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Volume XV (15) CODEN: IJONS (88) (2025)		February 2025 ISSN: 0976 - 0997
S. No.	CONTENTS	Page No.
001	<i>In-silico</i> Analysis of FANCD2 Mitochondrial Localization Signal Sequence and its Role in Multiple Cancer Developments Ram Balak Mahto	87309-87316
002	Current Status and Future Prospects of Vegan Foods Kalyani Bandi and Manjula Kola	87317-87322
003	Insightful Reviews on Varicose Veins Ayushi Agrawal and Smita Parekh	87323-87334
004	Microalgae and its Application - Antibacterial and Antibiofilm Activity of Nanoparticles Biosynthesized with Micro Algal Extract– Review Gowridevi V, Divya .R, M. D. Balakumaran , Banupriya R and G. K. Saravanan	87335-87344
005	An Appraisal of Human-Wildlife Conflict in the Rajouri and Poonch Districts of the Pir Panjal Himalayan Region, J&K India Javed Manzoor and Rani Mughal	87345-87350
006	Nanotechnology Meets Nature: Herbal Nanogels in Rheumatoid Arthritis Treatment Bhagwat Patil and Pallavi M. Chaudhari	87351-87363
007	<i>In-vitro</i> Toxicity Assessment of synthesized silver nanoparticles Mohit Agarwal, Rajesh Singh Tomar and Anurag Jyoti	87364-87368
008	Enhancing Salt Tolerance and Osmolyte Accumulation in <i>Sesamum indicum</i> L.: by Foliar Application of Humic and Salicylic Acid under Salinity Stress K. Silambarasan and S. N. Rajan	87369-87378
009	Plant Secondary Metabolites - A Weapon for Post-Harvest Disease in Onion K.V.Shalini, Anitha Subash and S. Phosheeth Roma	87379-87386
010	Potential Impacts of Biosurfactant-Coated Zinc Nanoparticle in the Treatment of Wastewater Challaraj Emmanuel E.S, C M Reena Josephine, P.Roopaa ¹ and Karabi Sarkar	87387-87392
011	No Siddha Thalidomide : Rising Concerns and Future Prospects S. Shamitha, R.Subiksha Bharani and R. S Parvathy	87393-87399
012	Nutrient Uptake, Use Efficiency and Productivity of Bread Wheat (<i>Triticum aestivum</i> L.) As Affected By Different Doses of NPK with Different Farming Practices Prerna Negi and Moinuddin	87400-87407
013	A Review on Useful Applications of Eucalyptus in Diverse Areas Archana Gautam	87408-87415
014	Phytochemical Screening, GC-MS Profile and FT-IR Characterization of Bioactive Compounds in <i>Parmotrema andinum</i> Mohana Priya S, Logesh Kishore V and Sivaprasad R	87416-87422

