



Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

MoE, UGC & AICTE Approved

NAAC A++ Accredited

SDG 9 – Industry Innovation & Infrastructure

**9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE**



Building Resilient Infrastructure, Promoting Inclusive and Sustainable Industrialization, and Fostering Innovation

Preamble

Sustainable Development Goal 9 (SDG 9) aims towards fostering sustainable industrialization by promoting innovation, and building a resilient infrastructure. The significance of SDG9 lies in its potential to facilitate inclusive economic growth, promote sustainable development and foster global competitiveness. SDG 9 plays a pivotal role in addressing challenges posed by natural disasters, climate change, and rapid urbanization. It emphasizes the development of reliable and modernized infrastructure that not only facilitates economic growth but also ensures the well-being and safety of communities. By promoting inclusive and sustainable industrialization, this goal encourages the transformation of economies through adoption of environment-friendly practices by creation of decent job opportunities, thereby reducing inequalities and promoting social inclusion.

Institutional Measures

The implementation of SDG9 calls for collaboration, knowledge sharing, and technological transfer among different disciplines. Embracing sustainable practices, implementing research and development, and promoting education and skill-sets are crucial steps towards realizing the objectives of SDG 9. KITS has been consistently and diligently carrying out sustainability oriented activities with regard to innovation on several fronts. These include innovative teaching methods to match contemporary requirements, research leading to new processes, products, patents, and incubation leading to spinoffs as well as commercialization.

Innovation Infrastructure

Built on its vision, Karunya aims to provide the required ambience, infrastructure and policies in order to facilitate the students to find solutions to human problems in the thrust areas relating to water, food, healthcare and sustainable energy through scientific, social and technological research.



Technology Missions

The vision of KITS is being accomplished through interdisciplinary research involving 25 Technology Missions in which faculty members and students implement research that solves societal problems. These Missions lay emphasis on modern technologies relevant to industry and development. Of the 25 technology missions identified, six are in the field of Agriculture and Food Processing Engineering, that include such as, Smart Technology for Precision Farming, Technology Mission for Food Security, Indigenous and Herbal Medicine, Millets for Nutrition and Drone Technology for Agriculture. These Missions are driven by the Divisions of Agriculture and Food Processing Engineering of KITS. The Technology Missions that deal with Water Treatment and Desalination, and Wetland Conservation, implemented by the Water Institute of KITS. Four technology missions deal with the application of emerging tools in the area of water and agriculture, that include small satellites, natural isotopes, remote sensing and GIS, which are being implemented by the Divisions of Agriculture, Aerospace, Chemistry and Civil Engineering.

There are four technology missions that deal exclusively with the healthcare, namely vaccinology for Viral Diseases, Stem Cell Research, Nanotechnology for Healthcare and Medical Devices. These Missions are led by the Divisions of Biotechnology and Biomedical Engineering. The three technology missions that deal with energy and manufacturing are Green Energy, Green and Sustainable Manufacturing, and 3-D Printing and Additive Manufacturing.

Two Missions that deal with habitat, namely, Smart Intelligent Buildings, and Smart City are implemented Civil, Mechanical and EEE Divisions. The remaining missions deal with modern tools and their applications, such as Data Analytics and Block Chain, Cyber Security Knowledge, Machine Learning Technologies for Societal Problems, Smart Vehicle Mission, and Robotics in

everyday life. These Mission are implemented by the Divisions of Computer Science & Engineering and Robotics & Engineering.

Each of the above Missions enroll faculty and students with targets that are set for two years. Papers are published in these areas, products developed, patents filed and startups initiated. The Mission mode functioning enables result-oriented and time bound approach among faculty and students.

KITS R&C POLICY: <https://karunya.edu/research/>

Patents Citing University Research

KITS encourages, facilitates, promotes and safeguards scientific investigations and research carried out through its IPR policy, which provides guidelines for generating patents.

Objectives of IPR Policy

- To promote Intellectual Property awareness among students, faculty members, non-teaching staff and researchers.
- To organize short term training programmes, seminars, workshops and conferences.
- To assist researchers to file patents of products processes and inventions based on the research and development carried out by them.
- To assist inventors in following legal procedures related to commercialization and technology transfer.
- To promote IPR awareness among MSME (Micro, Small and Medium Enterprises) in and around Coimbatore region.

KITS-IPR Policy: <https://karunya.edu/ipr>

University Spinoffs

Incubation serves as a cornerstone for fostering a culture of innovation, entrepreneurship and interdisciplinary collaboration. KITS has developed its policy on Innovation, Incubation and Entrepreneurship, with the major objective of creating an ideal ecosystem for innovation-incubation- entrepreneurship in KITS, emanating from its academic and research programmes, leading to an innovation culture contributing to new products and processes of social, economic and technological value to the society. In order to implement this, KITS has established the Karunya Incubation Foundation (KIF), as a not-for-profit company under section 8 of The Companies Act, 2013. Under the ambit of KIF, the Institute has setup the Karunya Technology Business Incubation Park (K-TBIP), for nurturing pre-incubation, incubation and start-up ecosystem within the campus, which has successfully incubated 51 projects. The success of university spin-offs in KITS is a testament to the institution's commitment to fostering innovation, entrepreneurship, and knowledge transfer. By providing a supportive environment, mentorship, and access to resources, KTBIP is playing a crucial role in shaping the future of entrepreneurship

in the region. It not only enables students and researchers realize their dreams but also contributes to the growth and development of the region and the nation.

KITS Policy on Innovation, Incubation and Entrepreneurship:

<https://www.karunya.edu/ktbip/policy>

Research Publications

Sl.No	Title	Authors	Year	Scopus Source title	Citations
1	Novel manufacturing systems for cancer diagnosis using ultra-sensitive photonic crystal fiber biosensor with dual-functionalized aptamer-nanocavity	Elarmathi, S. Rishabavarthani, P. Sindhuja, M. Elayaraja, P. Murugesan, M. Kumarganesh, S. Sagayam, K.M. Pandey, B.K. Pandey, D.	2024	Microsystem Technologies	64
2	A novel energy optimization framework to enhance the performance of sensor nodes in Industry 4.0	Sivakumar, S. Logeshwaran, J. Kannadasan, R. Faheem, M. Ravikumar, D.	2024	Energy Science and Engineering	64
3	Sustainable Solutions: Reviewing the Future of Textile Dye Contaminant Removal with Emerging Biological Treatments	Kusumlata Ambade, B. Kumar, A. Gautam, S.	2024	Limnological Review	63
4	Revolutionizing the food industry: The transformative power of artificial intelligence-a review	Zatsu, V. Shine, A.E. Tharakan, J.M. Peter, D. Ranganathan, T.V. Alotaibi, S.S. Mugabi, R. Muhsinah, A.B. Waseem, M. Nayik, G.A.	2024	Food Chemistry: X	51
5	A sustainable and eco-friendly approach for environmental and energy management using biopolymers chitosan, lignin and cellulose — A review	Christina, K. Subbiah, K. Arulraj, P. Krishnan, S.K. Sathishkumar, P.	2024	International Journal of Biological Macromolecules	43

6	Limestone calcined clay cement (LC3): A sustainable solution for mitigating environmental impact in the construction sector	Kanagaraj, B. Anand, N. Johnson Alengaram, U. Samuvel Raj, R. Karthick, S.	2024	Resources, Conservation and Recycling Advances	30
7	Advancements and environmental considerations in portland cement-based radiation shielding concrete: Materials, properties, and applications in nuclear power plants– review	Kanagaraj, B. Anand, N. Raj, S. Lubloy, E.	2024	Cleaner Engineering and Technology	23
8	Behavioural studies on binary blended high strength self compacting geopolymers concrete exposed to standard fire temperature	Kanagaraj, B. Anand, N. Raj R, S. Lubloy, E.	2024	Ain Shams Engineering Journal	22
9	Understanding Macroalgae: A Comprehensive Exploration of Nutraceutical, Pharmaceutical, and Omics Dimensions	Adarshan, S. Sree, V.S.S. Muthuramalingam, P. Nambiar, K.S. Sevanan, M. Satish, L. Venkidasamy, B. Jeelani, P.G. Shin, H.	2024	Plants	22
10	Impact of Cloud Computing on the Future of Smart Farming	Johnraja, J.I. Leelipushpam, P.G.J. Shirley, C.P. Princess, P.J.B.	2024	Signals and Communication Technology	17
11	Application of artificial intelligence tools in wastewater and waste gas treatment systems: Recent advances and prospects	Behera, S.K. Karthika, S. Mahanty, B. Meher, S.K. Zafar, M. Baskaran, D. Rajamanickam, R. Das, R. Pakshirajan, K. Bilyaminu, A.M. Rene, E.R.	2024	Journal of Environmental Management	12
12	Sustainability and durability performance evaluation of geopolymers concrete with industrial effluent as alternative	Kanagaraj, B. Anand, N. Lubloy, E.	2024	Developments in the Built Environment	11

	to conventional river sand				
13	Comprehensive assessment of microalgal-based treatment processes for dairy wastewater	Singh, P. Mohanty, S.S. Mohanty, K.	2024	Frontiers in Bioengineering and Biotechnology	11
14	Smart home energy management systems in India: a socio-economic commitment towards a green future	George, T. Selvakumar, A.I.	2024	Discover Sustainability	10
15	Foodomics: A sustainable approach for the specific nutrition and diets for human health	Mahato, D.K. Kamle, M. Pandhi, S. Pandey, S. Gupta, A. Paul, V. Kalsi, R. Agrawal, S. Islam, D. Khare, S. Singh, A. Kumar, P. Rab, S.O. Saeed, M.	2024	Food Chemistry: X	9
16	Deep Learning based Network based Intrusion Detection System in Industrial Internet of Things	Beauty Angelin, J.A. Priyadharsini, C.	2024	2nd International Conference on Intelligent Data Communication Technologies and Internet of Things, IDCIoT 2024	9
17	Surface-modified gold nanoparticles: A novel chemical probe for precise fluorescent detection of aluminium (Al ³⁺) ions; investigating DFT insights and molecular logic gate behaviour	Tamil Selvan, G. babu, L. Enoch, I.M.V. Srinivasadesikan, V. Mariselvam, R. Ravi Kumar, A. Li, X. Jun Tang, P. Mosae Selvakumar, P. Zhang, Z.	2024	Journal of Molecular Liquids	9
18	Post-fire investigation on the mechanical properties and physical characteristics of fibre-reinforced geopolymers concrete	Prasad Burle, V. Kiran, T. Anand, N. Andrushia, D. Al-Jabri, K.	2024	Journal of Structural Fire Engineering	9

