Hindusthan

COLLEGE OF ENGINEERING AND TECHNOLOGY
(AN AUTONOMOUS INSTITUTION)

Volume 9
JULY '23 TO DEC'23

FOOD TECH: WHERE SCIENCE MEETS TASTE
FOR A SUSTAINABLE TOMORROW

VISION OF THE DEPARTMENT

"To be recognized for excellence in producing competent food technologists with comprehensive technical knowledge, innovative skill set and high ethical values.".

MISSION OF THE DEPARTMENT

DM1: *To impart sound technical and analytical knowledge to the students of Food Technology.*

DM2: *To inculcate leadership qualities and team spirit in addressing issues relating to the food industry and providing creative sustainable solutions.*

DM3: *To instill a sense of social responsibility in dealing with food processes, products and equipment.*

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

The graduates of Food Technology shall be able to

PEO1: *Apply the principles of Food Science and Engineering in academics and research to succeed in professional career.*

PEO2: *Analyze and develop sustainable food processes and products with technical and economic feasibility to address global challenges through professional development.*

PEO3: *Exhibit professional and managerial capabilities with ethical conduct through continuous learning.*

PROGRAMME SPECIFIC OUTCOMES (PSOs)

The graduates of Food Technology shall

PSO1: *Identify the solutions for the real-world industrial challenges and ensure food safety and quality by adopting multidisciplinary approach and novel food processing techniques.*

PSO2: *Apply experiential and critical thinking skills in creating new food products to become a successful entrepreneur.*

PROGRAMME OUTCOMES (POs)

Engineering Graduates will be able to:

1. ***Engineering knowledge:*** *Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.*
2. ***Problem analysis:*** *Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.*
3. ***Design/development of solutions:*** *Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.*
4. ***Conduct investigations of complex problems:*** *Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.*
5. ***Modern tool usage:*** *Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.*
6. ***The engineer and society:*** *Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.*

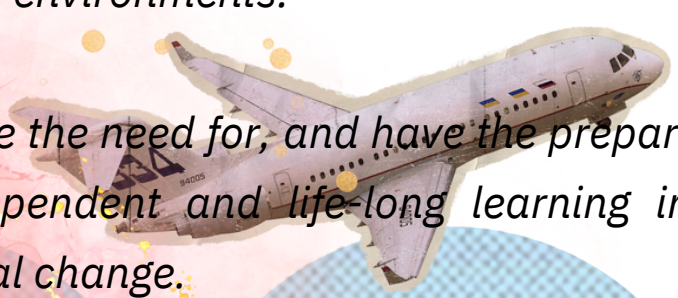
*7.**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.*

*8.**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.*

*9.**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.*

*10.**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.*

*11.**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.*



*12.**Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.*

SCIENCE SPOTLIGHT

Food Packaging Innovation

Food packaging innovations are pivotal in today's quest for sustainable and consumer-friendly solutions. Across the industry, there's a concerted effort to shift towards materials that minimize environmental impact, such as biodegradable plastics and compostable alternatives derived from plant-based sources like PLA and PHA. Moreover, advancements in active and intelligent packaging are transforming the way food is preserved and monitored, with sensors and indicators providing real-time information on freshness and quality. Edible packaging, made from substances like seaweed or starches, offers a dual benefit of sustainability and convenience. These innovations not only extend shelf life but also enhance food safety by incorporating antimicrobial properties or barriers against oxygen and moisture. As e-commerce grows, packaging solutions tailored for online delivery are becoming increasingly important, addressing challenges like protection during transit and consumer convenience upon arrival. With regulatory standards ensuring the safety and suitability of packaging materials, the industry continues to evolve, driven by a commitment to enhancing sustainability, safety, and consumer satisfaction in the food packaging landscape.

Dr.G.Jeevarathinam
HOD

SCIENCE SPOTLIGHT

Nanotechnology in Packaging

Nanotechnology has ushered in a new era of innovation in food packaging, leveraging materials and processes at the nanoscale to enhance both functionality and sustainability. By utilizing nanomaterials, which are typically less than 100 nanometers in size, packaging can achieve superior barrier properties against oxygen, moisture, and contaminants. This capability significantly extends the shelf life of perishable foods by minimizing exposure to external factors that cause deterioration. Moreover, nanotechnology enables the development of active packaging systems that release antimicrobial agents or antioxidants, thereby inhibiting microbial growth and preserving food quality throughout storage and transportation.

In addition to enhancing food safety and preservation, nanotechnology contributes to sustainability efforts in packaging. Nanomaterials can be derived from renewable sources such as cellulose or starch, offering eco-friendly alternatives to conventional petroleum-based plastics. These materials are lightweight yet durable, which reduces material usage and transportation costs, further lowering the environmental impact of packaging. Furthermore, nanotechnology facilitates the recycling and upcycling of packaging materials, supporting a circular economy approach in the packaging industry.

Dr Visvanathan R
Professor

SCIENCE SPOTLIGHT

Precision Agriculture

Precision agriculture represents a transformative approach to farming that harnesses cutting-edge technology to optimize crop production while minimizing environmental impact. At its core, precision agriculture relies on a suite of advanced tools such as GPS, GIS (Geographic Information Systems), remote sensing, and data analytics to collect and analyze detailed information about soil conditions, crop health, weather patterns, and more. This data-driven approach enables farmers to make precise decisions in real-time, from seed planting to harvesting and beyond.

One of the key benefits of precision agriculture is its ability to tailor inputs such as water, fertilizers, and pesticides to specific areas within a field, based on variability in soil characteristics and crop needs. By applying inputs more efficiently and accurately, farmers can maximize yields while reducing costs and minimizing environmental impact, including reducing water and chemical usage.

Precision agriculture also enhances sustainability by promoting soil health and biodiversity conservation. By minimizing over-application of inputs and adopting practices such as controlled traffic farming and conservation tillage, farmers can improve soil structure, reduce erosion, and enhance nutrient cycling. This approach not only benefits the environment but also contributes to long-term farm profitability and resilience against climate change.

Dr Deepa J
Professor

SCIENCE SPOTLIGHT

Regulatory and Safety Considerations

Regulatory and safety considerations are paramount in the food tech industry, where innovations in products and packaging must meet stringent standards to ensure consumer safety and compliance with legal requirements.

Firstly, regulatory bodies such as the FDA (Food and Drug Administration) in the United States and equivalent agencies worldwide oversee food safety regulations. These regulations cover various aspects, including ingredients used, manufacturing processes, labeling requirements, and packaging materials. Companies developing new food technologies must navigate these regulations to obtain necessary approvals and ensure their products are safe for consumption.

In the realm of food packaging, regulatory considerations focus on materials that come into direct contact with food. Packaging materials must be evaluated for their potential to transfer harmful substances to food, such as chemicals from plastic packaging or metals from cans. Materials deemed safe for food contact undergo rigorous testing to confirm they meet established safety standards and do not pose health risks to consumers.

Furthermore, labeling requirements play a critical role in informing consumers about the contents of food products, including nutritional information, allergens, and potential hazards. Clear and accurate labeling helps consumers make informed choices and protects individuals with food allergies or dietary restrictions.

Dr.PREMKUMAR J
Associate Professor

SCIENCE SPOTLIGHT

Smart Labels and QR Codes

Smart labels and QR codes are revolutionizing the food tech industry by providing consumers with instant access to comprehensive information about products, enhancing transparency, safety, and convenience. Smart labels, equipped with RFID (Radio Frequency Identification) or NFC (Near Field Communication) technology, allow products to be tracked throughout the supply chain, ensuring authenticity and reducing the risk of counterfeit goods. These labels can store data such as product origin, manufacturing date, ingredients, nutritional information, and allergen warnings, which consumers can access via a smartphone or a dedicated reader.

