



# Indra Ganesan

## COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai  
Accredited by NAAC with 'B+' Grade, 2(f) and 12 B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620 012

# ENGNEWS

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### From Secretary's Desk....



Er. G. Rajaseakaran  
Secretary  
Indra Ganesan Institutions

The college aims to infuse the spirit of wonder and discovery into the teaching-learning process. Interdepartmental collaborative ventures, interface between faculty students and the exchange programme have synergized the march of IGCE to reach out every individual to come out with their full potential. They have helped to enhance qualitative change ensuring substantial growth.

### From Director's Desk....



Dr. G. Balakrishnan  
Director  
Indra Ganesan Institutions

Successful and happy individuals build a successful nation. That strong foundation is good education. Because, in education lies the biggest service to the individual, to the nation and to humanity in the worldwide. IGCE with best education and infrastructure which will help them to face the complexity of life after completing the studies. Not only do we inculcate in them the best of creative and technical qualification, we also teach them indispensable human qualities.

### EDITORIAL BOARD MEMBERS

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Dr. C. Soundar Rajan., HoD/MBA



## 13<sup>th</sup> Graduation Day

Indra Ganesan College of Engineering is a 13<sup>th</sup> Graduation Day. The annual graduation ceremony is a day devoted to celebrating an important event in student career. The ceremony started with a Graduation address by Prof.Dr.S.Vincent, Member Secretary, and Tamil Nadu State Council for Science and Technology, Chennai. The ceremony presided over by Er.G.Rajasekaran, Secretary, Indra Ganesan Institution, Manikandam and Trichy. All esteemed dignitaries on the dais and other invitees are welcomed by Dr.G.Balakrishnan, Principal, Indra Ganesan College of Engineering and Syndicate Members, Anna University.

The ceremony proceeded with sharing some pearls of wisdom by Prof.Dr.S.Vincent, Member Secretary and Tamil Nadu State Council for Science and Technology, to the students by some experience of motivational speech. The speech was followed by Degree distribution to the students by the Guest. This was further followed by pledging honour to our country by signing National Anthem.



## Academic Council Meeting

The first meeting of Academic Council members of Indra Ganesan College of Engineering, Trichy was conducted on 15.02.2025 from 11.00 AM to 02.00 PM at the board room of the institute. The welcome address by Dr.M.Shanthi, Professor, Department of Mechanical Engineering. The introducing the Academic Council members Dr.S.J.Thiruvengadam , Professor, Department of Electronics and Communication Engineering, Thiagarajar College of Engineering, Madurai .by Dr.R.Kalaiarasi, Professor, Department of Science & Humanities. The presentation of UG and PG Regulations 2024 by the Dr.G.Mahendran, Dean Academics. The members were discussion about the Regulations 2024 and Minutes of BOS meeting. And finally Vote of Thanks by Dr.S.Karthikeyan, Member Secretary.



The Chairperson of the Academic Council, Dr. G.Balakrishnan, Welcomed the members of the Academic Council. The following items on the agenda were prescribed for consideration and approval. At the outset the Chairperson, Academic Council, introduced the members to the Academic Council. All suggestions and discussions were recorded, and the draft minutes will be circulated to the Academic Council Members.



## Report on Skill Enhancement and Employability Development (SEED Lab)

### Students Training Program

(12.02.25 - 18.02.25)

Indra Ganesan College of Engineering associate with LABAT had conducted Skill Enhancement and Employability Development Lab for II & III Year students during their from 12.02.25 to 18.02.25. They attended totally 118 students from various streams.

