

## EASWARI ENGINEERING COLLEGE

An AUTONOMOUS Institution
Affiliated to ANNA UNIVERSITY

RAMAPURAM CHENNAI

### **DEPARTMENT OF**

### **MECHANICAL ENGINEERING**

### **CHEIF EDITOR:**

DR. M VETRIVEL SEZHIAN PROF & HEAD MECH

### **FACULTY:**

Dr. K.R.SURESH KUMAR ASST.PROF MECHANICAL DEPARTMENT

# NEWS

# LETTER

OCTOBÉR TO DECEMBER
2023

### STUDENT EDITORS

Balaji V 310620114314

**Siddhesh Pillai G 310620114072** 

**Sai Siddharth S 310621114106** 















### **VISION**

To be an acknowledged leader in imparting Mechanical Engineering education, research and be a recognized resource center for industry and society

### **MISSION**

- M1:To make the students understand the basic and advanced Engineering concepts in the core fields of Mechanical Engineering through Under-Graduate and Post-Graduate Courses.
- **M2**:To prepare the students and expose them to the basic and applied research, thus fostering creativity through recognized research canters.
- **M3**:To make the students undergo training in the Industries, identify the current problems and solve them with multidisciplinary and professional approach.
- **M4**:To prepare the students to integrate Engineering with business that encourages technological commercialization by inviting eminent entrepreneurs for seminars and workshops.
- **M5**:To make the students do application oriented projects which identify the current problems, solving them and thus contribute to the societal needs.
- **M6**:To inculcate the value of ethics, lifelong learning and widening the knowledge frontiers through long term interaction with other academia and industry.

### **PROGRAM OUTCOMES (PO)**

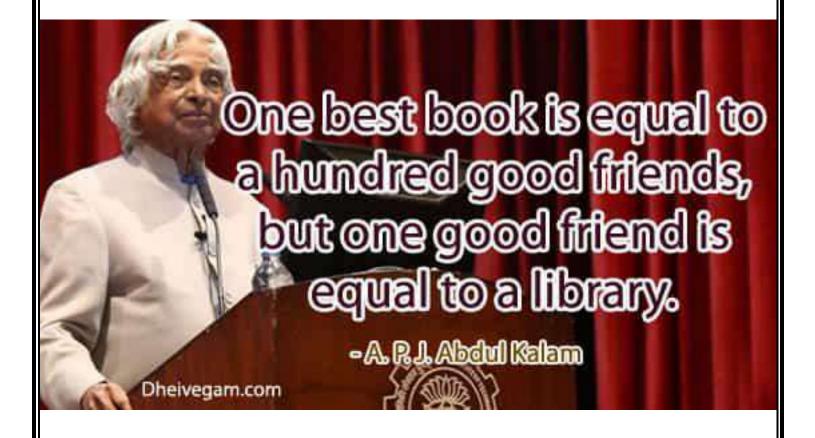
- **PO1:** Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- **PO2: Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **PO3:** 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.
- **PO4:** 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.
- **PO5: Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- **PO6:** The Engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent
- **PO7:** 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.
- **PO8:** Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- **PO9:** Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- **PO10: 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.
- **PO11: 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.
- PO12: 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

### PROGRAM EDUCATIONAL OBJECTIVES (PEO)

- **PEO1**: Our graduates will have fundamental technical knowledge and develop core competency in diversified areas of Mechanical Engineering along with Mathematics, Science and other allied engineering subjects in a view to expand the knowledge horizon and inculcate lifelong learning.
- **PEO2:** A fraction of our graduates will pursue advanced studies, research and develop products in the field of Mechanical engineering by developing partnerships with industrial and research agencies thereby serving the needs of the industry, government, society and scientific community.
- **PEO3:** Our graduates will be capable of building their own career upon a solid foundation of knowledge and with a strong sense of responsibility serve their profession and society ethically.
- **PEO4:** Our graduates will be prolific professionals with effective communication, leadership, teaming, problem solving, decision making skills by understanding contemporary issues and improve their overall personality for career development

### PROGRAM SPECIFIC OUTCOMES (PSOs)

- **PSO1**: Students will be competent in design and analysis of thermal and fluid systems.
- **PSO2**: Students will possess the skill to apply design concepts for mechanical structures and systems.
- **PSO3**: Students will be able to design and develop industrial products using modern machines in the field of manufacturing.
- **PSO4**: Students will be able to use software to solve structural, thermal, fluid and manufacturing problems.



