CARE COLLEGE OF ENGINEERING
(An Autonomous Institution)
Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai
Accredited by NAAC with 'A' Grade & NBA (CSE, ECE, MECH)
#27, Thayanur, Tiruchirappalli - 620009

INSTITUTION'S INNOVATION COUNCIL
(Ministry of HRD Initiative)

CARE Institution's Innovation Council (IIC-CARE)

Annual report AY2024 - 2025

A. About IIC of CARE

The Institution Innovation Council (IIC) is an initiative launched by the Ministry of Education (MoE), Government of India, in collaboration with the All India Council for Technical Education (AICTE) in 2018. Its primary aim is to systematically cultivate a culture of innovation and entrepreneurship within India's Higher Education Institutions (HEIs). IIC-CARE was established in 2021 to foster innovation and entrepreneurship in institutions and to create a supportive ecosystem for innovation promotion on campus. The council provides multiple levels of support for student innovators, helping them develop their ideas into viable solutions.

Mission of IIC at CARE College of Engineering

The Institution Innovation Council (IIC) at CARE College of Engineering envisions creating a **vibrant ecosystem for innovation and entrepreneurship**, nurturing creative minds, and transforming innovative ideas into viable solutions.

Objective

- Engage faculty members and students in various innovation and entrepreneurship-related activities such as ideation, problem-solving, proof-of-concept development, design thinking, intellectual property rights (IPR), project handling, and management.
- Organize periodic workshops, seminars, and interactions with entrepreneurs, investors, and professionals while creating a robust mentor pool for student innovators.

Major Focus

- Create a vibrant local innovation ecosystem.
- Establish a startup support mechanism in HEIs.
- Prepare institutions for the Atal Ranking of Institutions on Innovation Achievements (ARIIA) framework.
- Develop a functional ecosystem for scouting ideas and facilitating pre-incubation of innovative concepts.

Functions of IIC

- Conduct innovation and entrepreneurship-related activities prescribed by the Central Ministry Innovation Cell (MIC) in a time-bound manner.
- Organize periodic workshops, seminars, and interactions with entrepreneurs, investors, and industry professionals to create a mentor pool for student innovators.
- Network with peers and national entrepreneurship development organizations to share best practices and resources.
- Organize hackathons, idea competitions, and mini-challenges in collaboration with industries to promote hands-on learning and innovation.

Major benefits of IIC

- Exclusive opportunities for students and faculty associated with IIC to participate in various innovation-related initiatives and competitions organized by the MHRD.
- Interact with renowned business leaders, successful entrepreneurs, and distinguished academicians.
- Gain opportunities to nurture and prototype new ideas in a supportive environment.
- Receive mentoring and guidance from industry professionals, enabling skill enhancement and career development.

Journey of IIC at CARE College of Engineering

The IIC was established at **CARE College of Engineering in 2021** with the approval of the Ministry of Education's Innovation Cell (MIC). Since then, it has steadily expanded its activities, engaging students and faculty in a wide range of innovation-driven programs. Over the years, IIC @ CARE has:

- Conducted **workshops, seminars, hackathons, and innovation challenges**.
- Engaged students in **prototyping, start-up ideation, and entrepreneurship development**.
- Built strong linkages with **MIC-driven initiatives, industry partners, and peer institutions**.
- Celebrated **national and international innovation-related days**, thereby spreading awareness about entrepreneurship, IPR, sustainability, and technology.

B. Key Functionaries at the IIC Institute

The Institution Innovation Council (IIC) of **CARE College of Engineering** is driven by a diverse team of academic leaders, industry experts, and faculty coordinators. Together, they play a pivotal role in fostering an innovation and entrepreneurship ecosystem in the institution.

