REGISTRAR

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Date: 11.01.2024

Dear Sir / Madam,

Sub : TNSDC – Naan Mudhalvan AU - Niral Thiruvizha (Hackathon) – EVEN Semester 23-24 – B.E. / B.Tech. Final Year Student Project Work – Guidelines issued – Reg.

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Our Honorable Chief Minister has launched Naan Mudhalvan Grand Innovation & Skilling Challenge – AU - Niral Thiruvizha (Hackathon) – 2023 event. The main objective of this event is to trigger an innovation mindset among the student community which in turn will develop the skills of our students across various sectors. The hackathon will revolve around carefully selected 10 themes that encompass a wide range of challenges faced by Tamil Nadu Government Departments.

The final year B.E. / B.Tech. Students are expected to provide the feasible, viable and implementable solution using Artificial Intelligence, Machine learning and other tools. Participating students can earn their academic credits in lieu of final year project works. The themes include but not restricted to

1. Agritech & Food Technology
2. Clean & Green Technology
3. Waste Management
4. Water & Soil Conservation
5. Education 4.0
6. Renewable & Sustainable Energy
7. Smart Town/City
8. Health/Med - Tech
9. Smart Manufacturing
10. Heritage & Culture

In this connection, as per the virtual meeting chaired by the Honorable Vice – Chancellor held on 10.01.2024, please find the following details:

1. AU - Niral Thiruvizha (Hackathon) is meant for final year engineering students studying under Anna University and it will be executed through Centre for Sponsored Research and Consultancy (CSRC), Anna University.

2. The list of prestigious partners in executing the AU - Niral Thiruvizha (Hackathon) is indicated in Annexure – II
3. Tamil Nadu Skill Development corporation has created a specific website for AU - Niral Thiruvizha (Hackathon)

   https://niralthiruvizha.naanmudhalvan.in/

   where students' teams can register and submit their ideas.
4. The list of Themes and Problem statement identified under each theme is indicated in Annexure as well as in the website.
5. A student team has to be formed with 4 students. A team may consist of multi - disciplinary branches.
6. Each team will be guided by a faculty member or an industry expert or both. A student is strictly permitted to be on only one team.
7. The team should submit their project proposal as per the template given. The solution should be a feasible, viable and implementable.
8. Based on the shortlisting, project presentation and evaluation of the proposal by the team of experts, financial assistance to develop the prototype for each team will be provided not exceeding a sum of Rs. 10,000/- (Rupees Ten Thousand only). This amount is to be utilized only to develop the prototype and not for purchase of computer consumables, stationaries, honorarium, overhead etc.
9. The colleges should facilitate these students project ideas with their expertise and infrastructure.
10. Financial / Administrative sanction is accorded to the college and the college is responsible for scrutinize, approval and payment of the bills.
11. Based on the outcome of the project, for the top 50 projects, Startup TN will provide additional financial support.

Utilize these opportunities and inculcate research mindset for young budding engineering students of Tamil Nadu.

Thanking you

11/11/24

REGISTRAR I/C

Annexure – I: Scheme Outline, Step by step Registration and Template for Project Proposal

Annexure – II: List of Engineering Colleges are identified under AU - Niral Thiruvizha (Hackathon)

Annexure – III: List of Problem Statements

Naan Mudhalvan – Anna University Niral Thiruvizha

Naan Mudhalvan Grand Innovation & Skilling Challenge - Niral Thiruvizha (Hackathon) - 2023 was launched by our Honorable Chief Minister. The objective of this event is to trigger an innovation mindset and to promote the entrepreneurial culture among the student community which in turn will develop the skills of our students across various sectors. Since, Anna university offers skill-based courses with credits for them through Naan Mudhalvan Scheme, final year projects are also to be offered for all final year Engineering Students with 12 Credits by Anna university.

The vision of Niral Thiruvizha is to kindle the innovative minds of our students to address the persisting issues and real time problems with technology enabled solutions which will improve quality of life. **Students can choose any of the listed problem statement under the 10 themes and work on that to come up with innovative ideas and solve the problems.**

Final year students of Selected 107 Engineering Colleges from Government Colleges, Government aided Colleges, Government Autonomous Colleges, University Constituent Colleges, University Departments, Self-Financing Autonomous Colleges and Self-Financing Non-Autonomous Colleges will take up this program with 12-credits as project work in their final semester.

Themes:

The hackathon will revolve around 10 carefully selected themes that encompass a wide range of challenges faced by Tamil Nadu Government Departments. These themes include but not restricted to

1. Agritech & Food Technology
2. Clean & Green Technology
3. Waste Management
4. Water & Soil Conservation
5. Education 4.0
6. Renewable & Sustainable Energy
7. Smart Town/City
8. Health/Med - Tech
9. Smart Manufacturing
10. Heritage & Culture

Benefits for Participants:

1. Opportunity to work on real-world challenges directly sourced from stakeholders.
2. Hands-on experience in developing and refining innovative solutions.
3. Mentorship and guidance from industry experts.
4. Recognition, prizes, and potential opportunities for further development and funding.

It is also planned to select top 1000 ideas and support each team with a grant of ₹10,000 to come up with their prototype. In addition, 50 top projects will be selected for an innovation voucher funding of Rs.1 lakh

Description	Reward
Top 1000 ideas	Rs.10,000 each team
Top 50 projects (from the 1000 ideas)	Rs. 1,00,000 each team

Detailed Guidelines:

1. Naan Mudhalvan Anna university Niral Thiruvizha is open only to the final year students of selected 107 Engineering colleges.
2. Any number of teams can represent from each of the selected 107 engineering colleges. The Maximum participation is 4 students per team. (Inter disciplinary participation is highly encouraged)
3. Students can choose any of the listed problem statements under the themes and to come up with innovative solutions. Any number of ideas can be submitted from each of the 107 engineering colleges.
4. The concept of Artificial Intelligence (AI) integrated with all the themes and the students can approach the problem statements and come up with solutions to use AI Technology.