Event No	Date	Event	Remarks		
EEC/DME/065	16/10/2023	Abroad Research internship	Light-weight structures laboratory, Institut Teknologi Bandung, Indonesia		
EEC/DME/066	28.10.2023	Brand building Event	The Ayan Matriculation and Higher secondary school, Vellathur, R.K.Pet., Tiruttani		
EEC/DME/067	30-10-2023	SAEISS Student Convention 2024 Tier-1	Event Convener: Dr. Antony Aroul Raj		
			Event Coordinator: Dr. B. Elumalai, Dr. C. Hariharan & Dr. M. Madhan		
EEC/DME/068	17-11-2023	Future of 3d printing in india	Mr.P. Kannan Senior Research Fellow National institute of Technology Tiruchirapalli		
EEC/DME/069	22.11.2023	Robotic 3d Printing for Sustainable Construction	Dr. Pradeep Kumar  Founder and CEO of Kelvin6k  Robotics and sustainable construction company.		
EEC/DME/070	24.112024 25.11.2024	Future of making things with autodesk fusion 360	Mr. Yasar Arafath Solution Engineer- Techno USAM Technology solution pvt Ltd.		

EEC/DME/071	24.112024	AQUEST-2024 – QUIZ	Convenor :	
	25.11.2024	Competition	Dr. V. Antony Aroul Raj, Professor/Mech	
			Staff coordinators : Mr. S. Thiagarajan, Asst. prof. /Mech	
			Mr. J. Paulmer Pushparaj, Asst. prof. /Mech	
EEC/DME/072	22-12-2023 & 23-12- 2023	Workshop for Autonomous Drone Development Competition	100+ Students from various parts of Southern India participated in the workshop	
EEC/DME/073	30-12-2023	SAEISS Student Convention 2024 Tier-2	100+ students from various colleges have participated in 12 technical events.	

## ABROAD RESEARCH INTERNSHIP IN LIGHT-WEIGHT STRUCTURES LABORATORY, INSTITUTE TECHNOLOGY BANDUNG, INDONESIA

**Topic** : Abroad Research internship

**Date** : 06/10/2023 to 16/10/2023

### **EVENT REPORT**

The students of Mechanical Engineering Department (ASWIN CHOCKALINGAM S, ANANDHA VASAN R, Dheeraj G, FARDEEN SYEED PEERAN A, HARISH RAJ and KRITHISHKUMAR K) along with the faculty mentor Dr. A. Praveen Kumar, Assistant Professor have undergone research internship at Light-weight structures laboratory, Institut Teknologi Bandung, Indonesia from 06/10/2023 to 16/10/2023. The visit provided a valuable opportunity to initiate the research collaboration between the Department of Mechanical Engineering, Easwari Engineering College, Chennai, India and the Faculty of Mechanical and Aerospace Engineering, Institut Teknologi Bandung, Indonesia.





BRAND BUILDING EVENT IN "THE AYAN MATRICULATION AND HIGHER SECONDARY SCHOOL, VELLATHUR, R.K.PET., TIRUTTANI"

**Event Title:** WHAT TO STUDY AFTER +2 (Brand Building Activity)

**Date:** 28.10.2023

**Time:** 10.30 am to 12:30 pm

**Venue:** The Ayan Matriculation and Higher secondary school, Vellathur, R.K.Pet.,

Tiruttani.