19	An Adaptive Intrusion Detection System in Industrial Internet of Things(IIoT) using Deep Learning	Jyothi, E.V.N. Kranthi, M. Sailaja, S. Sesadri, U. Koka, S.N. Reddy, P.C.S.	2024	Proceedings - 2024 1st International Conference on Innovative Sustainable Technologies for Energy, Mechatronics and Smart Systems, ISTEMS 2024	8
20	Influence of coatings on residual strength of geopolymers concrete columns subjected to fire exposure: An experimental investigation	Kanagaraj, B. Anand, N. Raj R, S. Jerry, R. Lukose, J. Lubloy, E.	2024	Case Studies in Construction Materials	8
21	Technological advancement in the production of biohydrogen from lignocellulosic biomass: A review	Emisha, L. Prince, D. Vijay, S.J. Bhagavathsingh, J. Somu, P. Basavegowda, N. Haldar, D.	2024	Journal of Environmental Chemical Engineering	8
22	Temporal dynamics of urban air pollutants and their correlation with associated meteorological parameters: an investigation in northern Indian cities	Soni, P.S. Singh, V. Gautam, A.S. Singh, K. Sharma, M. Singh, R. Gautam, A. Singh, S.P. Kumar, S. Gautam, S.	2024	Environmental Monitoring and Assessment	8
23	Predictive Vehicle Maintenance using Deep Neural Networks	Johnson, N. Edwards, S.E.V. Silas, S. Kathrine, G.J.W.	2024	2024 International Conference on Cognitive Robotics and Intelligent Systems, ICC - ROBINS 2024	7
24	Comparative Analysis of Coal and Biomass for Sustainable Energy Production: Elemental Composition, Combustion Behavior and Co-Firing Potential	Trivedi, K. Sharma, A. Kanabar, B.K. Arunachalam, K.D. Gautam, S.	2024	Water, Air, and Soil Pollution	7
25	Hardware Trojans Detection and Prevention Techniques Review	Naveenkumar, R. Sivamangai, N.M.	2024	Wireless Personal Communications	7

26	Sustainable Approaches in Green Synthesis of Silica Nanoparticles Using Extracts of Chlorella and Its Application	Manikandan, R. Thomas, J.	2024	Applied Biochemistry and Biotechnology	5
27	Notch-band eliminator wideband CSRR loaded monopole fractal antenna for ISM and PCS communications	Varshney, A. Sharma, V. Neebha, T.M. Kumari, N.P.	2024	World Journal of Engineering	5
28	Secure smart city application using webservice model and mayfly optimization-based lightweight CNN	Sheeba, A. Rajalakshmi, R. Maheswari, B.U. Ebenezer, A.S.	2024	Transactions on Emerging Telecommunications Technologies	5
29	Machine learning techniques for route optimizations and logistics management description	Reyana, A. Kautish, S.	2024	Computational Intelligence Techniques for Sustainable Supply Chain Management	5
30	Nano-bentonite as a sustainable enhancer for alkali activated nano concrete: Assessing mechanical, microstructural, and sustainable properties	Samuvel Raj, R. Arulraj, G.P. Anand, N. Kanagaraj, B. Lubloy, E.	2024	Case Studies in Construction Materials	5
31	Innovations in poly(3-hydroxybutyrate-co-3-hydroxyvalerate) and nanocomposites for sustainable food packaging via biochemical biorefinery platforms: A comprehensive review	Dey, P. Haldar, D. Sharma, C. Chopra, J. Chakrabortty, S. Dilip, K.J.	2024	International Journal of Biological Macromolecules	4
32	An AI powered system call analysis with bag of word approaches for the detection of intrusions and malware in Australian Defence Force Academy and virtual machine	Melvin, A.A.R. Kathrine, G.J.W. Pasupathi, S. Shanmuganathan, V. Naganathan, R.	2024	Expert Systems	4

	monitor malware attack data set				
33	Effect of metallic substrate and rubber elastic materials over passive constrained layer damping on tool vibration during boring process	Lawrance, G. Paul, P.S. Shylu, D.S. Ebenezer Jacob Dhas, D.S. Dineshkumar, C. Jeyakumar, P.D. Muthiya, S.J. Getachew, N.A.	2024	Journal of Low Frequency Noise Vibration and Active Control	4
34	WebSight: An AI-based Approach to Enhance Web Accessibility for the Visually Impaired	Sri Ram, M.S. Joy, E. Shree, L.J.	2024	Proceedings of 2024 International Conference on Science, Technology, Engineering and Management, ICSTEM 2024	4
35	Influence of Nano-Fly Ash on mechanical properties, microstructure characteristics and sustainability analysis of Alkali Activated Concrete	Raj R, S. Arulraj, G.P. Anand, N. Kanagaraj, B. Lubloy, E.	2024	Developments in the Built Environment	4
36	A Review of GaN Channel-Based MOSHEMTs for Next-Generation Medium/Low-Voltage Rating and High-Speed RF Power Applications	Deshpande, G. Bhattacharya, S. Ajayan, J. Mounika, B. Nirmal, D.	2024	Journal of Electronic Materials	4
37	Utilizing banana peduncle as an affordable bio-adsorbent for efficient removal of lead ions from water and industrial effluents	Muthusamy, P. Murugan, S. Mandal, S.K. Mishra, B. Mohanta, Y.K. Sarma, H. Narayan, M.	2024	Sustainable Chemistry for the Environment	4
38	Plant-based biopolymers for wastewater pollutants mitigation	Harshan, K. Rajan, A.P. Kingsley, D. Sheikh, R.A. Aashmi, J. Rajan, A.P.	2024	Physical Sciences Reviews	3
39	High-strength geopolymer based engineered cementitious composites (ECC) for sustainable and resilient construction	Kanagaraj, B. Anand, N. Thomas, M. Siew Choo, C.	2024	Journal of Engineering, Design and Technology	3

40	Development of biopolymers from microbes and their environmental applications	Nambiar, K. Kumari, S.P. Devaraj, D. Sevanan, M.	2024	Physical Sciences Reviews	3
41	Mechanical characterization and durability studies on concrete developed with M-Sand and River Sand	Appadurai, A.S. Sundaresan, A.A. Nammalvar, A.	2024	Revista Materia	3
42	Biopolymer-based edible packaging: a critical review on the biomaterials, formation, and applications on food products	Leya, B. Shan Franklin, R. Pragalyaashree, M.M. Asha Monicka, A. Tiroutchelvame, D. Blessy, C. Freeda Blessie, R.	2024	Journal of Applied Biology and Biotechnology	3
43	Smart sanitization on a budget: revolutionizing public transport hygiene post-COVID	Peter, J.D. Dolly, D.R.J. Jagannath, D.J. Livingston, S.A.	2024	Frontiers in Public Health	3
44	Bread Quality Assessment Using Deep Learning with shape and Volume Metrics	Rohan Joel, J. Benjamin, R.M.	2024	10th International Conference on Advanced Computing and Communication Systems, ICACCS 2024	3
45	Intrusion Detection System for Industrial IoT	Joewin Sam, S. Xavier, S.B.	2024	2nd IEEE International Conference on Advances in Information Technology, ICAIT 2024 - Proceedings	3
46	Modelling selenite and chemical oxygen demand removal in an inverse fluidized bed bioreactor using genetic algorithm optimized artificial neural network	Sinharoy, A. Mahanty, B. Behera, S.K. Mehta, M. Mantri, S. Das, R. Saikia, S. Rene, E.R. Pakshirajan, K.	2024	Journal of Chemical Technology and Biotechnology	3
47	Effect of machining parameters on average surface roughness during computer numerical controlled dry milling of high strength AISI 420	George, P. Selvaraj D, P. Dhas, D.S.E.J. George, P.	2024	Engineering Research Express	3

	martensitic stainless steel				
48	Reuse and Recovery of Water from Industrial Textile Dyeing Effluent Using High-Performance Electrodes Continuous Flow Electrocoagulation Reactor	Jegathambal, P. Brunoc Shobina Mayilswamy, C. Parameswari, K.	2024	Nature Environment and Pollution Technology	2
49	Natural and synthetic fiber reinforced recycled aggregate concrete subjected to standard fire temperature	Kanagaraj, B. Shaji, S. Jafrin, M. Raj R, S. Anand, N. Lubloy, E.	2024	Helion	2
50	Production of biochar from <i>Keppaphycus alvarezii</i> (macroalgae) for the removal of eosin yellow: desorption, kinetic, and isotherm studies	Elayappan, T. Jayanarayanan, B. Daniel, A.P.	2024	Biomass Conversion and Biorefinery	2
51	Deep Learning in Smart Manufacturing: Advancements, Applications, and Challenges	Natarajan, G. Bai, S.C.P.A. Balasubramanian, S. Elango, E.	2024	Intelligent Computing and Optimization for Sustainable Development	2
52	3D printed meat and the fundamental aspects affecting printability	Moparthi, S.S. Gokul Krishna, L. Karyappa, R. Upadhyay, R.	2024	Journal of Texture Studies	2
53	Utilizing agricultural turmeric bulbs as an alternative to traditional coarse aggregates in geopolymers concrete to explore its engineering properties	Kanagaraj, B. Anand, N. Raj R, S. Lubloy, E.	2024	Developments in the Built Environment	2
54	Friction Stir Spot Welding: Metallurgical, Mechanical and Tribological Properties	Natarajan, J. Lewise, K.A.S.	2024	Friction Stir Spot Welding: Metallurgical, Mechanical and Tribological Properties	2