QR codes, which are two-dimensional barcodes that can be scanned with a smartphone camera, offer similar functionalities but are more accessible as they require only a smartphone and a QR code scanning app. Consumers can quickly access detailed product information, including sourcing practices, sustainability certifications, and even recipe suggestions. This transparency empowers consumers to make informed choices based on their preferences and dietary needs.

In addition to providing information, smart labels and QR codes contribute to food safety by enabling traceability and rapid response to recalls or contamination events. By scanning a QR code or tapping a smart label, consumers can verify if a product is part of a recall and take appropriate action, such as returning it to the store or disposing of it safely

Dr.R.NAVARASAM
Associate Professor

SCIENCE SPOTLIGHT

Edible Packaging

Edible packaging represents a revolutionary advancement in the field of food packaging, offering both environmental sustainability and consumer convenience. Unlike traditional packaging materials that contribute to plastic waste, edible packaging is made from edible substances such as seaweed, starches, proteins, or other food-grade polymers. These materials are safe for human consumption and biodegradable, addressing concerns about plastic pollution and environmental impact.

The concept of edible packaging extends beyond mere sustainability; it also enhances convenience for consumers. Single-serving foods or beverages can be encased in edible wrappers or containers, eliminating the need for additional packaging disposal and reducing overall waste. Moreover, edible packaging can enhance the sensory experience of consuming food, as it can be flavored, colored, or textured to complement the enclosed product.

In terms of applications, edible packaging is particularly beneficial for products like snacks, condiments, and single-use items where traditional packaging is typically excessive. It can be designed to dissolve in water, ensuring minimal residue and leaving no environmental footprint after consumption. However, challenges such as maintaining shelf stability, ensuring adequate barrier properties, and scaling production efficiently remain areas of ongoing research and development.

Mrs Swathi K
Assistant Professor

SCIENCE SPOTLIGHT

Recycling and Upcycling Initiatives

Recycling and upcycling initiatives are crucial components of sustainable waste management strategies, particularly within the realm of food packaging and production. Recycling involves the collection and processing of used materials such as plastics, glass, and metals to create new products, reducing the consumption of raw materials and minimizing waste sent to landfills. In the context of food packaging, efforts are focused on increasing the recyclability of packaging materials and improving recycling infrastructure to handle complex packaging designs effectively.

Upcycling, on the other hand, goes beyond traditional recycling by repurposing waste materials or by-products into higher-value products. This approach not only reduces waste but also adds economic and environmental value. For instance, food waste such as fruit peels or coffee grounds can be transformed into ingredients for cosmetics, biofuels, or animal feed, thus closing the loop on resource use and waste generation.

Innovations in recycling and upcycling technologies are advancing rapidly, driven by environmental concerns and regulatory pressures to reduce plastic pollution and greenhouse gas emissions. Companies and organizations are increasingly adopting circular economy principles, which aim to keep materials in use for as long as possible, extract maximum value from them, and minimize waste generation. This shift is prompting collaborations across sectors, including partnerships between packaging manufacturers, waste management companies, and consumers to improve collection systems and promote sustainable consumption practices.

Mrs THAHAASEEN A
Assistant Professor

SCIENCE SPOTLIGHT

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Ms THIVYA S

Assistant Professor

SCIENCE SPOTLIGHT

Anti-Microbial Packaging

Anti-microbial packaging represents a significant advancement in food packaging technology, aimed at enhancing food safety and extending shelf life by inhibiting the growth of bacteria, mold, and other pathogens. This type of packaging incorporates materials that release antimicrobial agents, such as silver nanoparticles, essential oils, or natural extracts, into the food environment. These agents create a protective barrier that prevents microbial contamination, thereby reducing the risk of foodborne illnesses and spoilage.

The effectiveness of anti-microbial packaging lies in its ability to maintain food quality and safety throughout the supply chain, from production to consumption. By controlling microbial growth, these packaging solutions help preserve the freshness, flavor, and nutritional value of foods, which is particularly crucial for perishable items like meats, dairy products, and fresh produce.

Moreover, anti-microbial packaging contributes to sustainability efforts by reducing food waste. By extending the shelf life of products, less food is discarded due to spoilage, which not only conserves resources but also reduces greenhouse gas emissions associated with food production and waste management.

Mr.Dillwyn S
Assistant Professor

SCIENCE SPOTLIGHT

Packaging for E-commerce

Packaging for e-commerce has become increasingly important as online shopping continues to grow. Unlike traditional retail packaging, e-commerce packaging must withstand the rigors of shipping and handling while also delivering a positive unboxing experience for consumers.

Key considerations for e-commerce packaging include durability, protection, and sustainability. Packaging materials such as corrugated cardboard, air cushions, and bubble wrap are commonly used to safeguard products during transit, minimizing the risk of damage or breakage. Inner packaging solutions like paper void fill or molded pulp inserts help secure items within the box, preventing movement and ensuring they arrive in pristine condition.

Moreover, e-commerce packaging plays a crucial role in brand presentation and customer satisfaction. Customized packaging designs, branded tape, and inserts with personalized messages or promotional materials can enhance the unboxing experience, fostering customer loyalty and positive word-of-mouth.

Ms.NAGESWARI
Assistant Professor

SCIENCE SPOTLIGHT

Blockchain Technology in Food Supply Chain Management

Blockchain technology has revolutionized the food supply chain by introducing unprecedented transparency, traceability, and efficiency. Unlike traditional systems, blockchain provides a decentralized and immutable ledger that records every transaction or event across the supply chain. This transparency allows stakeholders—from farmers and producers to retailers and consumers—to access detailed, real-time information about the journey of food products from origin to consumption. For example, consumers can scan QR codes on product packaging to verify claims about sustainability, ethical sourcing, and nutritional content, fostering trust and informed decision-making. Moreover, blockchain enhances food safety by enabling rapid identification of contamination sources, facilitating swift recalls, and ensuring compliance with stringent regulations. Its ability to streamline processes, automate verification tasks, and reduce costs makes blockchain a pivotal technology for optimizing supply chain operations and improving overall efficiency. Looking ahead, the integration of blockchain with IoT and AI holds immense potential to further enhance monitoring capabilities and predictive analytics, paving the way for a more resilient and sustainable food industry.

Ms NIVETHA T
Assistant Professor

SCIENCE SPOTLIGHT

Case Studies and Industry Trends

Case studies and industry trends provide valuable insights into the dynamic landscape of food technology, highlighting innovations, challenges, and opportunities shaping the industry.

Case studies offer real-world examples of how food tech innovations are being implemented to solve specific challenges or capitalize on emerging trends. For instance, case studies might explore the development of plant-based meat alternatives using advanced processing techniques or the adoption of precision agriculture to optimize crop yields and resource use. These studies not only showcase technological advancements but also demonstrate their practical applications and potential impact on the food supply chain, sustainability, and consumer preferences.

Industry trends, on the other hand, offer a broader perspective on the direction in which the food tech sector is moving. Trends may encompass shifts in consumer behavior towards healthier and more sustainable food choices, advancements in food packaging technologies to enhance shelf life and reduce environmental impact, or the rise of digital platforms and artificial intelligence in food production and distribution. By analyzing industry trends, stakeholders can anticipate market demands, identify growth opportunities, and adapt strategies to stay competitive in a rapidly evolving market.

