita Singh	105312-105320
209	Hybrid Deep Learning and Gradient Boosting Approach for Stock Market Prediction Hitesh Mourya and Sachin Patel	105321-105329
210	Impact of AI Tools on Student Learning and Productivity : A Quantitative Study Rashmi P C and Swathi K R	105330-105336
211	Nutritional Potential of Foxtail Millet : From Traditional Staple to Modern Superfood Mahak Singh, Vatsala Saharan and Deepshikha	105337-105347
212	Edge Computing for Smart Cities: A Review of Architectures and Security Issues Rafiya Kouser A and Shamina K S	105348-105356
213	HPTLC Profiling and Microbial Quality Assessment of Herbal Extracts : A Comparative Study on <i>Psoralea corylifolia</i> and <i>Nigella sativa</i> Rohit Agrahari, Gunosindhu Chakraborty, Janki Patel and Rakhi Mishra	105357-105369
214	Digital Literacy Skills among Library and Information Science Professionals in Academic Institutions of Tiruchirappalli S. Jasmine and M. Jacqueline Mary	105370-105378
215	Yoga and Pre-diabetes, the Compatibility Govindaraj Karthikeyan, Deepaknarayanan and Hari Prakash	105379-105383
216	Fermented Rice and Millet Beverages: Natural Remedies for Enhancing Gut Health S. Mohana and R. Arivuchudar	105384-105394

217	Green Synthesis of Zinc Oxide Nanoparticles using Plant Extracts of <i>Tinospora cordifolia</i> and <i>Moringa oleifera</i> and their Characterization and Antibacterial Activity against <i>Ralstonia solanacearum</i> Chaithra V and Suba G.A Manuel	105395-105405
218	ANN-Supported Complex Intuitionistic Fuzzy Weighted Geometric Aggregation for Advanced MAGDM S. Sumithra and P. John Robinson	105406-105415
219	Ayurvedic Approach for the Management of Red Eye with Exclusive <i>Viddha Karma</i> (Dry Needle Therapy) – A Case Report Manav Patel, Rekha Parmar and Darshika Takle	105416-105420
220	Exploration of Emotional Resilience and Coping Mechanisms in Shashi Deshpande's <i>That Long Silence</i> M. Saraswathy	105421-105426
221	Antibody Screening and HDFN Prevention along with Pregnancy and Transfusion Safety: A Comprehensive Review Akash Kumar, Umesh Kumar and Davendra Swarup	105427-105442
222	Deception Detection using Machine Learning Algorithms on Micro Expression Databases: A Survey A. Krishnaveni and S. Saudia	105443-105455
223	Organizational Climate with Teaching Effectiveness: Parallel Study among Secondary School Teachers Md Asadullah	105456-105463
224	Students' Confidence and Self-Efficacy in the Age of AI Dependency Harmeet Matharu, Mohammad Aziz Azimi ² and Sanjana Gurudutt Kamath	105464-105472
225	Therapeutic Evaluation of Ayurvedic Approach in <i>Dusta Vrana</i> : A Case Report Harsh. R. Patel and Parikshit Shirode	105473-105478
226	A Feed Forward Back Propagation ANN for Predictive Ranking in Linguistic Intuitionistic Fuzzy MAGDM Problems Harishree A and John Robinson P	105479-105488
227	Real Time Gas Leak and Fire Detection using IoT in Modern Kitchens Subhadip Nandi, Indranil Sarkar, Rajesh Bose and Sandip Roy	105489-105499
228	Case Report : An Integrative Approach in the Management of Autism Spectrum Disorder – A Clinical Observation Kshiti Parmar, Kavya Mohan and Ishita Swami	105500-105505
229	Improving Reading Habits of College Students in the Era of Artificial Intelligence : An Action Research Approach B. Kanchana Mala	105506-105509
230	Unmasking the Threat : A Comparative Study of Cryptojacking Blocking Tools Supriya Shivanand Sangle, Rahul Kailas Bharati and Shobha Kamalakar Bawiskar	105510-105519
231	Early Detection of Sepsis in ICU Patients using Hybrid Biostatistical and Deep Learning Models: Combining Cox Proportional Hazards with LSTM Networks for Survival Prediction N.Sriram, P.Arumugam and G.Manimannan	105520-105529
232	Detecting Fake News using Transformer - Based Embeddings and Machine Learning Classifiers Prashant Sharma and Sachin Patel	105530-105538