55	Evaluating the impact of electromagnetic effects on randomized and pre-structured smart silicone magneto-rheological damper in hardened steel turning operations	Vasanth, X.A. Paul, P.S. Lawrance, G.	2024	Multiscale and Multidisciplinary Modeling, Experiments and Design	2
56	The Role of Digital Twins and Estimating their Impact on the Field of Agriculture in Promoting Sustainability	Shirley, C.P. Benny, B. Vidhya, K. Berin Jeba Jingle, I.	2024	Proceedings - 2024 4th International Conference on Pervasive Computing and Social Networking, ICPCS 2024	2
57	An unmanned aerial vehicle captured dataset for railroad segmentation and obstacle detection	R. S, R. Al-Shehari, T. Nathan, S. A, J. R, S. P, S.P. Alfaikih, T. Alsalmam, H.	2024	Scientific Data	2
58	Enhanced multivariate singular spectrum analysis-based network traffic forecasting for real time industrial IoT applications	Isravel, D.P. Silas, S. Kathrine, J. Rajsingh, E.B. Andrew, J.	2024	IET Networks	2
59	Survey of Industrial Internet of Things (IIoT) in Industry Developments and Advanced Techniques	Paul, P.N. Jones, T.A.	2024	Proceedings of the 3rd International Conference on Applied Artificial Intelligence and Computing, ICAAIC 2024	2
60	Creating and analyzing Sb–TiO ₂ photocatalysts for effective UV-A light degradation of RR 120 and MO dyes	Balu, K. Abishek, T. Michele Gomez, L.A. Durai, M. Tiffany, M. R, V. Afzal, M. Yadav, A.K. Pandiyan, V. Ahn, Y.-H.	2024	Journal of the Indian Chemical Society	2
61	A captivating approach to elevate the detection of Al ³⁺ ions incorporates the utilization of a tripodal receptor intricately embellishing the surface of zinc oxide	Tamil Selvan, G. Samson, J. Rajasingh, P. Li, X. Ravi Kumar, A. Zhu, N. Kuldeep, S.A. Mosae Selvakumar, P. Jun Tang, P. Zhang, Z.	2024	Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy	2

62	Atmospheric Particulate Matter in Bangladesh: Sources, Meteorological Factors and Management Approaches	Kanta, A.H. Gautam, S. Khan, M.B.	2024	Aerosol Optical Depth and Precipitation: Measuring Particle Concentration, Health Risks and Environmental Impacts	1
63	Integrating Google Maps and Deep Learning in Path Hole Detection Alert System	Sophia, S. Ajish Moses Raj, A. Janani, R. Stewart Kirubakaran, S. Dhivinkumar, A.J. Princely Nesaraj, A.	2024	Proceedings - 2024 4th International Conference on Pervasive Computing and Social Networking, ICPCSN 2024	1
64	Sustainable Management and Advanced Techniques of Synthetic Microfiber Waste Through Circular Economy	Iyer, A. Nambiar, K.S. Murugan, S.	2024	Environmental Science and Engineering	1
65	Assessing titanium vs. aluminium electrodes for wastewater remediation in the small-scale industries (SSI) textile sector	Sebastian, S.L. Kalivel, P. Subbiah, K. Murphy, M.S.A. David, J.J. Palanichamy, J.	2024	Environmental Nanotechnology, Monitoring and Management	1
66	Synergistic effect of niobium carbide and titanium nanoparticles on the mechanical and microstructural properties of Al-Zn-Mg-Cu alloy hybrid composites	Vijaya, D.J. Robinson Smart, D.S. Leo Dev Wins, K. Dhas, D.S.E.J.	2024	Engineering Research Express	1
67	Diagnostic Sonance: Sound-Based Approach to Assess Engine Ball Bearing Health in Automobiles	Shajie, D.A. Juliet, S. Ezra, K. Flora, B.A.J.	2024	Przeglad Elektrotechniczny	1
68	Biofuel revolution: A credible inevitability or a future trend	Shepherd, R. Syeda Zuhin, M. Gomez, L.A. Vijay, V. Chandrapragasam, V. Thathapudi, J.J.	2024	Bio Refinery of Wastewater Treatment: Way to Generate Waste to Value	1

69	Synthesis of nanoengineered microporous activated carbon from <i>Nerium Oleander</i> fruit seeds for the adsorptive removal of carbon dioxide (CO ₂)	Pandey, P. Kansal, A. Dhiman, M. Subudhi, S.P. Gautam, A.S. Gautam, S.	2024	Environment, Development and Sustainability	1
70	Sustainable groundwater development using semi-supervised learning and community-led total forestry and pasture approach	S, U.M. Alphy, A. Deivasikamani, G. Prakash, U. Shadrach, F.D. Kumar, M.A. Manoj, S.	2024	Groundwater for Sustainable Development	1
71	Surface Roughness Prediction using Swarm Fuzzy SVR Technique	Akash, V.S. Edwin Raja Dhas, J. Anton Savio Lewise, K. Jesuthanam, C.P.	2024	Journal of Physics: Conference Series	1
72	Recovery of Elements Using Green Plants for Potential Valorization of Waste Metals	Mamatha Bhanu, L.S. Mitra, A. Iyer, A. Gupta, D.K. Chatterjee, S.	2024	Valorization of Resources from Urban Mined Materials: World Scientific Series on Advances in Environmental Pollution Management - Volume 3	1
73	Comparable Works in Blockchain Technology	Krishnapriya, K.S. Rajeswari, M. Brindha, D. Sivamani, C. Sowmiya, M. Thilagavathi, C.	2024	Blockchain Intelligent Systems: Protocols, Application and Approaches for Future Generation Computing	1
74	Mechanical Properties and Temperature Distribution of Friction Stir Spot Welding Process	Boopathi, S. Lewise, K.A.S. Dhas, J.E.R. Satheesh, M.	2024	Friction Stir Spot Welding: Metallurgical, Mechanical and Tribological Properties	1
75	Evaluation of toxicity in real-time textile effluents post-treatment using Sorghum bicolor and <i>Danio rerio</i> -Potential for reuse	David, J.J. Maria Stephen, A.M. Sebastian, S.L. Krishnan, S.K. Kavitha, S. Kalivel, P. Palanichamy, J.	2024	Desalination and Water Treatment	1
76	Bacteria as a source of bioactive cosmeceuticals	Mazumder, M.A.R. Jubayer, M.F. Kayshar, M.S. Peter, D. Ranganathan, T.V.	2024	Bioprospecting of Natural Sources for Cosmeceuticals	1

77	Curing Effect on the Strength of Cement Mortar with Bamboo Biochar	Selvanathan, P. Gunasekaran, P.K. Lai, Y.F. Anand, N. Chin, S.C.	2024	International Journal of Nanoelectronics and Materials	1
78	Exploring chitosan nanocomposites for wastewater treatment via solid phase extraction biorefinery	Gowri Lakshmi, S. Gomez, L.A. Shepherd, R. Chandrapragasam, V. Vijay, V. Thathapudi, J.J.	2024	Bio Refinery of Wastewater Treatment: Way to Generate Waste to Value	1
79	Virtual Dress Trials: Leveraging GANs for Realistic Clothing Simulation	Rochana, B.S. Juliet, S.	2024	2024 3rd International Conference on Artificial Intelligence for Internet of Things, AIoT 2024	1
80	Electrocoagulation using Ti/Ti for the remediation and reuse of aqueous Dispersive Blue-79	Sebastian, S.L. Kalivel, P. Subbiah, K. David, J.J. Stephen, A.M.M. Palanichamy, J.	2024	Environmental Monitoring and Assessment	1
81	Effect of Bamboo Leaf and Pista Shell Powder Particles on Mechanical and Wear Behaviour of Polymer Composites	Vyshnava Kumar, G. Rao, G.B. Marshal, S.J.J. Bannaravuri, P.K. Joel, S.S. Calvin, G.J.	2024	Journal of The Institution of Engineers (India): Series D	1
82	Avenues and opportunities of detoxification of micropollutants from industrial effluent using advanced biological treatment techniques	Kandasamy, S. Babu, S.A. Dwaraka, S.J.B. Naveenkumar, M. Nandakumar, N.P. Subbiah, K.	2024	Emerging Innovative Trends in the Application of Biological Processes for Industrial Wastewater Treatment	1
83	A Novel 360° Framework for Developing a Graduate as a Whole Person by Enhancing the Affective Domain Skills	Brindha, V.E. Latha, C.B.C.	2024	Journal of Engineering Education Transformations	0
84	Revolutionizing Car Assembly Line Efficiency Using Multi-Object Detection and Tracking	Peters, A.E. Juliet, S. Anitha, J.	2024	2024 3rd International Conference on Artificial Intelligence for Internet of Things, AIoT 2024	0