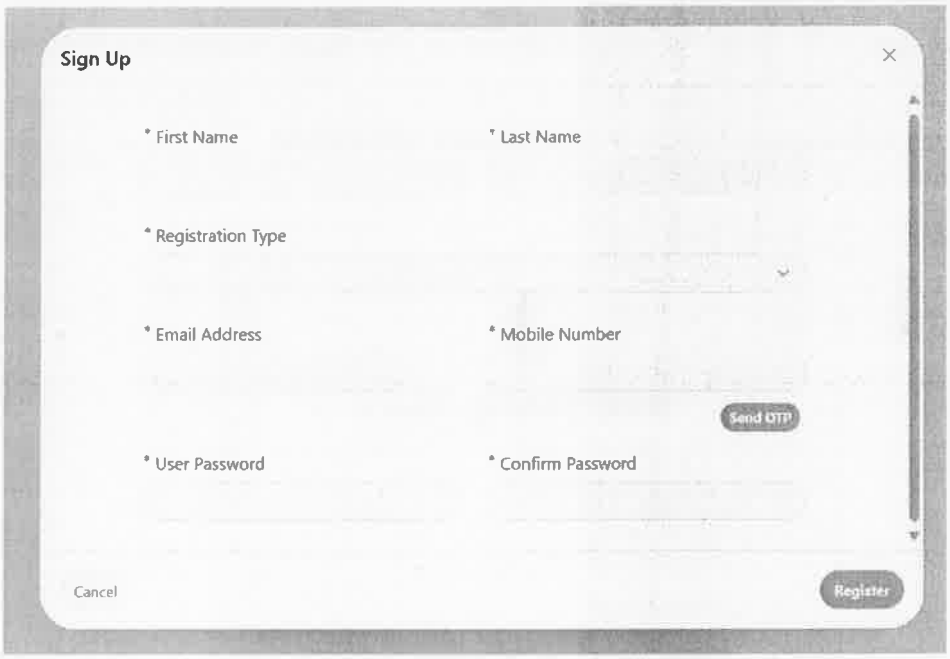
5. The nominated experts will evaluate and shortlist top 1000 project ideas from the ideas submitted by Top 107 Engineering colleges across Tamil Nadu.
6. Each selected project idea (top 1000 projects) will get a grant of Rs. 10,000/- to build the prototype and time line to be mapped accordingly to complete the projects by end of April 2024.
7. Once the 1000 ideas are shortlisted, provisional sanction order from anna university will be issued to them and the Respective Institution is to monitor and periodically conduct reviews of the projects. Concern institution will be responsible for the completion of the project and fund utilisation.
8. The faculty nomination can be done on 22rd of January in the portal.
9. The student registration in the portal starts on 23nd of January and will end on 27th of January. The entire 4th week of January will be observed as **Naan Mudhalvan - Anna University Niral Thiruvizha week**.
10. The abstract evaluation and the final list of 1000 selected teams will be intimated on 2nd February.

How to register for AU - Niral Thiruvizha on the portal

Step 1: Access the AU – Niral Thiruvizha portal in the Naan Mudhalvan Website.

Step 2: Click on the SignUp option in the bottom left corner

Step 3: You will find the SignUP page. Enter your details



Under registration type, there will be four options,

- Mentor
- Student team
- Nodal Centre
- College SPOC

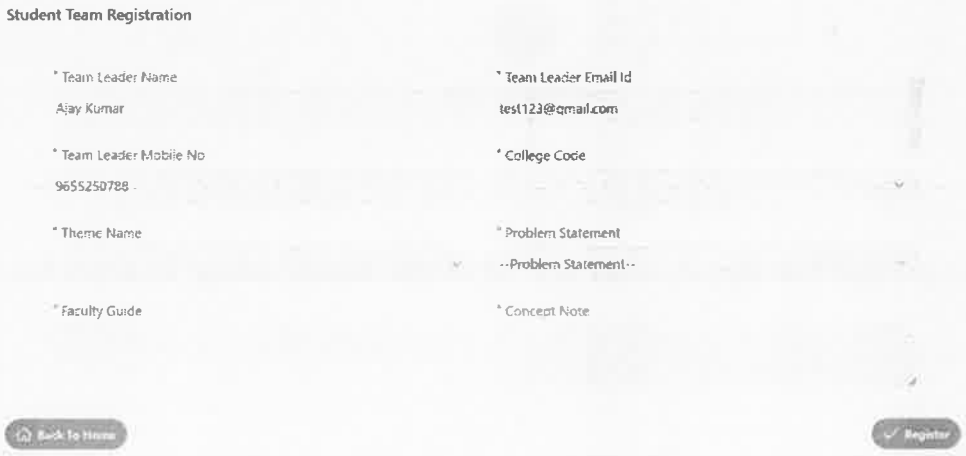
Based on your registration type, choose any of the listed four.

Step 4: *Mentor Registration* – After signing Up with Mentor option, you will get this page

Step 5: Click on Expertise Registration and fill in the details asked as show below.

NOTE: Mentors can be anyone from academia, working professional, leading industry experts and subject matter experts.

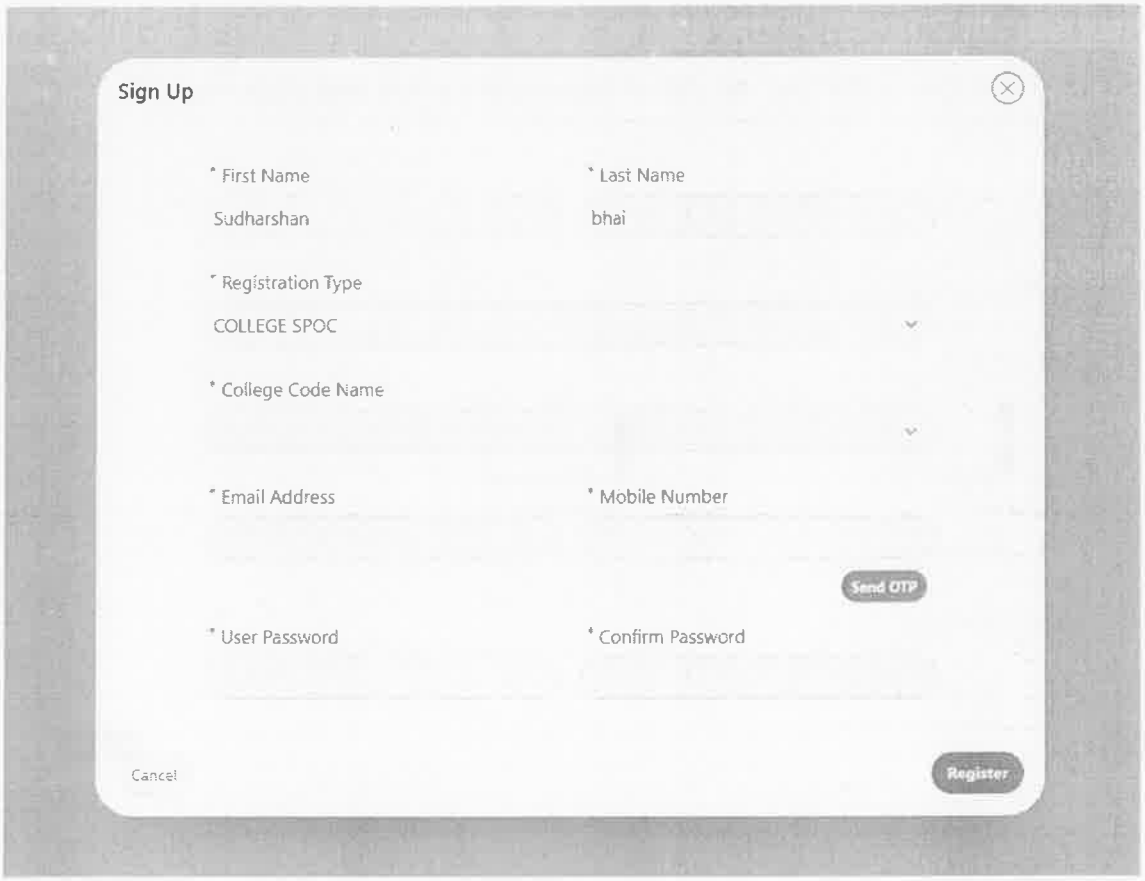
Step 6: *Student Team Registration* - After signing Up with Student Team, you will get this page. In this page, enter the details of the student sand the student team will have to choose the problem statements and enter the Concept note for the same.