233	AI-Driven Inventory Management using Mathematical Modelling to Optimize Complex Logistical Networks S. Arockia Raj	105539-105543
234	A Deep Learning based Binary Classification Approach for Text Identification in Video Frames M. Saravanakumar, S.Kannan and M.Ramasamy	105544-105555
235	An Effectual Intrusion Identification System in Wireless Network K. Sivasakthi	105556-105561
236	Assessment of Academic Achievement of Children with Special Needs by using Universal Design for Learning Dipika Choudhary and Deepak Raghav	105562-105566
237	Effect of Selective Bilateral Movements on Attention among School Students Vikraman .G and Nikhil Steven .D	105567-105574
238	A Study on Vague Weak Wajsberg Implicative Ideals of Lattice Wajsberg Algebras A. Ibrahim and Mohamed Rajik. M	105575-105582
239	The Triple Challenge : Climate Change, Plastic Pollution and the Future of Sports N. Madhavan, Vinod Jacob and Anilkumar N	105583-105589
240	A Case Study on Ayurvedic Management of Shwitra w.s.r to Vitiligo by Local Application of Balivellyadi Ointment Rupendra Arya, Ishita Swami and Swapnil C. Raskar	105590-105597
241	Effectiveness of <i>Attaividal</i> (Leech Application) in the Management of <i>Kuthikaal Vatham</i> (Retrocalcaneal Bursitis) - A Case Report M. Lavanya, R. Menaka, N. A. Adlin Nivetha, S. Sanjana, R. Keerthika, D. Periyasami and M. V. Mahadevan	105598-105603
242	A Novel Multifunctional Cutting Board Developed for Effective Scale Model Building Rene A. Nala	105604-105609
243	Interdisciplinary Insights into Environmental Sustainability and Financial Resilience: A Meta - Analytical Review of Green Practices within Corporate ESG Frameworks Prasy V K and N.Shanthamani	105610-105621
244	A Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge, Attitude, and Utilization Regarding Artificial Intelligence Technology in Education among Nursing Faculty at Kheda- Anand District Kamali Patel and Kailash Nagar	105622-105632
245	Enhancing Hydroxyapatite Formation in SBF : Ultrasound and Non-Ionic Surfactant Synergy E. Sathya and V. Collins Arun Prakash	105633-105640
246	Exploring Quality of Work Life among Employees in the Private Healthcare Sector at Tiruchirappalli Aldrin J	105641-105647
247	Laminarin : A Marine Polysaccharide with Multifaceted Pharmacological Properties Navenaa Sri G P and Mirunalini S ²	105648-105658
248	C - Exponential Mean Labeling of Quadrilateral Related Graphs R.Gopi and M.Kannan	105659-105667