Mr. CHARAN ADITHYA S
Assistant Professor

SCIENCE SPOTLIGHT

The Role of Artificial Intelligence (AI) in Improving Food Safety and Quality Assuranc

3D printing has emerged as a groundbreaking technology with profound implications for the food industry. Unlike traditional methods of food production, 3D printing, also known as additive manufacturing, enables the creation of food items layer by layer using digital designs. This capability revolutionizes customization and personalization in food, allowing chefs and food manufacturers to craft intricate and tailored designs that cater to individual preferences and dietary requirements. From elaborately designed chocolates to personalized nutrition bars, 3D printing facilitates the production of food with precise control over ingredients and nutritional content. Moreover, its potential to reduce waste by enabling on-demand production and optimizing supply chain logistics underscores its efficiency and sustainability benefits. As 3D printing technology continues to evolve, exploring new frontiers such as space food production and personalized nutrition plans, its impact on reshaping how we perceive, produce, and consume food is poised to grow exponentially, promising a future where culinary creativity and nutritional innovation converge seamlessly.

Mr. BLESSY C
Assistant Professor

IEI Young Engineer Award
2023-2024

Dr Jeevarathinam, Associate Professor and Head, received the *IEI Young Engineer Award* 2023-24 for the Agricultural Engineering Discipline from Dr Nemichandrappa, Director AGDB-IEI, in the presence of Dr S N Jha, Deputy Director General, ICAR, New Delhi and Dr C K Gupta, Director - CIAE, Bhopal organized by JNKVU, Jabalpur, Madhya Pradesh

Department MOU'S

MEMORANDUM OF UNDERSTANDING WAS SIGNED BY OUR HINDUSTHAN COLLEGE OF ENGINEERING IN COIMBATORE AND ICAR'S CENTRAL PLANTATION CROPS RESEARCH INSTITUTE IN KASARAGOD, KERALA.

OUR COLLEGE WAS REPRESENTED BY OUR PRINCIPAL, DR. JAYA J, WHILE CPCRI WAS REPRESENTED BY THE DIRECTOR, DR. K. B. HEBBAR.

THIS MEMORANDUM OF UNDERSTANDING WILL BE USEFUL FOR FOOD TECHNOLOGY AND AGRICULTURAL ENGINEERING STUDENTS AND FACULTY MEMBERS IN TERMS OF RESEARCH, PROJECTS, INTERNSHIPS, PUBLICATIONS, PATENTS, AND OTHER THINGS.

Department MOU'S

RECEIVING THE SIGNED MOU IN THE PRESENCE OF HONORABLE MINISTER OF STATE FOR AGRICULTURE SUSHRI. SHOBHA KARANDLAJE

Teachers Day Award
2023-2024

BEST TEACHER SENIOR - DR JEEVARATHINAM G

BEST RESEARCH PAPER - DR JEEVARATHINAM G

CONGRATULATIONS TO THE RUNNERS AND WINNER

Teachers Day Award
2023-2024

BEST EVENT ORGANIZER - DR NAVARASAM R

Teachers Day Award
2023-2024

BEST NEWSLETTER/MAGAZINE FOOD TECHNOLOGY (DR JEEVARATHINAM, ASP & HOD, MR DILLWYN, AP & TEAM)

Food Safety Traninning & Certification Program (FOSTAC)

Our competency development centre "Center for Food Safety Training and Certification - FosTac", Department of Food Technology organized a Fostac Basic Manufacturing Training for the 3rd year Food Technology students and E-Star Food organization on September 11, 2023.

ICAR-CPCRI, Kasaragod, Kerala

Dr Jeevarathinam, Associate Professor and Head acted as a resource person and delivered a lecture by online on 'Application of infrared and radiofrequency drying for plantation crops' on 6 September 2023 SERB, DST Sponsored High End Workshop-Kaaryashala organized by ICAR-CPCRI, Kasaragod, Kerala.

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FRESHERS Fiesta'23

FRESHERS

Fiesta'23

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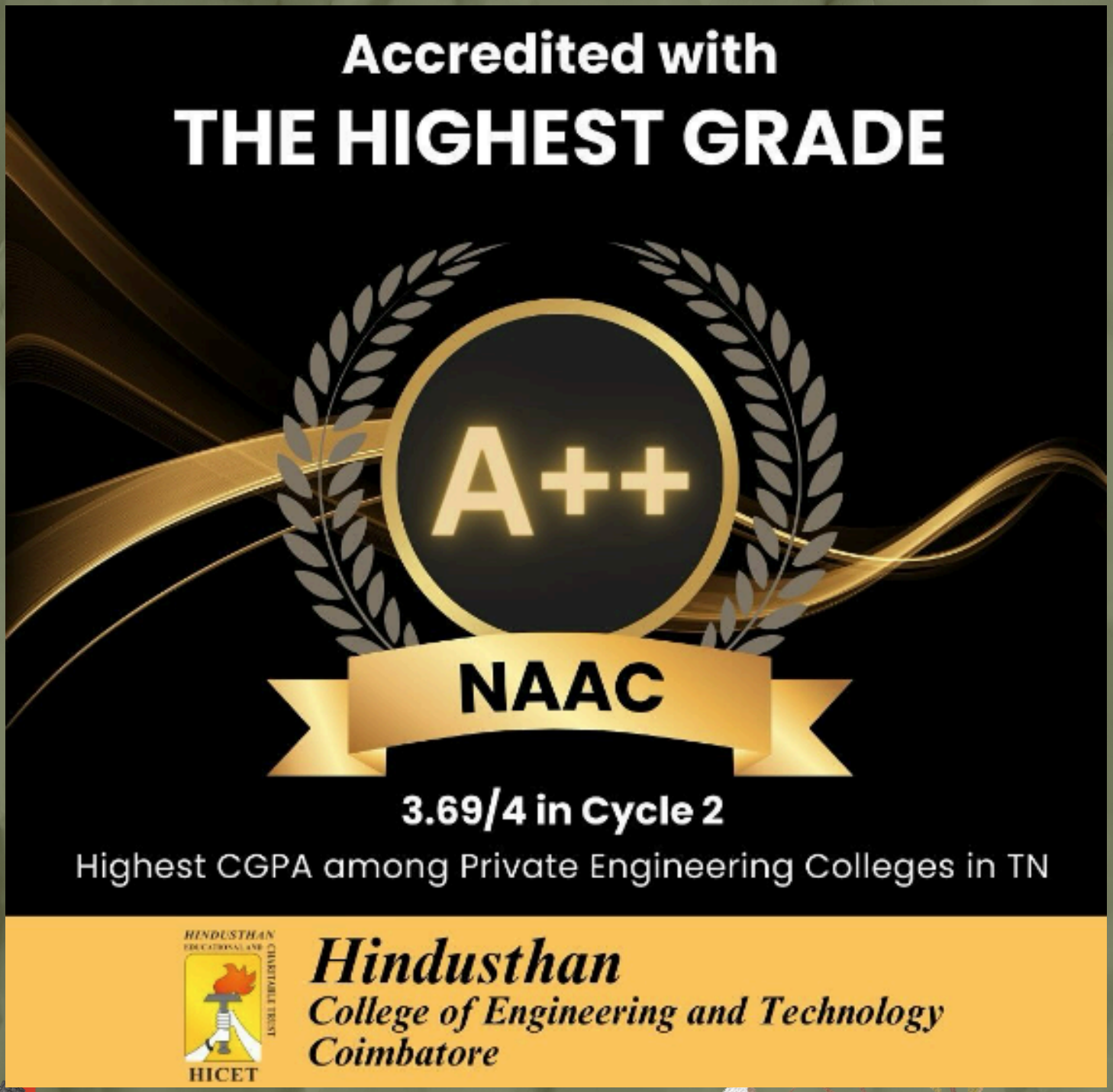
STUDENTS CLUB

