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An Autonomous Institution
Bangalore Trunk Road, Nazarathpet, Poonamallee, Chennai- 600 123
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Approved by All India Council for Technical Education, New Delhi
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Club Activities - 2025 to 2026

ENERGY CLUB

KARVANS' 3D CLUB

ADDITIVE MANUFACTURNG AND
DESIGN CLUB

Report on Two-Day Design to Manufacture Workshop

Organized by: Department of Mechanical Engineering,
Panimalar Engineering College

Coordinator: Dr. M. Puviyarasan

Date: 1st – 2nd September 2025

Venue: Idea Lab, Panimalar Engineering College

Introduction

The **Department Of Mechanical Engineering, Panimalar Engineering College**, Organized A **Two-Day Design To Manufacture Workshop** For 2nd And 3rd Year Students On **1st And 2nd September 2025**. The Main Aim Is To Provide Students With Foundational Knowledge In Product Design, Computer-Aided Design (CAD), And Advanced Manufacturing Technologies Such As 3D Printing.

Day 1 Highlights (1st September 2025) :

Morning Session:

The Workshop Commenced In The Idea Lab, Where All Participants Assembled.

- **Welcome Address**: Delivered By **Dr. M. Puviyarasan**, Highlighting The Importance Of Design-To-Manufacturing Skills In Modern Industries.

- The Inaugural Speech Was Delivered By **Dr. L. Karthikeyan, Head Of The Department**, Who Shared Valuable Insights On The Vast Scope Of **Additive Manufacturing**. He Highlighted Its Growing Importance In Revolutionizing Modern Industries And Emphasized Its Role In Shaping Future Technologies. The Address Motivated Students To Explore The Potential Of This Field And Its Applications.

- Our Team Conducted An Introductory Session To Equip Students With Foundational Knowledge In Designing And Manufacturing. The Session Provided Insights Into Essential Concepts, Helping Them Gain Clarity On The Basics. It Enabled The Students To Build An Initial Understanding Of Design And Production Processes.

- Some Of Our Teammates Shared Their Internship Experiences To Guide The Juniors In Understanding Industry Expectations. They Emphasized The Requirements Set By Companies And The Importance Of Meeting Them. The Session Also Focused On Equipping Students With Modern Technical And Core Skills.

Afternoon Session

The Focus Of The Afternoon Session Was **Fusion 360 Software Training.**

- Students Were Introduced To Fundamental 2D Sketching Techniques And Gradually Advanced To 3D Modeling Practices. This Session Enabled Them To Gain Practical Exposure To Digital Design Tools Widely Used In The Industry.

- **Practice Assignments** Were Provided To The Students To Reinforce The Concepts Taught During The Sessions. These Tasks Were Designed To Encourage Continuity Of Learning Beyond The Classroom. They Also Aimed At Enhancing Problem-Solving Skills And Improving Proficiency In Applying The Newly Gained Knowledge.

Day 2 Highlights (2nd September 2025) :

Morning Session

- Students Presented Their Practice Models.

- Training On **Ultimaker Cura Software** Equipped Them With The Ability To Convert **CAD Designs Into STL Formats For 3D Printing**.

- Each Student Successfully Prepared Their Design For Printing, Linking **Digital Design With Hands-On Fabrication**.

3D Printing Training

Students Learned Step-By-Step **Operation Of 3D Printers** In Batches:

- Loading Filament And Inserting The SD Card
- Bed Leveling And Nozzle Adjustments

- Printing Supervised Sample Models

This Created An Exciting Experience, As Students Saw Their Designs Take Physical Form.

Valedictory Session

- **Certificates** were distributed by Dr. L. Karthikeyan (HoD) and Dr. M. Puviyarasan (Coordinator).

- Closing remarks encouraged students to pursue further innovation in **product design and additive manufacturing**.

Conclusion

The **Two-Day Design to Manufacture Workshop**, conducted on **1st and 2nd September 2025** by the **Department of Mechanical Engineering, Panimalar Engineering College**, was a grand success. It effectively combined **theoretical concepts with practical exposure**, equipping students with skills in **Fusion 360, Cura software, and 3D printing operations**. The workshop fostered **creativity, problem-solving, and industry readiness** among the participants.