249	Detour Dominating Sets and Detour Domination Polynomial of Graphs N. Giftlin Kiruba and Y. Therese Sunitha Mary	105668-105674
250	Effectiveness of Myofascial Trigger Point Manual Therapy with Self Stretching Versus Myofascial Release with Self Stretching on Plantar Heel Pain Rashmi Hirani, Siddharth Joshi and Gaurav J. Patel	105675-105683
251	Documentation of Formulations for the Management of <i>Powthiram</i> (Fistula-in-Ano) Mentioned in Siddha Literature V. Bharathi, H. Nalini Sofia and H. Vetha Merlin Kumari	105684-105694
252	Geometric Mean- Labelling of Graphs in the Context of <i>m</i> -Shadow Graphs and Its Application Sherin F and F. Nirmala Irudayam	105695-105700
253	Hybrid Time Series Forecasting using Sample Entropy and Extreme Learning Machine Mukeshkumar T. Joshi, Vipul R. Shah and Krupal S. Parikh	105701-105706
254	A Study on Profile of Acute Pancreatitis with Evaluation of Bedside Index for Severity in Acute Pancreatitis and Glasgow Scoring System in Predicting Severity and Outcomes Gandamala Jhansi Rani, Addula Meenakshi, Aliyangattuvageri Rajeez, Tadikonda Ramarao and Ramya Balaprabha	105707-105717
255	Pentapartitioned Neutrosophic Digital Continuous Maps and Connected Maps Shalini.R, Sindhu.G ² and Kalyani.S	105718-105724
256	A Theoretical Review of the Endangered Species Act (ESA) B. Mahammad Rafee, A.J.Haja Mohideen, Sneha Singh, C. Saddam Ahmed Kabeer and S. Mohamed Zaheed	105725-105735
257	A Prospective Study on Utilisation and Evaluation of Medicine in NICU, Paediatrics and Post Operative Departments By using Who Prescribing Indicators and by Application of ATC / DDD Methodology - in Government Hospital M. Madhu Babu, T. Bindu Madhavi and Bhabitha Raj	105736-105741
258	Harnessing Guava's Antimicrobial Power: Review on a Herbal Approach to Dental Abscess Treatment S.G. Suryawanshi and S.B.Gholve	105742-105749
259	Assessment of Water Quality for Drinking from Selected Places of Nagapattinam City using Water Quality Index S.Ponsadai Lakshmi, C.Gopi, P. Adwin Jose, V.Karthikeyan, S.Ganapathy Sankari and S. Mythili Prasanna	105750-105756
260	The Management of Insect Pest <i>Oryctes rhinoceros</i> Larva (Linnaeus, 1758) (Coleoptera : Scarabaeidae) By Using the Leaf Powders of <i>Azhadirachta indica</i> and <i>Calotropis gigantea</i> Rosaline Mary and Muthumari, A	105757-105762
261	Occupational Dose Reduction for Women Interventional Radio Technologist Kratika Rawal, Pushpendra Kumar Rajput, Ankit Kumar, Shiv Kailash Yadav, Shmriti, Pankaj Kishor Mishra and Viswanath Pratap Singh	105763-105767
262	A Fine-Tuned Residual Neural Network Approach for Robust Detection of Fruit Decay Yash Parashar, Nishtha Parashar, Ritumbara Chauhan and Kalyani Tiwari	105768-105772

263	An Algebraic Study on the Adjacency Matrix of Perfect Edge Roman Dominance in Graphs S. Nithya and V. Mohana Selvi	105773-105780
264	Growth Rate of Radish Cultivation in Dharmapuri District of Tamilnadu V. Pounraj and R. Kumar	105781-105788
265	A Study on the Dual Impact of Cement Industries on Local Economy and Ecology in Ariyalur District S. Muthukumaran	105789-105798
266	Bifurcation Analysis of Tri-Trophic Predator Prey Model with Behavioral Fear Effects K. Akshaya, S. Muthukumar, M. Siva Pradeep, T. Megala, A. Yasotha and Raja	105799-105811
267	RPCDP: Robust Public Cloud Data Protection through Confidentiality-Driven Obfuscation Devi S	105812-105823
268	Machine Learning Approach for Optimal Apple Variety Recommendation in Diverse Environmental Conditions Prachi Shivaji Pol and R.P. Waghmare	105824-105831
269	A Prospective Study of Effects of Ashtang Yoga on Maternal Stress during Pregnancy Smruti Bhalendu Vaishnav and Arati Govindlal Mishra	105832-105837
270	Clinical Evolution of Ayurvedic Management in a Case of Chronic Kidney Disease Shubham S. Bhamare and Naresh .K. Kore	105838-105843
271	Introduction to Neutrosophic Hexa Open Sets and their Characteristics Divya A and Rohini J	105844-105851
272	Interfaith Marriage: The Impact of Well-Being Indicators on Marital Satisfaction Jineesh Cyriac, PM Mathew, Santhosh Kareepadath Rajan and Sudha Thomas	105852-105862
273	Neutrosophic $\pi\gamma^*$ Continuous Mappings in Neutrosophic Topological Spaces K. Sakthivel and Gomathi A	105863-105869
274	Impact of Alcohol Consumption on Women's Reproductive Health: Insights and Data from Gujarat Keya Patel, Margi Patel and Shriniwas Jadhav	105870-105877
275	Evaluation of a Composite Culture Medium for Microorganisms Komal Negi and Kumar Sachin	105878-105884
276	Enhanced Symmetric Cryptography Technique (ESCTGP _U) for Secure Communication between IoT Gateway and the Public Cloud Environment Priscilla I. and Jayasimman Lawrence	105885-105902
277	Unveiling the Neuroprotective Potential of <i>Caryota urens</i> L. : A Computational Molecular Docking Study Anaga Lakshmi. K and V.Priya	105903-105914
278	Comparative Analysis of Machine Learning Algorithms for Devising a Precision Callus Induction Protocol for <i>Leonotis nepetifolia</i> Merlin Monisha .M and Prakash .M	105915-105926
279	Understanding the Miasmatic Predisposition of School Principals: Implications for Health and Leadership Joshi Nidhi P. and Kamlesh B. Shah	105927 -105932