Core Functionaries & Coordinators

- **President & Convener:** ***Mr. S. Arun Prakash*** (Academic/Internal)
- **Vice President:** *Mr. Joseph* (Industry/External)
- **Head of the Institution:** ***Dr. S. Shanthi*** *, Principal CARE College of Engineering*
- **ARIIA & NIRF Coordinator:** *Dr. A. Pasumpon Pandian Dean R&D CARE COE*
- **Internship Coordinator–***Mrs. B. Shantha Sheela*
- **Start-up Activity Coordinator–***Mrs. D. Kiruthiga*
- **Innovation Activity Coordinator–***Mrs. S. Subasree*
- **Social Media Coordinator –***Mr. S. Sriram Sundar*
- **IPR Activity Coordinator–***Ms. R. S. Karthiga*

Innovation Ambassadors @ IIC CARE

A strong team of **21 Innovation Ambassadors** from multiple departments (Mechanical, CSE, AI & DS, Civil, ECE, MBA, EEE, Sciences, etc.) serve as the backbone of innovation activities. They are responsible for mentoring students, supporting ideation, promoting IPR awareness, and strengthening the start-up culture. Key Innovation Ambassadors for AY2024 -25 include:

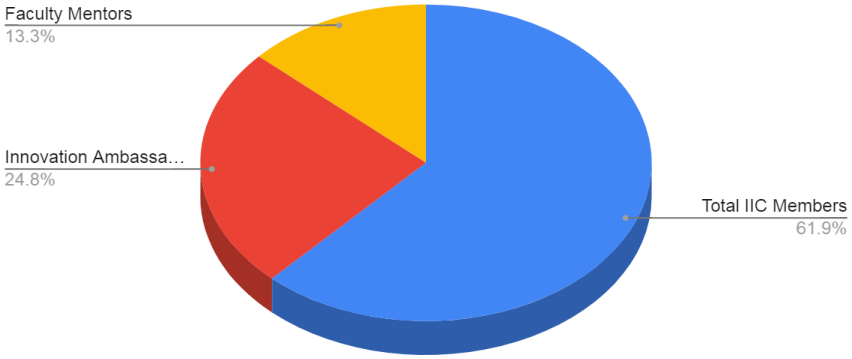
• *Mr. S. Arun Prakash* – AP/Mechanical • *Mrs. S. Subasree* – AP/CSE • *Mrs. D. Kiruthiga* – AP/AI & DS • *Mrs. R. S. Karthiga* – AP/Civil • *Mrs. B. Shantha Sheela* – AP/ECE • *Dr. S. Sriram Sundar* – AP/ECE • *Mrs. R. Vaitheeswari* – AP/MBA • *Mr. R. Anand* – AP/Mathematics • *Mrs. V. Gomathi – AP/CSE* • *Dr. B. Gobalakrishnan – AP/Mechanical* • *Ms. G. Dhivya Dharshin – AP/CSE*	• *Mr. F. Selwyn Anantha Raj – AP/MBA* • *Mr. R. Saravanan – AP/EEE* • *Mr. N. Ganesh – AP/Mechanical* • *Ms. Parveen Banu – AP/AI & DS* • *Mr. Anitha M – AP/AI & DS* • *Ms. S. Mohana Priya – AP/MBA* • *Dr. V. T. Paventhan – AP/Chemistry* • *Dr. Helen Selvi M – AP/Physics* • *Dr. R. Elayaraja – AP/Physics*

C. Resource Strength of IIC (AY 2024–25)

The Institution Innovation Council at **CARE College of Engineering** has built strong human and physical capital to support its innovation ecosystem.

Human Capital

Resource Category	Strength	Details
Total IIC Members	140	President, Vice President, Coordinators, and Faculty Members across disciplines
Innovation Ambassadors (IAs)	56	Teaching Faculty from various departments (Mechanical, CSE, AI&DS, Civil, ECE, MBA, EEE, Sciences, etc.)
Faculty Mentors	30	Dedicated faculty mentors guiding student innovators in prototyping, IPR, and start-up activities



Physical Capital

The IIC at CARE College of Engineering is supported by strong infrastructural and resource facilities, including:

- **Entrepreneur Development Cell** with workspace for student innovators.
- **Department Laboratories** (Mechanical, CSE, EEE, Civil, AI & DS, Sciences) equipped with prototyping tools and software.
- **Computing Facilities** with licensed software for design, simulation, and development.
- **Library Resources (OPAC, DELNET, J-GATE)** supporting entrepreneurship, start-ups, IPR, and technology trends.
- **Seminar Halls & Smart Classrooms** for workshops, sessions, and networking events.

D. Highlight Facilities

The institution has developed dedicated facilities and student-driven bodies that foster innovation, product development, and entrepreneurial skills among students and faculty members. These initiatives collectively contribute to a strong innovation and start-up ecosystem on campus.

