



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.

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Dr. C. Soundar Rajan., HoD/MBA



Heartfelt Congratulations

We are immensely proud to extend our heartfelt congratulations to our visionary Secretary, on being entrusted with the prestigious role of Sub-Committee Member of Tamil Nadu Teachers Education University (TNTEU), with the authority to exercise the Powers and perform the duties of the Vice-Chancellor. This exceptional honor is a testament to your unparalleled leadership, commitment to excellence in education, and dedication to shaping the academic landscape. Your guidance and expertise will undoubtedly elevate the university to new heights, inspiring both faculty and students alike. As you embark on this significant journey, we wish you great success in your endeavors to uphold and enhance the standards of higher education.



IG **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

Congratulations!

Er. G. Rajasekaran
Secretary, Indra Ganesan Institutions

For being nominated as **Sub Committee Member** in Vice-Chancellor Panel of
Tamil Nadu Teachers Education University, Chennai

Department of Electrical and Electronic Engineering

A Training Session on Electric Vehicles Conducted in the E-Vehicle Lab for Hotel Management students from our Arts & Science College. This initiative aims to enhance their understanding of the latest advancements in the motor vehicle industry while highlighting the contributions of our College to this cutting-edge field.



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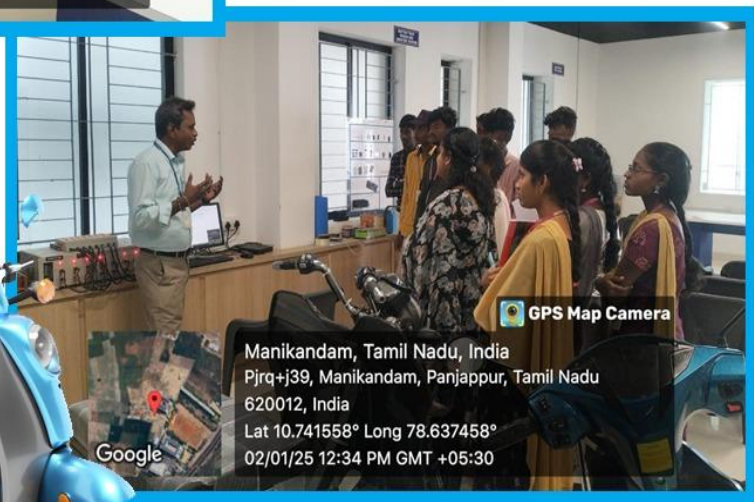
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e-Vehicle Lab

A Training Session on Electric Vehicles - Conducted in the E-Vehicle Lab for students from our College of Pharmacy. This initiative aims to enhance their understanding of the latest advancements in the motor vehicle Industry while highlighting the contributions of our College to this cutting-edge field.



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06.01.2025



e-Vehicle Lab

Department of Electrical and Electronic Engineering

A Training Session on Electric Vehicles - Conducted in the E-Vehicle Lab for students of B.Sc., Nursing from our College of Nursing. This initiative aims to enhance their understanding of the latest advancements in the motor vehicle industry while highlighting the contributions of our College to this cutting –edge field.



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07.01.2025



e-Vehicle Lab

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e-Vehicle Lab

A Training session on Electric Vehicles - Conducted in the E-Vehicle Lab for BNYS students from our Naturopathy and Yoga Medical College. This initiative aims to enhance their understanding of the latest advancements in the motor vehicle Industry while highlighting the contributions of our College to this cutting-edge field.



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A training session on Electric Vehicles

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21.01.2025



e-Vehicle Lab

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23.01.2025



e-Vehicle Lab

Department of Mechanical Engineering

Mr. G Vijayakumar, Mechanical Engineering student, has secured a placement with *L&T Hydrocarbon Engineering Pvt. Ltd., Chennai as a Design Engineer. He will be joining the esteemed company with a salary package of 4.5 Lakhs per annum. We congratulate him on this achievement and wish him continued success in his career journey



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Congratulations



Our Student

G Vijayakumar
Mechanical Engineering

Got Placed as a
Design Engineer

with **4.5 LPA**

wish him the best



L&T Hydrocarbon

Department of Mechanical Engineering



Mr. Ramesh Babu R, Dr. D. Sriram, Dr. S.P. Kalaiselvan and Mr. K. Ramanathan has attended Faculty Development Programme on Finite Element Analysis on 06-01-2025 to 10-01-2025 organized by Sree Sakthi Engineering College. its applications in various engineering domains. This FDP was designed to equip faculty members with knowledge about the computational techniques and software tools used for solving complex engineering problems in various fields.