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One Day Seminar Report

Title: Recent Trends in *Non-Destructive Testing (NDT)*

Date: 02nd Sep 2025

Duration: 1 Hour

Venue: Department of Mechanical Engineering, Smart Class Room

Organized by: Mechanical Engineering/Drone Club / Panimalar Engineering College

Co-ordinators: Dr. I. John Solomon & Dr. J. Gunasekaran
(Assistant Professor G-I)

Introduction

The Department of Mechanical Engineering at Panimalar Engineering College, in collaboration with Sri Sai Sis Institute of NDT, successfully conducted a one-day seminar titled " ***Recent Trends in Non-Destructive Testing (NDT)*** " on 02nd Sep 2025. The event was hosted in the department's Smart Classroom and was organized by the Drone Club of the department.

A one-hour seminar on **"Non-Destructive Testing (NDT) and its Importance in Career"** was conducted to create awareness among students about the principles, applications, and career opportunities in the field of NDT. The session highlighted modern testing techniques, and the scope of professional courses that equip students for global career opportunities.

Objectives of the Seminar

- To introduce the fundamentals and necessity of Non-Destructive Testing.
- To explain different NDT methods used across industries.
- To highlight the importance of **inspection** in maintaining surface quality and corrosion protection.
- To provide insights into **NDT certification courses** and their role in career development.
- To motivate students to pursue specialized training that enhances employability in core sectors.

Participants

The seminar witnessed active participation from:

- **Third - year Mechanical Engineering students**
- **Office bearers of the Drone Club from the third year**

The enthusiastic involvement of the students highlighted their keen interest in exploring emerging technologies and their practical implementations.

Seminar Highlights of the Session

Mr. M. Selvin Immanuel, **Head- Training NDT & ANDT**, **Sri Sai Sis Institute of NDT** introduced the company, vision and its potential in various sectors.

- **Concept and Need for NDT:** Explained how NDT ensures product safety and reliability without damaging the component.
- **Techniques Discussed:**
  - Visual Inspection (VT)
  - Ultrasonic Testing (UT)
  - Radiographic Testing (RT)
  - Magnetic Particle Testing (MPT)
  - Dye Penetrant Testing (DPT)
  - Eddy Current Testing (ECT)
  - Acoustic Emission Testing (AET)
- **Industrial Applications:** Shared examples from oil & gas pipelines (coating inspection), aerospace (aircraft body coating checks), shipbuilding (anti-corrosion paint testing), and construction (protective coatings for steel structures).
- **Career Opportunities:** The global demand for NDT and paint inspection professionals was highlighted. Certification like BGAS-CSWIP or NACE was also introduced as an additional career pathway.

NDT Courses and Certifications

The seminar introduced students to structured learning and certification programs in NDT, including paint/coating inspection:

- **ASNT Certification (American Society for Non-Destructive Testing):**
  - **Level I:** Basic training – performs tests under supervision.
  - **Level II:** Independently performs and evaluates tests.
  - **Level III:** Expert level – designs, interprets, and approves procedures.
- **Specialized Paint/Coating Inspection Certifications:**
  - **BGAS-CSWIP:** Coating and Painting Inspector courses.
  - **NACE:** Recognized globally for corrosion and coating inspection.
- **Career Benefits:**
  - Opens opportunities in oil & gas, aerospace, marine, power plants, construction, and automotive.
  - Certified paint/coating inspectors are in high demand for corrosion control and quality assurance.
  - Courses provide international recognition and career mobility.

Outcome of the Seminar

- Awareness of NDT techniques and its importance.
- They understood the importance of testing coatings in preventing corrosion and extending the life of engineering structures.
- Awareness about specialized courses in paint testing and NDT certifications was created.
- Students were motivated to consider NDT and coating inspection as career-enhancing skill sets.