Step 7: After clicking on *REGISTER*, you will need to enter the details of other team students too. You can click on *ADD ROW* option and enter all the names of the team members.

Step 8: *Nodal Centre Registration* - After signing Up with nodal centre, you will get this page. In this page, enter the details of the nodal centre and click register.

Step 9: *College SPOC Registration* - After signing Up with College SPOC, you will get this page. The college can be selected from the list and the phone number and email ID of the principal will be automatically filled and OTP will be sent to that number. By using the OTP, the registration process can be completed.



Step 9: The principal should nominate all the faculties of the college who are interested in guiding the students for the AU-Niral Thiruvizha. These faculties will be guiding the students in their project.

TEMPLATE FOR PROJECT PROPOSAL (Max. 5 pages)

1. Major Area
2. Problem statement
3. Total Cost
4. College Code & College Name
5. Guide Name, Designation, Mobile No. & Email id
6. Student Team details:

Sl.No.	Student Reg. No.	Name of the Student	Branch	Mobile No.	email id

7. Project Summary:
8. Proposed solution with methodology
9. Workplan / time schedule indicating the project mile stone
10. Plan of action of implementation
11. List of facilities available in the college to develop the prototype of the project
12. Nature of Industry support for the project, (if any)
13. Details of Financial assistance required
14. Expected outcomes / results

UNDERTAKING

1. The college will provide the basic infrastructure and other required facilities to the students for timely completion of their projects.
2. The college assumes to undertake the financial and other management responsibilities of the project.
3. The college will ensure that the funds provided are utilized only for the purpose provided and any remaining amount will be returned back to the University after the time of completion of the project.

Signature of the Mentor

Signature and seal of the principal

Annexure - II

LIST OF ENGINEERING COLLEGES ARE IDENTIFIED UNDER

AU - NIRAL THIRUVIZHA (HACKATHON)

UNIVERSITY DEPARTMENTS

1. University Departments of Anna University, Chennai - CEG Campus, Sardar Patel Road, Guindy, Chennai 600 025
2. University Departments of Anna University, Chennai - ACT Campus, Sardar Patel Road, Guindy, Chennai 600 025
3. University Departments of Anna University, Chennai - MIT Campus, Chrompet, Tambaram Taluk, Chengalpattu District 600 044

GOVERNMENT COLLEGES

4. Thanthai Periyar Government Institute of Technology, Bagayam, Vellore District 632002
5. Government College of Technology (Autonomous), Thadagam Road, Coimbatore District 641013
6. Government College of Engineering, Chettikkarai Post, Dharmapuri District 635704
7. Government College of Engineering (Autonomous), Bargur, Krishnagiri District 635104
8. Government College of Engineering (Autonomous), Karuppur, Salem District 636011
9. Government Engineering College (Formerly Institute of Road and Transport Technology), Vasavi College Post, Erode District 638316
10. Government College of Engineering, Gandarvakottai Road, Sengipatti, Thanjavur District 613402
11. Government College of Engineering, Srirangam, Sethurappatti, Tiruchirappalli District 620012
12. Government College of Engineering, Tirunelveli District 627007
13. Government College of Engineering, Melachokkanathapuram, Bodinayakkanur, Theni District 625582
14. Alagappa Chettair Government College of Engineering and Technology (Autonomous), Karaikudi, Sivagangai District 630004
15. Annamalai University Faculty of Engineering and Technology, Annamalainagar, Cuddalore

GOVERNMENT AIDED COLLEGES

16. PSG College of Technology (Autonomous), Peelamedu, Coimbatore District 641004
17. Coimbatore Institute of Technology (Autonomous), Civil Aerodrome Post, Coimbatore District 641014
18. Thiagarajar College of Engineering (Autonomous),Tirupparankundram, Madurai District 625015

CECRI AND CIPET

19. Central Institute of Petrochemicals Engineering and Technology (Formerly Central Institute of Plastics Engineering and Technology) (CIPET), Guindy, Chennai 600032

20. Indian Institute of Handloom Technology, Foulke's Compound, Thillai Nagar, Salem District 636001
21. Central Electrochemical Research Institute CECRI), Karaikudi, Sivagangai District 630006