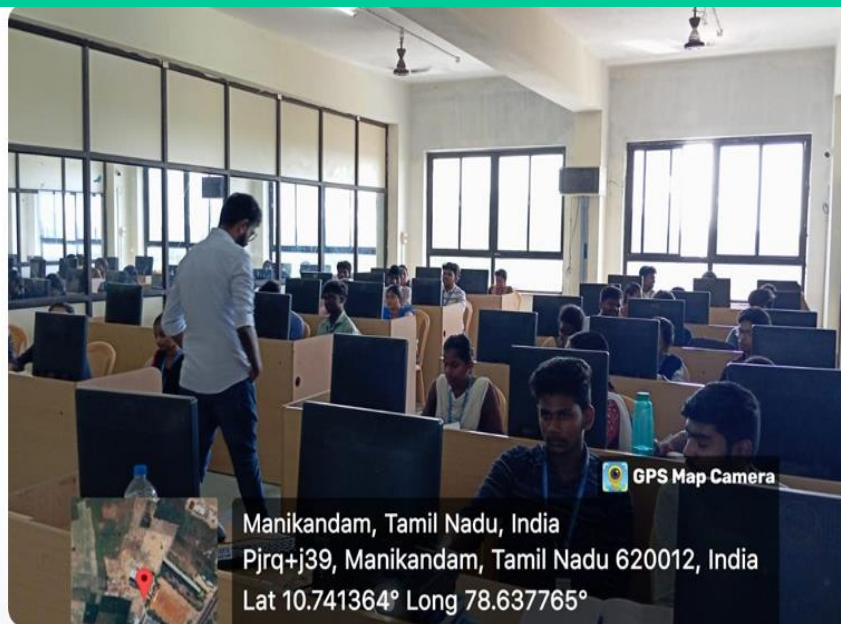
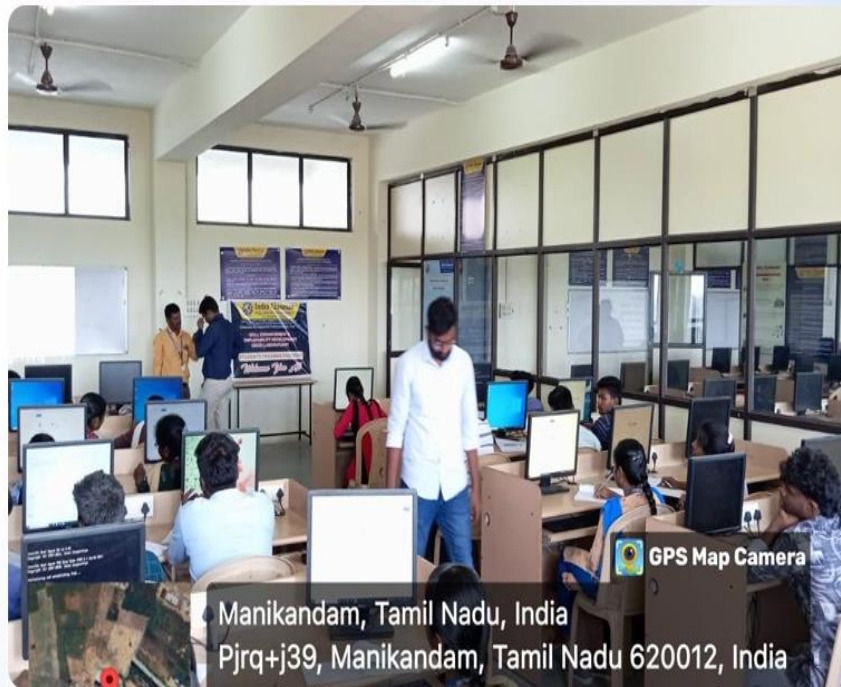
II & III Year Students	
Department	Count
AGRI	21
AIDS	21
CSE	10
ECE	09
EEE	12
IT	15
MECH	08
BME	21
<b>Total</b>	<b>118</b>