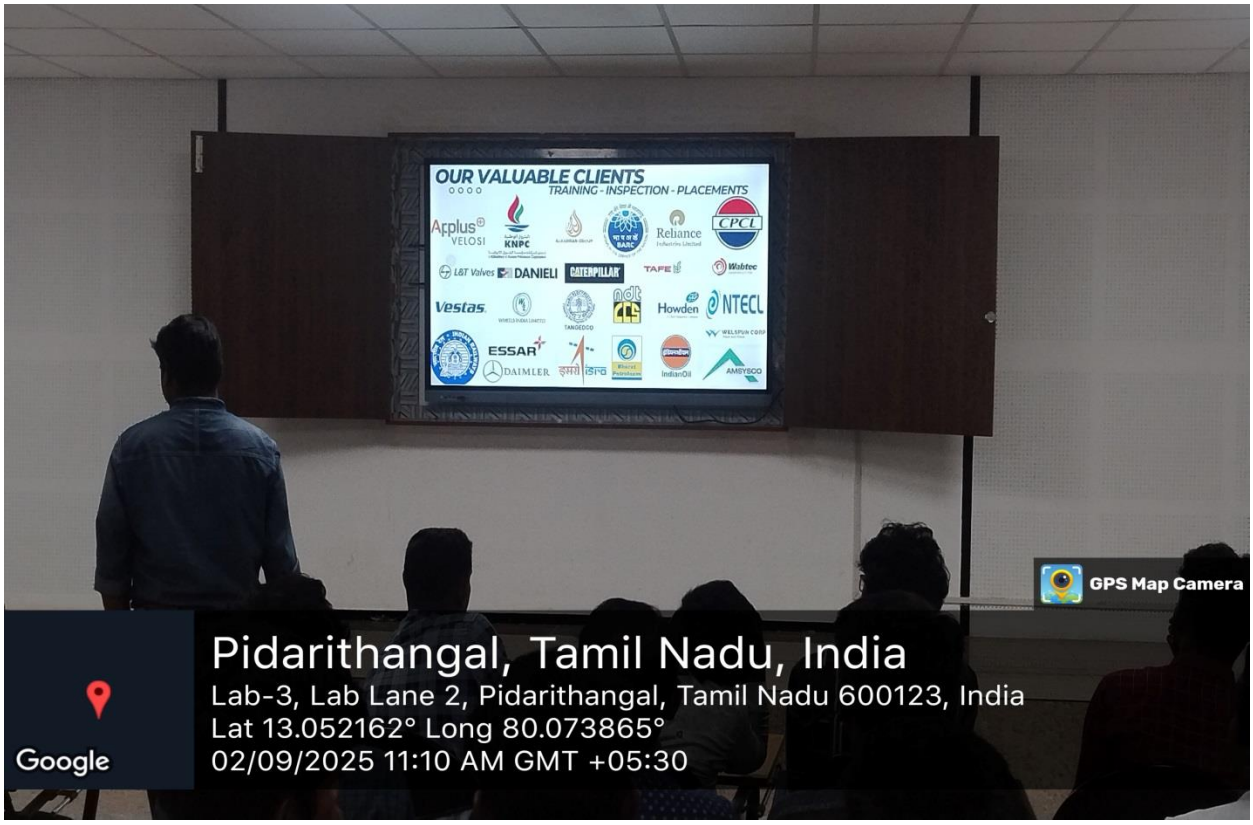
Conclusion

The seminar concluded with a vote of thanks, acknowledging the contributions of, the coordination of **Dr. I. John Solomon** and **Dr. J. Gunasekeran**, and the enthusiastic participation of the students. The seminar on **Non-Destructive Testing (NDT) with its**

recent trends was highly informative and beneficial. The inclusion of **information about the certification courses** provided additional insights in terms of their career, which are mandatory for industries like oil & gas, aerospace, marine, and infrastructure. The discussion on NDT courses and certifications gave students a clear career roadmap.

The session concluded with an interactive Q&A and a vote of thanks to the resource person, organizers, and participants.

Glimpse snapshots of the session



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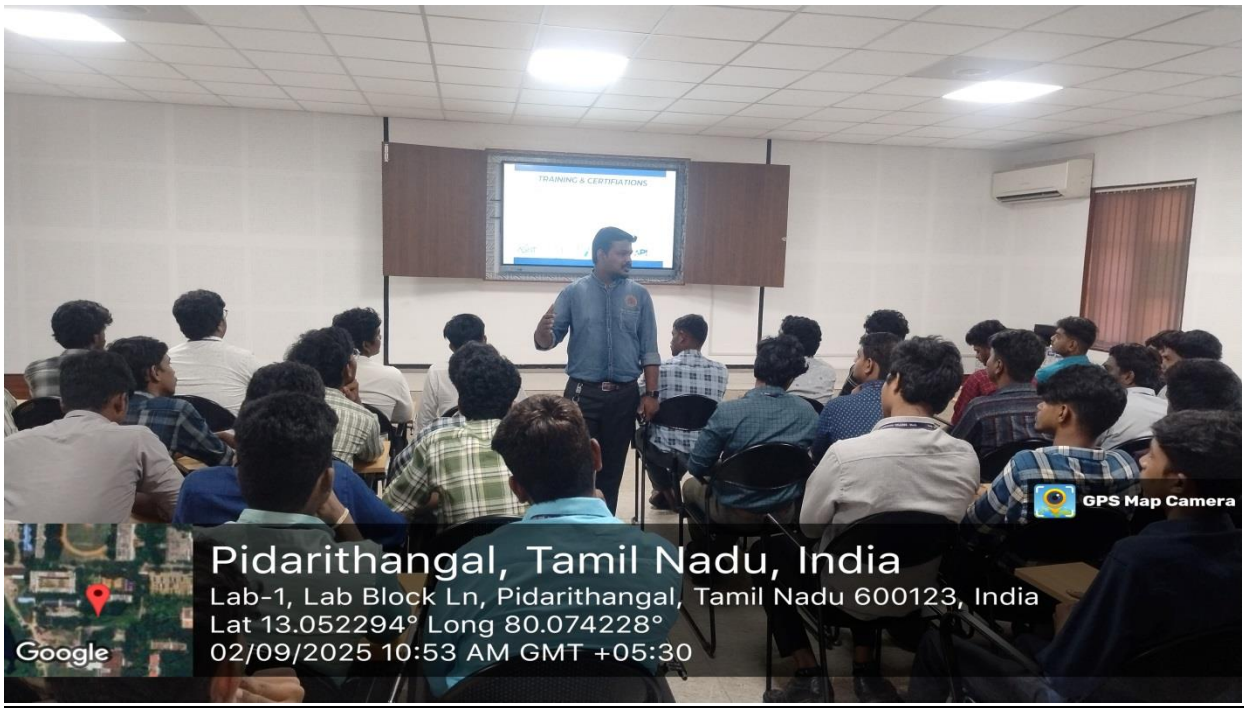