280	On Validating Parameters of 4B2PMP Crystals via Dempster's Rule of Combination : A Justifying Approach M. Devi, R. Irene Hepzibah, R. Ida Malarselvi and B. Krishnapriya	105933-105939
281	Recent Advances and Future Directions in Tuberculosis Therapy: From Traditional Drugs to Modern Innovations S.A.Vadivel, Dawn V Tomy and Agiladeshwari Devarajan	105940-105952
282	Fibonacci Prime Labeling of Middle Graphs of Graphs E. Ponemaya and S. Geethalakshmi	105953-105957
283	Gene Enrichment and Hub Gene Interaction Study through Computational Research on Drought Resistance Genes of <i>Arabidopsis thaliana</i> Amzad Basha Kolar, Diptendu Sarkar, Gopal Dev Mandal, Mousumi Dutta, Fazilath Uzma and Abhirup Ganguli	105958-105969
284	Location Eccentric Dominating Set in Spider and Wounded Spider Graphs R. Jahir Hussain and A. Fathima Begam	105970-105977
285	Pivotal Response Training in Alleviating the Symptom Severity in Children with ASD – A Systematic Review Mahalakshmi. S and Sandhya .H	105978-105985
286	Sustainable Fabrication of Metallic Nanoparticles from Marine Algae: A Comprehensive Review on Anticancer Potential Mitu Patel, Raj Maheta, Ankita Dharva, Bhoomi Joshi and Illa Patel	105986-105996
287	Gamification in Corporate Training - A Comparative Analysis of Leadership, Teamwork and Employee Engagement in Multi-National Corporations' P.K.Anjani and P.K.Hemamalini	105997-106003
288	The Role of India Post Payments Bank towards Digitalization of Postal Services - A Systematic Literature Review Sudeep Kumar B and Bhavya Vikas	106004-106012
289	A Comprehensive Review of Pharmacological Insights of <i>Murivou Ennai</i> : An Herbal Medicated Oil in <i>Siddha Varmam</i> Medicine M. Fouziya Thasim, P. Samundeswari ² and D. Periyasami	106013-106021
290	Pseudo-Primitive Near-Rings Akin. J. S and A Pramila Inpa Rose	106022-106028
291	A Comprehensive Review on Addressing Low Milk Supply: Strategies for Treating Lactation Insufficiency Poola Greeshma , Makana Lalitha Sowjanya and AH. Arun Kumar	106029-106041
292	Comparative Growth Analysis of Coriander in Horizontal and Vertical Hydroponic Systems V.Divya Prabha and T.Priyanga	106042-106047
293	Evaluating Optical and Thermal Properties of 5-Chlorosalicylaldehyde with Aniline Polymorphs and Analyzing its Crystal Structure with the Raman Spectrum B.Krishnapriya, R. Ida Malarselvi, R. Priscilla and C. Ramachandra Raja	106048-106054
294	Application of Machine Learning (ML) Algorithms for Fake News Detection Shailja Bhardwaj, YDS Arya, Akash Sanghi and Gaurav Agarwal	106055-106062
295	Ekakushtha [Erythrodermic Psoriasis] Manage through Ayurvedic Protocols : A Case Report Kavita Ishrani, Nirmala Sonawane, Harsh Sayani, Jay Patel and Taruna Rathod	106063-106076