015	Study of Effect of Integrated Nutrient Management through Inorganic, Organics and Bio-Fertilizers on Grain and Straw Yield and Quality Parameters of <i>Phaseolus vulgaris</i> Atmaram V. Andhale and S. P. Chate	87423-87431
016	Effect of Resistance Band Strengthening and Scapular Isometric Exercises on Pain and Function on Adults with Inter-Scapular Pain : An Experimental Study Nidhi Parmar, Rushi Gajjar and Gaurav Patel	87432-87438
017	The Pharmacological and Nutritional Role of Papaya Leaves: A Review Dhananjay Sharma and Luxita Sharma	87439-87446
018	Exploring the Functional Food Potential of the Bioactive Compound in <i>Solanum torvum</i> Jeyabharathi S, Sivadharani M and B. Rathinambal	87447-87453
019	Enhancement of Nifedipine Solubility using Biocompatible and Pharmaceutical Solvents : A Comparative Study Sharda Sambhakar, Shwetha S Kamath K, Thimmasetty J, Shashank Nayak N, Bishambar Singh, Srinivas Hebbar and Paramita Das	87454-87463
020	Effect of Different Concentrations of Hair Dye on Meristematic Cells of <i>Allium cepa</i> L. Root Tip Sreelekshmi R and Sandhya P	87464-87471
021	Machine Learning Model for Cholera Prediction Abdullahi Alhaji Shuaibu, Reetu Sheoran and Abubakar Muhammad Miyim	87472-87478
022	Anti Cancer Activity of Ethanolic Extract of <i>Withania somnifera</i> against T-24 Urinary Bladder Cell Line, Hela—Cervical Adeno Carcinoma and AGS— Human Adeno Gastric Carcinoma Cell Lines Neha Singh and Anita R J Singh	87479-87484
023	Next-Gen Healthcare : Combining Smart Apparel with Bio-Prosthetic Technology for Comprehensive Patient Management Karthick Ganesh R , Karthi Raja A S, Priya K, Revathi S, Dinesh K S	87485-87492
024	Maximizing Crop Yields: A Data Mining Approach to Bio-Fertilizer Recommendation and Inter Cropping Systems in Indian Agriculture K.Abirami and D.Shanmuga Rajathi	87493-87501
025	Impact of Invasive Alien Species on the Distribution Pattern of Wetland Plants in Thanga Area, Loktak Lake, Bishnupur District, Manipur, India Premchandra Oinam, Ranjana Rajkumari and Athokpam Pinokiyo	87502-87513
026	Global Regulatory Frame Work for Medical Foods: Filing M. Swetha, N. Srinivas, K.Tejasree, A. Alekya and A. Shivani	87514-87517
027	Bird-Centric Ecotourism Potential in and Around the Kailashpuri Village of Udaipur District, Rajasthan Narayan Lal Choudhary and Nadim Chishty	87518-87530
028	Oral health status among Chronic kidney disease and End stage renal disease patients. A review Ambikathanaya .U .K, Sunil Tejaswi .K .L and Harsha Raj .B.S	87531-87534

029	A Comprehensive Review of Machine Learning Algorithms for Classification Problems V. Manimozhi and K. Chitra	87535-87540
030	Novel Nickel (II), Copper(II) and Zn(II) Complexes bearing Triazole based Ligand: Synthesis, Characterization, Antimicrobial and Antioxidant Activities A.Chandrasekaran, A.Simi, R.Govindharaju, B.Mary Juliet, J. Michael Anandakumar, L.Palanivelan and S. R. Bheeter	87541-87549
031	Alcoholic Liver Disease Produced Advanced Glycation End Products: A driver to Chronic Kidney Disease? Dixa Sharma, Atharvaraj Hande, Richa Patel and Palash Mandal	87550-87568
032	RTOS - Driven Smart Home Automation: A Scalable Approach Viranchi Pandya, Pragnesh Papaniya, Vedanti Patel, Risheen Agrawal and Vijay Savani	87569-87577
033	An Investigation on Exploring Quantum Computing and Quantum Machine Learning Methodologies S. Chithra and M. Poornanivetha	87578-87587
034	A Study on Solving Fuzzy Transportation Problems using MATLAB Code for the Least Cost Method Nathiya K, Balasubramanian K R and Sakthivel K	87588-87592
035	Pre-Analytical Errors during Blood Sample Collection in Hematology Laboratory at CSSH Akash Kumar, Rahul, Shivani, Catheryne Lalremruati, Umesh Kumar, Anshu Kumar Singh and Pankaj Kishor Mishra	87593-87600
036	The Impact of GDP Growth on Unemployment Rate in India KM Sumitra, Anurag Bhandari and Jai Jayant	87601-87608
037	Critical Mineral Resources of Delhi Supergroup of Rocks, Around Bar - Pali District, Rajasthan Hemant Prakash	87609-87613
038	Design and Development of the Conductivity Meter to Measure of Surfactants by using PC with Diot Card Varada Ramanath, Saritha Chappidi, Suneetha Uppala and Sukanya V	87614-87619
039	Ayurvedic Management of Urolithiasis – A Case Report Hardik Prajapati and Rekha Parmar	87620-87625
040	Effect of Tin Oxide Substitution Single Layered Graphene with Doped SnO ₂ on Structural Study S. Ayyappan and Saranya M	87626-87629
041	Coronary Artery Disease Prediction using Improved Recurrent Neural Network with Capsule Neural Network S.Omprakash	87630-87637
042	The Effectiveness of Emotionally Focused Therapy (EFT) in Improving Marital Satisfaction Rupali Yadav	87638-87652

