



Annual Report 2022-23
Mahendra Engineering College
IIC ID-IC201810935



A. About IIC Institute

- **Vision / Mission of IIC established at the Institute**

Vision

To be a Centre of Excellence in Innovation, Research and Entrepreneurship.

Mission

- To inspire and motivate students and faculty members to actively take part in creativity, innovation and research;
- To empower innovators to develop novel products, prototypes and promote creation of IP and technology transfer;
- To encourage start-ups and entrepreneurs to develop novel solutions to societal problems and create skilled jobs to promote growth;

- **Journey of IIC established at the Institute**

Our College established IIC during 2019 and under the guidance of the Chief mentor (Principal) the IIC core team has been formed. It includes the President, Vice President, IIC Coordinator, IIC Ambassadors, Industry Experts, Faculty Coordinators and Student Representatives. Since then IIC has occupied a central place in the innovation ecosystem of our institute and plays a vital role in organising and coordinating several activities under various themes of innovation.

The major functions of IIC include:

- Organizing periodical workshops/seminars/ interactions with investors, entrepreneurs, professionals to create a mentor pool for student innovators.
- Conducting innovation, start-up and entrepreneurship-related activities.
- Identifying and rewarding innovations from students and sharing success stories from industry Experts.
- Networking with local/national entrepreneurship development organizations.

- Organizing Hackathons, idea competition, mini-challenges etc., with the involvement of industries.
 - Mentoring students and faculty members by industry Professionals to nurture new ideas for patents and developing prototypes.
 - Creating an Institution's innovation portal to highlight innovative projects carried out by our faculty and students.
- **Diversified representation in the IIC established at the Institute from Industry, Interdisciplinary & Departments/ Units etc.**

Our IIC is a composition of diversified group of individuals, representing innovation mentors, industry experts, academic leaders, faculty members, students, first generation entrepreneurs, leading businessmen, etc.

Sl. No.	Name of the Member	Category/Role	Affiliation/ Occupation
1	Dr.R.V.Mahendra Gowda	Chief Mentor	Principal, Mahendra Engineering College
2	Dr.D.Subramaniam	IIC Coordinator	Professor and Head, Department of Aerospace Engineering , MEC
3	Dr.A.Sudhahar	Industrialist	Managing Director, Dimensions, Structural Design, Coimbatore
4	Dr.L.S.Kannan	Industry Expert	Joint General Manager, L&T Construction, Chennai.
5	Mr.S.Sankaranarayanan	Industry Expert	Chief Operating Officer, TVS Haritha Techserv Ltd.
6	Dr.G.Appa Rao	External Academic Expert	Prof., Dept. of Civil Engineering, IIT Madras
8	Dr.M.Duraiselvam	External Academic Expert	Prof. Dept. Production Engg, NIT Trichy
9	Dr.C.Dhavamani	Academician / Engineering sector	Professor and Head, Dept. of Aeronautical Engineering, MEC
10	Dr.K.Vidhya	Academician / Engineering sector	Professor and Head, Dept. of Civil Engg., MEC
11	Dr.T.Jesudas	Academician / Engineering sector	Professor and Head, Dept. of Mechatronics , MEC
12	Dr.S.Ashokumar	Academician ./ Management sector	Professor and Head, Department of MBA, MEC

13	Dr.N.Viswanathan	Academician / Engineering sector	Professor and Head, Department of ECE, MEC
14	Dr.M.Kannan	Academician / Engineering sector	Professor and Head, Department of CSE, MEC
15	Dr. R. Uthirasamy	Academician / Engineering sector	Professor and Head, Department of EEE, MEC
16	Dr.S.Raju	Academician / Engineering sector	Professor and Head, Department of IT, MEC
17	Dr.M.Srinivasan	Academician / Engineering sector	Professor and Head, Department of Mechanical Engineering , MEC
18	Dr.A.Neela Madheswari,	Academician / Engineering sector	Professor ,Department of CSE, MEC
19	Mr.Santhosh Kumar	First Generation Entrepreneur	Eelgrass Engineering Services (P) Ltd, Coimbatore
20	Mr.Manikandan N	First Generation Entrepreneur	Aham Global Infotech Pvt. Ltd., Coimbatore
21	Mr.Prince Chawhan	First Generation Entrepreneur	Khabai Tech, Bihar
22	Er.Guru Bharathi	First Generation Entrepreneur	Bharathi Builders and Contractors, Salem
23	Er.A.S.Asfar,	First Generation Entrepreneur	SAI Associates, Salem
24	A.S.Haritha	Student	IV Year Mechanical Engg
25	V.Pavankumar	Student	IV Year ECE
26	S.Kavushick Ram	Student	IV Year Mechanical Engg.
27	M.Karthikeyan	Student	IV Year Civil Engg.
28	K.Nisha	Student	IV Year Aeronautical Engg.
29	B.Divya	Student	III Year Civil Engg.
30	S.Janani	Student	III Year Agricultural Engg.
31	V.Rajendran	Student	III Year Information Technology.
32	D.Manoj Prabhakar	Student	III Year Aerospace Engg.

B. Brief mention of key functionaries at the IIC Institute

The key functionaries of our IIC are:

President

The President of IIC is the Principal of our College Dr.R.V.Mahendra Gowda. He constituted the Institution's Innovation Council (IIC) and nominated the Coordinator, Ambassadors and members responsible for smooth functioning of IIC. He chairs important IIC meetings and acts as a chief mentor for the entire IIC team at the Institute level.

Vice-President

- **The Vice-President of IIC is Dr.D.Subramaniam, Professor and Head of Aerospace Engineering.**
- He leads the Institution's Innovation Council (IIC). He will have the IIC portal Login ID and will be the custodian of IIC portal login and data/ reports uploaded therein.
- He will call the meetings, set meeting agenda and will monitor the deliverable and main point of contact with MHRD Innovation Cell.
- He will respond to all communication from IIC National Coordination team (MHRD Innovation Cell) and will be responsible to ensure decent performance of IIC. He will coordinate with MHRD innovation cell and responsible for all the IIC activities in the institute.

Convenor

- **Dr.R.Sasikumar, Associate Professor, Mechanical Engineering.**
- The Convenor will work in close coordination with IIC Coordinator and will provide help wherever required for smooth conduction of activities.
- He will ensure that Quarterly Council Meeting is planned effectively. Conduct Council Meeting in accordance with prescribed rules and that matters are dealt with in an orderly, efficient manner.
- He will ensure the participation in the meeting and will prepare the meeting agenda at least a week before the meeting. He will prepare the minutes of the IIC meetings and circulate amongst all members for their information and needful action.
- He will collect the inputs from all the members of the council at regular interval, especially external members for better planning of IIC activities and effective delivery of results.

Coordinators

- Following members will work in close coordination with President, Vice-President and Convener to develop a comprehensive ecosystem of innovation and

synergy in efforts to boost new product development and entrepreneurship. They will work as per the responsibilities assigned in council meeting.

