JSPM's

Rajarshi Shahu College of Engineering, Pune

Department of Electronics & Telecommunication Engineering

INNOVATIONS IN TEACHING AND LEARNING

Subject: Analog Circuits, Electronic Devices and Circuits (EDC)

Class: S.Y. BTech E&TC Div A **Topic:** Diodes, Transistors, FET

NAME OF THE ACTIVITY: Online Quiz using Kahoot Platform

I. **Concept:**

To assess and refresh the prerequisite knowledge of second-year students in the subject of Electronic Devices and Circuits (EDC), a quiz activity was conducted using the Kahoot platform. The quiz focused on fundamental topics such as diodes and transistors, which students had previously studied in their first-year course on Basic Electronics Engineering. The concept behind this activity was to engage students in an interactive learning environment that simultaneously reinforced conceptual clarity and encouraged active participation.

II. **Objective(Goal):**

- To evaluate the prerequisite understanding of basic electronic components such as diodes and transistors.
- To identify students' conceptual strengths and gaps before beginning advanced topics in the EDC course.
- To enhance student engagement through the use of interactive and gamified digital tools.
- To promote peer learning and participation in a collaborative and enjoyable setting.

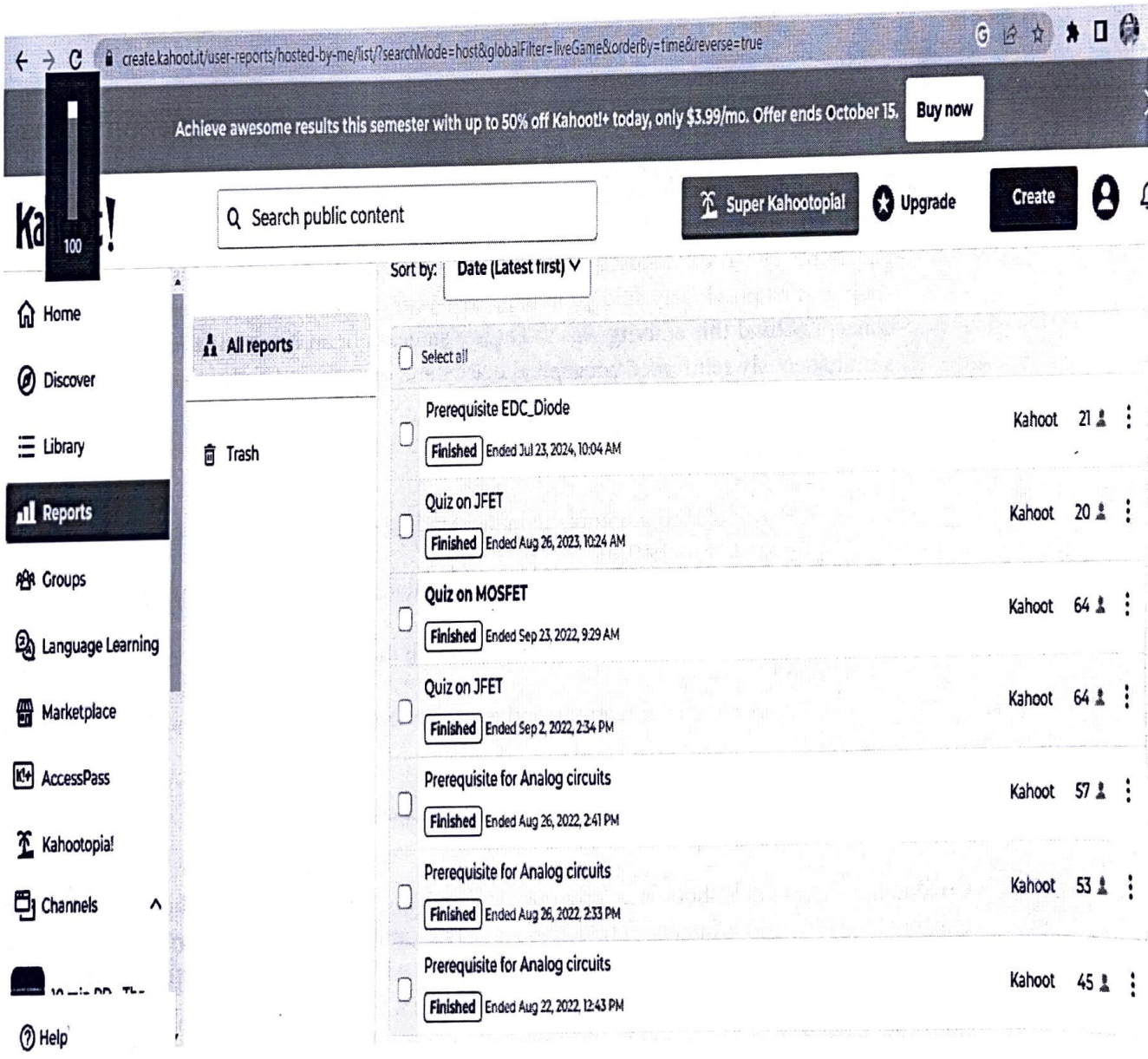
III. **Appropriateness (Relevance of Selected Method):**

Conducting a quiz via Kahoot is an appropriate and modern pedagogical method for gauging students' existing knowledge in a fun and interactive way. The game-based quiz platform promotes healthy competition, immediate feedback, and active learning, which are highly effective for reinforcing fundamental concepts. The topics diodes and transistors, form the foundation of the EDC course, and revisiting them ensures a smoother transition into more complex circuit analysis and device applications.

IV. Effective Presentation (Implementation Details):

The quiz was conducted using the Kahoot platform, accessible via smartphones, tablets, or laptops. Multiple choice questions were included, covering diode characteristics, rectifiers, BJT configurations, and transistor operation. Students joined the live session through a game PIN, displayed on the classroom smartboard.

Each question was time-bound to ensure attentiveness and quick thinking. The real-time leaderboard displayed scores after each question, fostering engagement and excitement. Immediate feedback was provided, enabling students to learn the correct answers instantly. The session concluded with a discussion of key questions to clarify misconceptions.



V. Results (Impact):

- Students actively participated in the quiz, showing enthusiasm for the gamified format.
- The activity successfully identified areas where students needed conceptual reinforcement, especially in biasing and characteristics of BJTs.

- The interactive approach improved attention and retention of basic device concepts.
- Students reported increased motivation and confidence to study the upcoming topics in the EDC course.
- Faculty gained insights into students' learning levels, which guided adjustments in teaching pace and focus.

VI. Reproducibility and Reusability by Other Scholars for Further Development

Sr.No	Innovation Used by	Details of User	Purpose of Reproducibility and Reusability
1	Asmita Shirke	Instructor	The approach can be extended to other core-electronics subject

VII. 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 shows 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
Internal	S.S.Chaudhari	JSPM's RSCOE ENTC	3	2	2	The quiz effectively bridged FY concepts with the current EDC syllabus
External	Mrs. Sonal Ahirrao	PCCOE	2	2	2	kahoot quiz format is encouraging participation & real time feedback.
Inter-departmental	Mrs. R. R. Itkarkar	AISSMS.	3	2	2	Suggest using Quiz analytics to track individual progress over time and improve personalized learning strategies

Course Co-ordinator
Dr.Rane Charushila Vijay

Module Co-ordinator

HOD E&TC
Dr.S.C.Wagaj