043	A Review Paper on <i>Bacopa monniera</i> and Role of Artificial Intelligence (AI) in Medicinal Plant for Management and Treatment of Various Diseases Hem Chandra Pant, Bhawana Goswami, Ashok Kumar, Abhishek Bhardwaj, Shanti Rauthan and Amita pandey	87653-87662
044	A Review on Anti-Asthmatic Activity Emphasising on <i>In-vitro</i> and <i>In-vivo</i> Models Gedela Madhuri, Kallakunta John Joel and G Vasantha	87663-87670
045	Literature's Response to Environmental Degradation : A Fresh Look Deepa Rani, Sugandha and Vineeta	87671-87676
046	Effect of Foliar Application of Different Organic Sources of Nutrients on Growth and Yield of Soybean (<i>Glycine max</i> L.) Sarathak Verma and Moinuddin	87677-87683
047	<i>Achyranthes aspera</i> : A Natural and Sustainable Approach towards Health Shagun Malik, Amit Bhardwaj and Mukesh Sharma	87684-87688
048	Nano $(1, 2)^*-\omega$ -Closed Sets S.Johnson Savarimuthu, R.Balapriya and S.Shyamala Malini	87689-87693
049	A Review on Anxiety Induced Memory Loss Shruthi N, Seema Mehdi and Krishna K L	87694-87702
050	High Efficiency Video Coding With Lagrangian Encoder Algorithm and Hybrid Wavelet Transform Kiran Babu Sangeetha and V S K Reddy	87703-87711
051	Hybrid Perturbative Approaches for Enhanced Convection-Diffusion Modelling: Bridging Analytical and Numerical Solutions for Spatially Variable Systems Pendyala Benony Steva, Madda Yaswanth Sai Yadav and Ratnakaram Raghavendra	87712-87718
052	A Study of Power-Law Fluid Peristalsis in Channels Featuring Non-Uniformity and Porous Lining Neeraj Khirwar and Rajesh Johari	87719-87725
053	<i>In vitro</i> Antidiabetic Effect and Phytochemical Screening of <i>Cassia biflora</i> Mill. Esha Vatsa, Nidhi Chaudhary, Priya Khadwal, Mehak Aggarwal, Tanya Aggarwal, and Nishant Bhardwaj	87726-87733
054	Cloud based Soil Moisturising using Internet of Things S.Gomathi Alias Rohini, S.Mohanavel, G.Abilasha and I.Afsal Mohammed	87734-87738
055	Literature Review of Pun Sudar Thyla Thiri in the Management of Pouthiram (Fistula in Ano) - Drug Review S Sanjana, M Lavanya, R Keerthika, D Periyasami and M V Mahadevan	87739-87746
056	Experiences of Menstrual Management Awareness Creation for Adolescents with Mild Intellectual Disability : Perspectives of Caregivers and Special Educators Parul Bhardwaj and Kavita Mittal	87747-87757