## Skill Enhancement and Employability Development (SEED) - Students Training Program

for 2<sup>nd</sup> and 3<sup>rd</sup> Year students

12.02.2025 & 13.02.2025



## **Skill Enhancement and Employability Development (SEED) - Students Training Program**

**for 2<sup>nd</sup> and 3<sup>rd</sup> Year students**

**12.02.2025 & 13.02.2025**

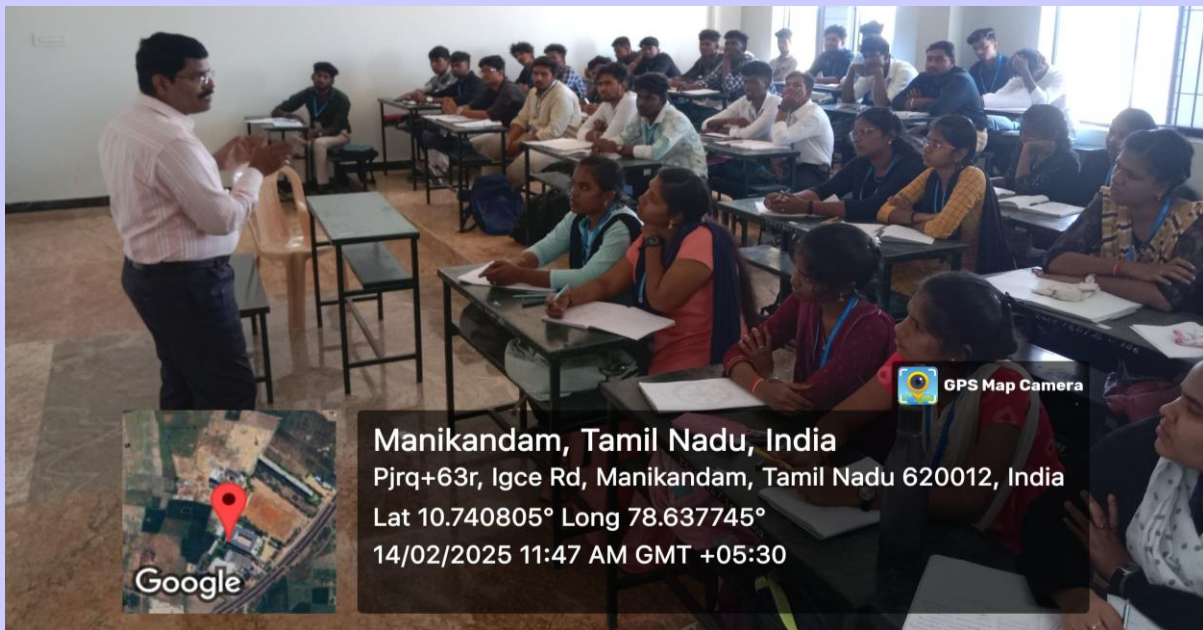
## National Service Scheme

The NSS and Swatch Bharath of Indra Ganesan College of Engineering have initiated a new event called Campus Cleaning Drive. Our Director & Principal Dr. G. Balakrishnan has inaugurated the First Campus Cleaning Drive today on 20.02 25. The Vice Principal Dr.S.Karthikeyan also Participated in the inauguration. CSE III year students have participated in this Campus Cleaning. The students have also given awareness on cleaning to all students in all the classes. All the students involved in cleaning all areas of our Engineering College campus



## Department of Management Studies

The Department of Management Studies is organizing a Value-Added Course for First-Year MBA Students on 14<sup>th</sup>, 21<sup>st</sup> and 28<sup>th</sup> February 2025. The VAC topic is Herbal Entrepreneurship & Application of Herbs for Health in summer. This session will provide valuable insights into entrepreneurial opportunities in the herbal industry and the benefits of herbal products for health during summer. Students are encouraged to participate actively and make the most of this learning opportunity. The Department of Management Studies and Rohini Herbal Global Private Limited signed in MoU.



## Department of Agricultural Engineering

Dr.B. Babu, Associate professor, Department of Agricultural Engineering has published Book Chapter title is Contemporary Challenges in Multidisciplinary Research: Innovation in industrial Manufacturing Through 3D Printing, Name of the Publishers Infinity Publication, Luna Wada, ISBN number is 9789389476958 and year of publishing 2025.

### Chapter- 7 INNOVATIONS IN INDUSTRIAL MANUFACTURING THROUGH 3D PRINTING

Dr. B. Babu <sup>1</sup>, Mr. R. Ramesh Babu <sup>2</sup>

ISBN: 978-93-89476-95-8 | DOI: 10.25215/938947695X.07

#### Abstract

Due to its ability to directly mold components without requiring traditional tools such as dies or molds, 3D printing technology has become an integral tool in various sectors, including industrial manufacturing, biomedical applications, and creative industries like art and design. This versatility stems from its capacity to produce intricate geometries, customize outputs for specific needs, and significantly reduce production lead times. Furthermore, its layer-by-layer additive process enhances material efficiency and minimizes waste compared to conventional subtractive manufacturing methods. This article delves into the diverse applications of 3D printing by focusing on three critical sectors: automotive, aerospace, and electrical industries. It highlights how the unique characteristics of 3D printing—such as lightweight material construction, design flexibility, and on-demand production—address specific challenges in these domains. By examining the principles of 3D printing, including its molding process and workflow, the article provides insights into how this technology facilitates rapid prototyping, improves operational efficiency, and supports innovative designs in complex engineering fields. Additionally, it underscores the strategic role of 3D printing in driving advancements in product design and fostering sustainable manufacturing practices.