**Organized:** Department of Mechanical Engineering

Convenors:

Dr.M. Vetrivel Sezhian, Professor& Head, Mechanical Engineering

Dr.R.Ramadoss, Professor, Mechanical Engineering

Co-Convenors:

Mr.V.M.Jothiprakash, Assistant Professor, Mechanical Engineering

Mr.G.Chakravarthi, Assistant Professor, Mechanical Engineering

### **EVENT REPORT**

Department of Mechanical Engineering has organized a school outreach program at The Ayan Metriculation and Higher Secondary School, Vellathur, R.K. Pet, Tiruttani. Three of our Faculty members given awareness for +2 students on the topic "WHAT TO STUDY AFTER +2", which will help the students to plan their studies after +2 education. School principal appreciated the efforts taken by the Easwari Engineering College team to organize these types of events in the rural areas. Around120 students have been attended the program and get clarified their doubts about their future plans of study.





### **Program photos:**









## EASWARI ENGINEERING COLLEGE DEPARTMENT OF MECHANICAL ENGINEERING

EEC

### **EVENT REPORT**

**Event Title:** SAEISS Student Convention 2024 Tier-1

**Date**: 30-10-2023

**Time:** 02.00 p.m

**Venue:** Mechanical Engineering Block

**Event Convener:** Dr. Antony Aroul Raj

Event Coordinator: Dr. B. Elumalai, Dr. C. Hariharan & Dr. M. Madhan

No. of Participants: 180

### **POSTER/BROCHURE:**



RESOURCE PERSON: NIL

PROFILE OF THE SPEAKER: NIL

### SUMMARY OF THE EVENT:

The saeiss student convention 2024 tier-1 events were successfully conducted by the saeiss collegiate club, of Easwari Engineering college on 30-10-2023. 180+ students from the robotics and automation, automobile, and mechanical engineering departments have participated in 12 technical events.

### **Screenshots of the event:**



### **Geotagged Photos**



### **PARTICIPANT DETAILS:**

Students from the Mechanical Engineering, Automobile and Robotics & Automation of Easwari Engineering College.

**Sample CERTIFICATE: N/A** 

# EASWARI ENGINEERING COLLEGE RAMAPURAM, CHENNAI



### **FUTURE OF 3D PRINTING IN INDIA**

Organized

Ву

# CENTER FOR PRODUCT DESIGN & ADDITIVE MANUFACTURING

EASWARI ENGINEERING COLLEGE

DEPARTMENT OF MECHANICAL ENGINEERING

17<sup>TH</sup> NOVEMBER 2023

### **EVENT REPORT**

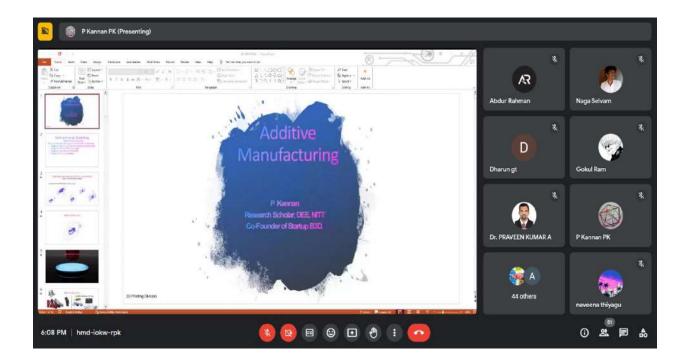
Topic	:	FUTURE OF 3D PRINTING IN INDIA
Type	:	WEBINAR
Date	:	17-11-2023
Time	:	6.00pm to 7.00pm
Venue	:	Google meet
Resource person	:	MR. P. KANNAN SENIOR RESEARCH FELLOW NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPALLI
Target Audience	:	Students and Faculty members