057	Evaluation of Antidepressant Property of <i>Panax ginseng</i> Root by using Elevated plus Maze and Rotarod Apparatus Sovan Kumar Saha, Shaon Dey, Prodip Roy, Mrityunjoy Majumdar, Sourav Roy, Pallabi Saha, Suranjana Das, Ruchismita Manna, Arpan Chanda and Mainak Mukherjee	87758-87762
058	Indian Association of Physics Teachers and Renewal of Physics Education Bhopal Singh Rawat	87763-87772
059	Water Quality Assessment during Pre-Monsoon Season in Zawlnuam R.D.Block, Mamit District, Mizoram, India., using Water Quality Index-Weighted Arithmetic (WQI-WA) Method Teresa Lalrinengi, Eliza Vanlalpeka, Malsawmtluanga and F. Lalbiakmawia	87773-87777
060	Optimal Allocation of Water for an Irrigation Project: A Case Study Harish Kumar Dwivedi, Archana Keerti Chowdhary and Abhinesh Prajapati	87778-87785
061	aUniversal Immunization Programme in India G. Chandra Sekhara Rao, S. Meghana, K.D.V.S. Kumari, V. Joel and Mohammad Sadhik	87786-87793
062	Inclusive Development of Fringe Areas in Tier II Metro City: A Step towards Inclusive City Region AR. Poorva and Subhrajit Banerjee	87794-87803
063	Impact of Obesity on the Efficacy of Different Combined Kinetic Chain Exercise Protocols in Knee Joint Osteoarthritis Madhusmita Koch and Pratap Chandra Sarma	87804-87814
064	Hindi Translation, Content Validation and Test-Retest Reliability of the Fugl Meyer Assessment Upper Extremity Scale : A Cross-Sectional Study Protocol Etika Rana, Mousumi Saha, Sudhamoy Maity, Subhasish Chatterjee, Rituraj Mandal ⁴ and Akash Chatterjee	87815-87820
065	The Role of Panchakarma in Women's Gynaecological Health : An Evidence - based Review Priya H Patel, Rita Makim and Harsh P Patel	87821-87825
066	To Compare the Effect of Long Wave Diathermy versus Ultrasound Therapy for Pain and Dysfunction in Upper Trapezitis in College Going Students:- A Comparative Study Mukul Kumar Chauhan, Himani Swami, Darshan Ladumor and Anushka Chaturvedi	87826-87831
067	On Vertex Minimal Dominating Fuzzy Graph of a Fuzzy Graph A. Nafiunisha, A. Nagoor Gani and P. Muruganatham	87832-87836
068	A Review Article on Urinary Tract Infection Among Pregnant Women's Angela Laldinpuii Renthlei, Anshu Kumar Singh ZebaNaj Umesh Kumar, Meenakshi Mishra and Pankaj Kishor Mishra	87837-87843
069	Fibonacci Prime Labeling of Franklin Graph G.Prabhakaran and V.Ganesan	87844-87848

070	Effect of Blended Learning on Professional Development of Teachers Arti Dangwal	87849-87859
071	Critical Analysis of the Effects of Nasya Karma and Neti Karma in the Management of Ardhavbhedaka W.S.R to Migraine: A Pilot Study Ajeet S, Parappagoudra M and Aparna B	87860-87866
072	Evaluating the Impact of Pilates on Non-Specific Low Back Pain in Postmenopausal Women : A Comparative Study C. Nageswari and N. Meena	87867-87872
073	Machine Learning Integrated with Data Envelopment Analysis (DEA) and it's Applications : A Comprehensive Review Nikita Daiya and Smita Verma	87873-87879
074	Implementing Ashta Ahara Vidhi Vishesh Ayatana in Contemporary Life : An Ayurvedic Perspective on Health Kesha Patel and Vijay Bhagat	87880-87885
075	Phytochemistry and Pharmacological aspects of Polyalthia longifolia - A Review Ismail.Y and G.Ramakrishnan	87886-87896
076	Secondary k-Kernel Symmetric Neutrosophic Fuzzy Matrices P. Murugadas and T.Shyamaladevi	87897-87905
077	Evaluation of Membrane Stabilising Activity of <i>Moringa oleifera</i> Flower Extract on Erythrocytes of <i>Gallus gallus</i> Urmistha Sarkar, Santanu Manna, Priya Roy, Kousik Saha ¹ , Krishanu Pramanik and Shaon Dey	87906-87911
078	Comparison of Median Nerve Conduction Parameters between Male Elite Badminton Players and Normal Healthy Controls: A Cross-Sectional Study Aparna A. Bachkaniwala	87912-87915
079	E- Mental Health: AI and the Future of Mental Health Workforce Komil Kumar and Meenakshi Harraw Verma	87916-87920
080	Prevalence of Rounded Shoulder Syndrome Due to Physical and Psychosocial Factors among Young Females: A Cross-Sectional Survey Study Riya Thakur, Sandeep Pattnaik and Kanika Bhatia	87921-87927
081	Evaluating the Effectiveness of Classical Shodhana Therapies in Treating Sheetapitta with a Focus on Urticaria : A Case Study Ajeet Sharma, Mahesh Parappagoudra and Harsh Sayani	87928-87934
082	Development of an <i>Annona squamosa</i> based Topical Gel for the Treatment of Psoriasis D Sahithya, G.V. Rami Reddy and Rama Rao Nadendla	87935-87949
083	Transformative Ayurvedic Treatments for Ocular Foreign Bodies: Insights from Clinical Cases Unnati Desai, Shivkant Sharma and Manjiri Keskar	87950-87956
084	A Prospective Study on the Risk Determinants and Economic Burden of Adverse Drug Reactions in Tertiary Care Hospital Ashok Kumar, Deepak Nanda and Abhishek Gupta	87957-87964