Department of Computer Science Engineering



Mrs.T. Sugashini, G. Revathi, K. Vinotha, Santhana Lakshmi, Department of Computer Science Engineering has attended the FDP on Generative and ethical AI: Techniques and Applications with hands-on at NIT, Trichy.

Mrs.T. Sugashini, Department of Computer Science Engineering has attended the FDP on Advanced AI Computing at DMI Engineering College

Pongal Celebration

Indra Ganesan College of Engineering (IGCE) in Tiruchirappalli celebrated Pongal on January 9, 2025, with traditional rituals and cultural events. The festivities included the preparation of Pongal, a traditional Tamil dish, and various cultural performances.





09.01.2025



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09.01.2025



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Department of Agricultural Engineering



Dr. B.Babu, Mr M Mukeand Mrs.K. Vanisri, Department of Agricultural Engineering has attended Atal FDP on Clean Energy and Environmental Sustainability at Government Engineering College Palamu.



Dr. B.Babu, Mr M Mukeand Mrs.K. Vanisri, Department of Agricultural Engineering has attended Atal FDP on Climate change and its impact on Disaster Frequency at ADAMAS University.



Alumni Meet Report – 2025

The Alumni Association of Indra Ganesan College of Engineering organized “ALUMNI MEET 2025” a programme to facilitate, consolidate and coordinate Alumni Activities at Indra Ganesan college of Engineering at Auditorium in Engineering Block on 25th January 2025. The alumni meet is conducted every year in order to reconnect with the Alumni and celebrate their success and various achievements.



The Alumni started arriving in college by 9.00 a.m. and they were received by the registration team and they revisited the familiar place where they had studied and were shown the various developments that had taken place since then. The Alumni Meet started with an invocation song seeking the blessings of almighty. To start the occasion on an auspicious note, our Secretary, Director proceeded to the dais for the lighting of the lamp, accompanied by alumni & senior faculties of our institution. Then welcome address by the Dr.S.Karthikeyan vice Principal, IGCE. The meeting was graced by the Er.G.Rajasekaran, Secretary and Dr.G.Balakrishnan Principal, College of Engineering Director and Alumni Office bearers.



Our college students had organized many fun events and dance for Alumni and many alumni students had participated eagerly and enjoyed the event. Our Alumni Association President Ms.J.Jenifer had given Alumni Presidential speech. Later our Alumni shared few about their personal experiences; Alumni also interacted with the students and gave career guidance regarding higher Studies and placements. Vote of thanks was given by Prof A.Ramya HoD /AI & DS of Indra Ganesan College of Engineering and he thanked the various organizers alumni members of the event. He also thanked the management for the support and guidance which has made Alumni Meet 2025 a grand success. At last we had photo session and day ended with lot of enjoyable memories.



Participation

Mr. Elangovan, Assistant Professor, Department of EEE, Honored to have served as a mentor representation our college for Electrical, renewable energy and wireless charging at the two-day district-level Boot Camp, organized as part of the EDC Cell-SIDP initiative dated 28 and 29th Jan 2025 by the Government of Tamil Nadu. The event brought together students from various schools in and around Trichy and Thanjavur districts and was held at Bharathidasan University, Kajamalai Campus.



Mr. R. Ramesh Babu, Assistant Professor, published a conference paper on January 23, 2025, at RAFST25, IG Arts College. The title of the paper was "Space Exploration and Commercialization

Chapter- 7

INNOVATIONS IN INDUSTRIAL MANUFACTURING THROUGH 3D PRINTING

Dr. B. Babu ¹, Mr. R. Ramesh Babu ²

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

¹ Associate Professor, Indra Ganesan College of Engineering, Manikandam, Trichy

² Assistant Professor, Indra Ganesan College of Engineering, Manikandam, Trichy

Department of Mechanical Engineering

Mr. Ramesh Babu R, Assistant Professor, published a book chapter titled "Contemporary Challenges in Multidisciplinary Research: A Collaborative Approach" on January 31, 2025. ISBN: 978-93-89476-95-8, DOI: 10.25215/938947695.