CONSTITUENT COLLEGES

22. University College of Engineering, Villupuram, Kakuppam, Villupuram District 605103
23. University College of Engineering, Tindivanam, Melpakkam, Tindivanam, Villupuram District 604001
24. University College of Engineering, Arni, Arni to Devikapuram Road, Thatchur, Arni, Thiruvannamalai District 632326
25. University College of Engineering, Kancheepuram, Ponnerikarai Campus, NH4, Chennai-Bangalore Highway, Karaipettai Village & Post, Kancheepuram District 631552
26. Anna University Regional Campus - Coimbatore, Maruthamalai Main Road, NavavoorBharathiyar University Post, Somayampalayam, Coimbatore District 641046
27. University College of Engineering, Tiruchirappalli, (Bharathidasan Institute of Technology), Tiruchirappalli District 620024
28. University College of Engineering, Ariyalur, Kathankudikadu Village, Thelur Post, Ariyalur District 621704
29. University College of Engineering, Thirukkuvalai, Nagappattinam District 610204
30. University College of Engineering, Panruti, Chennai-Kumbakonam Highway, Panikkankuppam, Panruti, Cuddalore District 607106
31. University College of Engineering, Pattukkottai, ECR Road, Rajamadam, Pattukkottai Taluk, Thanjavur District 614701
32. Anna University Regional Campus - Tirunelveli, Trivandrum Road, Palayamkottai, Tirunelveli District 627007
33. University College of Engineering, Nagercoil, Nagercoil Industrial Estate, Konam, Kanyakumari District 629004
34. University V.O.C. College of Engineering, Thoothukudi, Near V.O.C. College, Millerpuram, Thoothukudi District 628008
35. Anna University Regional Campus - Madurai, Kanyakumari National Highway, Keelakuilkudi, Madurai District 625019
36. University College of Engineering, Ramanathapuram, Pullangudi, Ramanathapuram District 623513
37. University College of Engineering, Dindigul, MangaraiPirivu, Reddiyarchathiram, Dindigul District 624622

AFFILIATED SELF – FINANCING ENGINEERING COLLEGES (in alphabetical order)

38. A V C College of Engineering, Mannampandal Post, MayiladuthuraiDistrict 609305
39. Arunai Engineering College, Mathur, Thiruvannamalai District 606603
40. Bannari Amman Institute of Technology (Autonomous), Sathyamanagalam, Erode District 638401
41. Builders Engineering college, Nathakadaiyur, Erode Road, Palayakottai Village, Kangeyam, Tiruppur District 638108
42. Chennai Institute of Technology, Puduper Village, Nandambakkam Post, Kundrathur, Chennai 600069

43. Coimbatore Institute of Engineering and Technolgoy (Autonomous), Narasipuram Post, Coimbatore District 641109
44. Dhanalakshmi Srinivasan Engineering College (Autonomous), Thuraiyur Road, Perambalur District 621212
45. Dr. Mahalingam College of Engineering and Technology (Autonomous), Mackinaickenpatti Post, Pollachi Taluk, Coimbatore District 642003
46. Dr. N G P Institute of Technology, Kalapatti Road, Coimbatore District 641035
47. Easwari Engineering College (Autonomous), Ramapuram, Chennai 600089
48. Francis Xavier Engineering College (Autonomous), Vannarpettai, Tirunelveli District 627003
49. Hindusthan College of Engineering and Technology (Autonomous), Othakkalmandapam Post, Coimbatore District 641032
50. Jeppiaar Engineering College, Old Mahabalipuram Road (OMR), Chennai 600119
51. Jeppiaar Institute of Technology,kunnam Village,Sriperumpudur Taulk,Kancheepuram District 631604
52. K C G College of Technology, Karappakkam, Chennai 600096
53. K L N College of Engineering (Autonomous), Pottapalayam, Sivagangai District 630611
54. K P R Institute of Engineering and Technology (Autonomous), Kollupalayam Village, Arasur Panchayat, Coimbatore District 641407
55. K Ramakrishnan College of Engineering (Autonomous), Kariyamanickam Road, Samayapuram, Manachanallur Taluk, Tiruchirappalli District 621112
56. K S Rangasamy College of Technology (Autonomous), Tiruchengode, Namakkal District 637215
57. Karpagam College of Engineering (Autonomous), Othakkalmandapam, Coimbatore District 641032
58. Karpagam Institute of Technology, Seerapalayam Village, L&T By pass Road, Coimbatore District 641021
59. KGISL Institute of Technology, KGISL Campus, Thudiyalur Road, Saravanampatti, Coimbatore District 641035
60. KIT - Kalaignar Karunanidhi Institute of Technology (Autonomous), Kannampalayam, Coimbatore District 641402
61. Knowledge Institute of Technology, KIOT Campus, Kakapalayam Post, Salem District 637504
62. Kongu Engineering College (Autonomous), Perundurai, Erode District 638052
63. Kumaraguru College of Technology (Autonomous), Chinnavedampatti Post, Coimbatore District 641006
64. Loyola ICAM College of Engineering and Technology, Loyola College Campus, Nungambakkam, Chennai 600034
65. M Kumarasamy College of Engineering (Autonomous), Thalavapalayam, Karur District 639113
66. Meenakshi Sundararajan Engineering College, Kodambakkam, Chennai 600024
67. Mepco Schlenk Engineering College (Autonomous), Sivakasi, Virudhunagar District 626005
68. Misrimal Navajee Munoth Jain Engineering College, Rajiv Gandhi Salai (OMR), Thorappakkam, Chennai 600096
69. National Engineering College (Autonomous), Kovilpatti, Thoothukudi District 628503
70. P S N A Colllege of Engineering and Technology, Dindigul District 624622

71. Panimalar Engineering College (Autonomous), Nazarethpet, Poonamallee, Chennai 602123
72. Panimalar Engineering College Chennai City Campus, No.23, Railway Colony 2nd Street, Nelson Manickam Road, Chennai - 600029
73. Prince Shri Venkateshwara Padmavathy Engineering College, Ponmar, Chennai 600048
74. PSG Institute of Technology and Applied Research, Avinashi Road, Neelambur, Coimbatore 641062
75. R M D Engineering College (Autonomous), Kavaraipettai, Gummidipoondi, Thiruvallur District 601206
76. R M K College of Engineering and Technology (Autonomous), Puduvoyal, Gummidipoondi Taluk, Thiruvallur District 601206
77. R M K Engineering College (Autonomous), Kavaraipettai, Gummidipoondi, Thiruvallur District 601206
78. R V S College of Engineering and Technology, Kannampalayam, Sulur, Coimbatore District 641402
79. Rajalakshmi Engineering College (Autonomous), Thandalam, Sriperumpudur Taluk, Kancheepuram District 602105
80. Rajalakshmi Institute of Technology, Irulapalayam, Kuthampakkam Post, Kancheepuram District, Chennai 600124
81. Ramco Institute of Technology, North venganallur Village, Krishnapuram Panchayat, Rajapalayam, Virudhunagar District 626117
82. Saranathan College of Engineering, Panjappur, Tiruchirappalli District 620012
83. Saveetha Engineering College (Autonomous), Thandalam, Sriperumpudur Taluk, Kancheepuram District 602105
84. SNS College of Engineering (Autonomous), Sathy Main Road, Kurumbapalayam Post, Coimbatore District 641107
85. SNS College of Technology (Autonomous), Kalappatti Post, Coimbatore District 641035
86. Sona College of Technology (Autonomous), Suramangalam Post, Salem District 636005
87. Sri Eshwar College of Engineering (Autonomous), Kondampatti Post, Vadasithur (Via), Kinathukadavu, Coimbatore District 641202
88. Sri Krishna College of Enginering and Technology (Autonomous) , Kuniamuthur, Coimbatore District 641008
89. Sri Krishna College of Technology (Autonomous) , Kovaipudur Post, Coimbatore District 641042
90. Sri Ramakrishna Engineering College (Autonomous), Vattamalaipalayam, Coimbatore District 641022
91. Sri Ramakrishna Institute of Technology (Autonomous), Pachapalayam, Coimbatore District 641010
92. Sri Sai Ram Enginering College (Autonomous), West Tambaram, Chennai 600044
93. Sri Sai Ram Institute of Technology (Autonomous), West Tambaram, Chennai 600044
94. Sri Shakthi Institute of Engineering and Technology (Autonomous), L&T Bye-Pass, Venkitapuram Post, Coimbatore District 641062
95. Sri Sivasubramaniya Nadar College of Engineering (Autonomous), Kalavakkam, Old Mahabalipuram Road (OMR), Chengalpattu District 603110