- **Innovation Activity Coordinator**

Dr.T.Jesudas, Professor and Head, Dept. of Mechatronics. He will work to promote innovation related activities on campus or as mandated in Institution's Innovation Council (IIC) meeting.

- **Start-up Activity Coordinator**

Dr.C.Dhavamani, Professor and Head, Dept. of Aeronautical Engineering. She will work to boost startup generation among students and related activities or as mandated in Institution's Innovation Council (IIC) meeting.

- **Internship Coordinator**

Dr.KR.Kalphana, Associate Professor, Dept. of Agricultural Engineering Will work to arrange student internships in startups, so to expose them with startup ecosystem in India, real-life challenges in startup and their success stories or as mandated in Institution's Innovation Council (IIC) meeting.

- **IPR Activity Coordinator**

Dr.K.Vidhya, Professor and Head, Dept. of Civil Engineering. She will promote awareness about IPRs and conduct related activities on campus or as mandated in IIC council meeting.

- **Social Media Coordinator**

Mr.S.Saravanan, HR Manager. He will create and manage IIC activities with press, and social media. He will be responsible for posting all the relevant information about council meeting resolution and action plan, IIC activities and follow/tag MIC/IIC page and posts on these platforms. He will also ensure that all students follow MIC/IIC page/account on social media to get first-hand information.

C. Portfolio/graphical/Tabular representation of Resource strength (Human capital and Physical capital) of the IIC institution

S. No.	Portfolio	Resource strength
1	Total No. of IIC Members	105
2	Total No. of IAs	10
3	Total No. of faculty Mentors (From Portal)	4
4	Pre-Incubation Units, If any	13
5	Incubation Units, If any	3
6	IP Facilitation Unit, If any	1

D. Highlight Facilities, Infrastructure of Pre-Incubation & Incubation kind and Student bodies/clubs engaged in promotion of Innovation and Entrepreneurship in the campus.

- Our Institute has established M-FIRST (Mahendra Foundation for Innovative Research in Science & Technology) to enable students to carry out innovative projects.
- Our College has established 12 Centres of Excellence such as AI & ML, Catia Design, Labview, L&T Formwork, and Skill development with MSME, Centre for Innovation and Product Development etc.
- Each Department has an exclusive student Club to promote creativity, innovation and organize several activities for students.
- MBA Department actively coordinates Entrepreneurial initiatives such as pre-incubation, incubation, entrepreneurship education have been performed regularly using well defined evaluation parameters.
- Students are encouraged to actively participate in Inspire programmes, EAPs, Design contests, Project exhibitions, etc.
- Awareness programmes on Patenting were organized in collaboration with Patent Office Chennai.

- Exposure of interested students to innovation and pre incubation activities at their early stage and to support the pathway from ideation to innovation to market, mechanisms has been devised at institution level.
- Our Institute links the start-ups and companies with wider entrepreneurial ecosystem and by providing support to students who show potential, in pre-startup phase. Connecting student entrepreneurs with real-life entrepreneurs will help the students in understanding real challenges which may be faced by them while going through the innovation funnel and will increase the probability of success.
- Stakeholder engagement has been given prime importance in the entrepreneurial agenda of the institute. Institutes found potential partners, resource organizations, micro, small and medium sized enterprises, social enterprises, schools, alumni, professional bodies and entrepreneurs to support entrepreneurship and co-design the programs.
- Our Institute has developed policy and guidelines for forming and managing the relationships with external stakeholders including private industries.

E. Highlight Achievements (Narrative/Graphical/tabular representation)

- **Number and Different types of I&E and IPR activities Conducted**

S. No.	Date	Program conducted
1	21.12.22	Innovation Day
2	11.11.22	National Education Day
3	14.11.22	My Story - Motivational Session by Successful Innovators.
4	5.1.23	My Story - Motivational Session by Successful Entrepreneur/Start-Up Founder.
5	11.01.23	Session on Problem Solving and Ideation Workshop
6	14.11.22	Start Up-Non Destructive Testing
7	10.11.22	New Generation Start Up - Business Model
8	03.11.22	Overview of Petroleum Refining and Petrochemical Processes - Entrepreneurship
9	24.1.23	Application of Design Thinking Tool and Approaches for Right Problem Identification and Solution Development
10	01.11.22	Entrepreneurship Opportunities in Food Processing Sector

S. No.	Date	Program conducted
11	31.10.22	Intellectual Property Rights with a Special Focus on Patent Rights in Pharma and Biotech Industries
12	22.12.22	R&D Innovation and Entrepreneurship
13	11.1.23	Innovation and Entrepreneurship
14	15.2.23	Innovations in Form Work for Bridges
15	02.12.22	Design Thinking and Solution Development
16	27.1.23	Demo Day/Exhibition/Poster Presentation of Ideas/Poc & Linkage With Innovation Ambassadors/Experts for Mentorship Support - Manage Through Yukti-Nir
17	28.2.23	National Science Day
18	08.3.23	National Startup Day
19	20.1.23	National Energy Conservation Day(India)
20	21.1.23	National Pollution Control Day
21	22.2.23	Workshop on Entrepreneurship Skill, Attitude and Behavior Development
22	30.1.23	Organising Innovation & Entrepreneurship Outreach Program in Schools/Community
23	13.1.23	Innovation and Startup
24	21.2.23	Workshop on Design Thinking, Critical Thinking and Innovation Design
25	16.2.23	Session on Achieving Problem-Solution Fit & Product-Market Fit
26	30.1.23	Expert Talk on "Process of Innovation Development & Technology Readiness Level (Trl)" & "Commercialisation of Lab Technologies & Tech-Transfer"
27	17.10.22	Workshop on “Entrepreneurship and Innovation as Career Opportunity”
28	12.1.23	National Youth Day
29	30.1.23	Leadership Talk by Prof. T. G. Sitharam, Hon’ble Chairman, All India Council for Technical Education (Aicte)
30	30.1.23	Launch of 5G Services
31	18.11.22	Innovation and Critical Thinking in Biomedical and Photovoltaic (PV) Applications.

S. No.	Date	Program conducted
32	03.11.22	Innovative Practices of Civil Engineer
33	11.5.23	Application of Design Thinking and Tool and Approaches for Right Problem Identification and Solution Development
34	11.5.23	National Technology Day
35	20.2.23	World Intellectual Property Day
36	21.4.23	World Creativity and Innovation Day
37	8.3.23	International Women's Day
38	11.5.23	National Technology Week Inaugural Address of Hon'ble Prime Minister of India At 10.00 am, 11th May 2023
39	11.5.23	Nep Ki Samajh Celebrating 3 Years of Implementation of NEP 2020
40	25.4.23	Challenge in Metel Additive Manufacturing Leading to Innovation
41	26.4.23	Innovation in Wastewater Treatment Using Immobilized Particles in IFBR
42	8.3.23	Innovation in Personal Financial Management – A Lesson to the Budding Leaders of Tomorrow
43	19.5.23	Workshop on Prototype/Process Design and Development
44	19.5.23	Session on “How to Plan for Start-Up and Legal & Ethical Steps”
45	20.3.23	Role of Technology Business Incubators in Identifying and Shaping Entrepreneurs in Academic Environment
46	28.7.23	Organise Session on “Lean Start-Up & Minimum Viable Product/Business”- Boot Camp (Or) Mentoring Session
47	26.4.23	Workshop on Intellectual Property Rights (IPRS) and IP Management for Start Up
48	10.5.23	Session/ Workshop on Business Model Canvas (BMC)
49	21.8.23	World Entrepreneurs Day
50	15.8.23	Independence Day- Celebrating Aazadi Ka Amritkal
51	5.6.23	World Environment Day
52	10.8.23	Innovation in Meat and Poultry Processing
53	27.7.23	Entrepreneurship
54	26.8.23	Session on Accelerators/Incubation - Opportunities for Students & Faculties - Early Stage Entrepreneurs
55	18.8.23	Innovation in Sap Using S4 Hana Technology