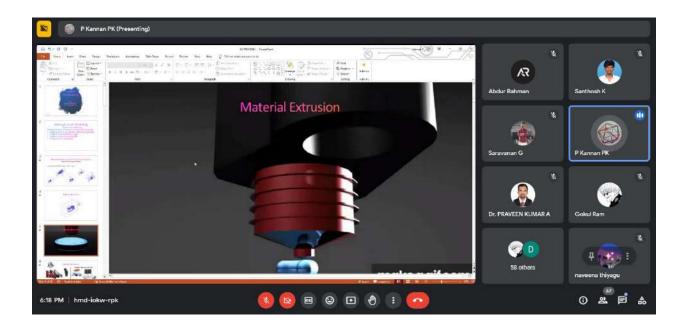
### **Report:**

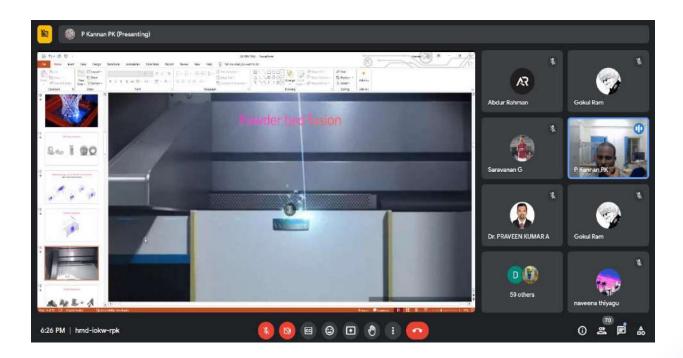
On account to known the FUTURE OF 3D PRINTING IN INDIA a webinar was conducted exclusively for the students Easwari engineering college.

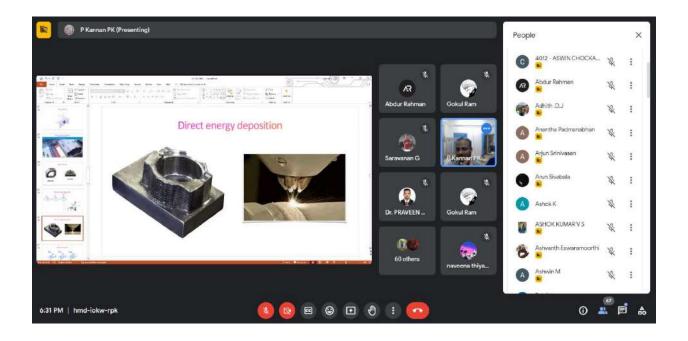
Dr. A. Praveen Kumar (Assistant professor) and Dr. K. G. Ashok (Assistant professor) organized the event. For the webinar Mr. P. Kumar, Senior Research Fellow was invited as resource Person.

Dr. A. Praveen Kumar, Assistant Professor, Mechanical department, Easwari Engineering college gave the welcome address and Chief Guest introduction.









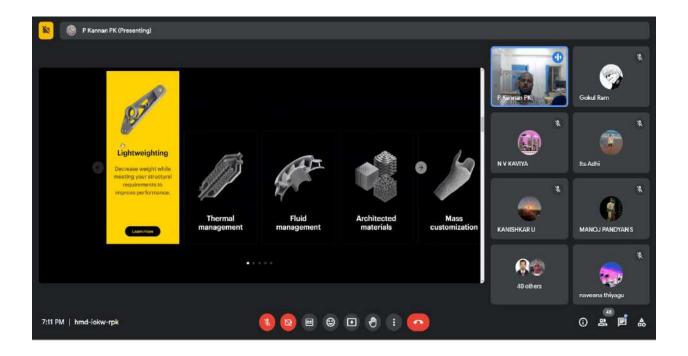
The purpose of the webinar is to learn about the fundamental techniques involved in the 3D printing and about the future scope of 3D printing.

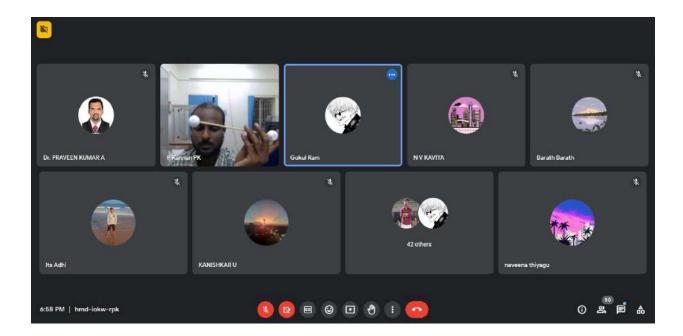
The webinar began with fundamental of 3D printing techniques. He cleared a detailed idea about what is 3D printing

Following that, techniques involved in the 3D printing was explained such as VAT, FDM, Material extrusion, etc.