96. Sri Venkateswara College of Engineering (Autonomous), Post Bag No.1, Chennai-Bengaluru High Road, Pennalur, Irungattukottai S.O., Sriperumbudur Taluk, Kancheepuram District 602105
97. SRM Valliammai Engineering College (Autonomous), Kattankulathur, Chennai 603203
98. St. Joseph's College of Engineering (Autonomous), Old Mahabalipuram Road (OMR), Chennai 600 119
99. St. Josephs Institute of Technology (Autonomous), Jeppiaar Nagar, Old Mahabalipuram Road (OMR), Chennai 600119
100. St. Xavier's Catholic College of Engineering, Chunkankadai, Nagercoil, Kanyakumari District 629807
101. Syed Ammal Engineering College, Achuthan Vayal Post, Ramanathapuram District 623502
102. V S B Engineering College, Kovai Road, Karur District 639111
103. Vel Tech Multi Tech Dr. Rangarajan Dr. Sakunthala Engineering College (Autonomous), Avadi-Alamathi Road, Chennai 600 062
104. Velalar College of Engineering and Technology (Autonomous), Thindal Post, Erode District 638012
105. Velammal College of Engineering and Technology, Madurai District 625009
106. Velammal Engineering College (Autonomous), Ambattur-Redhills Road, Chennai 600066
107. Vivekanandha College of Engineering for Women (Autonomous), Sathinaickenpalayam, Elayampalayam Village, Kumaramangalam, Namakkal District 637205

ANNEXURE III - PROBLEM STATEMENTS

Sl. No.	Curated Problem Statements	Innovation Context	Innovation / Output Expected
	Agritech & Food Technology		
1	How can we design safer alternatives and improved application techniques to address health hazards associated with pesticides, reducing human exposure and safeguarding both the environment and public health?	Design an advanced technology for safer pesticide alternatives and application methods minimizing health risks, reducing human exposure and protecting the environment and public health.	Organic farming practices
2	How might we develop an affordable specialized vegetable harvester to improve automation and productivity in the agriculture sector, meeting the needs of the masses?	Develop a vegetable harvester to reduce waste and improve productivty	Prototype of an Vegetable harvestor
3	How might we develop an innovative, thermally controlled storage system to address challenges in postharvest tomato storage, overcoming limitations in current preservation methods? The goal is to extend shelf life and minimize degradation, marking a significant stride in enhancing storage practices.	Create an innovative storage mechanism to prevent post harvest damages in tomato processing	Storage mechanism system for tomatos, as are highly perishable and too delicate
4	How might we innovate to address urban excess food waste, hunger-related deaths, and create a logistic network with innovative technology and cost-effective storage solutions? This aims to efficiently transfer surplus food from cities to areas in deficit.	Create an application that facilitates the connection between surplus and deficient food resources within a community's network.	App - cooked food supply chain - ERP model
5	How might we innovate in detection methods for mycotoxins, toxic secondary metabolites in food, to minimize contamination and ensure the safety of food processing units? The goal is to enhance current techniques, primarily chromatographic, for more effective results.	Develop innovative mycotoxin detection methods in food processing units enhancing safety, improving upon current chromatographic techniques for more effective results.	Effective mechanism to detect mycotoxin to ensure safety
6	How can we create an advanced agricultural bot to address challenges faced by small-scale farmers? This involves enhancing crop management, income, and food security through real-time soil testing, pest detection, and autonomous operations, with the aim of doubling agricultural output and income.	Create an AI-driven agricultural bot featuring voice chat capabilities to tackle issues encountered by small-scale farmers. This includes real-time soil testing, pest detection, and autonomous operations, aiming to address challenges related to crop management, income, and food security.	Chatbot - AI driven interactive agri bot providing realtime assistance in cultivation and market linkages
7	How we design a cost-effective, energy-efficient small-scale cold storage unit for horticultural produce to extend perishable crop shelf life, specifically catering to the preservation needs of small-scale farmers.	Construct a cost-effective prototype for a cold storage unit designed to preserve horticultural produce.	Low cost Cold storage unit for horticulture produce