S. No.	Date	Program conducted
56	11.8.23	Innovation in Advance Technology
57	1.8.23	Design Thinking
58	26.8.23	Session on Innovation/Prototype Validation – Converting Innovation into a Start-up
59	22.8.23	An Introduction to Design Thinking
60	21.4.23	Innovation Day
61	17.8.23	Accelerators / Incubation - Opportunities for Students & Faculties -Early Stage Entrepreneurs

Academic courses: These included fully –credited courses in Innovation / Entrepreneurship / Intellectual Property offered by HEIs) Diploma / UG/PG/Ph.D)

S.No	Sub.code	Subject name
1	19CE23301	Computer Aided Drafting and Building Drawing
2	19CE26401	Survey Camp (7 days)
3	19CE24602	Structural Design and Drawing Laboratory
4	17CE24701	Structural Design Lab
5	17CE14801	Estimation and Quantitative Surveying
6	19EE15809	Human Resource Management
7	19EE14504	Conventional and Renewable Energy Sources
8	19EE24602	Electronic Design Laboratory
9	19EI24501	Microprocessors and Microcontrollers Laboratory
10	19EI24502	Industrial Instrumentation Laboratory
11	19ME14504	Managerial Skills and Quality Management
12	17ME24701	Mechatronics Laboratory
13	17ME14802	Power Plant Engineering
14	19AG14504	Soil and water Conservation Engineering
15	19AG15501	Solar and Wind Energy Engineering
16	19CH15016	Industrial Waste Treatment
17	19FT14501	Processing of Spices and Plantation Crops
18	19FT14504	Food Additives

S.No	Sub.code	Subject name
19	19FT15501	Fruits and Vegetable Processing Technology
20	19FT24501	Fruits and Vegetable Processing Laboratory
21	19FT14602	Dairy Technology
22	19FT15601	Extrusion Technology
23	19FT15602	Agri Business Management
24	19FT24601	Dairy Technology Laboratory
25	19FT24602	Food Process Engineering Laboratory
26	19PT14301	Microbiology
27	19PT24301	Physical Pharmaceutics Laboratory
28	19PT24302	Microbiology Laboratory
29	19PT14401	Stoichiometry and Chemical Process Calculation
30	19PT14402	Fluid flow operations
31	19PT14404	Pharmaceutical Analysis
32	19PT14405	Molecular Biology and Genetic Engineering Laboratory
33	19PT24401	Analytical Methods and Instrumentation Laboratory
34	19PT14501	Medicinal Chemistry
35	19PT14502	Pharmacology
36	19PT15503	Computer Aided Drug Design
37	19PT24501	Physiology and Pharmacology Laboratory
38	19PT24502	Medicinal Chemistry Laboratory
39	19PT15604	Herbal Technology
40	19PT15608	Nutraceuticals
41	19PT24601	Bioprocess Engineering Laboratory
42	19PT24602	Technology of Solid Dosage form Laboratory
43	19PT56601	Internship/Training (Minimum 2 weeks)
44	19STE13105	Health Monitoring and Retrofitting of Structures
45	19STE22101	Structural Design Laboratory
46	19STE22201	Finite Element Analysis Laboratory
47	19STE54201	Implant Training

S.No	Sub.code	Subject name
48	19CEM22102	Computing Techniques Laboratory
49	19CEM22201	Project Management Laboratory
50	19CEM54201	Inplant Training
51	19CSE12203	Research Methodology and IPR
52	19CTS15205	Safety and Hazards Control In Industries
53	19CTS16304	Waste to Energy
54	19CAD12101	Computer Applications in Design
55	19CAD12102	Research Methodology and IPR
56	19CAD13012	Enterprise Resource Planning
57	19MFE13011	Material Management & Logistics
58	19MBA12402	International Business Management
59	19MBA22401	Creativity and Innovation Lab
60	19CEM22101	Managerial Skills and Quality Management

List of Programmes organized under the title of Entrepreneurship

S.No	Title of the Program
1	Overview of Petroleum Refining And Petrochemical Processes - Entrepreneurship
2	Entrepreneurship Opportunities in Food Processing Sector
3	Role of Technology Business Incubators in Identifying and Shaping Entrepreneurs in Academic Environment
4	Entrepreneurship
5	Entrepreneurship development

List of programmes organized under the title of Innovation

S.No	Title of the Program
1	R&D Innovation and Entrepreneurship
2	Innovation and Entrepreneurship
3	Innovations in Form Work for Bridges
4	Innovation and Startup
5	Innovation and Critical Thinking in Biomedical and Photovoltaic (PV) Applications.
6	Challenge in Metal Additive Manufacturing Leading to Innovation
7	Innovation in Wastewater Treatment Using Immobilized Particles in IFBR
8	Innovation in Personal Financial Management – A Lesson to the Budding Leaders of Tomorrow
9	Innovation in Meat and Poultry Processing
10	Innovation in SAP Using S4 Hana Technology
11	Innovation in Advance Technology

List of Programmes organized under the title of Startup

S.No	Title of the Program
1	Start Up in Non Destructive Testing
2	New Generation Start Up - Business Model
3	Session on “How to Plan for Start-Up and Legal & Ethical Steps”
4	Bussiness Start - up

List of Programmes organized under the title of Design thinking

S.No	Title of the Program
1	Application of Design Thinking Tool and Approaches for Right Problem Identification and Solution Development
2	Design Thinking and Solution Development
3	Application of Design Thinking and Tool and Approaches for Right Problem Identification and Solution Development
4	Design Thinking
5	An Introduction to Design Thinking

List of Calendar Activities Organized during 2022-2023

S.No	Title of the Program
1	My Story - Motivational Session by Successful Innovators.
2	My Story - Motivational Session by Successful Entrepreneur/Start-Up Founder.
3	Session on Problem Solving and Ideation Workshop
4	Demo Day/Exhibition/Poster Presentation of Ideas/POC & Linkage With Innovation Ambassadors/Experts for Mentorship Support - Manage Through Yukti-NIR
5	Workshop on Entrepreneurship Skill, Attitude and Behavior Development
6	Organising Innovation & Entrepreneurship Outreach Program in Schools/Community
7	Workshop on Design Thinking, Critical Thinking and Innovation Design
8	Session on Achieving Problem-Solution Fit & Product-Market Fit
9	Expert Talk on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialisation of Lab Technologies & Tech-Transfer"
10	Workshop on “Entrepreneurship and Innovation as Career Opportunity”
11	Workshop on Prototype/Process Design and Development
12	Organise Session on “Lean Start-Up & Minimum Viable Product/Business”- Boot Camp (or) Mentoring Session
13	Workshop on Intellectual Property Rights (IPRS) and IP Management for Start Up