Institution Innovation Cell (IIC):

The IIC plays a key role in cultivating creativity and innovation across departments. It facilitates idea-generation programs, prototype development workshops, and interdepartmental innovation challenges. Through its initiatives, multiple student projects have been identified and supported for further development. The IIC also promotes participation in national-level events such as Smart India Hackathon and YUKTI Innovation Challenge.

Entrepreneurship Development Cell (EDC):

The EDC acts as a pre-incubation platform to nurture entrepreneurial intent among students. It organizes regular entrepreneurship awareness camps, business plan competitions, and start-up mentoring sessions. During the current academic year, several innovation and entrepreneurship (I&E) activities were conducted, with active participation from both students and faculty members. The cell also connects budding entrepreneurs with funding and incubation opportunities through external agencies.

Industrial Internship and Product Centre (IIPC):

The IIPC supports industry-oriented projects, internships, and product development. It bridges academia and industry by providing students opportunities to work on practical problems, receive technical mentoring, and develop industry-ready solutions.

Product Development Cell (PDC):

The PDC provides infrastructure support and technical mentoring for product design, prototyping, and testing. It helps students transform innovative concepts into tangible products through systematic design, simulation, and fabrication processes. Several mini and major prototypes have been developed under the guidance of faculty mentors.

AICTE IDEA Lab (Under Progress):

The institution is establishing an AICTE IDEA Lab to further strengthen its innovation ecosystem. The lab, currently under construction, will provide a state-of-the-art facility equipped with advanced prototyping tools, 3D printers, laser cutters, and electronic development kits. Once operational, it will serve as a central hub for multidisciplinary innovation, hands-on learning, and start-up incubation.

Student Bodies and Clubs Promoting Innovation and Entrepreneurship

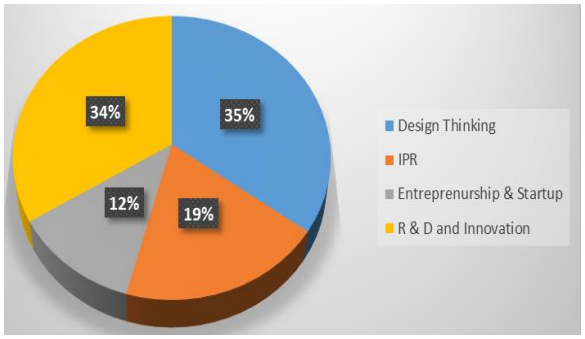
Innovation Club: Encourages creative thinking and problem-solving among students by conducting hackathons, idea contests, and design sprints.
Entrepreneurship Club (under EDC): Promotes entrepreneurial culture by organizing interactions with successful entrepreneurs, start-up boot camps, and leadership programs.
Technical Societies and Departmental Clubs: Engage students in product design, innovation projects, and intercollegiate technical competitions, helping them gain practical exposure and collaborative experience. Examples include:

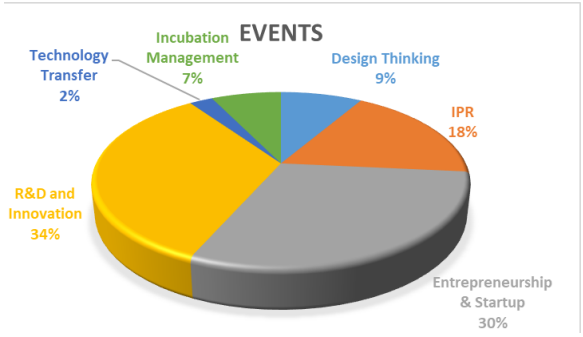
- **MESA** - Mechanical Engineering Students Association
- **CESA** - Civil Engineering Students Association
- CSSA - Computer Science Students Association
- **ADSA** - Artificial Intelligence and Data Science Students Association
- **ECSA** - Electronics & Communication Students Association

These clubs actively support innovation, product development, and entrepreneurial initiatives, fostering a culture of creativity and collaboration across the campus