85	Integrated Technological Platform for Enhancing Dairy Animal Health	Sharon Jemimah Peace, C. Paulraj, G.J.L. Jebadurai, I.J. Sharan, D. Karan, I.	2024	3rd IEEE International Conference on Distributed Computing and Electrical Circuits and Electronics, ICDCECE 2024	0
86	Utilizing Machine Learning Techniques for Enhanced Predictive Maintenance in the Manufacturing Sector	Wadibhasme, R.N. Naresh, M. Vikram Arun Sankar, V.V. Suresh, P. Jermina, F.	2024	Proceedings - ICNEWS 2024: 2nd International Conference on Networking, Embedded and Wireless Systems: Wireless Technology - Building a Digital World	0
87	Optimization of Power Consumption in Smart Grids Using Coati Optimization Algorithm	Akkara, S. Selvakumar, A.I.	2024	SSRG International Journal of Electrical and Electronics Engineering	0
88	Artificial Intelligence for Precision Agriculture	Raj, P. Gayathri, N. Kathrine, G.J.W.	2024	Artificial Intelligence for Precision Agriculture	0
89	Enhancing Mechanical Behavior of As-Built Polyamide 6+Glass Fiber Produced with Fused Filament Fabrication via Varying Infill Pattern	Raja, R. Jannet, S. Verghese, J. Abhishek, P. John, F.C. Hyjan, H.	2024	SAE Technical Papers	0
90	Microplastics Detection in Soil and Water: Leveraging IoT Technologies for Environmental Sustainability	Johnpaul, J.B. Thusnavis Bella Marry, I. Thomas, P. Rithika, S. Vishalakshi Mercy, M.	2024	International Conference on Computing and Intelligent Reality Technologies, Proceedings of ICCIRT 2024	0
91	Casting and Microstructural Characterization of High-Performance 2000 Series Aluminum Alloy for Aerospace Applications	Ben Moses, R. Ajith Raj, R. Vijay Judges, I. Barath Srinivas, P.	2024	Journal of Physics: Conference Series	0
92	Development of self sustaining system by	Sharma, D.M. Venkatramulu, S. Raja, M.A.M.	2024	The Convergence of Self-Sustaining	0

	integration of AI and IoT	Vikram, G. Alagappan, C. Boopathi, S.		Systems With AI and IoT	
93	Role of Bioactive Carrier in Edible Films: Encapsulation Theory	Ramanathan, S. Leya, B. Freeda Blessie, R. Pragalyaashree, M.M.	2024	Food Coatings and Preservation Technologies	0
94	Fuzzy Sampling Strategy Based on IPD	Jemmy Joyce, V. Rebbecca Jebaseeli Edna, K. Evanlin, P. Bazil Wilfred, C.	2024	Journal of Cybersecurity and Information Management	0
95	Thermophilic Microbes: Their Role in Plant Growth Promotion and Mitigation of Biotic Stress	Kumar, S. Rahman, M. Gayithri, M. Anjali Bouket, A.C. Naveenkumar, R. Ranjan, A. Rajput, V.D. Minkina, T. Singh, R.K.	2024	Extremophiles for Sustainable Agriculture and Soil Health Improvement	0
96	An Investigation on the Treatment of Wastewater Disperse Dye by Electrocoagulation and Examine the Use of the Treated Dye for Flora and Fauna	Asath Murphy, M.S. Jovitha, J.D. Robin, R.S. Sahaya, L.S. Palanichamy, J. Parameswari, K.	2024	Iranian Journal of Chemistry and Chemical Engineering	0
97	Ecology and diversity of microbial communities involved in the removal of priority contaminants and micropollutants in wastewater treatment systems	Shepherd, R. Vijay, V. Nair, A. Rai, R.S. Chandrapragasam, V. Gomez, L.A. Thathapudi, J.J.	2024	Trends in Biological Processes in Industrial Wastewater Treatment	0
98	Characterization of Enhanced Magnetorheological Fluid Damper and Its Influence on Sustainable Hard Turning of SS410	Ajay Vasanth, X. Sam Paul, P. Lawrance, G. Rajkumar, V. Senthilkumar, K.	2024	SAE Technical Papers	0
99	Fault Analysis of Aircraft Systems Indicated on a Cockpit Panel by Using Image Processing	Chavali, J.C. Chandy, D.A.	2024	2024 IEEE 1st International Conference on Advances in Signal Processing, Power, Communication, and Computing, ASPCC 2024	0

100	Fabrication methodology and hardness influenced by hybrid layer of a novel Entada Rheedii and banana fibre reinforced epoxy resin composite	Unnikrishnan, C.P. Christy, T.V. Raja, R.	2024	Journal of Maritime Research	0
101	Fate of Micro/Nano Plastic Pollutants in the Marine Ecosystem	Thathapudi, J.J. Gomez, L.A. Vijay, V. Chandrapragasam, V. Shepherd, R. Paul, S. Lee, M.-J. Somu, P.	2024	Remediation of Plastic and Microplastic Waste	0
102	Metals Recovery from Electrical and Electronic Waste	Iyer, A. Nambiar, K.S. Gupta, D.K. Murugan, S.	2024	Valorization of Resources from Urban Mined Materials: World Scientific Series on Advances in Environmental Pollution Management - Volume 3	0
103	Energy Meter Data Analysis and Tariff Optimization for Consumption Management	Akkara, S. Selvakumar, A.I.	2024	Proceedings of the 2024 International Conference on Advancement in Renewable Energy and Intelligent Systems, AREIS 2024	0
104	Thermoelectric cooling for machining of In 825 superalloy—an experimental study	Prabakaran, J. David, A. Russel, M.R.P. Immanuel, D.	2024	International Journal of Advanced Manufacturing Technology	0
105	Navigating the future: secure big data analytics in healthcare's 5G era	Prasad, V.K. Bhattacharya, P. Hemanth, D.J. Dutta, P.K. Kathait, A. Dănciulescu, D.	2024	Secure Big-data Analytics for Emerging Healthcare in 5G and beyond: Concepts, paradigms, and solutions	0
106	Monsoon Shifts and Their Impact on Air Quality and Weather: A Case Study of the Amaravathi River Basin, India	Kumar, R.P. Brema, J. Gautam, S. Catherina, G.	2024	Aerosol Optical Depth and Precipitation: Measuring Particle Concentration, Health Risks and Environmental Impacts	0
107	Design of Microstrip Patch Antenna with a Circular Shaped ISM Band Applications	Julia Karal Adisaya, R. Jasmine David, D.	2024	Proceedings of the 5th International Conference on Smart Electronics and	0

				Communication, ICOSEC 2024	
108	Environmentally Friendly Food Processes, Biorefineries and 3D Food Printing	Rahman, A. Rana, J. Rahman, M.S. Ferdoush, Z. Mazumder, M.A.R. Rawdkuen, S. Ranganathan, T.V.	2024	Novel Approach to Sustainable Temperate Horticulture	0
109	Modeling, Simulation, and Control of AI Robotics and Autonomous Systems	Choudhury, T. Mary, X.A. Chowdhury, S. Karthik, C. Evangeline, C.S.	2024	Modeling, Simulation, and Control of AI Robotics and Autonomous Systems	0
110	Comprehensive phytochemical exploration of red, sweet and sour tamarind genotypes through GC-MS analysis	Amaravel, M. Thankappan, S. Binodh, A.K. Singh, B.C. Akshayasri Krishnan, R.G. Nagarajan, B. Mayavel, A.	2024	Plant Science Today	0
111	Global digital transformation and the COVID-19 pandemic	Chowdhury, R. Sagayam, K.M. Radwan, N. Elngar, A.A.	2024	Global Digital Transformation and the COVID-19 Pandemic	0
112	Edible Coatings- Medical Foods and Nutraceuticals	Sangeetha, S. Dineshkumar, T. Pragalyaashree, M.M. Freeda Blessie, R.	2024	Food Coatings and Preservation Technologies	0
113	Electric Vehicle Integrated Smart Grid- Technologies, Impacts, and Control Strategies	Kuruvilla, V. Venkatesh Kumar, P.	2024	Lecture Notes in Electrical Engineering	0
114	Food Oil Quality and Usage Detection Using AI	Sanjay, S.	2024	Proceedings of the 2024 10th International Conference on Communication and Signal Processing, ICCSP 2024	0
115	Performance improvement in electric discharge machining of hardox steel though modified circuits	Vignesh, S.H. Kannaki, S. Santhanakrishnan, R. Rai, R.S.	2024	Interactions	0
116	A Low-Cost Home Energy Management Model with Web-Based Emergency Toggling Switch	George, T. Selvakumar, A.I.	2024	Proceedings of the 2024 International Conference on Advancement in Renewable Energy and	0

				Intelligent Systems, AREIS 2024	
117	Precision Farming with Versatile Robotic Systems	Sharan, D. Leelipushpam Paulraj, G.J. Jebadurai, I.J. Sharon Jemimah Peace, C. Karan, I.	2024	2nd International Conference on Artificial Intelligence and Machine Learning Applications: Healthcare and Internet of Things, AIMLA 2024	0
118	Enhancing Data Center Efficiency with Docker & Kubernetes: Industry 4.0 Container-as-a-Service (CAAS) for IoE Cloud Technology	Kumar, R.J.S.J. Singh, J.R.J. Sagayam, K.M. Kumar, R. Bhattacharya, P. Aggarwal, G.	2024	Proceedings - 4th International Conference on Technological Advancements in Computational Sciences, ICTACS 2024	0
119	Secure Data Transmission in IIoT Using Blockchain Based BI-LSTM	Skaria, T. Bamini, A.M.A. Chitra, R.	2024	Proceedings of the 2024 International Conference on Advancement in Renewable Energy and Intelligent Systems, AREIS 2024	0
120	Post-fire behavior of geopolymmer concrete with sodium silicate waste as an alternative to conventional river sand	Kanagaraj, B. Anand, N. Alengaram, J. Andrushia, D.	2024	Journal of Structural Fire Engineering	0
121	Enhancing the Mechanical Properties of As-Built and Annealed Polyamide and Polyamide Composites Processed through Fused Deposition Modeling	Raja, R. Arun Kumar, K. Jannet, S. Narasimharaj, V.	2024	SAE Technical Papers	0
122	Laccase: A potential biocatalyst for pollutant degradation	Dong, C.-D. Tiwari, A. Anisha, G.S. Chen, C.-W. Singh, A. Haldar, D. Patel, A.K. Singhania, R.R.	2023	Environmental Pollution	60
123	Advancement in algal bioremediation for organic, inorganic, and emerging pollutants	Dubey, S. Chen, C.-W. Haldar, D. Tambat, V.S. Kumar, P. Tiwari, A. Singhania, R.R.	2023	Environmental Pollution	48