085	Ayurvedic Management of Polycystic Ovarian Disease (PCOD): Diet, Herbs and Lifestyle Divya Gosai and Rita Makim	87965-87972
086	Development, Validation and Psychometric Properties of a KAP Questionnaire on Biosafety and its Application in Daily Life among Senior Secondary Students S Sinha, B S Rawat, H Tolani and L Sachan	87973-87980
087	A Case Series on Effectiveness of <i>Calendula officinalis</i> as an External Application in Treatment of Wounds, Boils and Acne Pathak Amol Pramodrao, Shah Kamlesh B and Chakraborty Gunosindhu	87981-87987
088	The Nucleus Equals the Center in Lie Rings M.Manjula Devi	87988-87992
089	A Single Case Study Analysis: Potential Benefits of Herbo Mineral Formulation in Management of Hepatitis A Anjali Gambhava, Anitha H and Kartik Gambhava	87993-87998
090	Application of Data Visualization Tools in Enhancing Employee Training and Development in Manufacturing Firms G.Sankararaman, S.Suresh, R.I. Divya Barathy and M.Dineshsurya	87999-88006
091	Unveiling the Extraterrestrial Cosmic Ray Spectral Dynamics Beyond Earth's Atmosphere: A Comprehensive Model Ratnakaram Raghavendra and Anna Reddy Saila Kumari	88007-88015
092	A Role of Leech Therapy in the Management of Varicose Veins (<i>Sirajgranthi</i>) – A Case Study Vijaykumar J. Rathod and Omprakash Dave	88016-88020
093	A Study on smart Agro Nexus Integrated with AI and Data science Lakshmi Prasanna MV and S Noor Mohammed	88021-88026
094	An <i>In-vivo</i> Study to Evaluate the Hepatic and Dermatological Changes in Psoriasis Induced C57/Bl-6 Vijaynath V, Bandapalle Dattu Narayanrao and Sudhakar Bhat	88027-88033
095	Assessment of Employee Empowerment and Organizational Commitment on Product and Marketing Innovation: A Pathway to Customer Retention in the FMCG Sector Afsar Ali and Sumaira	88034-88047
096	Effects of Swiss Ball Training on Trunk Control and Balance in Spastic Diplegic Cerebral Palsy Children : A Comparative Study Vishwas Vaghela, Prasad Muley, Bhavana Gadhavi and Advita Neville Deepak	88048-88055
097	Overactive Bladder Syndrome: Exploring Ayurvedic Insights for Enhancing Quality of Life in Geriatric Care Agnya Vyas and Akshar Kulkarni	88056-88064
098	A Comparative Analysis of Social Adjustment Levels among Rural and Urban Secondary School Students Varender Singh Patial and Manisha Patial	88065-88069