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Report on Two-Day Design to Manufacture Workshop

Organized by: Department of Mechanical Engineering, Panimalar Engineering College

Coordinator: Dr. M. Puviyarasan

Date: 13th – 14th August 2025

Venue: Idea Lab, Panimalar Engineering College

Introduction

The **Department of Mechanical Engineering, Panimalar Engineering College**, organized a **Two-Day Design to Manufacture Workshop** for 2nd and 3rd year students on **13th and 14th August 2025**. The main aim is to provide students with foundational knowledge in product design, computer-aided design (CAD), and advanced manufacturing technologies such as 3D printing.

Day 1 Highlights (13th August 2025) :

Morning Session

The workshop commenced in the Idea Lab, where all participants assembled.

- **Welcome address**: Delivered by **Dr. M. Puviyarasan**, highlighting the importance of design-to-manufacturing skills in modern industries.

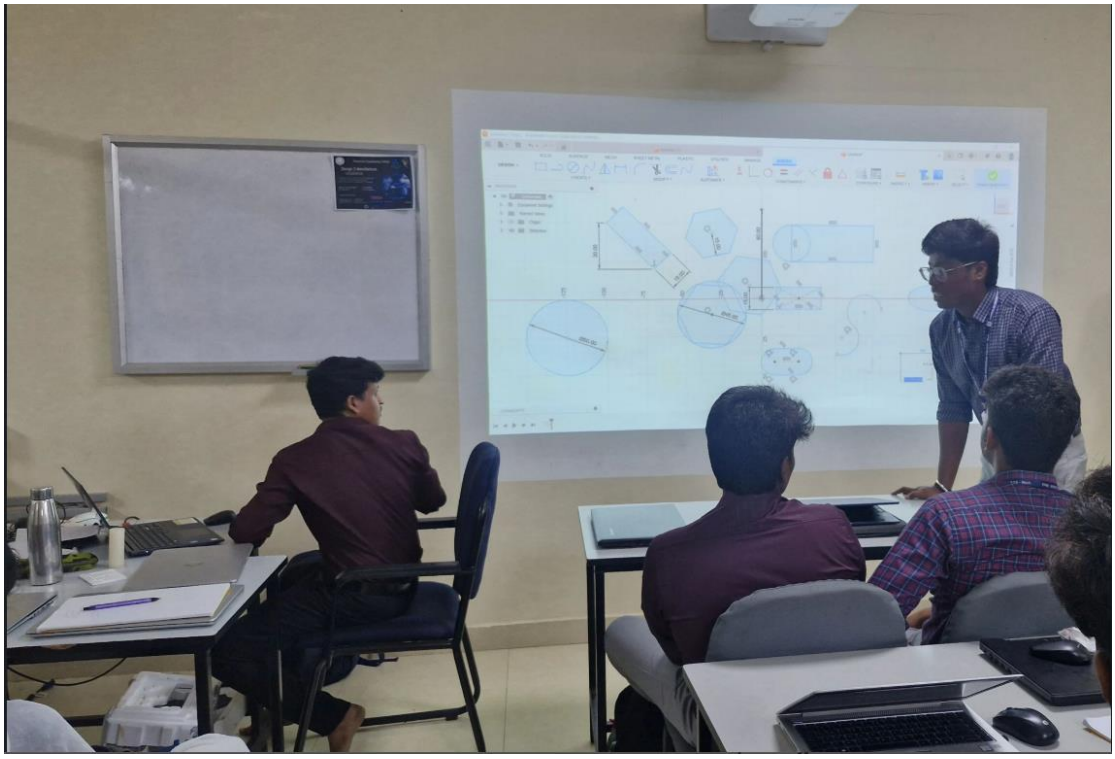
- **Inaugural speech**: **Dr. L. Karthikeyan**, Head of the Department, shared insights on the scope of **additive manufacturing** and its role in shaping future technologies.