Prof.Mr.Ramesh Babu R
Head of Department/Asst.Professor-Mechanical Engineering
Indra Ganesan College of Engineering
Trichy-12



Space exploration and commercialization have seen a significant surge in recent years, driven by technological advancements and increased private sector involvement.

Key Aspects:

- **Exploration:**
 - **Scientific Discovery:** Uncovering the mysteries of the universe, from the origins of our solar system to the search for extra-terrestrial life.
 - **Technological Innovation:** Developing cutting-edge technologies with applications on Earth, such as advanced materials, robotics, and medical imaging.
 - **International Cooperation:** Fostering international collaboration and cooperation on complex scientific and engineering challenges.
- **Commercialization:**
 - **Space Tourism:** Offering spaceflight experiences to private citizens, including sub-orbital flights and potential future lunar missions.
 - **Satellite Services:** Providing essential services like telecommunications, navigation (GPS), weather forecasting, and Earth observation.
 - **Space Resources:** Exploring the potential for mining and utilizing resources found in space, such as water ice on the Moon or asteroids.
 - **Space Infrastructure:** Developing and operating space stations, launch vehicles, and other infrastructure to support commercial activities in space.

Trends:

- **Rise of Private Companies:** Companies like SpaceX, Blue Origin, and Virgin Galactic are revolutionizing space access, lowering costs, and driving innovation.
- **Increased International Competition:** Nations are competing to establish themselves as leaders in space exploration and commercialization, leading to increased investment and technological development.
- **Focus on Sustainability:** Growing emphasis on sustainable space practices, including reducing space debris and minimizing the environmental impact of space activities.

Challenges:

- **High Costs:** Space exploration and commercialization remain expensive endeavors, requiring significant investment and technological breakthroughs.
- **Safety Concerns:** Ensuring the safety of astronauts and mitigating risks associated with spaceflight.
- **Space Debris:** Addressing the growing problem of space debris, which poses a significant threat to spacecraft and future space missions.
- **International Cooperation and Regulation:** Establishing clear international agreements and regulations to govern space activities and ensure responsible exploration.

Overall:

Space exploration and commercialization are at a pivotal moment. Continued innovation, international cooperation, and a focus on sustainability will be crucial to unlocking the full potential of space and ensuring a future where humanity can thrive beyond Earth.

Republic Day Celebration

Indra Ganesan College of Engineering (IGCE) celebrated Republic Day on January 26, 2025, with a flag hoisting ceremony and various cultural events. The Chief Guest is Dr. S.Moorthi, Professor, Department of EEE, NIT, and Trichy. The event commenced with the ceremonial hoisting of the Indian flag, followed by the National Anthem. Students and faculty participated in patriotic performances, including music and dance, reflecting the spirit of unity and pride associated with Republic Day.



The celebration also featured speeches highlighting the significance of the Indian Constitution and the nation's journey since independence. The event concluded with the distribution of sweets among attendees, fostering a sense of community and joy. This annual tradition at IGCE serves as a reminder of the values enshrined in the Constitution and the importance of national unity.



Visiting the Girls Hostel

Mrs.K.Vanisri / AP Agri and Mrs.P.Jency Leena / AP ECE have been visited girl hostel today evening. Interact with students to prepare semester Examinations, Utilizing amenities in proper way, maintain clean environment and checking student's attendance also.



Visiting the Boys Hostel

Dr. C. Soundar Rajan Hod MBA, accompanied by Mr. Vivek Ignatius CSE department visited the boys' hostel in the evening. During the visit, we interacted with 1st and 2nd-year students, engaging in informal conversations to understand their concerns. We solicited queries and feedback from the students, gaining valuable insights into their experiences. As part of our visit, we conducted a headcount of the total number of students residing in the hostel. We also made a targeted inspection of select rooms, using this opportunity to further interact with the students and reinforce key aspects of hostel life, including cleanliness, discipline, and effective study habits.





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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.)



Medicine

Siddha

Bachelor of
Siddha Medicine
and Surgery (BSMS)



Naturopathy

Bachelor of
Naturopathy and
Yogic Science (BNYS)



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



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.)



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)



Medical Science

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



Education

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Master of Education (M.Ed.)

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