E. Highlight Achievements (AY 2024–25)

E1. Innovation & Entrepreneurship (I&E) and IPR Activities Conducted





E2. Student & Faculty Ideas Generated

S. No.	Idea Title / Theme	Lead (Student/Faculty)	Department	Status in Yukti
1	Mug Turbine -**TRL 4**	SAKTHIVISARAVANAN sakthivi246@gmail.com	MECH	**Recommended**
2	AIR PURIFIER -**TRL 4**	Mahalakshmi mahalakshmi.g.ad@care.ac.in	AI&DS	**Recommended**
3	Automatic sieve machine - **TRL 4**	PRAVEENKUMAR praveenkumar150605@gmail.com	MECH	**Recommended**
4	Sheetmetal bending machine - **TRL 4**	PRAVEENKUMAR praveenkumar150605@gmail.com	MECH	**Recommended**
5	Electricity consumption awareness **TRL 2**	MANOJ MUKUL S manojmukul.s.ad@care.ac.in	**AI&DS**	**Recommended**
6	Ring Surface Oil Injector - **TRL 3**	SAKTHIVISARAVANAN sakthivi246@gmail.com	**MECH**	**Recommended**
7	Leaflens-AI - **TRL 2**	Santhiya R santhiya.r@care.ac.in	**AI&DS**	**Recommended**
8	Floor mob - **TRL 3**	Prajan S prajanprajan672@gmail.com	**MECH**	**Recommended**
9	Floor mob - **TRL 3**	Prakash GB gbprakash12@gmail.com	**MECH**	**Recommended**
10	Floor mob - **TRL 3**	Yogesh kumar K youthyogesh4@gmail.com	**MECH**	**Recommended**

11	Air purifier - **TRL 3**	Janani K jananikrishnamoorthi2006@gmail.com	**CSE**	**Recommended**
12	Air purifier - **TRL 3**	Janani K jananikrishnamoorthi2006@gmail.com	**CSE**	**Recommended**
13	Power Transmission Using Gear Drive - **TRL 3**	Nitishkumar S sankarnitishkumar444@gmail.com	**MECH**	**Recommended**
14	Automatic Fish Feeder - **TRL 3**	Kishore M kishoremyummy@gmail.com	**CSE**	**Recommended**
Total Ideas				**14**

E3. Prototypes Developed by students and Staff

S. No.	Prototype Name	Developed By (Student)	Department	Stage
1	Mug Turbine- **TRL 4**	SAKTHIVISARAVANAN sakthivi246@gmail.com	MECH	**Prototype**
2	AIR PURIFIER **- TRL 4**	Mahalakshmi mahalakshmi.g.ad@care.ac.in	AI&DS	**Prototype**
3	Automatic sieve machine **- TRL 4**	PRAVEENKUMAR praveenkumar150605@gmail.com	MECH	**Prototype**
4	Sheetmetal bending machine - **TRL 4**	PRAVEENKUMAR praveenkumar150605@gmail.com	MECH	**Prototype**
Total Prototypes			**4**	

E4. Intellectual Property Rights (IPR) Generated

S. No.	Title of IP	Applicant/s Name	Patent Application No.	Patent Filed Date (DD/MM/YYYY)	Patent Published Date / Granted Date (DD/MM/YYYY)
1	IOT Enabled Smart Bandage with Machine Learning for Real Time Wound Assessment and Healing Monitoring	Ms. H. Asra Jabeen	202541056928	13.06.2025	04.07.2025
2	AI Powered Dynamic Temperature Control for Electric Vehicle Batteries	Mr. S. Arun Prakash	202541056931	13.06.2025	04.07.2025
3	Smart Electric Vehicle Charging Infrastructure with Grid Integration and AI-Optimized Energy Distribution	Mr. N. Ganesh	202541057660	16.06.2025	04.07.2025
4	AI-Based Charging Station for Electric Wheelchairs with Adaptive Power Supply and Usage Forecasting	Dr. K. Kannan	202541056937	13.06.2025	04.07.2025