099	Effects of Singing Bowl Meditation on Stress and Blood Pressure in College Students Sajal Sharma and Vikas Kumar Sharma	88070-88075
100	MIMO Antenna for Satellite Communications with Enhanced Isolation Yerram Srinivas and Kiran Babu Sangeetha	88076-88080
101	Optimizing and Securing Live Virtual Machine Migration in Cloud Computing Implemented on XenServer : A Comprehensive Approach Integrating Machine Learning, Blockchain and Hybrid Migration Akashbhai Ashokbhai Dave, Dhruval Kachhiya, Jitendrasinh Raulji, Shraddha Korvadiya and Jimesh Rana	88081-88090
102	Case Series: The Role of Mustadi Ghanavati in Asrigdara Management W.S.R to Dysfunctional Uterine Bleeding Jeenal Patel and Lumi Bhagat	88091-88098
103	Development, Acceptability and Nutritional Evaluation of Curd Dip Supplemented by <i>Solanum anguivi</i> Simran, Vatsala Saharan, Akanksha Yadav and Anisha Beniwal	88099-88105
104	Assessment of Vocational Musculoskeletal Disorders in Health Care Providers in Rural Population of Western Maharashtra Anjum Ara Jamebaseer Farooqui, Jamebaseer M Farooqui, Sunil Surendraprasad Mishra, Manas Bajpai, Vikrant Kasat and Anwesha Samanta	88106-88112
105	Integrating the Janda Approach and Brugger's Exercises for Managing Chronic Low Back Pain in Teachers : A Biopsychosocial Perspective K. N. Jeeva, J. Alice Jeba, Annie Thomas and S. Jeyakumar	88113-88116
106	The Backward Stochastic Differential Equations and its Application V. Sathya and V. Krishnan	88117-88123
107	Effectiveness of Anodal Galvanism and Tens along with Static Achilles Stretch for Treatment of Retrocalcaneal Bursitis among Amateur Football Players Vidhushi Jain H, Priyadharshini Kumar and Rekha K	88124-88131
108	Development and Validation of Simultaneous Equation Method for the Estimation of Curcumin and Piperine from Tablet Dosage Form Dhanashree R. Kad, Perna Chavan, Suchismita Dawn, Shruti Bagade, Monali Shelar and Sneha Jadhao	88132-88140
109	Retha: Reputation - Enhanced Two-Way Hybrid Algorithm for Detecting and Mitigating Gray Hole Attacks in WSN D. Govindaraj and B. Jayanth	88141-88149
110	Integrated Approach for Solar PV Power Prediction and Fault Detection using RFR and TSA C.Nagarani, R. Hemalatha and V.Suman	88150-88155
111	Ayurvedic Management of Sickle Cell Anaemia in Paediatric Patients: A Case Study Ragini Patidar and Swapnil Raskar	88156-88164