S.No	Title of the Program
14	Session/ Workshop on Business Model Canvas (BMC)
15	Session on Accelerators/Incubation - Opportunities for Students & Faculties - Early Stage Entrepreneurs
16	Session on Innovation/Prototype Validation – Converting Innovation into a Start-up

List of Celebration Activities conducted during 2022-2023

S.No	Title of the Program
1	Innovation Day
2	National Education Day
3	National Science Day
4	National Startup Day
5	National Energy Conservation Day(India)
6	National Pollution Control Day
7	National Youth Day
8	National Technology Day
9	World Intellectual Property Day
10	World Creativity and Innovation Day
11	International Women's Day
12	World Entrepreneurs Day
13	Independence Day- Celebrating Aazadi Ka Amritkal
14	World Environment Day


List of Self Driven Activity Programmes conducted durnig 2022-2023

S.No.	Title of the Program
1	Innovation
2	Start Up in Non Destructive Testing
3	New Generation Start Up - Business Model
4	Overview of Petroleum Refining and Petrochemical Processes - Entrepreneurship
5	Application of Design Thinking Tool and Approaches for Right Problem Identification and Solution Development
6	Entrepreneurship opportunities in Food Processing Sector
7	Intellectual Property Rights with a Special Focus on Patent Rights in Pharma and Biotech Industries
8	R&D Innovation and Entrepreneurship
9	Innovation and Entrepreneurship
10	Innovations in Form Work for Bridges
11	Design Thinking and Solution Development
12	Innovation and Startup
13	Innovation and Critical Thinking in Biomedical and Photovoltaic (PV) Applications.
14	Innovative Practices of Civil Engineer
15	Application of Design Thinking and Tool and Approaches for Right Problem Identification and Solution Development
16	Challenge in Metal Additive Manufacturing Leading to Innovation
17	Innovation in Wastewater Treatment Using Immobilized Particles in IFBR
18	Innovation in Personal Financial Management – A Lesson to the Budding Leaders of Tomorrow
19	Session on “How to Plan for Start-Up and Legal & Ethical Steps”
20	Role of Technology Business Incubators in Identifying and Shaping Entrepreneurs in Academic Environment
21	Innovation in Meat and Poultry Processing
22	Entrepreneurship
23	Innovation in SAP Using S4 Hana Technology
24	Innovation in Advance Technology

S.No.	Title of the Program
25	Design Thinking
26	An Introduction to Design Thinking

List of ATAL schools Accepted Invitation


← → ↻ lic.mic.gov.in/institute/selected-schools 🔍 📄 ☆ 📱 S


INSTITUTION'S INNOVATION COUNCIL
MEMBER OF EDUCATION INNOVATION

IIC ID
IC201810935

Mahendra Engineering College (C-37054)

Star Ratings: IIC 3.0
 ★ ★ ★ ★ ★



MY PROFILE

My Council

Manage Activity

Innovation Ambassador

Manage Pre-Incubation / Incubation Details

Schemes

ATL School Linkage

- Choose ATL Schools
- Manage ATL Schools

e-Learning Resources

Selected ATL Schools

List of ATL Schools - Accepted Invitation

S.No.	School Code	School Name	Address	Email	Mobile	Action
1	10592672	GOVT.GIRLS HR. SEC. SCHOOL JARIKONDALAMPATTI	GOVT.GIRLS HR. SEC. SCHOOL JARIKONDALAMPATTI SALEM SALEM	jarikondalampattighss@gmail.com	9489577320	Accepted
2	67858340	MAHENDRA MATRICULATION HIGHER SECONDARY SCHOOL	KALIPPATI, TIRUCHENGODE TALUK, NAMAKKAL DISTRICT, TAMIL NADU, INDIA PIN : 637501 KALIPPATTI NAMAKKAL	mahendraschool1978@yahoo.com	9944218317	Accepted
3	238912099	MUNICIPAL BOYS HIGHER SECONDARY SCHOOL AM/MAPET	SALEM SALEM	hmmplbhssemmapet@gmail.com	9489577424	Accepted

National Innovation Repository (TITLES)

S.NO	TITLE
1	Design and Fabrication of 3D Printer Filament Making with Recycle Marble Plastic Materials
2	Antidiabetic and Antiperdental Activity of Synthesized Zinc Nanoparticles Using Linum usitatissimum of Ethanol Extraction
3	Development of a Manually Operated Fertilizer Spreader
4	Personal Assistant for Self-Reliant Senior Citizens.
5	Semi-Autonomous Electric Standing Vehicle for Cerebral Palsy Children
6	Design of Debutanizer Column in the Production of Polybutane
7	Solar Based Smart Agriculture with Auto Drainage System Using IOT
8	Development of Bromelain Milk Chocolate
9	Indigenous Cryptocurrency Investigation Tool
10	Design and Fabrication of Rocker Bogie Mechanism
11	Quantum Leap in Economical Construction Techniques with Utilization of Compash Brick Masonry for Rural Housing
12	Development of Smart Solar Powered Irrigation Using Artificial Intelligence

Student's & Faculty ideas generated

S. No.	Ideas generated
1	Miniature Pick and Place Robot for Material Handling
2	Development of Laser Engraving Machine
3	Solar Powered Automated Irrigation System for Plants in Highways Divider
4	Design and implementation of finger print based intelligent ATM
5	Design and Fabrication of Automatic poultry feeder
6	Physio Fast Heal Assistive Technology
7	Miniature Scale Industrial Ash Aggregate Plant
8	Design and Fabrication of Sew Seed Dibbler
9	Development of Laccase Enzyme Based Water Purifier and Detergent enhancer
10	Well Equipped Portable and Odorless Biogas Plant in Aearobic process
11	Design and Fabrication of Eco Friendly Tiles Machine

• **No. of Student's & Faculty Innovation/prototypes developed**

S. No.	Innovation/Prototypes
1	Smart Wearable Keyboard Using Iot
2	Blended Green Ashes -Zero Cement Paver Block
3	Prepaid Smart Energy Meter
4	Automatic Gas Leakage Detection With (Sms) Alert And Windows Opening System