5	Dynamic Resource Allocation and Waste Reduction in Landfills Using Machine Learning	Ms. R. Deepalakshmi	202541056912	13.06.2025	04.07.2025
6	Identification of Deflectable Glass Bottle Using FPGA	Mr. K. Mahadevan	202541056922	13.06.2025	04.07.2025
7	IOT-Integrated Restaurant Food Ordering System Using AI for Real-Time Menu Customization	Mr. G. Venkatesan	202541056930	13.06.2025	04.07.2025
8	FPGA Based Billing Machine to Reduce the Crowd	Dr. Sriram Sundar S	202541056905	13.06.2025	04.07.2025
9	Autonomous IOT Fleet Management Solution for Logistics Operations	Ms. P. Bhuvaneswari	202541056935	13.06.2025	04.07.2025
10	IOT Based Smart Vehicle Maintenance Reminders and Notifications with Cloud Technology	Ms. R. Sasikala	202541052509	30.05.2025	27.06.2025
11	Precision Food Storage with Cloud-Driven Machine Learning for Temperature-Controlled Warehousing	Ms. D. Kiruthiga	202541052507	30.05.2025	27.06.2025
12	Real-Time Monitoring of Industrial Emissions Using IOT and AI	Dr. B. Gobalakrishnan	202541035489	11.04.2025	02.05.2025
13	IOT-based Automatic Medical Dispatcher for Rural Zones with Dynamic Tele monitoring	SHANTHASHEELA B	202541035499	11.04.2025	02.05.2025
14	Efficient Heat Stress Management in Work Environments Through Wearables and Cloud-Enabled Systems	JENILA. J	202541035490	11.04.2025	02.05.2025
15	Development of a Music Therapy System to Support the Alcoholism Recovery	Mrs. K.B. Padmasree	202441098212	12.12.2024	20.12.2024
16	Manually Operated Floor Mopper	D.R. Rajkumar, Dr. Gobalakrishnan Mrs. R. Ranitha	425080-001	29.07.2024	13.09.2024
17	Tender Palmyra Fruit Cutter	Dr. D.R. Rajkumar Mr. K. Suresh Krishnan Mrs. R. Ranitha, AP/CSE	420674-001	20.06.2024	23.08.2024
18	FPGA BASED TRAFFIC SIGNAL MONITORING SYSTEM FOR SAFETY	K. VETRI AADITHIYA	202441052075	08/07/2024	19/07/2024
19	IMPLEMENTATION OF WASTE AND GARBAGE RECYCLING VENDING MACHINE	J. JOSHUA SAKUNTH	202441052089	08/07/2024	19/07/2024
20	INTERNET OF THINGS BASED SMART TRAFFIC SIGNAL MONITORING AND CONTROLLING SYSTEM FOR CITY	S. NANDHINI	202441052074	08/07/2024	19/07/2024

E5. Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus is **786372Rs** for the Academic Year 2024-25.

E6. Funding & Financial Support

S. No.	Source of Funding (Institute/External Agency/Grant)	Amount (₹)	Purpose (Innovation/Start-up/IPR/Training)	Beneficiary (Student/Faculty)
1	Tamil Nadu State Council for Science and Technology	7500	Student Project Scheme 2024-2025 (Innovation)	Yacoob Sheriff K, Sudharson S, Vimala S

F. Highlight few best IIC Faculty/Student members and their achievements

1. Mr. S. Arun Prakash S

Assistant Professor, Mechanical Engineering

President & Convener – Institution's Innovation Council (IIC-CARE)

- Organized and led multiple innovation-driven events including:
  • **Workshop on Design Thinking** (16 April 2025) – enhanced creative and analytical problem-solving among 150 students.
  • **Innovation and Entrepreneurship as a Career Opportunity** session – motivated students toward start-up and idea validation.
  • **24-Hours National Level Hackathon (Sept 2025)** – attracted 64 teams and 358 participants nationwide, promoting hands-on product innovation.
  • **IPR Awareness & Inaugural Program (15 Oct 2025)** – hosted **403 participants**, including 100+ external attendees, enhancing IP awareness.
- Filed a **patent titled "AI Powered Dynamic Temperature Control for Electric Vehicle Batteries"** (Published: 04.07.2025).
- Mentored several student innovators whose projects reached TRL 4 under YUKTI Innovation Repository

2. **Mrs. D. Kiruthiga**, Assistant Professor / AI & DS

Start-up Activity Coordinator, IIC CARE

• Filed a patent on *"Precision Food Storage with Cloud-Driven Machine Learning for Temperature-Controlled Warehousing"* (Published: 27.06.2025).

• Mentored student start-ups and conducted sessions on Business Model Canvas and Product-Market Fit.