		Dong, C.-D. Patel, A.K.			
124	Additive manufacturing using robotic programming	Mohanty, A. Jothi, B. Jeyasudha, J. Ranjit, P.S. Isaac, J.S. Boopathi, S.	2023	AI-Enabled Social Robotics in Human Care Services	35
125	Development and strength assessment of eco-friendly geopolymers concrete made with natural and recycled aggregates	Kanagaraj, B. Kiran, T. N, A. Al Jabri, K. S, J.	2023	Construction Innovation	33
126	Engineering properties, sustainability performance and life cycle assessment of high strength self-compacting geopolymers concrete composites	Kanagaraj, B. Anand, N. Johnson Alengaram, U. Samuvel Raj, R.	2023	Construction and Building Materials	30
127	Physical characteristics and mechanical properties of a sustainable lightweight geopolymers based self-compacting concrete with expanded clay aggregates	Kanagaraj, B. Anand, N. Praveen, B. Kandasami, S. Lubloy, E. Naser, M.Z.	2023	Developments in the Built Environment	25
128	Techno-socio-economic aspects of Portland cement, Geopolymer, and Limestone Calcined Clay Cement (LC3) composite systems: A-State-of-Art-Review	Kanagaraj, B. Anand, N. Samuvel Raj, R. Lubloy, E.	2023	Construction and Building Materials	22
129	Burning of Municipal Solid Waste: An Invitation for Aerosol Black Carbon and PM2.5 Over Mid-Sized City in India	Mahato, D.K. Sankar, T.K. Ambade, B. Mohammad, F. Soleiman, A.A. Gautam, S.	2023	Aerosol Science and Engineering	20

130	Structural diversity, functional versatility and applications in industrial, environmental and biomedical sciences of polysaccharides and its derivatives – A review	Elango, B. Shirley, C.P. Okram, G.S. Ramesh, T. Seralathan, K.-K. Mathanmohun, M.	2023	International Journal of Biological Macromolecules	17
131	Influence of elevated temperature exposure on the interfacial shear strength capacity of binary blended high strength self-compacting geopolymers concrete	Kanagaraj, B. Anand, N. Raj R, S. Lukose, J. Andrushia, D. Lubloy, E.	2023	Case Studies in Construction Materials	15
132	Machinability characteristics of titanium diamond using EDM and its parametric optimization	Sahoo, R. Debnath, T. Patowari, P.K.	2023	Materials and Manufacturing Processes	13
133	Revitalization of small millets for nutritional and food security by advanced genetics and genomics approaches	Lydia Pramitha, J. Ganesan, J. Francis, N. Rajasekharan, R. Thinakaran, J.	2023	Frontiers in Genetics	10
134	Investigation on residual bond strength and microstructure characteristics of fiber-reinforced geopolymers concrete at elevated temperature	Vijaya Prasad, B. Anand, N. Kanagaraj, B. Kiran, T. Lubloy, E. Naser, M.Z. Arumairaj, P.D. Andrushia, D.	2023	Case Studies in Construction Materials	9
135	Microstructure investigation, strength assessment, and thermal modelling of concrete exposed to different heating cooling regimes	Anand, N. Thanaraj, D.P. Andrushia, D. Lublóy, É.E. Kiran, T. Kanagaraj, B. Kodur, V.	2023	Journal of Thermal Analysis and Calorimetry	9
136	Pull-Out behavior and microstructure characteristics of binary blended self-compacting geopolymers concrete	Kanagaraj, B. Anand, N. Diana Andrushia, A. Kiran, T. Lubloy, E.	2023	Alexandria Engineering Journal	9

	subjected to elevated temperature				
137	Post-fire flexural behaviour and performance of unrestrained cold-formed steel built-up section beams: Experimental and numerical investigation	Jaya kumar, G. Kiran, T. Anand, N. Anbarasu, M. Lubloy, E.	2023	Case Studies in Construction Materials	7
138	Influence of fire-resistant coating on the physical characteristics and residual mechanical properties of E350 steel section exposed to elevated temperature	Jaya Kumar, G. Kiran, T. Anand, N. Al-Jabri, K.	2023	Journal of Structural Fire Engineering	7
139	Performance of clay masonry prisms with light weight plaster exposed to standard fire exposure	Kiran, T. Anand, N. Andrushia, A.D. Kodur, V. Mathews, M.E. Arulraj, G.P.	2023	Fire and Materials	7
140	Influence of engineering fibers on fresh and mechanical properties of geopolymers concrete	Vijaya Prasad, B. Anand, N. Arumairaj, P.D. Jose Francis, A. Samuel Aaron, S. Ram Gandla, S. Abhilash, P.	2023	Materials Today: Proceedings	6
141	Axial compressive behaviour and physical characteristics of high strength self-compacting geopolymers concrete (HSGC) columns exposed to elevated temperature	Kanagaraj, B. Anand, N. Jerry, R. Samuvel Raj, R. Lubloy, E.	2023	Construction and Building Materials	6
142	Evaluating groundwater contamination: An examination of a municipal solid waste dump yard in southern India's Manchester City	Ringle Raja, S. Kanagaraj, B. Eunice, S.	2023	Resources, Conservation and Recycling Advances	6

143	Black Carbon vs Carbon Monoxide: Assessing the Impact on Indian Urban Cities	Ambade, B. Sankar, T.K. Gautam, S. Mahato, D.K. Dumka, U.C. Mohammad, F. Al-Lohedan, H.A. Soleiman, A.A. Gautam, A.S.	2023	Water, Air, and Soil Pollution	5
144	Implementation and Manufacturing of DT Sensor Ecosystem for Real-Time Monitoring of Virtual 3D Printers	Reddy, K.S.S. Rajesh, R. Raj, P.A.C. Arya, N. Bhaskaran, R. Prasad, J.L.	2023	SN Computer Science	4
145	Energy Efficient Secure-Trust-Based Ring Cluster Routing in Wireless Sensor Network	Sumesh, J.J. Maheswaran, C.P.	2023	Journal of Interconnection Networks	3
146	Evaluation of the Rheological and Durability Performance of Sustainable Self-Compacting Concrete	Mathews, M.E. Kiran, T. Nammalvar, A. Anbarasu, M. Kanagaraj, B. Andrushia, D.	2023	Sustainability (Switzerland)	3
147	Feature Extraction From Single-Channel EEG Using Tsfresh and Stacked Ensemble Approach for Sleep Stage Classification	Radhakrishnan, B.L. Ezra, K. Jebadurai, I.J.	2023	International Journal of e-Collaboration	2
148	Detection of Cyber-attacks in Food Industry using Multi-Layer Perceptron and Convolution Neural Network	Beulah Rani, I. Vinodh Edwards, S.E. Matthew Palmer, G. Kathrine, G.J.W.	2023	International Conference on Sustainable Computing and Smart Systems, ICSCSS 2023 - Proceedings	2
149	Investigation of the Post-Fire Performance and Flexural Behaviour Modeling of FRC Exposed to a Standard Fire	Varghese, A. N, A. Andrushia A, D. Lubloy, E. Arulraj G, P.	2023	Structural Engineering International	2
150	Xylitol Production from Corncob Hydrolysate by an Engineered <i>Escherichia coli</i> M15 as Whole-Cell Biocatalysts	Ariyan, M. Thankappan, S. Ramachandran, P. Uthandi, S.	2023	Waste and Biomass Valorization	2

151	Different parameters affecting the efficiency of dryers	Patel, G. Prudhvi, P.V.V.P. Patra, A. Pathak, S.S. Sonawane, A.D. Shirkole, S.S.	2023	Drying Technology in Food Processing: Unit Operations and Processing Equipment in the Food Industry	2
152	Design and implementation of UWB-based cyber-physical system for indoor localization in an industry environment	Shyam, S. Devaraj, S.J. Ezra, K. Delattre, J. Lynus, G.K.	2023	Intelligent Edge Computing for Cyber Physical Applications	2
153	Web-Crippling Capacity of High Performance Cold-Formed Lipped Steel Sections Subjected to Elevated Temperature	Jayakumar, G. Kiran, T. Nammalvar, A. Prasad Sah, T. Mathews, M.E. Anbarasu, M. Dar, A.R.	2023	Buildings	2
154	Prioritization of surgical, obstetric, trauma, and anesthesia care in India over seven decades: A systematic analysis of policy documents	Shetty, R. Zadey, S. Jindal, A. Iyer, H. Dubey, S. Jesudian, G. Smith, E.R. Staton, C.A. Fitzgerald, T.N. Vissoci, J.R.N.	2023	PLOS Global Public Health	2
155	Utilizing RL and Web-Enhanced Commuting for Traffic Congestion Mitigation and Public Transportation Enhancement	Jenefa, A. Jerusha Miraclin Dulcie, B. Carolin Joanna Sheryl, K. Eswari, S. Sandra Jeslena, W. Kuriakose, B.M.	2023	7th International Conference on Electronics, Communication and Aerospace Technology, ICECA 2023 - Proceedings	2
156	Residual properties of geopolymmer concrete for post-fire evaluation of structures	Kanagaraj, B. Anand, N. Andrushia, D. Kodur, V.	2023	Materials	2
157	Modelling a P-System inspired multi-objective centralized heterogeneous wireless outdoor illumination	Issac, T. Silas, S. Rajsingh, E.B.	2023	Journal of Ambient Intelligence and Humanized Computing	2
158	Rheological Phase Reaction (RPR) as an Industrial Method for the Production of High Quality Metal Oxides towards Battery Applications	Pavithra, S. Sakunthala, A. Reddy, M.V.V.	2023	Energies	2