FOOD INNOVATORS CLUB

NAAC A++


Accredited with
THE HIGHEST GRADE
A++
NAAC
3.69/4 in Cycle 2
Highest CGPA among Private Engineering Colleges in TN
HINDUSTHAN
HICET
Hindusthan
College of Engineering and Technology
Coimbatore

AWARENESS EVENT

ORGANIZED

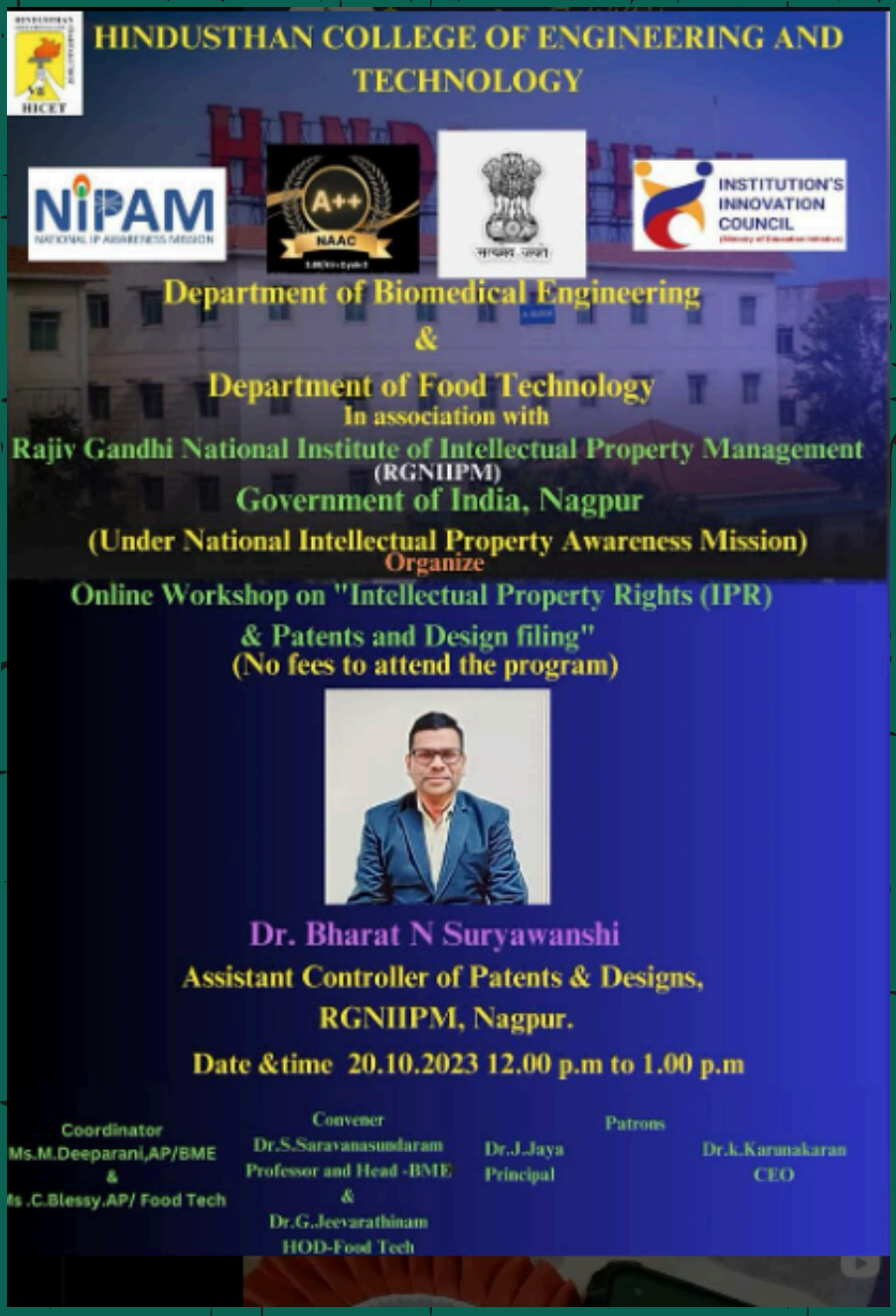
Food Safety Awareness Rally

Food Safety Awareness Rally

Food Safety Awareness Rally

Food Safety Awareness Rally

AWARENESS EVENT ORGANIZED



WEBINAR ORGANIZED

The Institution of Engineers (India)

Coimbatore Local Centre

in association with

Department of Food Technology

Hindusthan College of Engineering and Technology, Coimbatore

organizes

A Technical Webinar on

"Post-harvest Processing and Value Addition in Tuber Crops"

by

Dr T KRISHNAKUMAR

Scientist

Division of Crop Utilization

ICAR- Central Tuber Crops Research Institute (CTCRI)

Thiruvananthapuram

on 15th November 2023 (Wednesday), 11.00 AM

https://meet.google.com/jsf-pmgi-ghv

Dr J Krishnamoorthi FIE
Chairman

All are Cordially Invited !!!

Dr G Madhan Mohan MIE
Honorary Secretary

WEBINAR ORGANIZED

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institution Affiliated to Anna University
Approved by AICTE, New Delhi Accredited with 'A' Grade by
NAAC | Accredited by NBA (ECE, MECH, EEE, IT & CSE)

Valley Campus, Pollachi Highway, Coimbatore 641 032.

DEPARTMENT OF FOOD TECHNOLOGY

INSTITUTION'S INNOVATION COUNCIL

INTELLECTUAL PROPERTY INDIA

IIC - SELF DRIVEN ACTIVITY

"AN INNOVATION INTO DOCUMENT"

CHIEF GUEST

Dr. A. SELVARAJ

ASSOCIATE PROFESSOR,
UDICT,
MGM UNIVERSITY,
CHH.SAMBHAJINAGAR,
MAHARASHTRA

30th August, 2023
10:00 – 11:00AM

Webinar link

https://meet.google.com/bmb-gndr-emt

Cordially Invites you all

Patrons

Dr K Karunakaran, CEO

Dr J Jaya, Principal

WEBINAR ORGANIZED

Department of Food Technology and the Institute's Innovation Council, HICET , jointly organizes a session on *"PROBLEM SOLVING AND IDEATION WORKSHOP"* on 30/11/2023 (Thursday).

WEBINAR ORGANIZED

Webinar On Post Harvest Processing And Value Addition In Tuber Crops Organised By Institution Of Engineers (India), Clc In Association With Department Of Food Technology, Hicet. I Would Like To Thank Our Management, Ceo Sir, Principal Mam And Dr V T Gopinathan Sir, Professor And Head, Department Of Aeronautical Engg. For Supporting Us And Providing Platform For Knowledge Sharing Webinars.

