INNOVATIONS IN TEACHING AND LEARNING

Subject: Microcontroller   **Class: S.Y. BTech E&TC**

Topic: MCQ Based on 6 units

NAME OF THE ACTIVITY: Quiz on Microcontrollers using Mentimeter

I.   **Concept:** Mentimeter is an interactive digital platform that allows real-time quizzes, polls, and surveys, enabling students to participate actively using their mobile devices. The quiz-based learning method transforms traditional assessment into an engaging, technology-driven experience. It enhances students' focus, participation, and understanding through immediate feedback and competitive enthusiasm.

II. Objective(Goal):

- To make learning of Microcontroller concepts more interactive and enjoyable.
- To assess students' conceptual understanding through live quizzes.
- To promote active participation and healthy competition among students.
- To integrate technology into classroom teaching for improved engagement.

III.Appropriateness (Relevance of Selected Method):

Conducting a quiz via Mentimeter is an effective and modern teaching strategy. It provides an instant assessment of students' knowledge and helps identify weak areas. This method encourages active learning, immediate feedback, and boosts motivation among students to learn and perform better.

IV.Effective Presentation (Implementation Details):

1. A. Preparation:

A quiz covering important concepts from the Microcontrollers syllabus was prepared on the Mentimeter platform. The questions included multiple-choice and conceptual questions related to microcontroller architecture, instruction sets, interfacing, and applications. The Mentimeter quiz link and participation instructions were shared with all Second Year Electronics students before the session.

2. B. Implementation Process:

- The quiz was conducted live during class using the Mentimeter interactive platform.
- Students joined the session using a code 75190652 displayed on the screen via their smartphones.
- Each question appeared on the projector, and students answered in real time within a limited time frame.

- After each question, live results and correct answers were displayed, allowing immediate discussion of key concepts.
- At the end of the quiz, a leaderboard was shown to recognize top performers.
- A brief conceptual discussion followed to clarify any misconceptions observed during the quiz.
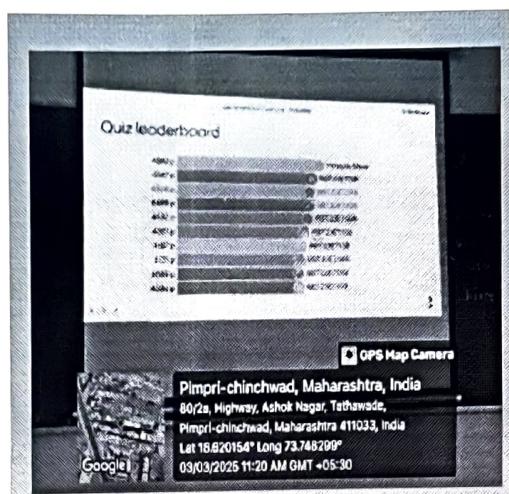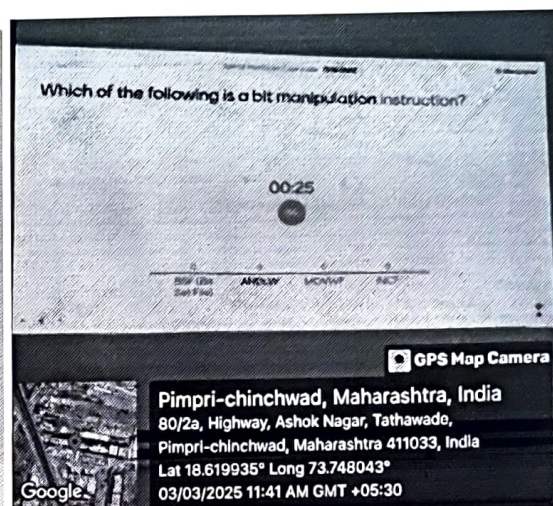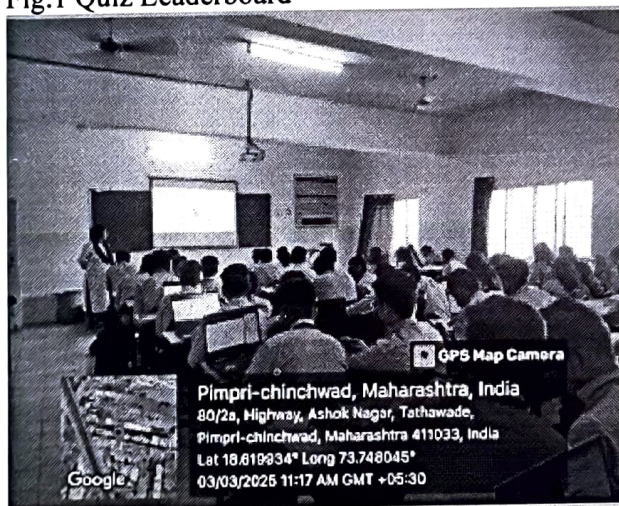

Fig.1 Quiz Leaderboard

Fig.2 MCQ Question

Fig.3   Students Giving Exam

V.Results (Impact):

- Enhanced student engagement and enthusiasm for learning microcontrollers.
- Improved concept retention through real-time feedback and discussion.
- Fostered interactive and competitive learning environment.
- Enabled instant evaluation of student understanding for the instructor.
- Encouraged students to revise and strengthen their grasp on microcontroller fundamentals.

II. Reproducibility and Reusability by Other Scholars for Further Development

Sr.No	Innovation Used by	Details of User	Purpose of Reproducibility and Reusability
1	Dr. P M Ghate	SYBtech EnTC RSCoE	To make learning interactive and promote healthy competition.

III. PEER REVIEW AND CRITIQUE

Category: Internal/External/Interdepartmental
Score: (1:Least   2: Moderate   3:Highly)

Question 1. Is this Innovative Teaching and Learning Methodology useful during content delivery?

Question 2. Did this innovation increase student motivation or participation?

Question 3. Will it show improvement in student learning?

Question 4. Suggestions for improvement in future iterations.

Category	Name of Peer	Organization	Q.1	Q.2	Q.3	Q. 4 Suggestion/Critique
Intanal	Dr. PM. Grhate	RSCoE	3	3	2	After quiz discuss commonly missed Questions to clarify doubts.
External	Dr. Chaya Jadhav	DYP Pimpri	3	3	2	Provide short explanation after each question to enhace learning
Inter-DEPT	Ms. Shweta R. Desai	RSCOE	3	3	2	Add a few Easy, moderate + challenging questions to suit all learner.

Course Co-ordinator

Module Co-ordinator
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