Highlighting the importance of 3D printing and its future scope, the speaker explained about the softwares that were used in the designing prototypes. At the end, speaker cleared the doubts asked by the students.

And finally, Dr. A. Praveen Kumar ended the webinar by thanking the speaker for spending his time and sharing valuable information. Dr. KG Ashok gave Vote of Thanks and closed the session





(Question and answer session with students)

# EASWARI ENGINEERING COLLEGE RAMAPURAM, CHENNAI



# ROBOTIC 3D PRINTING FOR SUSTAINABLE CONSTRUCTION

Organized

Ву

# CENTER FOR PRODUCT DESIGN & ADDITIVE MANUFACTURING

**DEPARTMENT OF MECHANICAL ENGINEERING** 

EASWARI ENGINEERING COLLEGE

22<sup>nd</sup> NOVEMBER 2023

## **EVENT REPORT**

Topic	:	Robotic 3D Printing for sustainable construction
Туре	:	GUEST LECTURE
Date	:	22-11-2023
Time	:	11.30 am to 1.00 pm
Venue	:	4 <sup>th</sup> FLOOR GALLERY HALL CIVIL BLOCK
Resource person		Dr. Pradeep Kumar
		Founder and CEO of Kelvin6k
	:	Robotics and sustainable construction company.
Target Audience	:	Second year Students and Faculty members

### Report:

On account to known the construction of building using 3D printing, a Guest Lecture was conducted exclusively for the second year students of Mechanical engineering. Easwari engineering college.

Dr.A. Praveen kumar (Assistant professor) and Dr. K. G. Ashok (Assistant professor) organized the event. Dr. Pradeep Kumar ,CEO and Founder of Kelvin6k delivered the talk.

Aadhitya, 4<sup>th</sup> year student, Mechanical department, Easwari Engineering college gave the welcome address and Chief Guest introduction.

Dr. Lavanya Praba, Head of the department, Civil Engineering Department, Easwari Engineering College, welcomed the chief guest with a momento.









The purpose of the talk was that the students must learn about the future development of construction and involvement of technology in that with sustainability.

The seminar started with explanation about the problems faced during construction and alternate for the construction.

Following that, he explained about machines and technology that are being used in the construction using 3D printing.

Highlighting the importance of 3D printing and sustainable growth, he explained about the process and techniques involved in that.

And finally, Dr. M. Vetrivel Sezhian, Professor and Head of the Department, Mechanical Engineering, Easwari Engineering College, discussed the latest innovations in additive manufacturing and concluded the lecture with thanking the speaker for spending his time and sharing valuable information.





(Question and answer session with students)

# EASWARI ENGINEERING COLLEGE RAMAPURAM, CHENNAI



# FUTURE OF MAKING THINGS WITH AUTODESK FUSION 360

Organized

Ву

## CENTER FOR PRODUCT DESIGN & ADDITIVE MANUFACTURING

**DEPARTMENT OF MECHANICAL ENGINEERING** 

EASWARI ENGINEERING COLLEGE 24th AND 25th NOVEMBER 2023

## **EVENT REPORT**

Торіс	:	FUTURE OF MAKING THINGS WITH AUTODESK FUSION 360
Туре	:	WOKSHOP
Date	:	24-11-2023 and 25-11-2023
Time	:	08.30 am to 4.00 pm
Venue	:	CAD LAB, MECHANICAL BLOCK
Resource person		Mr. Yasar Arafath
		Solution Engineer- Techno
	:	USAM Technology solution pvt Ltd.
Target Audience	:	Faculty members

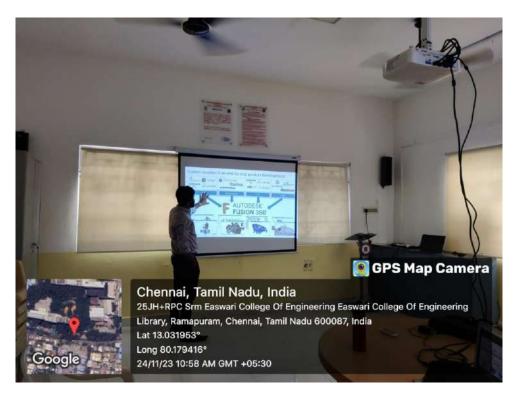
### Report:

The objective of Autodesk Fusion 360 training for faculty typically involves equipping educators with the knowledge and skills needed to effectively teach and integrate the software into their courses. Fusion 360 is a powerful computer-aided design (CAD), computer-aided engineering (CAE), and computer-aided manufacturing (CAM) tool that is widely used in engineering and design fields.

Two days workshop was conducted exclusively for the Faculty of Mechanical engineering. Easwari engineering college.

Dr.A. Praveen kumar (Assistant professor) and Dr. K. Giridharan (Assistant professor) organized the event. Mr. Yasar Arafath, Engineer, USAM Technology solution pvt Ltd. delivered the talk and handled the sessions.

Dr. M. Vetrivel Sezhian, Head of the department, Mechanical Engineering Department, Easwari Engineering College, welcomed the chief guest and gave introduction about Fusion 360.







Faculty can effectively leverage Autodesk Fusion 360 as a teaching tool, preparing students for careers in design, engineering, and manufacturing. The goal is to empower faculty with the knowledge and tools needed to deliver high-quality education that aligns with industry standards and trends.

## **List of Participants**

S.No.	NAME	QUALIFICATION	DESIGNATION
1	Dr. M. Vetrivel Sezhian	M.E., Ph.D	Professor
2	Dr. R. Ramadoss	M.E., Ph.D	Professor
3	Dr. D. Ajith	M.E., Ph.D	Associate Professor
4	Dr. K. G. Ashok	M.E., Ph.D	Assistant Professor
5	Dr. K. Giridharan	M.E., Ph.D	Assistant Professor
6	Dr. A. Praveen Kumar	M.E., Ph.D	Assistant Professor
7	Dr. M.S. Jagatheeshwaran	M.E., Ph.D	Assistant Professor
8	Ms. K. K. Nagachandrika	M.E., (Ph.D)	Assistant Professor
9	Dr. D. Sakthimurugan	M.E., (Ph.D)	Assistant Professor
10	Mr. S. Thiagarajan	M.Tech., (Ph.D)	Assistant Professor
11	Mr. R. Jeremiah	M.E., (Ph.D)	Assistant Professor
12	Mr. G. Chakravarthi	M.Tech., (Ph.D)	Assistant Professor
13	Dr. B. Elumalai	M.E., (Ph.D)	Assistant Professor
14	Mr. V. M. Jothiprakash	M.E., Ph.D	Assistant Professor
15	Dr. K. Thavasilingam	M.E., Ph.D	Assistant Professor
16	Mr. M. Raju	M.E., (Ph.D)	Assistant Professor

And finally, Dr. M. Vetrivel Sezhian, Professor and Head of the Department, Mechanical Engineering, Easwari Engineering College, discussed the latest innovations in softwares and concluded the lecture with thanking the speaker for spending his time and sharing valuable information.