296	A Review on NoSQL Databases in Big Data: Concepts, Methods, and Applications Velava L and Shanmuga Rajathi D	106077-106080
297	Efficacy of Natrum Muraticum 200C in the Individualised Homoeopathic Treatment of Adjustment Disorder : A Case Report Sneha Ashokkumar Agrawal and Jignesh Patel	106081-106086
298	Efficacy of <i>Apamarga Kshara</i> and <i>Ksharasutra</i> in the Management of <i>Bhagandar</i> (Fistula in-Ano) - A Review Article Gajiram Banothe and Poonam Borate	106087-106090
299	Constructing Nano - Topological Spaces via Graphs for Human Lung Modeling M. Dhanapal and K. Rekha	106091-106102
300	On Neutrosophic Filters of MTL - Algebras A S Tamilselvi and G. Srividhya	106103-106110
301	Spirometric Reference Values for Adult Population of Gujarat, India : A Cross Sectional Study Dipali P. Rana and Manisha Rathi	106111-106118
302	Efficacy of Classical Siddha External Therapy " <i>Manjal Suttigai</i> " (Turmeric Cauterization) Therapy in the Management of the Various Musculoskeletal Disorders – A Retrospective Observational Case Series K.Archana, S.Rojaramani, M.P. Ramesh Babu, Gowri.V and Parbakaran.M	106119-106126
303	Heronian Mean Labeling of H- Super Subdivision of Path Graphs S. Meena and B. Keerthana	106127-106138
304	Physico - Chemical Analysis of Siddha Herbo - Mineral Preparation <i>Thirimoorthi Mai</i> R. Ganapathi, R. Madhavan, Pugazharasi Gobu, J Mohan and Vishnupriya	106139-106155
305	Effectiveness of AR and VR Technologies in Enhancing Conceptual Understanding in Classrooms Priyanka Mishra, Lovi Singh, Rajesh Kumar Chauhan and Tusharika Saxena	106156-106164
306	Soil Stabilization using Waste Glass Powder (WGP): Advancing Sustainability in Kolkata, West Bengal Sudipta Adhikary and Paramita Bhattacharyya	106165-106171
307	Seasonal Ecology and Behavioral Adaptations of Rufous Treepie (<i>Dendrocitta vagabunda</i>) in Semi - Arid Rajasthan Khagendra Kumar, Sunil Khati and Moti Ram	106172-106177
308	Formulation, Characterization and <i>In-vitro</i> Evaluation of Aprelimast Loaded Proliposomes for Oral Delivery Naveen Kumar B, Arun Kumar S, Nandini .Jampana, Neelimarai .Tumma, Alle Swathi, Prathibha .C.V, Manjula. R and Aswathi A.K	106178-106185
309	Synthesis, Characterization and Biological Evaluation of Lanthanide Metal Complexes N. Nagaraju, P. Sanjeeva, A. Jayaraju, Prasad Raju .J and P. Venkata Ramana	106186-106196
310	Dynamic Swarm Optimization-Based Multi-Threshold Segmentation Framework For Enhanced Mammographic Image Analysis And Early Breast Cancer Detection Jansi Rani J and Rajakumar T.C	106197-106210
311	Research Priority and Funding Diversity in Funded Research Publications of South Indian Central Universities: A Bibliometric Analysis Annu, B. Jeyapragash and T. Rajkumar	106211-106227

312	Polynomial Approaches to Non split Domination Y.Therese Sunitha Mary, D.Kiruba Packiarani and A.Hepzica Shanu	106228-106234
313	Morphine : A Double - Edged Sword in Pain Management and Dependency Dammati Nalini Devi, Borra Tulasi and Dasari Divya	106235-106243
314	An Examination of the Security Problems and Difficulties with Blockchain Technology Naina Parmar and Vatsal Shah	106244-106254
315	Exploring Various Estrada Indices of Cellular Neural Network S. Nithya and G. Manju	106255-106263
316	Extended WI-Ideals in Algebras M.Pandikani, K.Kannan, P Megala, V Nirmala, S Yamini, V.Vijayalakshmi	106264-106271
317	Inverse Italian Domination Number of Some Graphs A.Sugirtha and Y. Therese Sunitha Mary	106272-106277
318	A Decision making framework using Possibility Plithogenic Hesitant Fuzzy Soft Sets J. Jayasudha and R.Nishanthi	106278-106287
319	Phytochemical Screening and Evaluation of Antimicrobial Activity of <i>Mikania micrantha</i> Ointment Sudip Saha, Subhankar Das, Shouvik Sarkar and Saptarshi Samajdar	106288-106294
320	Optimizing a Fuzzy Integrated Vendor - Buyer Inventory Model with Stochastic Demand using Nonlinear Programming Techniques M.Sumathi, M.Sabina Begum and M.Gomathi	106295-106310
321	Living with PCOS: Women's Perspectives on Lifestyle, Treatment and Well Being Dammati Nalini Devi, Yarrabothula Lakshmi Prasanna, Gumma Lohitha and Gumma Bhargavi	106311-106320
322	Analysis of Wifi6 Spatial Reuse on Various Models Amiteshwar Bhalavi, Indra Kumar Shah, Sharad Jain and Angeeta Hirwe	106321-106328
323	Review of <i>Lantana montevidensis</i> : A Phytoconstituents Rich Plant with Diverse Medicinal Properties Vinayak Dasharath Gaikwad, Rohit Kumar Kumawat, Gireesh Kumar Singh and Subhranshu Panda	106329-106355
324	Surface Electromyography Biofeedback versus Transvaginal Electrical Stimulation for Stress Urinary Incontinence in Postmenopausal Indian Women : A Comparative Study Vajrala. Krishna Reddy	106356-106362
325	Y-Index of Some Complement Graph Operations V.Sheeba Agnes and C.Kannadasan	106363-106373