159	Design and Evaluation of a Photobioreactor for Carbo Capture and Mitigation Using Microalgae	Adhithya, S. Thomas, J. Aravindhkumar, V.	2023	International Journal on Algae	1
160	Comparative study on the electrocatalytic activity of dissimilar electrode combinations for the treatment of textile effluent by electrocoagulation process and their subsequent reuse	David, J.J. Stephen, A.M.M. Robin, R.S. Sebastian, S.L. Palanichamy, J. Kalivel, P.	2023	Iranian Journal of Catalysis	1
161	A comprehensive review on electric vehicles: Charging and control techniques, electric vehicle-grid integration	Femy, P.H. Jayakumar, J.	2023	Energy Harvesting and Systems	1
162	IoT and Industry 5.0 Revolutionizing Agriculture: A Comprehensive Review of Sustainable Advancements in Precision Farming	Mohan, K.J. Mary, I.T.B. Paul, J.J.	2023	IET Conference Proceedings	1
163	Elevated CNN Based Secured Sensor Image Data Communication for HAR: IIOT	Alli, P. Dinesh Peter, J.	2023	Lecture Notes in Electrical Engineering	0
164	Wind Energy Production Prediction in Smart Industries	Isravel, D.P. Viswamohan, R. Raj, M.L. Arakal, A.J.	2023	Proceedings of the International Conference on Circuit Power and Computing Technologies, ICCPCT 2023	0
165	Materials, fabrication techniques, applications, and limitations in hydrogel forming: Rapid prototyping for tissue engineering	Suresh, M. Joshua Gnana Sekaran, J. Widjaja, G. Sivachitra, M. Ganesh Babu Loganathan	2023	Handbook of Research on Advanced Functional Materials for Orthopedic Applications	0

166	Precision Agriculture: IoT Based System for Real-Time Monitoring of Paddy Growth	Thirisha, R. Sugumar, D. Sugitha, K. Asha Sherin, J. Dharshini, V. Jose, A.V. Tryphena, T.P.	2023	2023 International Conference on Sustainable Emerging Innovations in Engineering and Technology, ICSEIET 2023	0
167	A review of study on optimum utilization of water treatment plant sludge for treating domestic wastewater	Rishi, P. Reymond, D.J. Lawrance, V.	2023	AIP Conference Proceedings	0
168	Electrical discharge machining parameters and dielectric fluid: A review	Gugulothu, B. Aravindan, N. Widjaja, G. Lakshmanan, S.A. Suresh, M.	2023	Handbook of Research on Advanced Functional Materials for Orthopedic Applications	0
169	Comparison of membrane immobilized zero-valent iron nanoparticles for RED ME4BL azodye degradation	Krishnan, S.K. Subbiah, K. Chandrapragasam, V. Subramanian, K.	2023	Journal of Applied and Natural Science	0
170	Research on Energy Management Strategy and Multi-energy Integrated Control of Hybrid Electric Car Considering Regenerative Braking	Sesha Bhargavi, V. Nagarajan, J. Srimannarayana, V.V. Samson Isaac, J. Sabarimuthu, M. Purushotham, S.	2023	2023 2nd International Conference on Smart Technologies for Smart Nation, SmartTechCon 2023	0
171	Correction to: Microbiota in sustainable degradation of organic waste and its utilisation in agricultural industry	Sinduja, M. John, J.E. Suganthi, R. Ragul, S. Balaganesh, B. Mathiyarasi, K. Kalpana, P. Sathy, V.	2023	Microbiomes for the Management of Agricultural Sustainability	0
172	Parametric Analysis of Machining of Titanium Grade-2 Alloy in EDM Under Tap Water	Baroi, B.K. Debnath, T. Jagadish Patowari, P.K.	2023	Lecture Notes in Mechanical Engineering	0
173	Synthesis of nanoengineered microporous activated carbon from Nerium Oleander fruit seeds for the adsorptive	Pandey, P. Kansal, A. Dhiman, M. Subudhi, S.P. Gautam, A.S. Gautam, S.	2023	Environment, Development and Sustainability	0

	removal of carbon dioxide (CO2)				
174	Energy harvesting and storage devices: Sustainable materials and methods	Thoutam, L.R. Ajayan, J. Nirmal, D.	2023	Energy Harvesting and Storage Devices: Sustainable Materials and Methods	0
175	Newfangled Automatic Car Parking Technology using RFID	Rixcy Reshma, S. Anshon, S.A. Nikil Kumar, M.	2023	2nd International Conference on Automation, Computing and Renewable Systems, ICACRS 2023 - Proceedings	0
176	Biodegradation Assay of Heavy Metals and Dyes Decolorization in Textile Industrial Effluent using Laccase Isolated from <i>Pleurotus ostreatus</i>	Johnnie, D.A. Issac, R. Prabha, M.L. Gomez, L.A.	2023	Journal of Pure and Applied Microbiology	0
177	REDUCTION OF CARBON FOOTPRINT WITH GEOPOLYMERIC CONCRETE AND RECYCLED AGGREGATE – A CRITICAL REVIEW	Kanakaraj, V. Christy, C.E.F.	2023	Malaysian Construction Research Journal	0
178	Temperature based Hand Sanitizer Dispenser Integrated by IoT for Industry 4.0	Dhanasekar, S. Govindaraj, V. Brutha, P.M. Ahmed, L.J. Priya, C. Sivasankari, K.	2023	2nd International Conference on Advancements in Electrical, Electronics, Communication, Computing and Automation, ICAECA 2023	0
179	Efficacy of Fire Protection Techniques on Impact Resistance of Self-Compacting Concrete	Mathews, M.E. Kiran, T. Nammalvar, A. Andrushia, A.D. Alengaram, U.J.	2023	Buildings	0
180	Review on Biocrude generated from plastic waste using Pyrolysis process	Kaushik, P.K. Reymond, D.J. Subha, C. Lawrance, V.	2023	AIP Conference Proceedings	0

181	Microbiota in sustainable degradation of organic waste and its utilisation in agricultural industry	Sinduja, M. John, J.E. Suganthi, R. Ragul, S. Balaganesh, B. Mathiyarasi, K. Kalpana, P. Sathya, V.	2023	Microbiomes for the Management of Agricultural Sustainability	0
182	Neuromorphic computing systems for industry 4.0	Dhanasekar, S. Sagayam, K.M. Vijh, S. Tyagi, V. Norta, A.	2023	Neuromorphic Computing Systems for Industry 4.0	0
183	A comprehensive characterization of shape memory alloys concerning the attributes of fabrication and post machining responses	Arulkirubakaran, D. Rasalin Prince, R.M. Debnath, T. Immanuel, I.D. Jayaprakash, P.	2023	Materials for Advanced Heat Transfer Systems	0
184	Classification of Adventitious Lung Sounds: Wheeze, Crackle using Machine Learning Techniques	Amose, J. Manimegalai, P. Pon Selchiya, R.	2023	International Journal of Intelligent Systems and Applications in Engineering	0
185	Implementation of Industry 4.0 in the Energy Sector	Prasad, G.P. Kathrine, G.J.W. Kuruvilla, J.M. Mohammed Moosa Razeek, J.	2023	Proceedings of the 2nd International Conference on Edge Computing and Applications, ICECAA 2023	0
186	Energy Consumption of Composite Structure in Various Regions in India: A BIM Approach	Arun Kumar, B. Daniel, C. Amudhan, V. Devarajan, S. Tahara, R.M.K. Arunraj, E. Arun Solomon, A.	2023	Civil Engineering and Architecture	0
187	Plant-based biopolymers for wastewater pollutants mitigation	Harshan, K. Rajan, A.P. Kingsley, D. Sheikh, R.A. Aashmi, J. Rajan, A.P.	2023	Biopolymers: Environmental Applications	0
188	Development of biopolymers from microbes and their environmental applications	Nambiar, K. Saravana Kumari, P. Devaraj, D. Sevanan, M.	2023	Biopolymers: Environmental Applications	0
189	Malware Detection in Industrial IoT using Federated Cloud	Lamech Vedaraj, J. Maheswaran, C.P.	2023	International Conference on Recent Advances in Science and Engineering Technology, ICRASET 2023	0