*Keywords: 3D Printing, Manufacturing industry, Application, Process flow.*

#### INTRODUCTION

Rapid prototyping and additive manufacturing are other names for the 3D printing process, which builds objects layer by layer using materials like adhesives, metal powders, and polymers based on three-dimensional models. In the conventional "debaring processing," waste materials and superfluous sections of the material are removed by cutting, turning, milling, grinding, and other procedures.

Complex work piece shapes are frequently challenging to process and sometimes impossible. The manufacturing cycle is significantly shortened, structures that are challenging to process or cannot be processed by conventional techniques can be made, and the material utilisation rate is high thanks to 3D printing technology's layer-by-layer construction. The use of 3D printing technology eliminates the design and production issues associated with complex parts and can make goods with any complex shape without having to worry about processing issues. As a result, industrial manufacturing relies heavily on 3D printing technology for production.

#### RELIABILITY OF TECHNOLOGIES FOR 3D PRINTING

The research, creation, and use of 3D printing technology has historically been dominated by the US and Europe. While Europe also places a high priority on the study, creation, and use of 3D printing technology, the United States now leads the world in each of these areas. Currently, 3D printing

<sup>1</sup> Associate Professor, Indra Ganesan College of Engineering, Manikandam, Trichy

<sup>2</sup> Assistant Professor, Indra Ganesan College of Engineering, Manikandam, Trichy



Dr.B. Babu, Associate professor, Department of Agricultural Engineering has received Certificate of Excellence in Peer Reviewing award from BP International on 21.02.25.

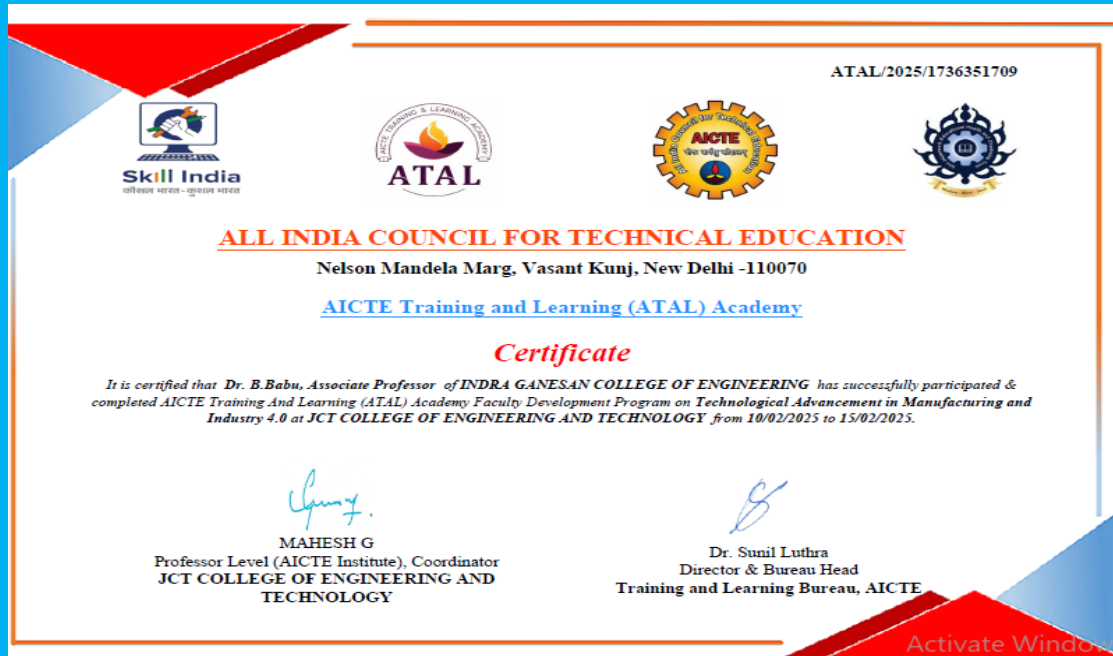


## ATAL FDP

Dr.B. Babu, Associate professor, Department of Agricultural Engineering has received the certificate for Five-Day Faculty Development Programme on “Recent advances and Applications of Manufacturing in Industry 4.0” conducted online during February 03<sup>rd</sup> to 08<sup>th</sup>, 2025. organized by IPS College of Technology and Management.