NATIONAL LEVEL TECHNICAL SYMPOSIUM

ESCULENT"23

Hozzávalók: 1

Elkészítése: Megtisztított

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NATIONAL LEVEL TECHNICAL SYMPOSIUM

ESCULENT"23

Hozzávalók: 1

Elkészítése: Megtisztít kemény,

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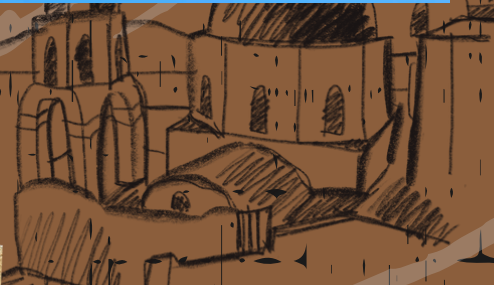
NATIONAL LEVEL TECHNICAL SYMPOSIUM

ESCULENT"23

NATIONAL LEVEL TECHNICAL SYMPOSIUM

ESCULENT"23



NATIONAL LEVEL TECHNICAL SYMPOSIUM

ESCULENT"23

BENCHMARK OF HICET

Hozzávalók:

Elkészítése:

kat több bő víz

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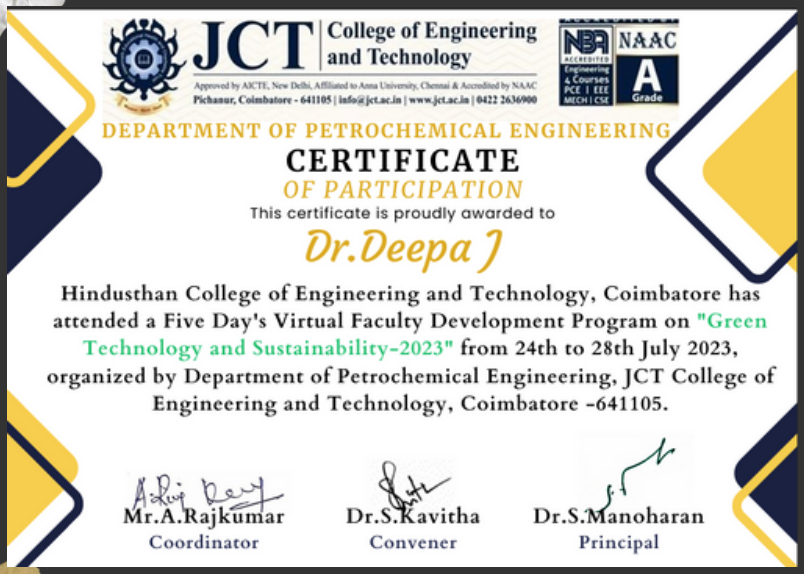
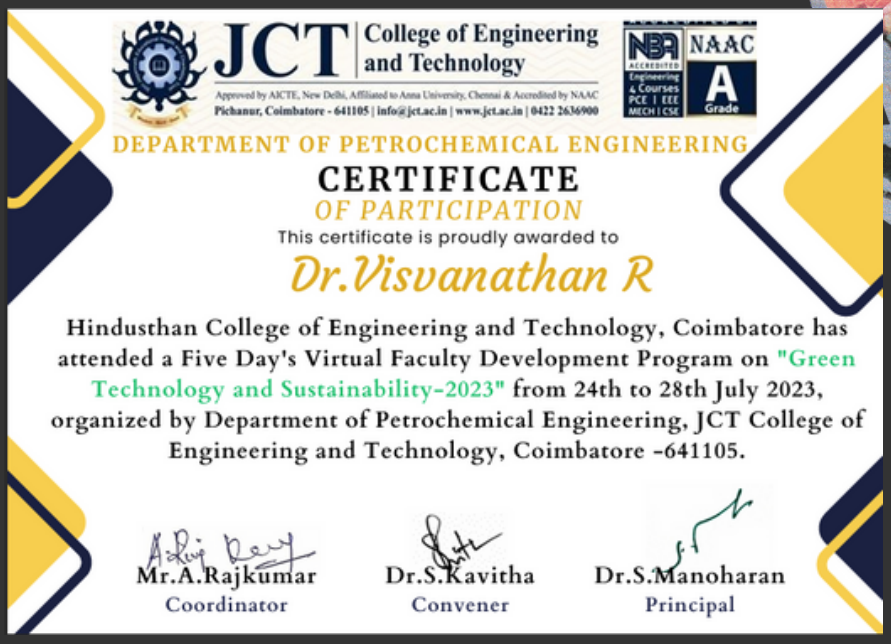
felfőzünk és forrón a szilv

STAFF Achivements





Faculty participation in FDP:

Dr.Visvanathan R , Dr. Swathi K, Dr. Deepa J, Dr. Premkumar J, Dr. Navarasam R, Mr. Dillwyn S, Ms. Nageswari G, Ms. Nivetha T, Mr. Charan Adithya S, Ms. Blessy C

STAFF Achivements

STAFF Achivements

Dr Jeevarathinam G received a certificate from Yuva Chair for enrolling 1000 students in a year.

List of Books

BOOK CHAPTERS PUBLISHED IN THE ASSESSMENT YEAR

S.No.	Title of Book / Chapter	Name of the author/s	Year of publication	E-Book ISBN number
1.	A Practical Manual on Food Processing Laboratories	**Dr Jeevarathinam G**	2023	9788196041212
2.	Castration of Goat	**Mr Charan Adithya. S** Ms Neha Naijo Areekal	2023	9788196348724
3.	Application of Supercritical Fluid Extraction in Herbs	**G. Jeevarathinam,** C. S. Neethu, M. Dharshith Kumar, S. Shahir, S. Dinesh Kumar, R. Pandiselvam, P. Preetha, T. Krishnakumar, V. Arun Prasanth, and M. Balakrishnan	2023	9781774919064
4.	Novel and Alternative Methods in Food Processing Thermophysical and Physicochemical technologies for drying of food products	Namrata A. Giri, T. Krishna kumar, **G. Jeevarathinam**, and M. S. Sajeev	2023	9781003328605
5.	Introduction to Supercritical Fluid Extraction: History and Principles	S. Shahir, V. Chandrasekar, **G. Jeevarathinam,** and R. Pandiselvam"	2023	9781774919064

List of Books

BOOK CHAPTERS PUBLISHED IN THE ASSESSMENT YEAR

Progress in Organic Coatings 181 (2023) 107597

Contents lists available at ScienceDirect

Progress in Organic Coatings

journal homepage: www.elsevier.com/locate/porgcoat

Review

Role of additives in starch-based edible films and coating: A review with current knowledge

Toiba Majeed [a], Aamir Hussain Dar [a], Vinay Kumar Pandey [b,c], Kshirod Kumar Dash [d], Shivangi Srivastava [c], Rafeeya Shams [e], G. Jeevarathinam [f], Punit Singh [g], Noemí Echegaray [h], R. Pandiselvam [i,*]