- Students were then engaged in a discussion on **manufacturing fundamentals** and their relevance in industry.

Afternoon Session

The focus of the afternoon session was **Fusion 360 software training.**

- Students learned **2D sketching and 3D modeling** techniques.



- **Practice assignments** were given to encourage continuity of learning.

Day 2 Highlights (14th August 2025) :

Morning Session

- Students presented their practice models.
- Training on **Ultimaker Cura software** equipped them with the ability to convert **CAD designs into STL formats for 3D printing**.
- Each student successfully prepared their design for printing, linking **digital design with hands-on fabrication**.

3D Printing Training

Students learned step-by-step **operation of 3D printers** in batches:

- Loading filament and inserting the SD card
- Bed leveling and nozzle adjustments
- Printing supervised sample models

This created an exciting experience, as students saw their designs take physical form.

Valedictory Session

- **Certificates** were distributed by Dr. L. Karthikeyan (HoD) and Dr. M. Puviyarasan (Coordinator).

- Closing remarks encouraged students to pursue further innovation in **product design and additive manufacturing**.

Conclusion

The **Two-Day Design to Manufacture Workshop**, conducted on **13th and 14th August 2025** by the **Department of Mechanical Engineering, Panimalar Engineering College**, was a grand success. It effectively combined **theoretical concepts with practical exposure**, equipping students with skills in **Fusion 360, Cura software, and 3D printing operations**. The workshop fostered **creativity, problem-solving, and industry readiness** among the participants.

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Event Report

Workshop on "GENERATIVE DESIGN using Autodesk Fusion 360"

The Department of Mechanical Engineering, Panimalar Engineering College, organized a two-day hands-on workshop on **"Generative Design using Autodesk Fusion 360"** on **30th & 31st July 2025** at the college premises. The session was conducted in **DIRECT mode** at the **CAD/CAM Laboratory**.

Key Resource Person:

Mr. Rishi Nethaji K, Application Engineer, USAM Technology Solutions, Chennai, served as the resource person for the workshop. His expertise in Autodesk Fusion 360 and industry applications of generative design provided participants with valuable insights into advanced design methodologies.

Participation:

The workshop witnessed active participation from **15 faculty members** and **60 students** from the Department of Mechanical Engineering.

Schedule & Duration:

- **Total Duration:** 12 hours (6 hours per day)
- **Timings:** 9:30 AM to 4:00 PM (with breaks)

Workshop Highlights:

- Introduction to Autodesk Fusion 360 interface and workflow.
- Fundamentals of generative design and its applications in engineering.
- Step-by-step guidance on setting design constraints, loads, and materials for generative design studies.
- Hands-on practice in creating optimized 3D models using Fusion 360.
- Discussions on industry use cases, cost optimization, and sustainability aspects of generative design.
- Q&A sessions and problem-solving exercises to reinforce learning.

Outcome:

The workshop enabled participants to:

- Gain a clear understanding of generative design concepts and applications.
- Acquire practical skills in using Autodesk Fusion 360 for design and simulation.
- Explore optimization techniques for innovative and efficient product development.

Impact:

The workshop received highly positive feedback from participants, with many expressing confidence in applying generative design techniques in academic and project work. The event successfully bridged theoretical learning with industry-oriented practical applications, aligning with the department's objective of making students industry-ready.