• **No. of IPs generated, published and granted**

S. No.	Name of the faculty	Patent Title	Patent ID	Stage (published / granted)
1	Dr R V MAHEDNRA GOWDA	Design and Development of Friction Tester for Materials	No.202241054 144 A	Patent Published
2	Dr.S.SUMATHI	Early Detection of Atherosclerosis Using Machine Learning for Prediction of Cardiac and Cerebral issues	No.202241052 976 A	Patent Published
3	Dr.V.AROULMOJI	Theoretical Investigation to Conclude the Role of Microwaves During Metal Oxide Based Nano Materials Synthesis Process	No.202241053 339 A	Patent Published
4	Dr.S.PONLATHA	Artificial Intelligence Based Smart IOT Vehicle Emission and Prediction System for Urban Areas	No.202241053 348 A	Patent Published
5	Dr.N.VISWANATHAN	Dual Axis Tilting Automated and Controlled Solar Panel	No.202241053 350 A	Patent Published

S. No.	Name of the faculty	Patent Title	Patent ID	Stage (published / granted)
6	Dr.A.Neela Madheswari	Fruit Quality Monitoring Device Based on Machine Learning With Cloud Server	No.202241053 362 A	Patent Published
7	Dr. R. RANGANATHAN	Sequential Change in One Pot Three Component Protocol – A Stepping Stone in Heterocyclic Synthesis	No.202241053 359 A	Patent Published
8	Dr.R.UTHIRASAMY	Power Generation Using Hybrid Wind Energy and Bifacial Solar PV Systems	No.202241053 364 A	Patent Published
9	Dr.S.ANANTH	Emotion Detection Using Open CV Based Music Player In Machine Learning	No.202241053 365 A	Patent Published
10	Dr. M. KARTHIK	Design and Fabrication of Nafepo4/Mwcnts Hybrid Electrode Material for Sodium-Ion Battery	No.202241053 368 A	Patent Published
11	Dr.S.KRISHNAN	Self-Repairing Industry IOT-Based Automatic and Smart Solar Powered Egg Incubator	No.202241053 367 A	Patent Published
12	DR.S.G.BALAKRISHNAN	An Automated Machine Learning Tool for Predicting Student Performance Analysis	No.202241053 373 A	Patent Published
13	Dr.R.SASIKUMAR	Design of 3D Printing Machine for Making Fasteners Used in Work Holding Devices on Manufacturing Application	No.202241053 415 A	Patent Published

S. No.	Name of the faculty	Patent Title	Patent ID	Stage (published / granted)
14	DR.M.DHURGADEVI	Detect Facial Features and Tag Your Friends Using Artificial Intelligence	No.202241053 716 A	Patent Published
15	Dr.K.Vidhya	: Manufacturing Process and Development of Co Emission Controlled Material for Application of Road	No.202241053 899 A	Patent Published
16	Dr.R.PRABU	Development of a Motorized Patient Handling and Elevating Chair	No.202241053 616 A	Patent Published
17	Dr.K.VIDHYA	Manufacturing Process of Delayed Volatility Compound for Bio-Binder Applications	No.202241053 920 A	Patent Published
18	Dr.R.VIJAYAKUMAR	IOT Based Smart Wireless Charging System for Electric Vehicles	No.202241053 349 A	Patent Published
19	Dr.KR.KALPHANA	Design of IOT-Driven System for Identify Leaf Infection and Soil Property Prediction Using Deep Learning Technique	No.202241052 968 A	Patent Published
20	DR.T.JESUDAS	Irrigation System and Method Thereof	202241017193 A	Patent Published

• **No. of Student & Faculty Start-ups/Ventures established.**

S. No.	Start-ups/Ventures established
1	Mr.Santhosh Kumar, Eelgrass Engineering Services (P) Ltd, S.F.2/304, Bodipalayam road,Madukkarai Post, Malumichampatti, Coimbatore,Tamil Nadu 641105
2	Mr.Manikandan N, Aham Global Infotech Pvt. Ltd Rasi Building, No : 161-162 , 2nd Floor, Ponnaiyarajapuram Street, Gandhi Park, Coimbatore, Tamil Nadu 641001
3	Mr.Prince Chawhan, Khabai Tech, Baghdulhan Road, Baghdulhan, Hajipur, Bihar 844101
4	Er.P.Sabarivasan Marutham Groups, 32, First cross street, Ganga Nagar, Kodambhakkam, Chennai-600024
5	Er.Guru Bharathi, Bharathi Builders and Contractors, 127, Main Road, AN Palayam, Kaniyur, Tiruppur – 642203, Tamilnadu
6	Er.A.S.Asfar, SAI Associates, 326,2, II nd floor, KAS Garden, Salem- 636 004, Tamilnadu.

• **Amount spent on promotion and awareness generation on Innovation**

Entrepreneurship in the campus

S. No.	Program conducted	Amount spent in Rs
1	Innovation Day	2500
2	National Education Day	3000
3	My Story - Motivational Session by Successful Innovators.	5000
4	My Story - Motivational Session by Successful Entrepreneur/Start-Up Founder.	5000
5	Session on Problem Solving and Ideation Workshop	5000
6	Start Up in Non Destructive Testing	5000
7	New Generation Start Up - Business Model	5000
8	Overview of Petroleum Refining and Petrochemical Processes - Entrepreneurship	5000
9	Application of Design Thinking Tool and Approaches for Right Problem Identification and Solution Development	5000
10	Entrepreneurship Opportunities in Food Processing Sector	5000
11	Intellectual Property Rights with a Special Focus on Patent Rights in Pharma and Biotech Industries	5000

S. No.	Program conducted	Amount spent in Rs
12	R&D Innovation and Entrepreneurship	5000
13	Innovation and Entrepreneurship	5000
14	Innovations in Form Work for Bridges	5000
15	Design Thinking and Solution Development	5000
16	Demo Day/Exhibition/Poster Presentation of Ideas/POC & Linkage With Innovation Ambassadors/Experts for Mentorship Support - Manage through Yukti-NIR	5000
17	National Science Day	5000
18	National Startup Day	5000
19	National Energy Conservation Day(India)	5000
20	National Pollution Control Day	5000
21	Workshop on Entrepreneurship Skill, Attitude and Behaviour Development	5000
22	Organising Innovation & Entrepreneurship Outreach Program in Schools/Community	5000
23	Innovation and Startup	5000
24	Workshop on Design Thinking, Critical Thinking and Innovation Design	5000
25	Session on Achieving Problem-Solution Fit & Product-Market Fit	5000
26	Expert Talk on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialisation of Lab Technologies & Tech-Transfer"	5000
27	Workshop on “Entrepreneurship and Innovation as Career Opportunity”	5000
28	National Youth Day	5000
29	Leadership Talk with Prof. T. G. Sitharam, Hon’ble Chairman, All India Council for Technical Education (AICTE)	5000
30	Launch of 5G Services	5000
31	Innovation and Critical Thinking in Biomedical and Photovoltaic (PV) Applications.	5000
32	Innovative Practices of Civil Engineer	5000
33	Application of Design Thinking and Tool And Approaches for Right Problem Identification and Solution Development	5000