Patents Published

Sl. No	Title of Invention	Application Number	Date of Filing	Date of Publishing	Inventors
1	A System Of Power Generating Tile	2.02341E +11	23.06.2023	01.09.2023	Pullanikkat Abhishek, Praise Elizabeth, Bollavarapu Ashish Enoch, Catherina G, Bondugula Shalem Raj, Dr. Hemalatha, Dr. Sneha Gautam, Dr. Alok Sagar Gautam, Sanjeev Kumar
2	A System For Portable And Replaceable Indian Cleaver Knife For Chopping Meat	2.02341E +11	23.06.2023	01.09.2023	Dr. F. T. Josh, Dr. Jency Joseph, Ms. Grace Judith, Ms. Sankepalle Deekshitha, M. Abarna, A. Jebasingh
3	A Process Of Preparation Of Fibre Rich Tender Coconut Water Jelly And Product Thereof	2.02341E +11	24.07.2023	01.09.2023	Nivetha, Dr. Arun Kumar
4	Smart Vacuum Salon Chair System	2.02341E +11	29.07.2023	01.09.2023	Pullanikkat Abhilash, Joel Varma, Febin Joseph, Cyril Samuel Dr. Sneha Gautam, Dr. Godson Asirvatham Lazarus
5	Internet Of Things Based Wearable Device For Women Safety	2.02341E +11	29.07.2023	01.09.2023	Dr. Ebenezer, Uvaana Falicica, Rithika Baskaran, Agatha Celesty, Sejal Eden, Dr. Roshni Thanka
6	A One Pot Simultaneous Electrooxidation-Electrocoagulation Process For Effective Pollutant Removals From Textile/Pharmaceutical Waste Water	2.02341E +11	26.08.2023	08.09.2023	Riju S Robin, Dr. Parameswari, Jovitha Jane
7	Intelligent Speech Assistive System For Voiceless People	2.02341E +11	01.09.2023	06.10.2023	Dr. Salaja Silas, P Joyce Beryl Princess, Dr. Getzi Jeba Leelipushpam, Graeson Joshua Elijah, Evalt David

8	A Process Of Electrochemical Sensor Based Detection Of Tryptophan	2.02341E +11	07.09.2023	06.10.2023	Sudharshan Bangaru(Rrk21nt2001), Dr. Suresh Babu
9	Eco-Friendly Honey Bee Repellent Herbal Spray	2.02341E +11	14.09.2023	06.10.2023	Dr. David Paul Raj, Sneha Annie Abraham, Kavinila
10	A Self Controlled Assistive Wearable Electronic Simulation Device	2.02341E +11	16.10.2023		Dr. R. Jegan, Dr. S. Thomas George, Nimi W.S, J. Devaprakash, Mercy Golda
11	Composite Fire Resistant Plaster for Thermal Protection of Structural Concrete	2.02441E +11	4-Jan-2024	9-Feb-2024	Dr. Anand Dr. Balamurali Kanagaraj Dr. Prince Arulraj
12	Velocity Induced Thermosyphon System Embedded with Convergent Divergent Nozzle to Enhance the Velocity of the Working Fluid	2.02441E +11	4-Jan-2024	9-Feb-2024	Mr. Bairi Levi Rakshith Dr. Godson Asirvatham Lazarus Dr. Anitha Angeline Appadurai
13	An Embedded System Based Real-Time Prediction of Musical Chord Progressions and a Method Thereof	2.02441E +11	7-Feb-2024	8-Mar-2024	Mr. Abraham George Dr. X. Anitha Mary Mr. Gurram Akash Mr. Bhupathiraju Karthikeya Varma
14	An Alkaline- Activated Cementitious Material-Based Mixture Composition for an Extrudable Type 3D Printer	2.02441E +12	7-Feb-2024	8-Mar-2024	Ms. Sheeja Dr. Vincent Sam Jebadurai Dr. G. Hemalatha
15	An Automated Self Guided Robot with a Single Reference Wheel Mechanism	2.02441E +11	7-Mar-2024	22-Mar-2024	Mr. G. K. Vishwas Mr. M. Vijay Paul Dr. J. John Paul

16	A Process of Preparation of Novel Active Targeted LIPO-QUERCETIN Nano Formulation for Sustained Quercetin Release	2.02441E +11	27-Mar-2024	5-Apr-2024	Ms. Jenitha Dr. V. M. Berlin Grace Mr. D. Ramachandra Dr. R. S. David Paul Raj Dr. D. David Wilson Mr. Monith Raj Ms. Kokelavani
17	A Novel Low Cost Isolated and Centralised Multipatient Vacuum Based Wound Healing System	2.02441E +11	20-May-2024	31-May-2024	Mr. Arun Prasad Dr. P. Manimegalai Dr. Jackuline Moni
18	A Process Of Preparation Of Vanadium And Cerium Co-Doped Hydroxyapatite Incorporated Biomimetic Nanocomposite Scaffold For Tissue Engineering And Product Thereof	2.02441E +11	20-May-2024	31-May-2024	Ms. Megha Dr. Senthilkumar Dr. Anjumol Joy Dr. Jibu Thomas Dr. Chandini C Mohan Dr. M. Haris
19	Internet of Things Enabled Automated Parapet Safety System With Adjustable Barrier and Protective Net Mechanism	2.02441E +11	3-Jun-2024	14-Jun-2024	Dr. Sneha Gautam Dr. J. John Paul Ms. Deborah Grace Varghese Mr. Hubert Spencer Mr. Sakhineti Joel Varma
20	A Process of Preparation Antioxidant Rich Hibiscus Petal Powder Jelly and Product Thereof	2.02441E +11	27-Sep-2024	4-Oct-2024	Vijaysurya Dr H S Arun Kumar T U Nivetha Dr. Pragalyaa Shree M.M
21	A Process of Preparation of Biodegradable Straws and Product Thereof	2.02441E +11	8-Oct-2024	18-Oct-2024	Dr. Pragalyaa Shree M.M Mahalakshmi G T U Nivetha Dr. R. Freeda Blessie

22	Edge Computing Based Wild Animal Intrusion Detection and Chasing System Using Internet of Things Technologies	2.02441E +11	19-Oct-2024	25-Oct-2024	Dr. J. Sebastian Terence Mr. Hisham Raihan Mr. Joshua Atulaya Lakra
23	A Process of Preparation of Topical Gel for Treating Methicillin Resistant Staphylococcus Aureus Infection and Products Thereof	2.02441E +11	28-Oct-2024	1-Nov-2024	Dr. S. Murugan Dr. B. Vidhya Dr. Rehaboth Nissi Ms. Aswathy V U
24	A Method of Fabrication of Femur Implant for Orthopedic Applications	2.02441E +11	28-Oct-2024	1-Nov-2024	Mr. W. Benston Clinton Joseph Dr. J. Samson Isaac Dr. S. Thomas George
25	Vapour Chamber System	2.02441E +11	20-Nov-2024	29-Nov-2024	Mr. Bairi Levi Rakshith Dr. Godson Asirvatham Lazarus Dr. Anitha Angeline Appadurai Ms. Sherlee Singamala
26	Unmanned Aircraft System Using Metalized Carbon Fibre Reinforced Polymer for Outer Space Mission	2.02441E +11	20-Nov-2024	29-Nov-2024	Mr. Nobendu Sen Dr. Ajith Raj R Dr. G. Jims John Wessley Dr. Anton Savio Lewise
27	Macrocyclic Amines Intercalated Two Dimensional Anodic Materials and Thereof for Energy Storage Materials	2.02441E +11	22-Nov-2024	29-Nov-2024	Dr. Jebasingh Bhagavathsingh Ms. Sneha A.R
28	Modified Lignin PVA Membrane for Flexible Supercapacitors	2.02441E +11	24-Nov-2024	29-Nov-2024	Mr. Matbiangthew Shadap Dr. A. Sakunthala

29	Patch Sensor for Cerebrospinal Fluid Pressure Measurement	2.02441E +11	18-12-2024	03-01-2025	Dr. G. Samuelraj Chrysolite Ms. Tanya Saira John Mr. Immanuel John Mathew
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Karunya Technology Business Incubation Park (K-TBIP) Incubates List

1. List of Student Incubates

Sl.No	Startup Title	Founder(s) Name	Startup Sector	TRL
1	Autonomous Golf Cart (Self Driven EV)	Mr. Kevin. J (URK22CO3003) Mr. Jeffrey Chris (URK22CO3009) Mr. Selvavignesh G (URK22AI1031) Dr. A.M. Anusha Bamini Asst.Prof,CSE	IT	TRL 2
2	Wonder Workers (Web Developer)	Mr. Dhuruv Swamy R (URK22AI1016) Mr. Aron Jose A (URK22AI1017) Mr. Hariharan K (URK22AI1048) Mr. Samnaveen Kumar V (URK22AI1043)	IT	TRL 6
3	UV object sanitizer	Ms. Letitia Nimshi, (URK22BM3001) Ms. G. Venika, (URK22BM2008) Dr. P. Manimegalai - BME	Bio - Medical	TRL 3
4	Reverse vending machine	Ms. Janina Mr. Avisa Crispus Samuel Praneeth Ms. Regulla Mallika Priya Harshini Ms. Fidelia Francis Fernandes Mr. Arpit Lazaras Gaikwad Mr. Joshan Moorikottu Cherian	Social	TRL 1
5	MENSCH ROBOTICS PRIVATE LIMITED	Mr. Bibin Thomas, Founder - Mensch Robotics	Robotics	TRL 5
6	Nex-Dynamics	Mr. Kabilan KB, (ULK20RA1008)	Autonomous vehicles	TRL 4
7	Teshuvah Bionics	Mr. Immanuel John Mathew (URK21RA1007)	Bio Medical	TRL 4
8	Pyrolysis of Biowaste to Composite	Mr. Dinesh K	Social	TRL 1
9	(Zephyr) Empowering Women's Safety Through Smart Technology	Mr. Thomas Chandy Ms. Rachana C Nair	Women Safety	TRL 2

