

Activity: "Innovative Teaching Learning Pedagogy"

Date & Day: Wednesday to Friday, 26/03/2025 to 4/4/2025

Activity No 04

Type of Activity : Simulation-Based Learning - Microcontroller-Based Signal Generation and Analysis

Subject : FMA

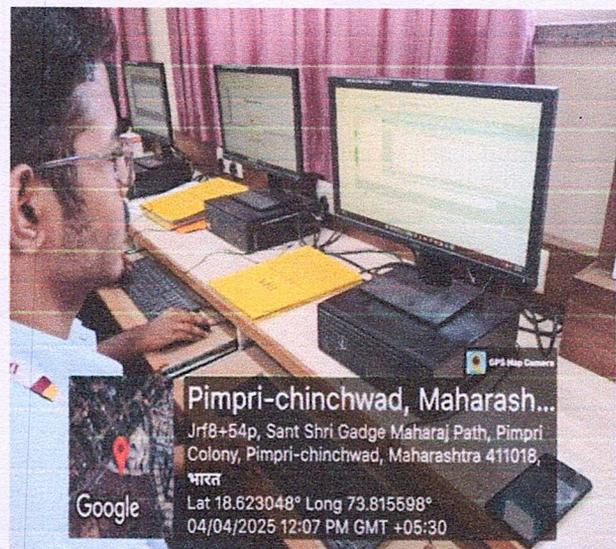
Venue: Class Room no.B201

Activity conducted by
- Ms. Rajashree Bhokare

Objectives:

1. To simulate square wave generation using Timer0 in C code.
2. To provide a safe, controlled environment for students to experiment with microcontroller programming.
3. To visualize timer, port, and interrupt behavior using built-in simulation tools.
4. To reinforce theoretical concepts through virtual practical implementation.

Photographs:



Outcome:

1. Students successfully observed virtual waveform output and debugged logic without hardware.

Ms. Rajashree Bhokare
SE Subject Teacher

Dr. Manasi P. Deore
DAC



Dr. S. D. Chavan
H.O.D

Department of Electrical Engineering

Activity: "Innovative Teaching Learning Pedagogy"

Mapping of Pedagogy with POs and PSOs :

| PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | Po11 | PO12 | PSO1 | PSO2 | PSO3 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| 1 | 1 | 1 | | 1 | | | | | | | 1 | 1 | 1 | |

Mapping of POs and PSOs with Justification:

| POs and PSOs Mapped | Justification |
|---------------------|--|
| PO1 | Students apply microcontroller programming and timer logic to simulate waveform generation. |
| PO2 | Learners analyze parameters such as frequency, duty cycle, and timer configuration while simulating the waveform. |
| PO3 | Simulation activity allows designing code to generate desired square wave using CCP or timer logic. |
| PO5 | Students use simulation tools like Keil, Proteus, or similar platforms to test waveform logic without physical hardware. |
| PO12 | Encourages hands-on exploration and curiosity-driven learning through practical simulations. |
| PSO1 | Students simulate real-world embedded system functions like waveform generation. |
| PSO2 | Demonstrates how waveform generation can be achieved and analyzed using virtual simulation tools. |



Rajashree Bhokare
Course Coordinator



Dr. Manasi P. Deore
DAC



Dr. S.D. Chavan
HOD