S. No.	Program conducted	Amount spent in Rs
34	National Technology Day	5000
35	World Intellectual Property Day	5000
36	World Creativity and Innovation Day	5000
37	International Women's Day	10,000
38	National Technology Week Inaugural Address of Hon'ble Prime Minister of India at 10.00 am, 11th May 2023	5000
39	NEP Ki Samajh Celebrating 3 Years of Implementation of NEP 2020	-
40	Challenge in Metal Additive Manufacturing Leading to Innovation	5000
41	Innovation in Wastewater Treatment Using Immobilized Particles in IFBR	5000
42	Innovation in Personal Financial Management – A Lesson to the Budding Leaders of Tomorrow	5000
43	Workshop on Prototype/Process Design and Development	5000
44	Session on “How to Plan for Start-Up and Legal & Ethical Steps”	5000
45	Role of Technology Business Incubators in Identifying and Shaping Entrepreneurs in Academic Environment	5000
46	Organise Session on “Lean Start-Up & Minimum Viable Product/Business”- Boot Camp (or) Mentoring Session	5000
47	Workshop on Intellectual Property Rights (IPRS) and IP Management for Start Up	5000
48	Session/ Workshop on Business Model Canvas (BMC)	5000
49	World Entrepreneurs Day	-
50	Independence Day- Celebrating Aazadi Ka Amritkal	-
51	World Environment Day	5000
52	Innovation in Meat and Poultry Processing	5000
53	Entrepreneurship	5000
54	Session on Accelerators/Incubation - Opportunities for Students & Faculties - Early Stage Entrepreneurs	5000
55	Innovation in SAP Using S4 Hana Technology	5000
56	Innovation in Advance Technology	5000

S. No.	Program conducted	Amount spent in Rs
57	Design Thinking	5000
58	Session on Innovation/Prototype Validation – Converting Innovation into a Start-up	5000
59	An Introduction to Design Thinking	-
60	Innovation Day	-

• **Amount granted or fund supported to Student & Faculty lead Innovations, start-ups and IPR**

S. No.	Innovation/prototypes	Amount spent in Rs.
1	Automatic Surveillance and Fire Fighting Robot	10,000
2	Prepaid Smart Energy Meter	10,000
3	Experimental investigation on the properties of innovative bricks properties of innovative bricks using construction and demolition wastes	10,000
4	Solar powered thrash collector on land and water surface to maintain aquatic eco system	10,000
5	An experimental investigation on interlocking hybrid bricks using eco sand	10,000
6	Molecular insights of antiviral drugs targeted	10,000
7	To study the suitability of surfactant assisted and doped Tungsten Oxide (WO ₃) nano architectures for electrochromic and solar cell applications	10,000
8	Designing of MPPT charge controller using soft computing techniques	10,000
9	Micro structural analysis of cobalt alloy INCONEL 825 and tungsten carbide by SEM test	10,000

S. No.	Innovation/prototypes	Amount spent in Rs.
10	Implementation of palm tree leaf pattern on last stage of compressor stator blade to improve combustion ratio	10,000
11	A Smart DC-DC SEPIC Converter for E-Vehicle Application	10,000
12	Smart Phone Operated Multipurpose Agricultural Robot	10,000
13	Animal Detection in Farms Using Open CV in Deep Learning	10,000
14	Vehicle Black Box for Accident Data Storage and GPS SMS Alert using Arduino Mega	10,000
15	Experimental Investigation on Mechanical Properties of Light Weight Bricks using Vermiculite	10,000
16	Assessment of Groundwater Contamination in Thirumanimuthar River at Salem Districts	10,000
17	Design and Fabrication of 3D Printer Filament Making with Recycle Marble Plastic Materials	10,000
18	Semi - Autonomous Electric Standing Vehicle for Cerebral Palsy Children	10,000

No. of Technology Transfer and Commercialisation happened

S. No.	Innovation/prototypes
1	Miniature Scale Industrial Ash Aggregate Plant
2	Physio Fast Heal Assistive Technology
3	Design and Fabrication of Automatic poultry feeder
4	Development of Laser Engraving Machine
5	Design and implementation of finger print based intelligent ATM

F. Highlight few best IIC Faculty/Student members and their achievements/ Rewarded for the innovations at different forum






[Profile of few faculties with 2-3 line of their achievements]

SI. No.	Name of the Faculty	Achievements
1	Dr.C.Dhavamani	Best Women Scientist Award from Nature Science Foundation, Coimbatore on 25.02.2023 for the Academic Year 2022-23

List of companies with MoU's

S.No	Name of the Company
1	Larsen & Toubro Limited
2	Infosys Limited Campus Connect
3	L&T EduTech
4	Aerial Drobotics
5	Pantech E-Learning Tech
6	Information Data Systems
7	Ministry of Micro, Small & Medium Enterprises, New Delhi
8	Multi Media University , Malacca, Malaysia (MMU)
9	Tasty Bakery Products Private Limited
10	Oracle Support
11	National cyber safety and security standards
12	Centre for Stem Cell and Cancer Genomics, AMI Bioscience

G. Highlight selected best Innovations & images with mention of inventor/innovation name

SI. No.	Name of the Faculty	Name of the Students	Title of the Innovation	Images
1	Dr.T.Jesudas	Suresh Babu R	Solar Powered Automated Irrigation System for Plants in Highways Divider	
		Arthur Paul Johnson		
		Karthick R		
2	Mr.D.Prabhakaran	Manikandan S	Miniature Pick and Place Robot for Material Handling	
		Harish Kumar R		
		Sadhana Shree S		
3	Mr.J.Dineshkumar	Arun Vinith S	Development of Laser Engraving Machine	
		Karthick Manikandan B		
		Kavin Kumar S		
4	Mr.J.Dineshkumar	Karthick Manikandan B Kavin Kumar S	Prototype-3D-Printing	
5	Dr.R.Sasikumar	Venkatesh R Khannan R.S Mahendran M Anumanthan I	Prototype-3D-Printing	

H. Highlight selected start-ups established by students/faculties with mention of founder/cofounder name

- Er.S.Surenthar, Student of Mechatronics has established a start-up in the name of “Qbitto”. The solution provider for AI and Python Programming.
- Er.S.Mohan Raj, Student of Mechatronics has established a start-up in the name of “Royal Glaze Restoration”.

I. List if any break through Innovations / Technology Developed at the institute (2-3 technology with 2-3 lines about technology and innovation

1. **Title of the project : Development of Smart Solar Powered Irrigation using artificial intelligence**
Sponsor: AICTE - RPS – Rs. Rs.17,01,960

2. **Title of the Invention: Solar Powered Automated Irrigation system for Plants in Highways Divider**

Field of Invention: It is used for Highways and City Infrastructure development

Abstract:

On National Highways the NHAI is planting trees and shrubs to reduce the impacts of air pollution and dust. The green environment has many advantages such as Prevention of glare from the headlight of incoming vehicles, moderating the effect of wind and incoming radiations and so on. To keep the environment green, the continuous and regular watering to the plants is essential and important. Nowadays the watering is made manually in morning and in the peak hours, it creates the trouble to the travelers and it makes accidents in highways. To avoid accidents and troubles in the highways an automatic irrigation system must be introduced. **An innovative new solar operated irrigation system is developed to irrigate the plants in the highways divider or medians.**

J. Participation of IIC-institute in various programs of Central and Stage Govt. Highlighting specially for the schemes or programs

- **ARIIA – participation and Rank in 2021 “EXCELLENT”**

Our College is ranked by MHRD-AICTE in ARIIA in Participation during 2022) in the category of Self-financing Colleges.

