



## Innovation in Teaching Learning Process

### Exhibitions by the students

Name of the Innovation	: Exhibitions by the students
Course Code and Name	: 1AEES204 - Applied Thermodynamics
Class and Semester	: SY and Odd
Academic Year and Term	: 2022-2023
Faculty Name and Designation	: Dr.Yuvaraj.S

#### Introduction:

Applied Thermodynamics (1AEES204) is a core subject for second-year engineering students, laying the foundation for understanding energy conversion and its applications. To enhance the learning experience and foster deeper comprehension, an innovative "Thermodynamics Exhibition" was organized as part of the In-Semester Examination (ISE 1). This report outlines the motivation, procedure, outcomes, and references related to this initiative.

#### Motivation/Purpose of Innovative Technique:

The primary motivation behind the Thermodynamics Exhibition was to move beyond traditional theoretical learning and provide students with a hands-on, interactive experience. The specific purposes of this approach were to:

- **Promote Active Learning:** Encourage students to actively engage with thermodynamics concepts through the development of real-time working models.
- **Enhance Conceptual Understanding:** Facilitate a deeper understanding of theoretical concepts by demonstrating their practical applications.
- **Develop Communication Skills:** Provide a platform for students to explain and present their models, thereby improving their communication and presentation skills.
- **Foster Collaborative Learning:** Encourage knowledge sharing and peer-to-peer learning through inter-batch interactions and discussions.
- **Boost Confidence:** Build students' confidence by showcasing their understanding and abilities to a wider audience, including school students.

#### Procedure Followed:

**Exhibition Announcement:** Students and faculty members were notified about the Thermodynamics Exhibition as part of the ISE 1 for the Applied Thermodynamics course.

**Laboratory Session Rescheduling:** Laboratory sessions were suspended on December 2, 2022, and rescheduled to accommodate the exhibition.

**Model Development:** Students were tasked with developing innovative, real-time working models for each concept in the syllabus.

**Internal Demonstrations:** Students demonstrated their models and explained the underlying concepts to



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their classmates and faculty members.

**School Student Visit:** The exhibition was opened to school students, providing an opportunity for the engineering students to showcase their work and explain thermodynamic principles to a younger audience.

**Feedback and Appreciation:** Appreciation letters were received from the visiting schools, acknowledging the students' efforts and the exhibition's quality.

### Outcome:

The Thermodynamics Exhibition yielded several positive outcomes:

- **Improved Conceptual Clarity:** Students demonstrated a clearer understanding of thermodynamics concepts through their model demonstrations.
- **Enhanced Communication Skills:** Students gained confidence in explaining complex concepts to diverse audiences.
- **Collaborative Knowledge Building:** The exhibition fostered a collaborative learning environment where students learned from each other.
- **Increased Engagement and Effort:** The activity-based format of the exhibition led to increased student engagement and effort.
- **Positive Recognition:** The appreciation letters from visiting schools highlighted the exhibition's success and the students' achievements.

### References:

Appreciation letters from visiting schools.

Personal observation and student feedback collected by Dr. Yuvaraj S.

Educational Technology in Engineering Education.

Active Learning Strategies in STEM.

Application of 3D Printing in Educational Settings.