Sl. No.	Curated Problem Statements	Innovation Context	Innovation / Output Expected
8	How might we develop an effective Harvesting machine for crops that is lightweight, cost-effective, and convenient to handle and transport across various wet fields to address the challenges of the current model?	Create a functional model to enhance harvesting efficiency and address losses during transportation.	Loss prevention mechanism during harvesting and transportation
9	How might we implement semi-automation for the raw cutting process in cashew processing to reduce dependency, increase efficiency, and enhance overall productivity in the cashew industry?	Create a semi-automated raw cutting process in cashew processing to reduce labour, improve efficiency, and elevate overall productivity in the cashew industry.	Semi automated cashew processing mechanism
10	How might we develop suitable technology to estimate crop yield, leveraging technology to analyze agricultural data, optimize farming practices, and ensure accurate predictions for improved food production and security?	Develop a mobile app that integrates AI and data analytics to examine agricultural inputs, providing optimal farming suggestions along with corresponding crop yields.	AI assisted App for farmers on agri practices and suggestive crops
11	How might we create a system that leverages satellite imagery and machine learning to detect vegetation height beneath transmission lines, anticipate growth patterns, and generate alerts for timely trimming when needed?	Develop a system using satellite imagery and machine learning to detect vegetation height below transmission lines, predict growth, and raise alerts for necessary trimming.	Satelite imagery system for pruning vegetation interference in power transmission lines
12	How might we optimize water management in piped and micro irrigation? Integrating AI to predict crop water needs, automate valves, and boost yield.	Develop an AI-driven solution for precise water management in piped and micro irrigation networks by predicting dynamic crop water demands, integrating real-time soil moisture data, and automating valve control mechanisms to optimize water usage and crop yield.	AI driven sensor driven system for irrigation and water waste minimization
13	How might we develop image processing software using machine learning to identify medicinal plants, enhancing authenticity and ensuring integrity in the medicinal plant supply chain?	Develop image processing software using machine learning to identify medicinal plants, aiding authenticity and supply chain integrity.	ML assisted image processing software in medicinal plants management and related supply chain
Clean and Green Technology			
14	How might a comprehensive strategy be designed to mitigate the environmental impact of plastic degradation in the marine ecosystem? This multifaceted initiative seeks to create effective anti-pollutants, innovative methods for plastic disposal in oceans, tactics to boost algae growth, and the deployment of boats with robots for efficient plastic waste collection.	Build a working model using robot for effective plastic waste collection from oceans.	Device to collect plastic wastes in oceans
15	How might we design a cost-effective home composting solution for daily kitchen waste, ensuring quick and odor-free decomposition? The current lack of such an efficient system poses a challenge for homemakers seeking sustainable waste management.	Design a cost-effective composting solution for easy decomposing of home wastes	Household waste Decomposter

Sl. No.	Curated Problem Statements	Innovation Context	Innovation / Output Expected
16	How can we design a solution to address the challenge of fugitive dust emissions from stone crusher units & crematorium causing air pollution?	Create a prototype for collecting fugitive dust emissions from stone crusher and crematorium units.	Prototype - atmospheric dust collector
17	How might we develop eco-friendly construction materials, specifically suitable for high-rise buildings, to mitigate the environmental impact of carbon dioxide emissions from cement production, exacerbated by urbanization and excessive concrete use?	Develop eco-friendly construction materials suitable for high-rise buildings to mitigate CO2 emissions from concrete use	Alternate to cement and iron with strong charecteristics to be identified
18	How we create a solution for efficient autonomous dust cleaning beneath roofs in industries, marriage halls, cinema theaters, and college auditoriums to maintain clean and healthy environments?	Develop technology for autonomous dust cleaning in industrial, commercial, and educational spaces to ensure a clean, healthy environment under roofs.	Commercial robotic cleaner for higher surface coverage
19	How might we develop a low-cost automation system to address the labor-intensive manual extraction of dry coir pith? The industry requires an innovative suction system capable of efficiently collecting and transporting pith to manufacturing units, handling various materials simultaneously.	Create a cost and time effective automation model to reduce labour internsive manual extraction of dry coir pit.	Device for extraction of dry coir pith
20	How can we reduce the contribution of Cement Industries in global CO2 emissions and come up with alternate sustainable solutions.	Develop sustainable alternatives and technology to minimize CO2 emissions from Cement Industries, mitigating their environmental impact effectively.	Manufacturing technique to reduce CO2 emissions in cement manufacturing
21	How can we create an automatic sensor model to address ammonia/H2S gas emissions from bird litter in the poultry sector, managing odor and fly issues? The goal is to assess gas emissions and trigger alerts when limits are exceeded, prompting necessary measures for effective management.	Create a automatic sensor model to address ammonia/H2S gasemiasions form bird litter in poultry sector	Sensory detector of hazardous gases in poultry farms
22	How might we develop a sustainable and eco-friendly extraction method for chitosan from shrimp shells to meet the increasing demand for chitosan across various industries?	Develop a cost and time effective extraction method for chitosan from shrimp shells	Develop a cost and time effective extraction method for chitosan from shrimp shells

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	Education 4.0		
23	How might we explore the adoption of game-based education to cultivate diverse skills, motivate students with points and leaderboards, and ensure inclusivity for students with disabilities? The goal is to enhance learning outcomes and confidence.	Develop an interactive game-based education app integrating points and leaderboards, ensuring inclusivity for disabled students, aiming for improved learning and confidence.	Gamified app for learning by PwDs
24	How might we create a skill/job recommender application using suitable technology, transforming career guidance by leveraging technology to match individuals with suitable jobs, fostering efficient employment and career development?	Develop a app integrating AI methodology using open source data as career guidance and job recommender for aspiring youth.	Career guidance app for students - AI assisted
	Health/Med Tech		
25	How might we design a cost-effective Myoelectric prosthetic arm using 3D printing, servo motors, Arduino, and Myoware muscle sensors, ensuring affordability without compromising functionality and quality?	Build a cost effective and intuitive prosthetic arm for seamless integration in natural body movements	Prototype - prosthetic arm
26	How can we design an image processing algorithm for portable X-ray devices to reduce noise, enhance contrast, and sharpen images without altering critical diagnostic details? This includes considering hardware limitations, ensuring computational efficiency, and validating with diverse datasets for accurate clinical application.	Design an image processing algorithm for portable X-ray devices in refining images by minimizing noise, improving contrast, and preserving critical diagnostic details, considering hardware constraints and ensuring computational efficiency.	Prototype user friendly multifunctional & precision diagnostic device with inbuilt data storage and retrieving system
27	How might we utilize AI chatbots and machine learning to address the challenges of incomplete alleviation of depression symptoms, attrition, and loss of follow-up in mental health treatment?	Create interactive chatbot integrating AI and ML to address the challenges in mental health treatment	Interactive AI infused chatbot for treatment of mental illness
28	How might we develop analytics for hospitals' health-care data, optimizing data utilization to improve patient care, streamline operations, and enhance overall efficiency in healthcare institutions?	Develop analytics to optimize healthcare data in hospitals, aiming to improve patient care, streamline operations, and enhance overall institutional efficiency in healthcare.	Analytic tool for healthcare data of patients in hospitals and other institutions
29	How might we create a telemedicine robotic kiosk for rural India, utilizing AI, biometric ID, and the e-sanjeevani App for personalized access to expert doctors and timely medication delivery?	Develop an AI-assisted telemedicine robotic kiosk for rural India, allowing easy access to expert doctors based on individual health conditions, facilitated by biometric identification and e-sanjeevani App, enabling timely medication delivery.	Robotic AI enabled medical kiosk for remote consultation