Dr.B. Babu, Associate professor, Department of Agricultural Engineering has received the certificate for Five-Day Faculty Development Programme on “Technological Advancement in Manufacturing and Industry 4.0” conducted online during February 10<sup>th</sup> to 15<sup>th</sup>, 2025, organized by JCT College of Engineering and Technology.




Dr.B. Babu, Associate professor, Department of Agricultural Engineering has received the certificate for Five-Day Faculty Development Programme on “Advanced Manufacturing in the context of Industry 4.0 and Industry 5.0” conducted online during February 17<sup>th</sup> to 22<sup>th</sup>, 2025, organized by Gandhi Institute of Excellent Technocrats




## Patent Published

Dr.B. Babu, Associate professor, Department of Agricultural Engineering has published Patent Published title is Solar Power Agricultural Crop Seeded and Harvesting Equipment, Patent number is 446046-001 and year of publishing 2025.

29/01/2025, 22:34 Design Application Status

 INTELLECTUAL PROPERTY INDIA  
PATENTS | DESIGNS | TRADE MARKS  
GEOGRAPHICAL INDICATIONS

 GOVERNMENT OF INDIA

Controller General of Patents, Designs and Trademarks  
Department of Industrial Policy and Promotion  
Ministry of Commerce and Industry

### Design Application Details

**Application Number:**  
446046-001

**Cbr Number:**  
202112

**Cbr Date:**  
29/01/2025 20:59:06

**Applicant Name:**  
1. Dr. B. Babu    2. Mr. K. Kannakumar    3. Mr. P. Elavarasan  
4. Mrs. K. Gayathri Dev    5. Mrs. S. Tamilselvi    6. Dr. R. Girimurugan

### Design Application Status

**Application Status:**  
Application Under Process(wating for Technical Examination)

[Back \(/DesignApplicationStatus/\)](#)

Disclaimer: Application status is available for the application filed on or after 1st April 2009 with application no 222230. The information under " Design Application Status" is dynamically retrieved and is under testing, therefore the information retrieved by this system is not valid for any legal proceedings under the Design Act 2000. In case of any discrepancy you may contact the appropriate Patent Office or send your comments to following email IDs:  
Design Office, Kolkata : [controllerdesign@ipo.nic.in](mailto:controllerdesign@ipo.nic.in)  
Controller General of Patents, Designs and Trademarks

<http://search.ipindia.gov.in/DesignApplicationStatus/> 1/1

## Department of Management Studies Kriya 2025 – Management Event

Ms.S.Geesthriya, M.Logeswari, S.Niraimathi, R.Priya, Department of Management Studies - II year students has attended the “A State Level Business Quiz for MBA’s” held on 08.02.2025 at Saranathan College of Engineering, Trichy.



## One Day Seminar

11- II year MBA students had Participated in the seminar on “Accounting 40: AI and Future of Financial Intelligence” organised by Department of Research and Development in Association with Institution’s Innovation Council held on 24.02.2025 at Indra Ganesan College of Engineering, Manikandam, Trichy.



## Online Workshop

All I Year MBA students has attended the online workshop on “Excel using AI” conducted by Office Master held on 23.02.2025, received their certificates and its very useful for students to use 200+ excel formulas with AI, Create Dashboards in Excel in under 2 minutes and can use macros and VBA using AI



## Academic Development Meeting



As a part of academic enhancement a meeting with heads of the department held on Board Room on each and every week of Tuesday on. Dr. G.Balakrishan, Director / Principal of IGCE, convened the meeting and discussed the further promotional activities regarding institution upliftment.