List of Faculty Participants

S.NO	Name of the Faculty Member	Designation	Email ID	Contact Number
1	Dr. L. Karthikeyan	Professor	lkarthikeyan1974@gmail.com	9444154630
2	Dr. A. Anbarasu	Professor	anbu.mech.2025@gmail.com	840188578
3	Dr. M. Puviyarasan	Professor	muthupuvi@panimalar.ac.in	9444838655
4	Dr. K. Thiruselvam	Professor	thirumurugu2014@gmail.com	9443492009
5	Dr. K.R.Padmavathi	Professor	krpadmavathipecmech@gmail.com	8939366286
6	Dr. R. Murugan	Professor	saimurugan1973@gmail.com	9976837999
7	Dr. G.Senthil Kumar	Associate Professor	senthilngt1978@gmail.com	9841664488
8	Mr. S.Thamizh Selvan	Assistant Professor	thamizhdome@gmail.com	9940650189
9	Mr. K.Raja Karthikeyan	Assistant Professor	k.rajakarthikeyan82@gmail.com	9444690302
10	Mr. S.Louies Praveen	Assistant Professor	louiespraveen@gmail.com	9884813452
11	Mr. P.Sakthi Kumar	Assistant Professor	sakthikumar15@gmail.com	7092589981
12	Mr. S.Dhana Sekar	Assistant Professor	dhanasekarrlmech@gmail.com	9942535452
13	Mr. P. Iyyan Paramanandam	Assistant Professor	iyyanmech@gmail.com	9842120984
14	Mr. K.Ashok Kumar	Assistant Professor	ashokkrr8@gmail.com	9500873366
15	Mr. C.Paul Prabakaran	Assistant Professor	Paulsaratha1988@gmail.com	9840016852
16	Mr. S.Santhosh Kumar	Assistant Professor	ssanthosh506@gmail.com	9710032016

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List of Student Participants

SL.NO.	SECTION	ROLLNO.	STUDENT NAME
1.	A	2023PECME106	ADHI KESAVAN V
2.	A	2023PECME107	ADHI SUBRAMANI I
3.	A	2023PECME115	ANAND RAJ R
4.	A	2023PECME118	ANISH KUMAR P
5.	A	2023PECME124	BENEDICT LOUIS I F
6.	A	2023PECME125	BHARANIDHARAN G S
7.	A	2023PECME127	BHUVANESH G
8.	A	2023PECME128	BROSHAN W J
9.	A	2023PECME129	CHANDRU I
10.	A	2023PECME131	DANIEL NAVEEN D
11.	A	2023PECME136	DHANUSH P
12.	A	2023PECME139	DINESHBABU S
13.	A	2023PECME140	DINESH KUMAR T
14.	A	2023PECME147	GOWTHAMAN M
15.	A	2023PECME148	GULSHANTH KUMAR S
16.	A	2023PECME151	HARISH E
17.	A	2023PECME152	HARISH M
18.	A	2023PECME156	JUSTIN RAPHEAL C M
19.	A	2023PECME158	KAMALESH RAJ E
20.	A	2023PECME163	KISHORE VASHAN P
21.	A	2023PECME164	KUMARASAMY D
22.	A	2023PECME165	LATHISH KUMAR S
23.	A	2023PECME172	MANOJ KISHORE K
24.	A	2023PECME173	MATHAN RAJ H
25.	A	2023PECME176	MITHIRAN N
26.	A	2023PECME177	MOHAMED NAFEEL D
27.	A	2023PECME181	NAMAKODI MUTHUKUMARAN
28.	A	2023PECME182	NIRANJAN S C
29.	A	2023PECME185	NITHISH RAJ G
30.	A	2023PECME191	PRATHISH KUMAR P
31.	A	2023PECME281	KUMAR GURUDEEP B

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S .NO	SEC	ROLL NO	STUDENT NAME
32.	B	2023PECME192	PRAVEEN KUMAR B
33.	B	2023PECME197	LOKESH M
34.	B	2023PECME200	RAIYANULLAH KHAN S
35.	B	2023PECME208	RITHIK KRISHNA S
36.	B	2023PECME210	ROFIL P
37.	B	2023PECME213	RONALD JOEL R M
38.	B	2023PECME214	RUBANANDHAN R
39.	B	2023PECME216	SACHIN M A
40.	B	2023PECME217	SAIKRISHNA N
41.	B	2023PECME218	SAKTHI S
42.	B	2023PECME219	SAKTHIVEL T
43.	B	2023PECME220	SANDEEP S
44.	B	2023PECME228	MUKESH VASANTHAN M S
45.	B	2023PECME229	NITHISHKUMAR K
46.	B	2023PECME230	RAJARAJAN A K
47.	B	2023PECME235	SANJAY A
48.	B	2023PECME237	SANJAY KUMAR S
49.	B	2023PECME238	SANJAY R
50.	B	2023PECME240	SANTHOSH KANNAN V
51.	B	2023PECME243	SARAVANA ADHITHAN D
52.	B	2023PECME247	SHANMUGANATHAN B
53.	B	2023PECME249	SHIVA P
54.	B	2023PECME257	STEPHIN K F
55.	B	2023PECME258	SUBASH CHANDAR R
56.	B	2023PECME267	UMAMAHESHWARAN C R
57.	B	2023PECME270	VASANTH M P
58.	B	2023PECME274	VINISH KUMAR C R
59.	B	2023PECME275	YASHVANTH R
60.	B	2023PECME276	YASHWANTH RAJ J
61.	B	2023PECME277	LOKESHWARAN D