112	A Study on the Assessment of Severity of Stroke among the Stroke Patients at an Indian Multispeciality Hospital Lakshmi Sri Lekha, Ramam Sripada, Pithani Himasree, ASLD Preethi Prasanna, Durga Bhavani, Ali Moein Farsani, Balabhadra Venkataraju and M. D. Dhanaraju	88165-88169
113	Dissipation and Decontamination of Cypermethrin in Brinjal by Medicated Bio Enzyme Vegetable Wash Jyothi Sajayan and Satej T Banne	88170-88177
114	Evaluation of Hydroalcoholic Extract of <i>Urgenia indica</i> on 2,4,6-trinitrobenzenesulfonic Acid Induced Inflammatory Bowel Disease (IBD) in Rats Vasant Chavan, Ashish Kulkarni, Avinash Gunjal, Prasad Bairagi, Devendru Shirode and N.S Vyawahare	88178-88189
115	Addressing Learning Disabilities : Teachers Awareness, Identification and Effective Supporting Strategies Monika and Kiran	88190-88199
116	<i>Sandhigata Vata</i> Management in Ayurved - A Case Study Pooja Sakerwal and Vijay Bhagat	88200-88207
117	A Review on Siddha Formulation " <i>Kadukkai Vadagam</i> " in the Management of Swasakasam (Bronchial Asthma) Dhanakumari P, Nalini Sofia H and Vetha Merlin Kumari H	88208-88216
118	Mathematical Modeling the Influence of Exercise on the Relationship between Glucose and Insulin B. Swaminathan, G. Komahan and A. Venkatesh	88217-88222
119	Avian Checklist of a Unique Wetland: Sambhar Salt Lake, India Monali Sen	88223-88226
120	Structural Insights using Quantum Chemical Calculations and Evaluation of Anti-Eczematic Activity by Docking Studies of O-Cymene - An Active Compound in Pomegranate Peel S.Susanna Ezhilarasi, V Subbukutti, J Aishwarya, V Nirmala and B Anita	88227-88247
121	A Study on Menstrual Health among Young Adults Studying in University Setting - A Cross Sectional Study Pooja Pandit and C. Nageswari	88248-88254
122	Analyzing the Antioxidant Properties and Molecular Features of <i>Neolamarckia cadamba</i> Fruit using FTIR Technique in Ahmedabad District, Gujarat Jyoti Chauhan and Bharat Maitreya	88255-88260

Editorial

International Year of Quantum Science and Technology 2025



The United Nations recently declared 2025 as the International Year of Quantum Science and Technology (IYQ). 2025 was chosen as the year to recognize 100 years since the initial development of quantum mechanics. German Physicist Werner Heisenberg published a famous paper that led to the discovery of phenomena known as Quantum Mechanics. It is a global initiative aimed at strengthening national capacities in basic sciences and science education. Furthermore, it highlights the contribution of quantum science to our increased knowledge and understanding of the physical universe, and the important role of quantum science and technology in creating sustainable solutions. Quantum discoveries have implications for the fundamental understanding of chemistry, biology, astronomy etc.. These discoveries are a valuable resource for innovation, and have led to advances in devices such as lasers and transistors, as well as enabling real advances in technologies once considered purely speculative, such as quantum computers. Quantum Computing, combined with artificial intelligence (AI), can process large amounts of data and perform complex calculations quickly. Quantum Science may reveal how everything in the universe, beyond the reach of our senses, is connected to others through diverse dimensions. They are exploring the potential of quantum science to change gravity, its relationship to space and time.

The Union Cabinet of the Government of India approved the National Quantum Mission (NQM) on April 19, 2023 and allocated Rs. 6003.65 Crore. This mission will focus on developing highly sensitive magnetometers in nuclear systems and atomic clocks for precise timing, communication and navigation. Technologies that rely on quantum phenomena are all around us. The first wave of quantum technologies gave us the transistor. These devices formed the foundation of modern computers and digital communications. Quantum Mechanics has enabled MRI scanners for medical imaging, lasers, solar cells, electron microscopes, atomic clocks used for GPS and more!

Quantum Mechanics and Quantum Physics are used to solve challenges in future scientific discoveries. The role of quantum science is becoming essential in medicine, industry, agriculture, transportation artificial intelligence, space exploration etc. The highlight of this year is that students and researchers ought to contribute by linking their studies with quantum science. Apart from that, it is necessary to widely spread information about the importance of quantum science and its applications to the public. Awareness about quantum science can be raised among the general public by conducting various public awareness training seminars, workshops, quiz competitions etc. on quantum science in schools, colleges, universities and research centers. Furthermore, research institutions be supposed to conduct research related to quantum science. Our Indian Journal of Natural Sciences is proud to join you in the International Year of Quantum Science and Technology events and raise awareness among the public.

Editor in Chief

IJONS

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