10	A low Cost CPAP for wide-speed usage	Ms. Sowmya Sudhakar, (URK19BM1001)	Bio Medical	TRL 4
11	Healo Packs (Lakshmi Print and Pack)	Mr. C.L. Brijesh (URK22BT1030)	Biology	TRL 2
12	Extraction and Evaluation of Anti-Lice Efficacy of Sphaeranthus Indicus Linn for infestation of lice	Ms. Litta Roy (URK22BT1032)	Herbal	TRL 2
13	GS Smart Table	Mr. Aron Jose A (URK22AI1017)	IT	TRL 1
14	An AI-powered online platform aiming to create entrepreneurs	Mr. Sharvesh. P.P, (URK21AE1024)	IT	TRL 1
15	Herbal E-ball	Ms. TP. Tryphena, (URK21AC1267)	Herbal	TRL 3
16	Artiflex	Ms. Regulla Mallika Priya Harshini, (URK23AI1026)	Bio Medical	TRL 2
17	Edible Cutlery	Mr. T.S. Harish Theriraja, (URK23FP2009)	Eco Friendly	TRL 1
18	Baby Bites	Ms. Pavithra Reji, (URK23FP2014)	Bio Medical	TRL 1
19	Banana- Cellulose Based Bio composites	Mr. A. Mohammed Suhail, (URK23BT3008)	Eco Friendly	TRL 2
20	Rapha Medtech Solutions	Mr. Aashish Samuel, (URK22BM2032) Mr. V. Karthikeyan, (URK22BM3004) Mr. Arpit Chauhan, (URK22BM3008)	Bio Medical	TRL 3
21	AI Sentinel	Mr. Abin Shaji Thomas, (URK24CS6007)	IT	TRL 1
22	PermaSpark	Mr. Chris Jaron, (URK21CS2001)	IT	TRL 1
23	Repairon	Mr. G. Shri Vishal, (URK23AE1019) Mr. K. Santhosh Kumar, (URK23AE1018) Mr. S. Darish, (URK23AE1025) Mr. S. Rahuram, (URK23AE1012)	Aero Tech	TRL 1
24	Trulife	Mr. Mohammed Haneefa Jafar, (URK22AI1057) Mr. A. Mohamed Riyaz, (URK22AI1041) Mr. W. Benedict Rejones, (URK22AI1087)	Social	TRL 1

25	Custom Multi-Purpose Drone Manufacturing	Mr. Solomon P A (URK22AE1040)	Aero Tech	TRL 1
26	Lead Healthy Life	Mr. RAAJ VISANTH M S (PRK24MS1022)	Social	TRL 1
27	Advanced Portable Raman Spectroscopy Device for Breast Cancer Detection	Ms. MIRACLEIN SHEBA J P (PRK24BM1001) Mr. Kavi Nilavan (RRK22PH1002)	Bio Medical	TRL 2
28	Forensic Kit	Mr. Rohith Sugu S (URK22FS1007) Ms. K. Iyeswarya, (PRK24FS1004) Ms. Anitha Mary A (PRK24FS1008)	Criminoloy	TRL 3
29	Mine Detector (Thiru Chakshu)	Mr. Joel Manu Alexander (URK24EE1001) Ms. Chitra Ranjit Nair (URK24AE3001) Ms. Angeleena Philip (URK24AE1003) Ms. Krishna Kamleshbhai Solanki (URK24AE3009) Mr. Darshan Samuel Nayak (URK24EC8004) Mr. A. Prathap Joel (URK24EC8009)	Mines	TRL 1
30	Biomass Briquettes (eco-friendly fuel alternatives)	Mr. Dinesh T Mr. Madesh T	Eco Friendly	TRL 1
31	Smart wind mill transportation	Mr. Keerthivasan (URK23ME6021) Mr. Richard Albert K M (URK21RA2007)	Eco Friendly	TRL 1

II List of Faculty / Staff Incubates

Sl.No	Startup Name	Founder(s) Name	Startup Sector	TRL
1	Culex Mosquito Trap	Dr. R. Philip Sridhar, Professor, Ariculture Dr. Anitha Mary X Dr. P. Rajalakhsni	Social Tech	TRL 4
2	Mayim Chayim	Dr. P. Jegathambal, Professor, Ariculture	Environmental	TRL 3
3	Nitrate Sensor	Dr. M.Suguna Devakumari, Assistant Professor, Ariculture	Environmental	TRL 3
4	Refuah Herbals	Dr.DavidPaulRaj RS, Associate Professor, Bio Tech	Biomedical	TRL 5

5	Anti-Theft Device for Fishing net	Mr. Gerard Joe Nigel K, Assistant Professor, Robotics	Social Tech	TRL 2
6	Development of Probiotic based on millet to address cognitive impairment / (ADHD)	Dr. Gobikrishnan S, Assistant Professor, Food Processing	Biomedical	TRL 2
7	HR Recruitment Service	Mr. B. Jai Ganesh, Assistant Professor, MBA	IT	TRL 1
8	ZOE Cloud Services & Smart System Development	Dr. J. Jaya Kumar, Professor, EEE	IT	TRL 4
9	Tendon Tissue Engineering in preclinical Sheep model	Dr. Rebu Sundar, Assistant Professor, Bio Tech	Science	TRL 2
10	Advanced Passive Cooling Solutions	Dr. A. Brusly Solomon, Associate Professor, Mech	Mechanical	TRL 4
11	ALGAE MOKSH	Dr. Jibu Tomas, Head, Bio Tech	Biology	TRL 4
12	Naari Nestam	Dr. G. Babu Rao, Associate Professor Division of Mechanical Engineering	Biomedical	
13	Smart Honey extraction	Dr.R.Priscilla Joy Dr. Immanuel John Raja Dr. P . Sam Paul Dr. Catherine Joy	Eco Friendly	TRL 1
14	Four I Tech R&D solutions pvt ltd	Dr. S. Rajesh, Professor and Head Dr. R.Nandhakumar, Professor Dr. B. Vidhya, Assistant Professor Dr. A. Sakunthala, Assistant Professor	Eco Friendly	TRL 4
15	Rubic cubes	Dr. Jebasingh	Science	TRL 4
16	RADO ++	Dr. Sugumar D, Associate Professor Dr. Anita Jones Mary T, Associate Professor Mr. Jebavaram J, Lab Technician Grade I	Science	TRL 2
17	Abaya Security	Dr. Siva Mangai, Associate Professor, ECE	IT	TRL 2

III. List of Industry Incubates

Sl. No	Names	Industry	Theme/Product
1	Dr. Dileep Kumar. R	M/s Indriyam Biologics	<i>INDHAN</i> - A fully automated bio diesel processor <i>V-SENS</i> - Snake venom detection biosensor.
2	Mr. Varoon Damodaran	M/s Birchwood Pets	Pet Foods
3	Dr. G. Paul Robinson Gnanaraj	M/s Mapusoft Technologies	Operating Systems
4	Mr. Santosh D	M/s. WisRight Tech Private Limited	Business Development with Internships
5	Mr. Renious Charles	M/s Truleaf Private Ltd	R&D of bakery products and multi varieties of breads
6	Mr. Lokesh. Allibilli	M/s. Ujasravanthi Indo thermal Technologies Pvt Ltd	Design and Development of loop heat pipe technology [LHP]
7	Mr. Nagaraj	M/s. NuStartZ	Development of software services and IT support
8	Mr. Joshy Varkey	Bio Vastum Solutions Private Limited	CML biotech Ltd. (Medical disposable manufacturing
9	Mr. Vinothkumar Rathinakumar	i6 Sec Solutions Private Limited	Threat Lift
10	Mr. M.N. Samy	Sri Selvanayakiamman Traders Private Limited,	Bio-char Production
11	Mr. Ramesh Kumar	Astravue Technologies Pvt Ltd	Software esolutions
12	Mr. Jeetu Mayani	Nasanta Food & Drink Pvt Ltd	R&D of food products
13	Mr. Jackson Alex	Falconretech Pvt Ltd	Medical software
14	Mr. Sriveera	Aparoks Pvt Ltd	Development of software services and IT support

IV. KITS Entrepreneurs

Sl. No	Name of the Alumni	Name of the company incubated
1	Mr.Akshit Joy Runda UR11ME008	M/s. Atrobo Technologies (OPC) Private Limited, Coimbatore
2	Mr.Akilesh Joseph Micahel P UR12ME016	M/s. Philteg, Hosur
3	NIGEL ABRAHAM JACOB UR13ME128	Nebula-robotics
4	Mr. Abhinav Dixit (UR14ME117)	ABHI Repair Pvt. Ltd
	Mr.Ashish Kumar (UR14CS301)	
	Mr.DUBEY ABHISHEK JAY PRAKASH (UR14ME009)	
5	Loyola Swinton J UR12ME122	Budding Enterprises & Co
6	P John Shajik URK17FP057	No1 Distributors, Weavers Colony, Nagercoil
7	Monisha E UR16FP005	Holisteefoods, Chennai
8	Rakesh Bambi M UR16FP087	NS Asafoetida, Madurai
9	Jenisha Rachelin A UR16FP055	Spicy and Tasty, Tuticorin
10	M.V. Rameshbabu	Flowtech
11	Ajoy Kumar Raja	Ajoy Construction
12	Alwin Jose	Alwin Enterprises
13	Jeyaseelan Albert Reginald	Zion Global Technologies Private Ltd
14	Joshua Madan	Covenant Consultants
15	Jeyasingh Pathrose	Jasmine Infotech
16	Gnanaseelan	Ozone Group
17	Mohan Thomas	HIFX IT & Media Services Pvt Ltd
18	Albin Vijay Singh	Cakebuy
19	Sanju Thomas	Ghar 360
20	Jomith George	Bidsopt Media pvt Ltd
21	Paulson George	PalsGames

22	Solomon Ashok	Splendio Technologies
23	Anoop Babu	Amieton Technical Services LLC
24	Nelson Vethamanickam	Nelson Engineering Pvt Ltd
25	Ashfin Francis	Tape Casette Media
26	Balasicandan	Capital Engineering Consultancy
27	D.Sivakumar	Dhasi Hydraulics
27	Mr.D. Srinivasan	ACE Tech Ltd
28	Mr. Sajeeth Praveen Bristol	Acesolution Pte Ltd
29	B Ganesh Kumar	SIBAS, Ultrasonics
30	Mr. Parsa Sai Karthik	Spectra Assistive Technologies Pvt. Ltd