## Department of Physical Education

A.Boris Roger, (AIDS) and E.Vengatesh (CSE), Selected FOR Tamil Nadu Net Ball Team represents Tamil Nadu in the National Net Ball Championship in Haryana.



**A.Boris Roger, B.Tech.,(AIDS) &  
E.Vengatesh, B.E.,(CSE)**

Selected for Tamil Nadu Net Ball Team  
represents Tamil Nadu in the  
National Net Ball Championship in Haryana

## Maha Sivarathiri

Indra Ganesan College of Engineering Celebration Maha Sivarathiri function on 26.02.2025. The Chief Guest is Ms. N. Renuka Devi, M.Sc., M.Phil (Physics, BT Science), Panchayat Union Middle School, Manikandam, Trichy. The Guest Speech about Spirituality and Scientific Perspective of Sivarathiri and Importance of staying awake during Sivarathiri. The followed by performed by students, showcasing the connection between yoga and spirituality.



## Department of Mechanical Engineering

### South India-Level Innovation Project Idea Hackathon

Day 1 (27.02.2025)

K.Joshwa, P.Ramachandran, S.Jegadeeshwaran, E.Manikandan and along with project guide is Mr.R. Ramesh Babu, Assistant Professor and Head, Department of Mechanical Engineering. On 27th March 2024, the South India-level Innovation Project Idea Hackathon, conducted by AGASTIYA & ANVESHANA, witnessed a vibrant and competitive atmosphere with participants from across South India. The event took place at Chickpet, Bangalore, bringing together some of the best minds from Tamil Nadu, Telangana, Andhra Pradesh, and Kerala. The hackathon featured a diverse array of projects, and our students from the Department of Mechanical Engineering showcased their innovative project, the "Salt Water Welding Machine."

The hackathon was an intellectually stimulating event with a total of **378 projects** from the four participating states. These projects were judged and competed across **four rigorous rounds**. The competition was fierce, with numerous colleges and institutions presenting cutting-edge innovations and solutions to various challenges.



### Project Overview: Salt Water Welding Machine

The **Salt Water Welding Machine** is an innovative approach to traditional welding techniques, utilizing salt water as a medium in the welding process. This technique aims to provide an environmentally friendly alternative to conventional welding by reducing harmful



emissions and improving the efficiency of the process. The project stood out for its novelty, practical application, and sustainable approach to solving industrial problems.

### Competition Highlights

- **Total Projects:** 378 projects from South India.
- **States Represented:** Tamil Nadu, Telangana, Andhra Pradesh, and Kerala.
- **Rounds:** Four rounds of competition.
- **Total Top 50 Projects:** Our project secured **44th place** among the top 50 projects.
- **State-Level Selection:** At the Tamil Nadu level, only **three colleges** were selected to participate in the hackathon, and our college was honoured to be one of the chosen institutions.

### Day 2 (28.02.2025)

On the second day of the **South India-level Innovation Project Idea Hackathon**, our students from the Department of Mechanical Engineering participated with their innovative project, the "**Salt Water Welding Machine**". The competition, which included a total of 50 projects, witnessed rigorous evaluations by the jury, and our team's project was **selected among the top 20 finalists**.



## Achievement

- **Top 20 Finalists:** Our project was chosen as one of the **top 20 finalists**, standing out among 50 competing projects. This is a significant accomplishment that reflects the innovative nature of the **Salt Water Welding Machine** and its potential impact on the welding industry.

### Day 3 (01.03.2025)

On **Day 3** of the **South India-Level Innovation Project Idea Hackathon**, students from the Department of Mechanical Engineering presented their innovative project, the **Salt Water Welding Machine**. The competition, organized by **AGASTIYA & ANVESHANA** at **Chickpet, Bangalore**, saw a total of **378 projects** competing from across South India.

Our team **Joshwa K, Ramachandran P, Jegadeeswaran C, and Manikandan E**, under the guidance of **Prof. R. Ramesh Babu**, successfully showcased their project, which emphasizes sustainable and eco-friendly welding solutions using salt water.



## Achievement

The team's participation and dedication were evident as they competed against a large pool of projects from various regions. The innovative approach of the **Salt Water Welding Machine** helped secure a place among the top competitors.