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	Heritage & Culture		
30	How might we develop a digital platform that creates a comprehensive repository, ensures authenticity, and fosters cross-generational dialogue for the appreciation and revitalization of diverse cultural elements to preserve endangered indigenous heritage and culture amidst modern challenges?	Develop a digital platform to preserve endangered indigenous heritage, fostering cross-generational dialogue, and revitalizing diverse cultural elements amid modern challenges.	Interactive digital platform for preserving details pertaining to heritage
	Smart Manufacturing		
31	How might we design cost effective personalized motorcycles and tricycles for individuals with disabilities, addressing their unique challenges and offering inclusive and accessible transportation solutions that cater to their specific needs and preferences?	Develop personalized motorcycles and tricycles for people with disabilities involves designing inclusive and cost-effective transportation solutions tailored to their specific requirements and preferences.	Customized motor vehicles for PwDs
32	How might we safeguard sensitive data in IIoT systems? Addressing cybersecurity threats, securing data transmission, and implementing robust access controls are critical for ensuring the safe deployment of interconnected industrial solutions.	Develop robust cybersecurity measures in safeguarding sensitive data in IIoT systems, ensuring secure data transmission, addressing threats, and implementing stringent access controls.	Cybersecurity measures to ensure privacy in IoT with proper controls
33	How we innovate to enhance multimedia and animation, addressing challenges in realism, efficiency, cross-platform compatibility, compression, VR/AR, education, ethics, and inclusivity? The project aims is to promote innovative techniques and tools for immersive, inclusive, and ethical content creation across various industries.	Develop innovative multimedia and animation based app that tackles challenges in realism, efficiency, cross-platform compatibility, compression, VR/AR, education, ethics, and inclusivity for diverse industry content creation.	App - Industry 4.0 compliant with cross functional capabilities using VR/AR for usage across various industries
34	How might we create an innovative shopping assistance system using industrial automation specifically designed for disabled individuals? The focus is on integrating eye blink technology, elevator enhancements, and a human-following bot to enhance independence, save costs, secure purchases, and overall improve the quality of life for people with disabilities.	Develop an innovative AI based interactive shopping assistance system for disabled individuals with specifics on eye blink technology, elevator enhancements	Sensor based shopping assistance system for PwDs
35	How might we develop a suitable technology to track deep-sea fishermen or their locations, ensuring effective monitoring and enhancing safety measures in maritime activities?	Develop a AI/ML based GIS app for detecting fishermens location in deep sea fishing.	GIS - deep sea fishing App

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	Renewable & Sustainable Energy		
36	How might we develop a solution to enhance solar panel efficiency by addressing the challenges of dust and atmospheric moisture accumulation, which currently diminish their performance below intended levels?	Develop a working model to boost solar panel efficiency by tackling dust and moisture accumulation challenges, crucial factors affecting performance.	Coating on solar panels to repel foreign agents accumulation
	Smart Town/City		
37	How to solve the challenge of honeycombing in high-rise buildings with a 100-meter elevation by developing innovative construction techniques or materials that enhance structural integrity and ensure the safety and durability of tall structures.	Develop an innovative construction technique to repel honeycomb structures in high rise buildings	Preventive construction technique that the surface repels formation of any external layers
38	How might an innovative solution address communication challenges in remote areas, such as hilly and forest regions with weak or no network coverage? The goal is to develop an affordable and accessible emergency communication system, considering that satellite phones are financially unfeasible for most of the population.	Develop an Emergency Communication system for hilly & forest regions	System for penetrative emergency communication system
39	How might the utilization of the digital twin technology for virtual city creation seeks to enhance urban planning, decision-making, and resource management, providing a cost-effective solution for more efficient and informed urban development.	Develop digital twin technology for virtual city creation enhances urban planning, decision-making, and cost-effective resource management in urban development.	Digital twin system for virtual planning
40	How might we design a GIS-based solution to identify and manage harmful plants infestation, ensuring real-time updates on infestation patterns, and addressing ecological and socio-economic impacts?	Design a GIS based solution to identify harmful infestation patterns with real time updates	GIS - Alerts on infestations and remedial measures
41	How might we develop an Autonomous Firefighting Drone to overcome challenges in firefighting, addressing urban traffic, narrow streets, and remote terrains? The goal is to enhance efficiency, reduce response times, and overcome access limitations.	Build an autonomous firefighting drone to overcome challenges in urban firefighting, enhancing efficiency by reduning response times.	Prototype automotic sensory firefighting drone
42	How we innovate in designing an, cost-effective shelter solution to shield Live Stocks from harsh weather conditions during rainy seasons, mitigating health risks, minimizing hoof problems, and fostering herd well-being and productivity.	Develop cost-effective shelter solutions for livestock during rainy seasons, minimizing health risks, hoof problems, and ensuring herd well-being and productivity.	Cost effective and hyegienic shelter for livestocks

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43	How can we create a chatbot that can provide reliable and relevant information about various government schemes to the citizens, and help them identify their eligibility criteria for different programs, using an intuitive interface, engaging conversation, and diverse scenarios?	Develop a chatbot offering citizens information on government schemes, eligibility criteria, and engagement through an intuitive interface and diverse scenarios.	Chatbot - schemes of Government and who can avail and how to avail
44	How might we develop a unique platform to market traditional products, supporting the livelihood of rural artisans and pottery makers, fostering economic sustainability and preserving cultural heritage?	Create a AI enabled app for promoting traditional products, supporting the livelihoods of rural artisans and pottery makers, fostering economic sustainability, and preserving cultural heritage.	AI enabled App for artisans to facilitate market linkages
45	How might we create an AI-powered nutrition analyzer for fitness enthusiasts, revolutionizing dietary tracking and personalizing nutritional insights to optimize health and fitness goals effectively?	Develop AI powered nutrition analyser for fitness enthusiast for regulating overall fitness goals	AI enabled fitnes analyser
46	How might we create an innovative drone system utilizing AI for automatic human detection in disaster situations, generating alarms, and efficiently dropping payloads, integrating technologies like cameras, processors, and payload mechanisms?	Create an AI enabled drone in automatic detection of human movements in disaster situations	AI enabled drone to track human movements during disasters
47	How might we develop a reliable explosion risk detection system for the oil and gas industries that can effectively identify potential threat zones and issue early warnings to nearby workers?	Develop an explosion risk detection system for oil and gas industries to identify threat zones and issue early warnings to nearby workers.	Sensor based alarm in oil and gas industry to alert any threats
48	ow might we develop impactful solutions using Government Land Information System (GLIS) data to address urban planning, infrastructure, environmental conservation, land governance, and socio-economic challenges? Enabling evidence-based decision-making for sustainable development.	Develop analytics solutions leveraging Government Land Information System (GLIS) data to address societal challenges in urban planning, infrastructure, environmental conservation, land governance, and socio-economic analysis, enabling evidence-based decision-making and sustainable development.	Analytical tool for local governance using GLIS for strategic planning
49	How might we design a tool to assess an organization's ransomware readiness? Emphasizing prevention, detection, usability, and reporting to enhance overall resilience against potential cyber threats.	Design a tool to evaluate an organization's readiness against ransomware attacks, focusing on assessing prevention, detection, usability, and reporting.	Tool to detect ransonware attack in organizations
50	How might we develop a blockchain-based application to identify and counter fake social media profiles? Tailored for investigative agencies and law enforcement, enhancing profile authenticity and security.	Develop a blockchain-based application to detect and mitigate fake social media profiles, serving the requirements of investigative agencies and law enforcement	Application to detect fake social media profiles using block chain to support law enforcement

