INDIAN ASSOCIATION OF PHYSICS TEACHERS

IAPT RC-7

Competition for Physics Experiments (CPEx) – 2025

Report on Cluster level competition for Cluster-02 (Surat, Navsari, Valsad, Dang, Daman, Tapi)

The **Conceptual Physics Experiment (CPEx) Competition**, organized under the banner of the Indian Association of Physics Teachers (IAPT), was successfully held at Navyug Science College on **21st January, 2025**, from **2:00 PM onwards**. The event showcased the innovative spirit and technical expertise of undergraduate students, who presented projects across two categories: **Working Model** and **Software Based**.

Event Highlights

1. **Objective:** The primary aim of the CPEx competition was to foster innovation and practical understanding of physics among students. Participants were encouraged to design and present experiments or models demonstrating physics concepts in a creative and effective manner.
2. **Participation:** The event saw **15 entries** in total:
    - **7 Software-Based Projects**
    - **8 Working Models**
3. **Evaluation Panel:** The projects were judged by an esteemed panel of experts, including:
    - **Dr. Niket Shastri**, Department of Physics, Sarvajanik College of Engineering and Technology, Sarvajanik University, Surat
    - **Prof. Anil Bhatt**, Former Head, Department of Physics, Navyug Science College
4. **Judging Criteria:**
    - **Aim and Concept of the Experiment**
    - **Relevance of the Experiment to the Concept, Innovation**
    - **Understanding, Approach, and Data Recording**
    - **Calculations, Graph, Result, Analysis, and Uncertainty Estimates**
    - **Viva Performance**
5. **Winners:**
    - **Category: Working Model**
        - **1st Rank:** Suryaprakash S. Chaturvedi and Shreya Ramani
            - **Project Title:** Lung Health Tracker
        - **2nd Rank:** Rohinikumari C. Chaudhari and Shreyakumari D. Chaudhari
            - **Project Title:** 4 To 1 Multiplexer
    - **Category: Software Based**
        - **1st Rank:** Devansh D. Bhutwala
            - **Project Title:** To Study the Chaotic Configuration of the Moons of Jupiter
        - **2nd Rank:** Pradhyuman P. Patel and Parth L. Solanki
            - **Project Title:** Rutherford Alpha Scattering Simulation

Impact

The event provided a platform for students to explore and showcase their creativity while gaining valuable feedback from experts. It also helped bridge the gap between theoretical knowledge and practical application, enhancing participants' understanding of physics.

Acknowledgments

We extend our heartfelt gratitude to **Dr. Niket Shastri** and **Prof. Anil Bhatt** for their valuable contributions as judges and for inspiring the participants with their expertise. A special acknowledgment goes to the **Indian Association of Physics Teachers (IAPT)** for selecting **Navyug Science College** as the host for this prestigious event. We also thank the organizing committee, faculty members, and all participants for their efforts in making this event a grand success.

Conclusion

The CPEx competition was a significant step toward encouraging innovative and practical learning in physics. It not only celebrated the creativity of students but also emphasized the importance of experimental and computational approaches in understanding physics. The success of this event sets a promising precedent for similar initiatives in the future.