Editorial....

As India stands on the threshold of a transformative chapter in its higher education landscape, the reintroduction of the **Higher Education Commission of India (HECI) Bill** in the Winter Session of Parliament (December 2025) marks a moment of renewed national ambition. Originally conceived as part of the visionary reforms proposed by the **National Education Policy (NEP) 2020**, the earlier draft of the bill released in 2018 faced withdrawal. Today, reborn with decisive structural changes, the bill aspires to establish a more cohesive, transparent, and accountable regulatory framework for higher education across the nation.

The proposed commission is set to serve as a **single, unified regulatory authority**, bringing under its umbrella bodies that have independently governed the sector for decades—namely, the **University Grants Commission (UGC)**, the **All India Council for Technical Education (AICTE)**, and the **National Council for Teacher Education (NCTE)**, with the exceptions of medical and legal education. The integration of these institutions signals a shift towards reducing administrative fragmentation and enhancing institutional responsiveness.

At the heart of the new structure lie **four autonomous verticals**:

- **National Higher Education Regulatory Council (NHERC)** for transparent and efficient regulation,
- **National Accreditation Council (NAC)** to ensure credible and rigorous accreditation,
- **Higher Education Grants Council (HEGC)** to streamline and rationalize funding mechanisms, and
- **General Education Council (GEC)** to define and uphold the standards of higher education.

Together, these bodies are expected to create a regulatory environment that is both student-friendly and uncompromising in its commitment to quality.

The academic community has broadly welcomed this long-awaited reform. Educators and social activists alike stress the need for such a strong, central commission—one that can be both an enabler of excellence and a guardian against institutional dilution. Their expectations are clear: the HECI must champion equitably access, elevate academic standards, and foster innovation-driven learning.

Amid these developments, it is a matter of pride that several Indian scholars—especially distinguished professors from Tamil Nadu—have earned recognition in recent global scientific rankings. Such acknowledgments stand as a testament to India's enduring intellectual heritage, its eminent researchers, and its robust ecosystem of universities, laboratories, and research institutions across domains including physics, mathematics, medicine, and astronomy.

The hope is that the new commission will take decisive steps to ensure that the **benefits of world-class education and research** reach even the most remote corners of the country. By empowering institutions to implement high-quality teaching-learning processes, undertake cutting-edge research, and pursue innovation without bureaucratic barriers, India can elevate its

higher education outcomes to internationally competitive standards. Moreover, such an integrated framework holds the potential to reshape institutional collaborations and foster multi-disciplinary growth.

*This month also reminds us of a figure who epitomizes India's intellectual brilliance—**Srinivasa Ramanujan**, whose birth anniversary on **December 22** is celebrated annually as **National Mathematics Day**. His extraordinary contributions continue to inspire generations of young minds. As we commemorate this day, it becomes imperative to organize initiatives that not only highlight Ramanujan's unparalleled legacy but also ignite mathematical curiosity and nurture emerging talent across the nation.*

In this pivotal moment of reform and recognition, India stands poised to redefine its academic destiny. With the right policies, thoughtful implementation, and a shared commitment to educational excellence, the country can shape a future where knowledge becomes both a national strength and a global offering.

Editor in Chief
IJONS

*Cover page image : Bidens pilos L.(Spanish Needle) , Family : Asteraceae.,
IUCN: Least Concern (LC)
Credit : Vijikumar Sahadevan*