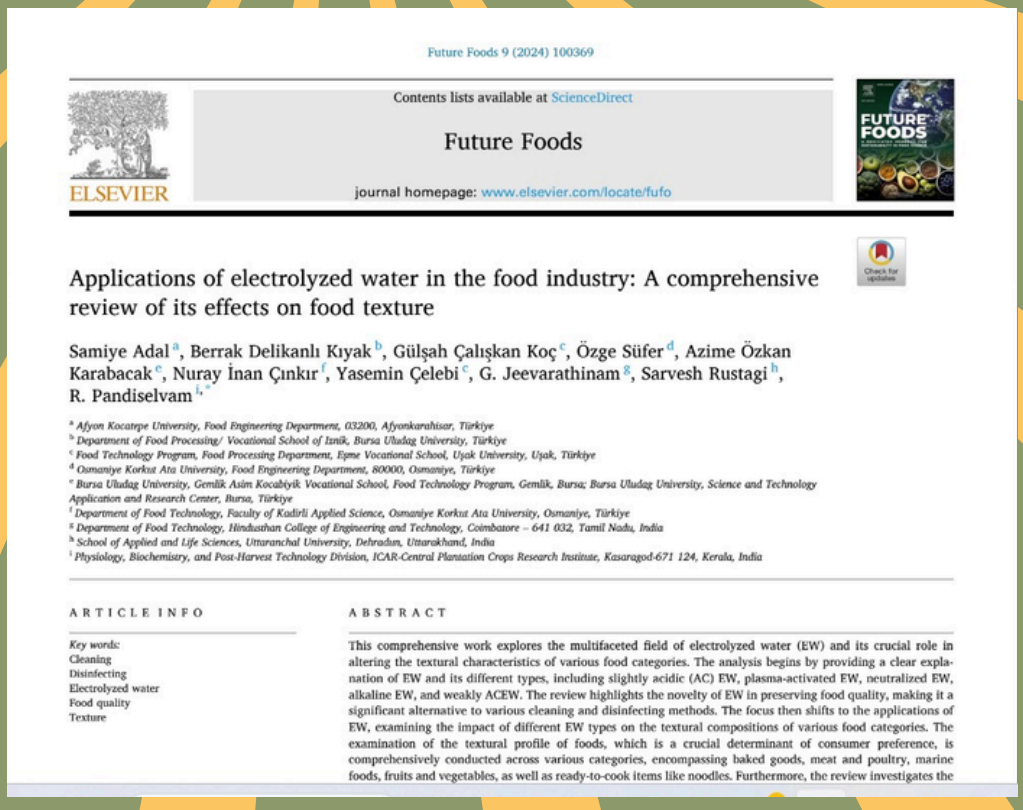
[a] Department of Food Technology, Islamic University of Science and Technology Kashmir, India
[b] Department of Biotechnology, Axis Institute of Higher Education, Kanpur, Uttar Pradesh, India
[c] Department of Bioengineering, Integral University, Lucknow, Uttar Pradesh, India
[d] Department of Food Processing Technology, Ghani Khan Choudhury Institute of Engineering & Technology (GKCIET), Malda, West Bengal, India
[e] Department of Food Technology and Nutrition, Lovely Professional University, Phagwara, Punjab, India
[f] Department of Food Technology, Hindusthan College of Engineering and Technology, Coimbatore, India
[g] Institute of Engineering and Technology, Department of Mechanical Engineering, GLA University Mathura, Uttar Pradesh 281406, India
[h] Centro Tecnológico de la Carne de Galicia, Adva. Galicia no. 4, Parque Tecnológico de Galicia, San Cibrao das Viñas 32900, Ourense, Spain
[i] Physiology, Biochemistry and Post-Harvest Technology Division, ICAR–Central Plantation Crops Research Institute, Kasaragod 671 124, Kerala, India

ARTICLE INFO

Keywords:
Edible coating
Biopolymers
Starch
Biodegradable polymer
Food packaging

ABSTRACT

Edible films and coating provide a potentially effective method for preserving fresh food products by reducing moisture loss, regulating respiration rate, improving surface smoothness, and or preventing microbial growth during their storage. Concurrently, starch has proven for its inexpensive, non-toxic, and widely available attribute for film and coating production. However, this biopolymer has some shortcomings when making films to preserve food. For this reason, the use of additives in its synthesis is frequent. The current review focuses on the effects of additives on the physicochemical barriers, and bioactive properties of starch-based biodegradable polymer films and coating, as well as how these composites comply with the requirements to produce edible and biodegradable food-based films and coating. These biopolymers perform magnificently as transporters for active ingredients isolated from natural sources and can be introduced into packaged foods at a controlled rate. Furthermore, the additives demonstrated antibacterial and antioxidant capabilities in the films or coating, which



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Applications of electrolyzed water in the food industry: A comprehensive review of its effects on food texture

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ABSTRACT

This comprehensive work explores the multifaceted field of electrolyzed water (EW) and its crucial role in altering the textural characteristics of various food categories. The analysis begins by providing a clear explanation of EW and its different types, including slightly acidic (AC) EW, plasma-activated EW, neutralized EW, alkaline EW, and weakly ACEW. The review highlights the novelty of EW in preserving food quality, making it a significant alternative to various cleaning and disinfecting methods. The focus then shifts to the applications of EW, examining the impact of different EW types on the textural compositions of various food categories. The examination of the textural profile of foods, which is a crucial determinant of consumer preference, is comprehensively conducted across various categories, encompassing baked goods, meat and poultry, marine foods, fruits and vegetables, as well as ready-to-cook items like noodles. Furthermore, the review investigates the

List of Books

BOOK CHAPTERS PUBLISHED IN THE ASSESSMENT YEAR

S.No.	Title of Book / Chapter	Name of the author/s	Year of publication	E-Book ISBN number
6.	Role of Artificial Intelligence in Food Processing	Dr Balakrishnan M **Dr Jeevarathinam G** Dr Preetha P	2022	9786205517352
7.	Thermo-Physical and Physicochemical Technologies for Drying of Food Products	Namrata A. Giri, T. Krishnakumar, **G. Jeevarathinam,** M. S. Sajeev	2022	9781774911624
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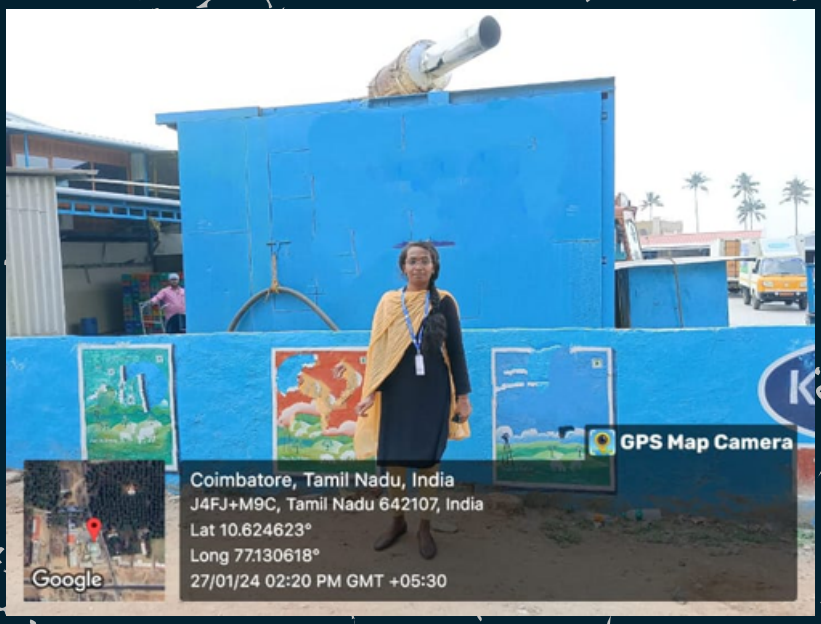