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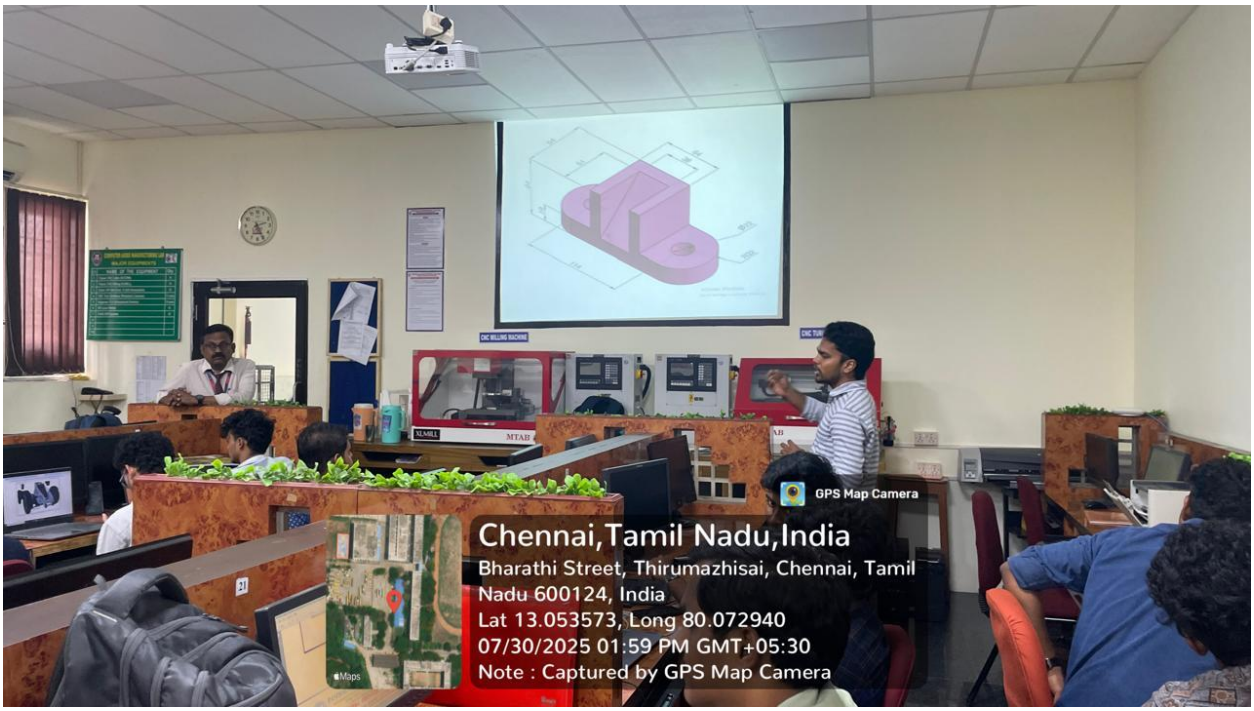
Workshop on "GENERATIVE DESIGN using Autodesk Fusion 360"



Panimalar Engineering College

Department of Mechanical Engineering

Seminar Report

Title: *Drone Piloting and Drone Technology-A Seminar in Association with Vayuratha Pvt. Ltd.*

Date: 11th July 2025

Venue: Smart Classroom, Department of Mechanical Engineering

Organised by: Drone Club

Coordinators:

- Dr. I. John Solomon, Assistant Professor (Grade I)
- Dr. Gunasekeran, Assistant Professor (Grade I)

Introduction

The Department of Mechanical Engineering at Panimalar Engineering College, in collaboration with **Vayuratha Private Limited**, successfully conducted a one-day seminar titled *"Drone Technology and Applications"* on **11th July 2025**. The event was hosted in the department's **Smart Classroom** and was organized by the **Drone Club** of the department. The seminar aimed to expose students to the latest developments and industrial applications in the field of Unmanned Aerial Vehicles (UAVs) and drone piloting.