G. Student Achievements and Recognitions

- **Sakthivisaravanan (MECH)** – Developed *Mug Turbine* and *Ring Surface Oil Injector* prototypes (TRL 4 & 3); Recognized in YUKTI IIC repository.
- **Praveen Kumar (MECH) –** Designed *Automatic Sieve Machine* and *Sheet Metal Bending Machine*; showcased during Open House Project Expo.

- **Mahalakshmi G. (AI & DS) –** Created *Air Purifier System* (TRL 4) and presented during IIC Demo Day.
- **Santhiya R. (AI & DS) –** Developed *LeafLens-AI* for plant health analysis; featured in AI & IoT Innovation Showcase.

H. Highlights of Best Innovations

S. No.	Innovation Title	Inventor / Department	Stage / Recognition
1	Mug Turbine	Sakthivisaravanan – MECH	Prototype (TRL 4), YUKTI Repository
2	Air Purifier	Mahalakshmi G – AI & DS	Prototype (TRL 4), Demo Day Display
3	Automatic Sieve Machine	Praveen Kumar – MECH	Prototype (TRL 4)
4	Sheet Metal Bending Machine	Praveen Kumar – MECH	Prototype (TRL 4)
5	LeafLens-AI	Santhiya R – AI & DS	Recommended Innovation (TRL 2)
6	AI Dynamic Temperature Control for EVs	Mr. S. Arun Prakash – MECH	Patent Published
7	IoT-Based Medical Dispatcher	Mrs. B. Shantha Sheela – ECE	Patent Published
8	Real-Time Industrial Emission Monitor	Dr. B. Gobalakrishnan – MECH	Patent Published

J. Participation of IIC-Institute in Government Programs

Smart India Hackathon (SIH)

Year	No. of Teams Participated	Mentors Assigned	Outcome (Selected/ Shortlisted/Winner)
2024	25	23	**Selected for 1st Round and Uploaded the Idea**

YUKTI Innovation Challenge (YUKTI IIC/ YIIR Platform)

Year	Total Individuals Registered:	Total Ideas Submitted:	Total Ideas Assigned:	Total Ideas Verified:	Total Ideas Recommended:
2024-25	16	9	6	6	6

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L. Testimonials

IIC Members (Faculty & Coordinators)

"The IIC at CARE has created a vibrant culture of innovation on our campus. Through workshops, hackathons, and mentoring, our students have developed the confidence to take their ideas forward and work towards impactful solutions.
– **Mrs. S. Subasree, Innovation Activity Coordinator**

Mr. S. Arun Prakash
Innovation Coordinator
AP/MECH

"Being part of IIC has been a rewarding journey. It has not only motivated students to think entrepreneurially but has also given faculty the platform to mentor and guide them in converting ideas into tangible prototypes." – **Mr. S. Arun Prakash, President & Convener, IIC CARE**

"The Innovation Ambassador program helped me learn design thinking and ideation methods. These skills are now part of how I approach problem-solving in my academic and personal projects." – **Mr. S. Arun Prakash, President & Convener, IIC CARE**

"It has been a privilege to serve as Vice President of IIC CARE. The council bridges the gap between academia and industry, ensuring students are equipped with real-world entrepreneurial skills. The IIC of MoE's Innovation Cell provides a robust national platform for these efforts." – **Mr. Joseph, Vice President (Industry/External Member)**

"The IIC activities helped me turn my classroom project into a prototype. The mentoring and lab support gave me the confidence to take it further as a start-up idea." **– Mr Praveenkumar III Year Student Innovator, Department of Mechanical.**

"Hackathons organized under IIC were my first experience of working in a team to solve real problems. It taught me teamwork, time management, and design thinking." **– Ms Saranya III Year Student IPR Coordinator, Department of Civil Engineering**

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Figure Event on Innovation, Entrepreneurship and Product Making

Figure : Event Photos - Motivational session by innovator, Angel Investor, IP Utsav, National Science Day, Crack the code, Open House Project Expo

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24 Hours National Level Hackathon

N. Contact

CARE College of Engineering
#27, Dindigul Main Road,
Thayanur, Tamil Nadu 620009

Mr S ARUN PRAKASH
Email ID: iic@care.ac.in
Email ID : s.arunprakash@care.ac.in
Ph : 917639561103