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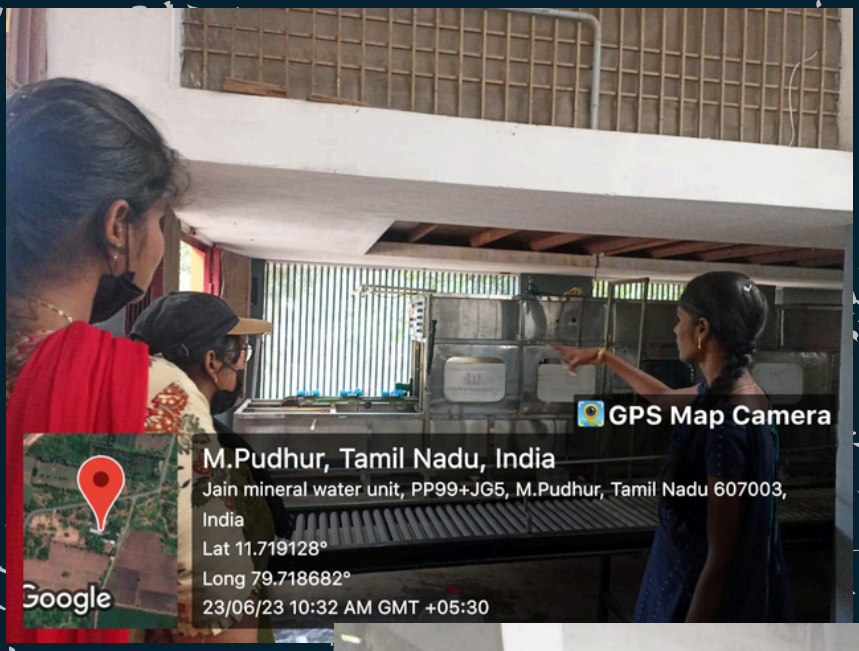

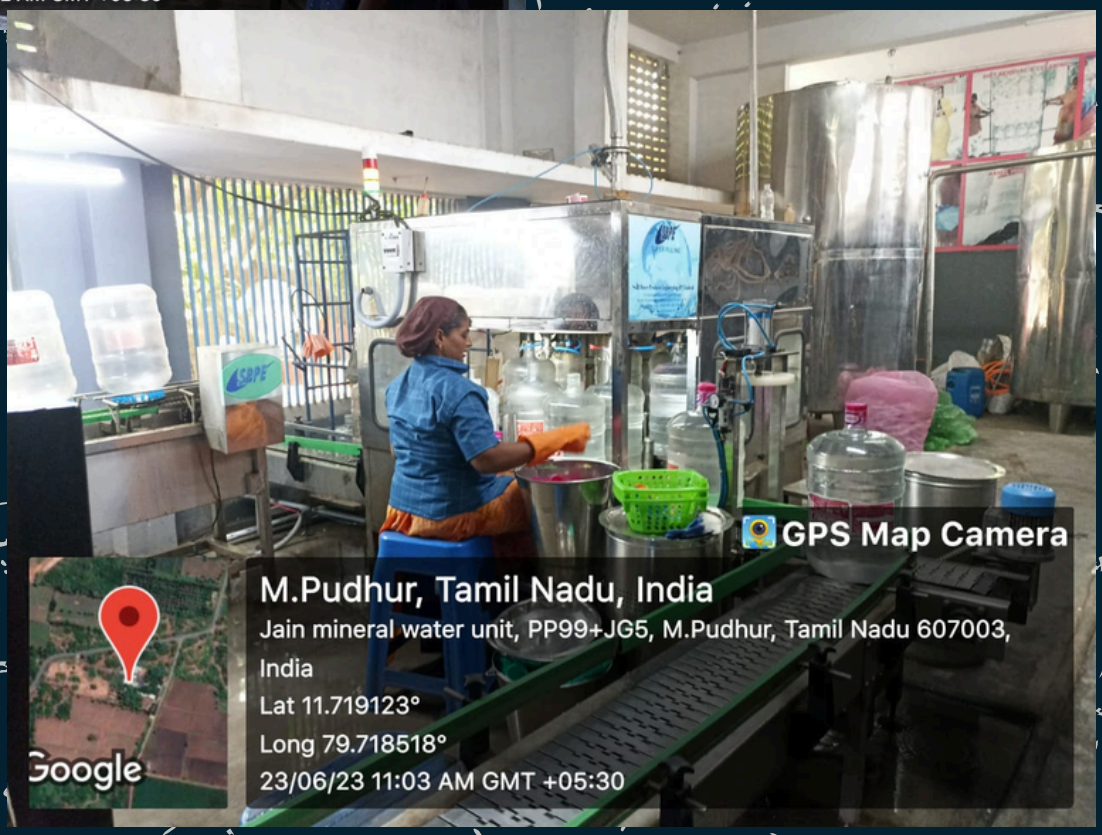

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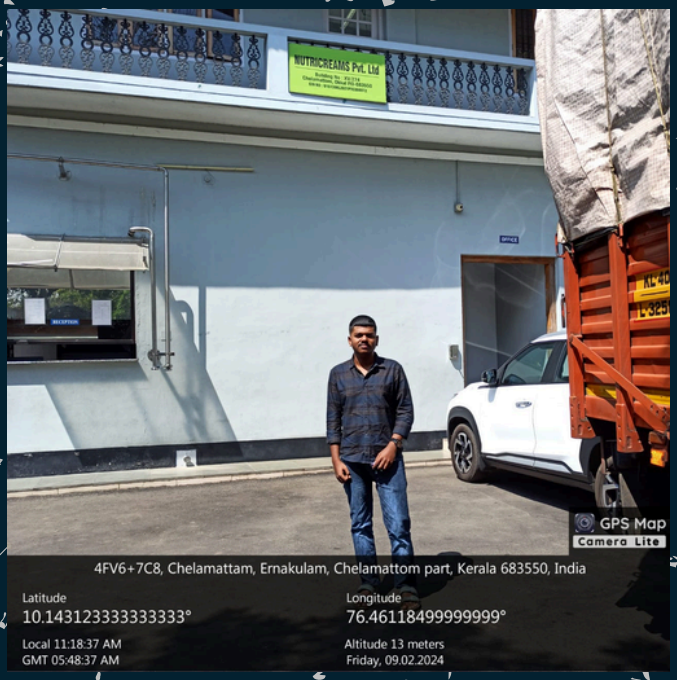

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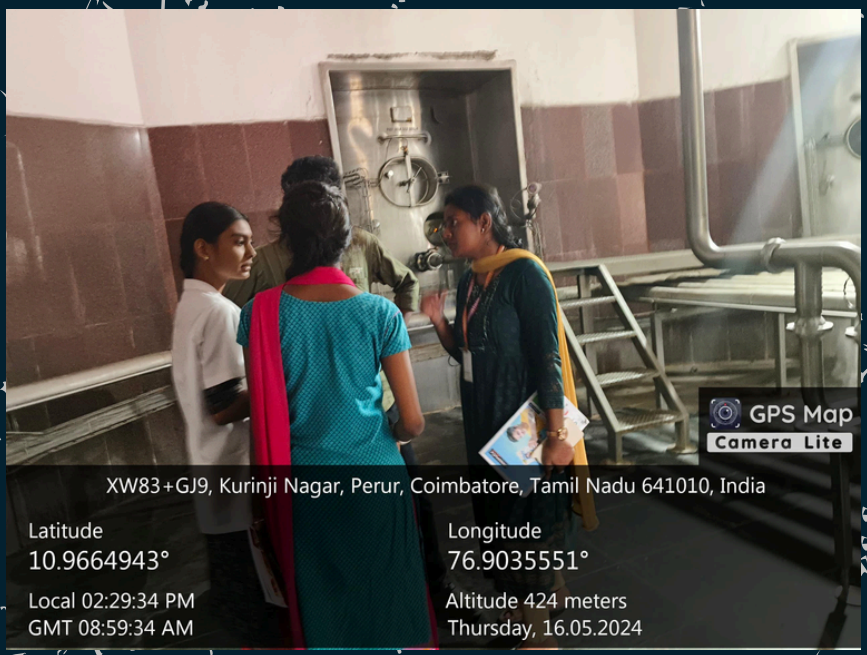