- **NISP Adoption status - Trained Faculty, Policy Formulation, Policy Implementation**

- Our Institute has a Start-up **Mahendra Next Wealth** promoted by our Management on the campus. Every year more than 350 students undergo internship and mentoring programs in this company. We have established the Start-up policy. **The Start-up activity Coordinators Dr.C.Dhavamani, Professor and Head, Dept. of Aeronautical Engineering and Dr P.Umashankar, Professor/EEE** has undergone training and they are coordinating the NSIP activities on the campus.
- **Smart India Hackathon**

Report on the Internal Smart India Hackathon 2022

Internal Smart India Hackathon 2022 conducted by the Department of CSE during 8th March 2022 from 10.30 a.m. to 1.40 p.m. focusing on the selection of Idea Submission to SIH 2022 organized by AICTE, Ministry of Education Govt of India, i4c and Persistent Systems. This gave an opportunity to showcase creativity and innovation through technology. The themes for the competition were focused on 20 areas with problem statement which directly involved in day to day life.

The response for the competition was note-worthy and out of 20 registered teams, 14 teams were selected and they presented their ideas in Internal SIH 2022. The team of evaluators adjudged the outcomes of the teams based on presentation, developing and implementation skills.

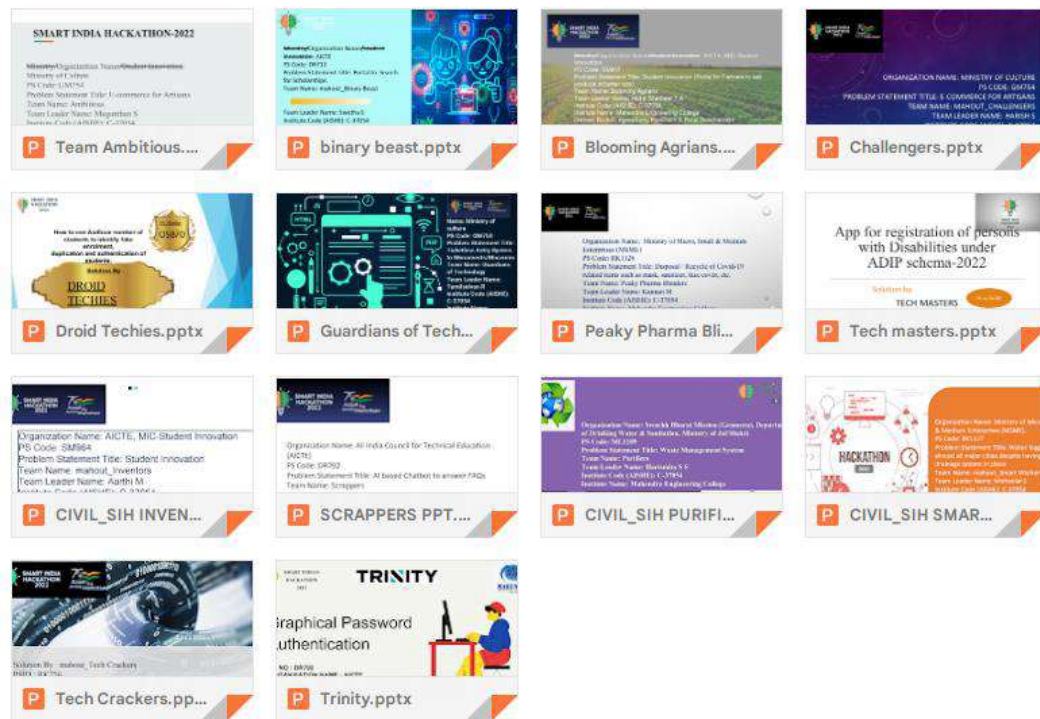
Teams of evaluators are,

1. Dr.D.Subramaniam, Professor & Head, Aerospace Engineering, IIC Coordinator, Mahendra Engineering College
2. Dr.P.Venkatesan, Associate Professor, EEE Department, Mahendra Institute of Technology
3. Dr. J.Stanly Jayaprakash, Professor & Head, CSE Department, Mahendra Institute of Technology
4. Dr.S.Ponlatha, Associate Professor, ECE Department, Mahendra Engineering College

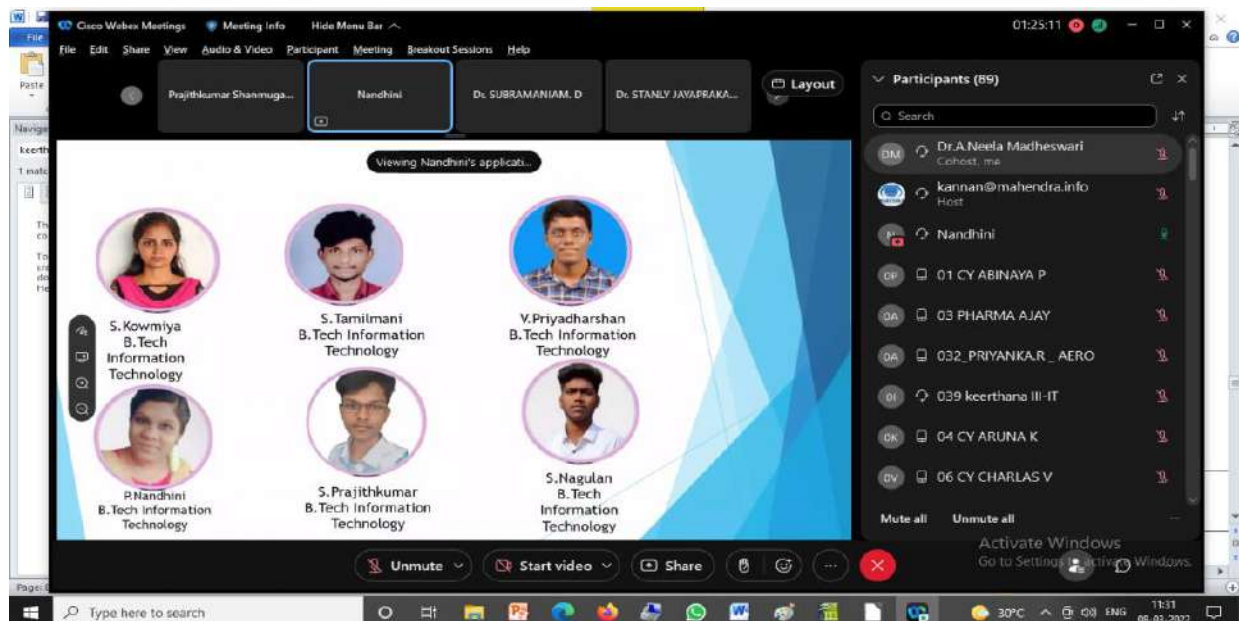
All the 14 teams submitted their ideas as SIH2022 website successfully.