## **AQUEST-2024 – QUIZ Competition**

**Topic** : "AQUEST-2024" – QUIZ Competition

**Mode** : Online

**Date** : 27.11.2023

**Time** : 7:00 pm - 7:30 pm

Convenor : Dr. V. Antony Aroul Raj, Professor/Mech

**Staff coordinators** : Mr. S. Thiagarajan, Asst. prof. /Mech

Mr. J. Paulmer Pushparaj, Asst. prof. /Mech

**Student Coordinators** : Mr. B. Krishanrajan, IV/Mech

Ms. A. Karthika, III/Civil

**Target Audience** : ISHRAE members

Participants count : 22

### **REPORT:**

The ISHRAE Student Chapter at Easwari Engineering College successfully organized the "AQUEST 2024" PRELIMS QUIZ COMPETITION for our ISHRAE student members. The event was overseen by our faculty coordinators, Dr. V. Antony Aroul Raj, Professor/Mech, Mr. S. Thiagarajan, Asst. Prof/Mech, and Mr. J. Paulmer, Pushparaj, Asst.Prof/Mech, and our dedicated student coordinators, Mr. B. Krishanrajan and Ms. A. Karthika, who were having a live meeting from 7:00 p.m. to 7:30 p.m. via Google Meet. The primary objective of this quiz competition was to assess and elevate the HVAC&R knowledge of our ISHRAE students and also to elect teams for the chapter Aquest competition. The quiz link distributed through Google Meet garnered positive feedback, with participants finding the questions valuable in augmenting their technical understanding. We appreciate the active

participation and commend the efforts of all involved. This event reflects our commitment to fostering a culture of continuous learning and technical excellence among our students.

### **EVENT POSTER:**





### **EVENT PICTURES:**

### Winners:

Name	Department	Year	Section	Membership Id
Vignesh S	Mechanical	4	С	S00105415
Anandharama Krishnan P	Mechanical	4	A	S00107269
Sriram R	Mechanical	4	С	S00105186
Ramssaran K	Mechanical	3	С	S00114843

### **EASWARI ENGINEERING COLLEGE**

(Autonomous)

## Department of Mechanical Engineering Event Report

### **Workshop for Autonomous Drone Development Competition 2024**

The Workshop for Autonomous Drone Development Competition 2024 was successfully conducted by the SAEISS Collegiate Club, of Easwari Engineering College in association with SAINDIA Southern section, on 22-12-2023 & 23-12-2023. 100+ Students from various parts of Southern India participated in the workshop, successfully assembled and tested autonomous drones.





**SAEISS Student Convention 2024 Tier-1** 

### EASWARI ENGINEERING COLLEGE

(Autonomous)

# Department of Mechanical Engineering Event Report

### **SAEISS Student Convention 2024 Tier-2**

The SAEISS Student Convention 2024 Tier-2 events were successfully conducted by the SAEISS Collegiate Club, of Easwari Engineering College on 30-12-2023. 100+ students from various colleges have participated in 12 technical events.



### EASWARI ENGINEERING COLLEGE

(Autonomous)

## Department of Mechanical Engineering Event Report

Department of Mechanical Engineering, Easwari Engineering College organized a Student Outreach Program for the students of St.Johns Matric. Higher Secondary School, Alwarthirungar, Chennai on 09<sup>th</sup> January 2024, between 02.00 pm and 03.00pm.

Dr. S.Prasanna Raj yadav Asso. Prof. / Mech., Dr.C.Joel, Asst. Professor/Mech. Our speakers discussed various possibilities and opportunities for students of 11th & 12th standard in Higher Studies and also about their Responsibilities towards our Nation.

The students actively participated in the event and highly interacted with the Resource Persons.

#### **Convener:**

Dr. M. Vetrivel Sezhian, Professor & Head/Mech.

### Co Convener:

Dr. S.Prasanna Raj yadav Asso. Prof. / Mech., Dr.C.Joel, Asst. Professor/Mech.





### EASWARI ENGINEERING COLLEGE

(Autonomous)

### **Department of Mechanical Engineering**

### **Event Report**

Department of Mechanical Engineering, Easwari Engineering College organized a Student Outreach Program for the students of Kaligi Ranganathan Montfort Matric. Higher Secondary School, Perambur, Chennai on 05<sup>th</sup> February 2024, between 02.00 pm and 04.30pm.

Dr. M.Nareshbabu, Asso. Prof. / Mech., Dr.K.Thavasilingam, Asst. Professor/Mech. Our speakers discussed various possibilities and opportunities for students of 11th & 12th standard in Higher Studies and also about their Responsibilities towards our Nation.

The students actively participated in the event and highly interacted with the Resource Persons.

#### **Convener:**

Dr. M. Vetrivel Sezhian, Professor & Head/Mech.

### Co Convener:

Dr. M.Nareshbabu, Asso. Prof. / Mech., Dr.K.Thavasilingam, Asst. Professor/Mech.