sports Achivements

கோவை குனியமுத்தூர் ஸ்ரீ கிருஷ்ணா இன்ஜி., கல்லூரியில் நடந்த கோவை டைஸ் கோப்பைக்கான களத்தில் உயரம் தாண்டுதல் போட்டியில் தன் திறமையை வெளிப்படுத்திய வீரர். ■ தடகளத்தில் மீ., ஒட்டப்பந்தயத்தில் இலக்கை நோக்கி சீறிப்பாய்ந்த வீராங்கனைகள்.

வி.எல்.பி., கல்லூரியில் விளையாட்டு விழா

டைஸ் தடகளப்போட்டிகள் சீறிப்பாய்ந்த மாணவர்கள்

கோவை, மார்ச் 6–

மாவட்ட அளவிலான 'கோவை டைஸ்' தடகளப்போட்டியில் மாணவர்கள் சீறிப் பாய்ந்துபதக்கங்கள் வென்றனர்.

கோவை மாவட்டத்தில் உள்ள இன்ஜி., கல்லூரி மாணவர்களுக்கு 'கோவை டைஸ்' என்ற பெயரில் ஆண்டு தோறும் விளையாட்டு போட்டிகள் நடத்தப்படுகின்றன. இந்தாண்டுக்கான தடகளப் போட்டிகள் ஸ்ரீ கிருஷ்ணா இன்ஜி., கல்லூரி மைதானத்தில் நேற்று நடந்தன.

போட்டியை,கோவை மாவட்ட உடற்கல்வி ஆய்வாளர் குமரேசன் துவக்கி வைத்தார். இதில், மாவட்டத்தின் பல்வேறு கல்லூரிகளை சேர்ந்த 500க்கும் மேற்பட்ட மாணவ – மாணவியர் பங்கேற்றனர்.

மாணவியர் பிரிவு 1,500மீ., ஓட்டத்தில் கே.பி.ஆர்., கல்லூரி மதுமிதா முதலிடம், அரசு தொழில்நுட்ப கல்லூரி லீலாவதி இரண்டாமிடம், கே.பி.ஆர்., மாணவி பெர்லியா மூன்றாமிடம் பிடித்தனர்.

மாணவர் பிரிவு 5,000மீ., ஓட்டத்தில் அரசு தொழில்நுட்ப கல்லூரி நிதின் லீயோ முதலிடம், குமரகுரு கல்லூரி ஆதித்யா இரண்டாமிடம், கே.பி.ஆர்., கல்லூரி வருண் மூன்றாமிடம்; 800மீ., ஓட்டத்தில் ராமகிருஷ்ணா இன்ஜி., கல்லூரி நந்த கிரண் முதலிடம், இந்துஸ்தான் இன்ஜி., மற்றும் தொழில்நுட்ப கல்லூரி கிருஷ்ணா இரண்டாமிடம், கே.பி.ஆர்., கல்லூரி மணீஷ் மூன்றாமிடம் பிடித்தனர்

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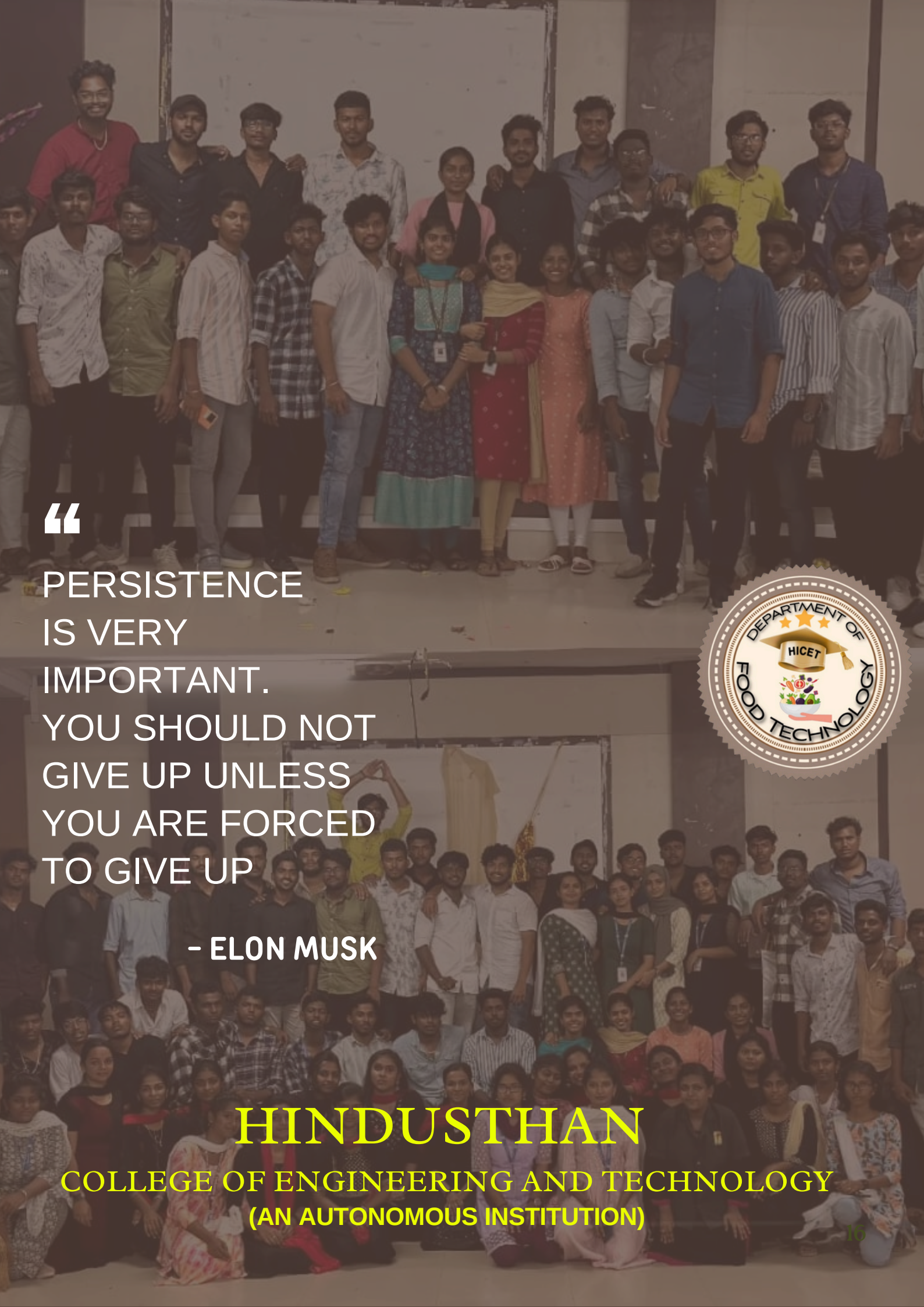

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YOU SHOULD NOT
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