Titles of the 14 Teams-SIH 2022

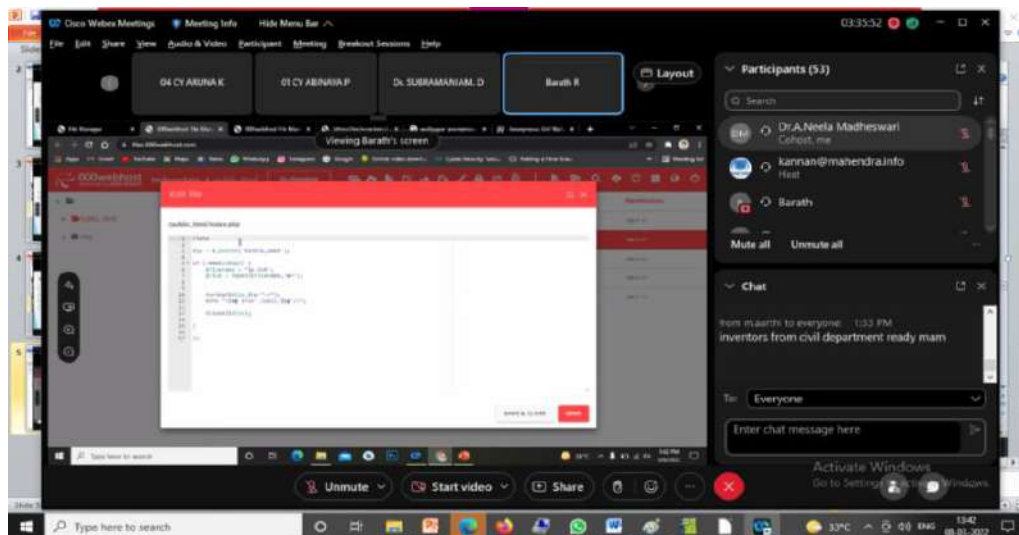
14 Attachments



Sample Screenshot during Team presentation



Sample Screenshot during Team demo



Sample Certificate given to student participant



Sample Certificate given to Evaluator of Internal SIH 2022



K. Detail of Social Media & Connections of IIC institute

<https://www.facebook.com/IIC-Mahendra-Engineering-College-Namakkal-357733761751039>

L. Testimonials from IIC members and external about IIC institute and IIC of MoE's Innovation Cell

“NEP ki Samajh” - Celebrating 3 years of Implementation of NEP 2020

MIC Driven Activity

Q4 - IIC5.0 (AY 2022-23)

Head of the Institution

1. <https://youtu.be/NHFuu5ew7s8>



MIC Driven Activity -IIC-Mahendra Engineering College -NEP 2020

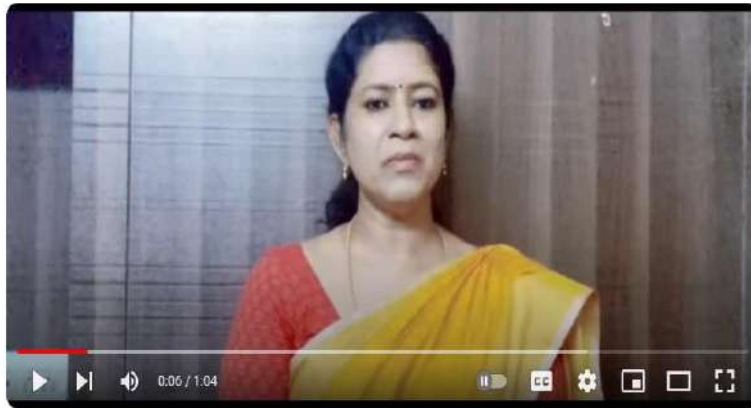
Faculty Members

2. <https://youtu.be/twsEXQCvfwU>



MIC Driven Activity -IIC-Mahendra Engineering College -NEP 2020

3. <https://youtu.be/oyu0vRv9eIQ>



MIC Driven Activity -IIC-Mahendra Engineering College -NEP 2020

4. <https://youtu.be/y8JMEnTrkCs>



MIC Driven Activity -IIC-Mahendra Engineering College NEP 2020

5. https://youtu.be/ySu_3zBUk1s



Benifited from digital learning through online platforms like swayam or NPTEL

6. <https://youtu.be/hF1UhQFI9wc>



Muthuvinayagam

Students

1. https://youtu.be/-ckXhYFAZEo?si=_l47ngDUQJSI0x47



MIC DRIVEN ACTIVITY

2. <https://youtu.be/LTZaoXUV7rE?si=BSXD0yWktU4tyYA9>



MIC DRIVEN ACTIVITY NEP2020

3. https://youtu.be/D7c6wZu4z5A?si=gyOvsSaus_lto7



MIC DRIVEN ACTIVITY NEP2020

4. <https://youtu.be/qp0wCavcLQA?si=oSiZ4U099pVrwF9m>



MIC DRIVEN ACTIVITY NEP2020

5. https://youtu.be/ZBpp0gkfs2A?si=UIL_4HN-KLeAyaTy



MIC DRIVEN ACTIVITY NEP2020


Independence day Celebrations



**MAHENDRA
ENGINEERING COLLEGE**



Autonomous | Accredited by NAAC 'A' Grade & NBA Tier-I (WA) UG: CSE, ECE, EEE

 **MAHENDRA
ENGINEERING COLLEGE** 

Autonomous | Accredited by NBA Tier-I (WA) UG: CSE, ECE, EEE

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Cordially Invites you for the
IIC EVENT

**INDEPENDENCE DAY CELEBRATING
AAZADI KA AMRITKAL**



Date: 15th August 2023





List of referred Institution for New IIC Registration

IIC ID IC201810935 **Mahendra Engineering College (C-37054)** **Star Ratings: IIC 3.0**

Refer Institute for IIC Registration

List of Referred Institute by you.

Add New

S.No.	Institute Name	Aishe Code	City	State	Status of Acceptance	IIC Registration Status	Action
1	SHREE SATHYAM COLLEGE OF ENGINEERING AND TECHNOLOGY	C-45302	Salem	Tamil Nadu	Pending	Approved	

QUICK LINKS

- Home
- Innovation Council
- SIH
- ARIIA

SOCIAL MEDIA LINKS

- Twitter
- Facebook
- Youtube
- Instagram

CONTACT US

www.mic.gov.in
iic.mhrd@aicte-india.org
011 2958 1239/1513/1223

Activate Windows
Go to Settings to activate Windows.

M. Contact

Institute Name : Mahendra Engineering College

Institute Address : Mahendhirapuri, Mallasamudram west, Tiruchengode TK,
Namakkal Dist-637 503

Website : www.mahendra.info


07/09/23

PRINCIPAL
MAHENDRA ENGINEERING COLLEGE
(AUTONOMOUS)
MAHENDHIRAPURI, MALLASAMUDRAM,
NAMAKKAL DT - 637 503.