## Department of Mechanical Engineering

S. Manikandan, M. Manikandan and P. Subramani, III Year Mechanical Engineering, A one-day workshop on 24.02.2025 *Integrated Mechanical Electrical Plumbing (IMEP)* was conducted at Kongunadu College of Engineering, Trichy. The workshop aimed to provide students with a practical understanding of the integration of mechanical, electrical, and plumbing systems in modern infrastructure. The workshop provided valuable insights into the interdisciplinary nature of these fields and their crucial roles in building design, maintenance, and overall efficiency. The main objective of the workshop was to introduce the students to the concepts of integrated systems involving mechanical, electrical, and plumbing elements. Demonstrate how these systems work together to ensure the optimal functioning of residential and commercial infrastructure and provide hands-on experience and practical knowledge about various installation and maintenance procedures in IMEP.



## Department of Physical Education

Ms.Madhu and Ms.Pooja both are runner in state level Net Ball Chapianship in the Tamil Nadu in the National Net Ball



**Madhu**

Runner - State Level Net Ball Championship



**Pooja**

Runner - State Level Net Ball Championship

## Result Passing Board Meeting

On behalf of Indra Ganesan College of Engineering, I am pleased to share that the First Result Passing Board meeting was successfully conducted on 28.02.2025. I sincerely appreciate the Management for entrusting me with the opportunity to present the End Semester Examination results (Nov/Dec 2024) during this meeting.

I am also pleased to inform you that Dr. D. Sangeetha, the anna university nominee of the Result Passing Board, has officially approved our results.

My heartfelt gratitude goes to everyone involved in the examination process for their valuable support, both directly and indirectly.





# Indra Ganesan ★ Institutions ★

Engineering | Medicine - Siddha | Naturopathy | Nursing | Pharmacy | Physiotherapy | Allied Health Science  
ANM | Health Inspector | DMLT | Management | Arts & Science | Education | School | Hospital

IG Valley (Near New Integrated Bus Terminal), Manikandam, Tiruchirappalli - 620 012



## Your Future begins...



### Engineering

#### Bachelor of Engineering (B.E.)

- Electrical and Electronics
- Electronics and Communication
- Mechanical Engineering
- Biomedical Engineering
- Computer Science and Engineering

#### Bachelor of Technology (B.Tech.)

- Agricultural Engineering
- Artificial Intelligence & Data Science
- Information Technology

#### Master of Engineering (M.E.)

- Computer Science and Engineering
- VLSI Design

#### Master of Business Administration (M.B.A.)



### Arts & Science

#### Bachelor of Science (B.Sc.)

- Aviation ■ Computer Science ■ Forensic Science
- Geology ■ Nutrition & Dietetics ■ Mathematics
- Hotel Management & Catering Science
- Fashion Technology & Costume Designing
- Artificial Intelligence and Machine Learning

#### Bachelor of Business Administration (B.B.A.)

- Aviation Management

#### Bachelor of Commerce (B.Com. & B.Com. (CA))

#### Bachelor of Arts

- English ■ Defence & Strategic Studies

#### Master of Science (M.Sc.)

- Computer Science

#### Master of Commerce (M.Com.)



### Medicine

#### Siddha

Bachelor of  
Siddha Medicine  
and Surgery (BSMS)



#### Naturopathy

Bachelor of  
Naturopathy and  
Yogic Science (BNYS)



### Physiotherapy

Bachelor of Physiotherapy (B.P.T.)



### Pharmacy

Diploma in Pharmacy (D.Pharm)  
Bachelor of Pharmacy (B.Pharm)  
Master of Pharmacy (M.Pharm)  
Doctorate in Pharmacy (Pharm.D)



### Allied Health Science

#### Bachelor of Science (B.Sc.)

- Cardiac Technology
- Dialysis Technology
- Medical Laboratory
- Radiography and Imaging
- Accident and Emergency Care
- Operation Theatre and Anaesthesia
- Cardio Pulmonary and Perfusion Care



### Nursing

Bachelor of Nursing (B.Sc. (N)) | ANM



### Medical Science

Health Inspector (HI)  
Diploma in Medical Lab Technician (DMLT)



### Education

Bachelor of Education (B.Ed.)  
Master of Education (M.Ed.)

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