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51	How might we develop AI/ML-based technology to efficiently detect avalanche victims in harsh conditions? Exploring innovative ground-penetrating radar alternatives for improved accuracy and response.	Develop AI/ML-based technology for detecting avalanche victims efficiently in harsh conditions using innovative ground-penetrating radar alternatives.	GIS enabled spotting of avalanche victims powered by AI/ML
52	How might we develop an AI-ML-based GIS application, utilizing open-source software, to analyze past flood imageries and project new images for specific flood levels? Aiding spatial assessment in flood-prone areas for enhanced rescue and relief efforts.	Develop an AI-ML-based GIS application using open-source software to analyze past flood imageries, project new images for specific flood levels, aiding spatial assessment for rescue and relief in flood prone areass	GIS app for flood management
53	How might we develop an automatic self-cleaning toilet system, incorporating UV disinfection, hot air drying, water-saving features, and real-time availability tracking for nearby functional toilets?	Develop an automatic self-cleaning toilet system with UV disinfection, hot air drying, water-saving features, and real-time availability tracking of nearby functional toilets.	Automated toilet cleaner with minimal cleaning resources
54	How might we create prosthetic solutions for lower limb amputees, enabling motorcycle riding? Emphasizing brake and gear operation aligned with ankle movements for a seamless and adaptive experience.	Create prosthetic solutions for lower limb amputees to enable motorcycle riding, focusing on brake and gear operation aligned with ankle movements.	Prosthetic limb with ankle movements facilitating motor cycle riding
55	How might we create an AI-powered sentiment analysis solution specialized in interpreting emotions within social media content? Empowering individuals and organizations to manage online reputation and perception effectively.	Create an AI-powered sentiment analysis solution specialized in interpreting emotions within social media content, empowering individuals and organizations to manage their online reputation and perception effectively.	AI enabled analytical tool to interpret social media content to manage online reputation
56	How might we develop tech solutions to support undertrial prisoners in India? Designing a mobile app for legal aid, connecting them with lawyers, clinics, and providing rehabilitation through education, vocational training, and mental health support.	Develop tech solutions aiding undertrial prisoners in India: a mobile app for legal aid, connecting them to lawyers, clinics, and offering rehabilitation via education, vocational training, and mental health support.	Proctored AI kiosk/ app for prisoners rehabilitation
57	How might we develop an automated system for real-time street light fault detection, precise location tracking, and efficient maintenance in cities to enhance urban lighting infrastructure?	Develop an automated system for real-time street light fault detection, precise location tracking, and efficient maintenance in cities.	Automated controller of street light management systems
58	How might we develop a user-friendly digital assistant providing legal information in multiple languages? Aiming to enhance accessibility and improve legal awareness among marginalized communities in India.	Develop a user-friendly digital assistant providing legal information in multiple languages, aiding accessibility and improving legal awareness among marginalized communities in India.	Digital AI assisted chatbot for legal support of marginalized communities

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	Waste Management		
59	How can we create a process to transform non-biodegradable products into useful ones, mitigating environmental impact and promoting sustainable solutions?	Build a working prototype for remodelling non-biodegradable products into useful items	Prototype for recycling non bio degradable materials into products
60	How might we create an integrated e-waste management chain within educational institutions through collaborative industry partnerships? The project aims to collect, segregate, process, recycle, and reuse electronic waste, promoting environmental sustainability while generating financial returns.	Design an integrated e-waste management cycle within educational institution promoting environmental sustainability while generating financial returns for students	Device and system to recycle e-waste. Raw e-waste to an output or non-harardus decompostable waste
61	How might we develop a sustainable and eco-friendly method to create biodegradable/edible food packaging materials from fish waste using marine biopolymers to replace synthetic plastics, mitigating pollution in land, water, and air?	Develop a biodegradable edible food packaging material using marine biopolymers	Biodegradable food packaging materials using biopolymers
62	How might we innovate solutions for the proper disposal of sanitary waste, ensuring environmental safety, cost-effectiveness, and scalability across diverse settings such as villages and educational institutions?	Develop cost effective and innovative solutions for proper sanitary waste disposal ensures environmental safety, cost-effectiveness, and scalability across diverse settings like villages and educational institutions'	Cost effective environment friendly sanitary waste disposal mechanism
	Water & Soil Conservation		
63	How might we address the significant problem of contamination in groundwater by seeking solutions for detection, remediation, and prevention and the goal is to safeguard public health and ensure the sustainability of groundwater resources in affected areas.	Develop innovative technology to tackle plastic degradation in marine ecosystems through anti-pollutants, novel disposal methods, and robotic waste collection.	Device and an operating mechanism to collect plastic waste and dispose and/or recycle
64	How might we address the excessive water usage in textile fabric dyeing, seeking solutions to significantly reduce water consumption during the dyeing process?	Develop innovative process flow to drastically reduce water consumption in textile fabric dyeing without compromising the quality of the dyeing process.	Dyeing process with less water consumption or no water consumption
65	How might we develop a solution to combat global water depletion by creating an efficient water distribution network? The solution involves implementing a cloud-based dashboard for analytics, improving service, enhancing repair efficiency, reducing leakage, enabling GIS mapping, and overcoming deployment constraints for accurate water supply line assessment.	Develop a cloud-based dashboard for global water depletion to enhance repair efficiency, reduce leakage, enable GIS mapping, and assess water supply lines accurately.	Data management system - water supply and chanelling with GIS mapping