Participants

The seminar witnessed active participation from:

- **Second-year Mechanical Engineering students**
- **Office bearers of the Drone Club from the third year**

The enthusiastic involvement of the students highlighted their keen interest in exploring emerging technologies and their practical implementations.

Inaugural Session

The seminar commenced with a warm welcome by **Dr. I. John Solomon**, Assistant Professor (Grade I), who addressed the audience and emphasized the significance of drone technology in modern engineering applications.

Following the welcome address, **Dr. J. Gunasekeran**, Assistant Professor (Grade I), provided a detailed overview of the seminar objectives. He briefed the participants on the importance of UAVs, regulatory aspects, industry standards, and the scope of careers in the domain of drone technology.

Technical Sessions by Vayuratha Pvt. Ltd.

The core technical sessions were led by the team from **Vayuratha Private Limited**, a pioneering organization in drone solutions and UAV technology. The guest speakers were:

- **Mr. Balamurugan** – Marketing Executive, who introduced the company, its vision, and the market potential of drone technology in various sectors.

- **Mr. Godwin** – DGCA-approved Licensed Piloting Trainer, who enlightened the students about drone regulations in India, licensing procedures, pilot training, and real-time applications of drones in agriculture, surveillance, disaster management, and logistics.
- **Mr. Shyam** – UAV Expert, who gave an in-depth technical demonstration on UAV components, drone design, control systems, and simulation-based piloting. He also showcased a few case studies highlighting the integration of AI and IoT in drone systems.

The sessions were interactive, and students were encouraged to ask questions and participate in discussions. Real-life experiences shared by the experts gave valuable insights into career paths and entrepreneurship in the UAV domain.

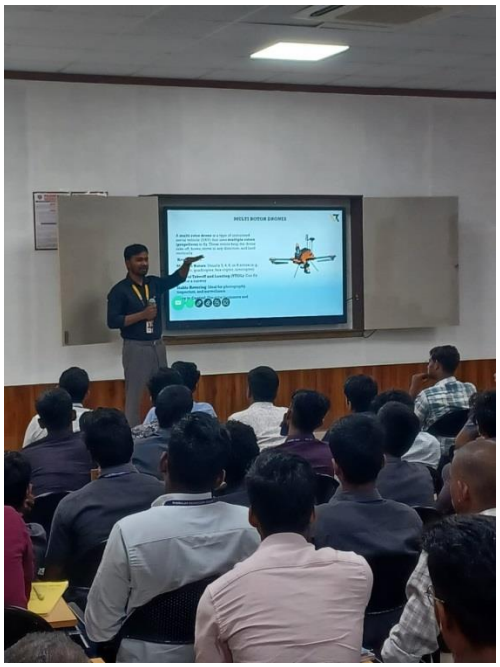
Learning Outcomes

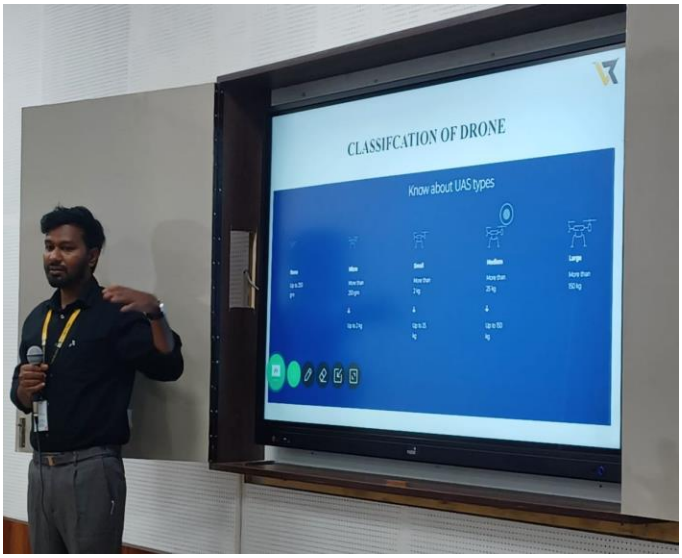
- Awareness of drone classifications and regulations.
- Understanding of the DGCA licensing process and certification.
- Exposure to real-world applications and future trends in UAVs.
- Motivation for students to pursue certifications and internships in drone technology.

Conclusion

The seminar concluded with a vote of thanks, acknowledging the contributions of **Vayuratha Pvt. Ltd.**, the coordination of **Dr. I. John Solomon** and **Dr. Gunasekeran**, and the enthusiastic participation of the students. The event proved to be a remarkable learning platform for budding engineers to understand and explore the rapidly evolving field of drone technology.

Photos





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