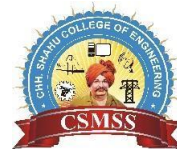




CSMSS

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Department of Electronics and Computer Engineering

REPORT OF

“One Week Hands-on Workshop on Internet of Things using Arduino through Tinkercad

Event Date: 13-17, May 2025

Time: 02:00 PM to 5.00 PM

Venue: B516, Smart Class Room, Department of Electronics and Computer Engineering, CSMSS, Chh. Shahu College of Engineering, Chhatrapati Sambhajnagar.

Goal: To equip participants with foundational knowledge and practical skills in developing Internet of Things (IoT) applications using Arduino and Tinkercad, enabling them to design, simulate, and implement basic IoT projects.

Objectives:

- 1. Understand the Basics of IoT:**
 - a. Introduce the core concepts, architecture, and real-world applications of IoT.
 - b. Discuss the role of Arduino in IoT ecosystems.
- 2. Learn Arduino Programming Fundamentals:**
 - a. Provide an overview of Arduino hardware and its programming environment.
 - b. Guide students through writing and uploading basic Arduino sketches.
- 3. Hands-on Simulation with Tinkercad:**
 - a. Train participants on using Tinkercad for circuit design and simulation.
 - b. Practice building and simulating IoT circuits in a virtual environment.
- 4. Develop Real-Time IoT Projects:**
 - a. Implement simple IoT projects such as temperature monitoring, light control and send information to Thingspeak Cloud.
 - b. Develop Android app to monitor real time data.
- 5. Encourage Teamwork, Problem-Solving and analytical thinking**

Benefits:

- 1. No Hardware Required:** Tinkercad allows full circuit simulation, reducing the need for physical components.
- 2. Project-Based Understanding:** Participants gain hands-on experience with practical applications.
- 3. Career Skills:** Enhances skills relevant for careers in electronics, embedded systems, and IoT development.
- 4. Foundation for Advanced Learning:** Prepares learners for more complex IoT systems and real-world prototyping.

About Event:

- Department of Electronics and Computer Engineering has organized One Week Workshop on “IoT using Arduino through TinkerCad” in association with IEEE Students Branch and IETE Institutional Students Forum during 13-17 May 2025 at B516, Smart Class Room.
- During these five days, total 35 students registered and 20 students successfully completed the course. The participants are able to now make their own Arduino based circuits using Tinkercad and Use Thingspeak Cloud to monitor data. They also able to make their own simple android apps using MIT app inventor web app.



Participants during hands-on session at B516, Smart Class Room



Participants from SY ECE class with resource person Dr. P. R. Wankhede at end of the course

Dr. P. R. Wankhede
Coordinator

Dr. D. L. Bhuyar
Vice Principal & HoD , ECE

Dr. G. B. Dongre
Principal