

QUIZ PLATFORM METHODOLOGY

1. Purpose

Quizzes serve as a continuous assessment tool to evaluate a student's grasp of complex petrochemical concepts, such as hydrocarbon chains and refinery processes. This supports Outcome Based Education (OBE) by tracking the attainment of Course Outcomes (COs) through interactive and gamified evaluation.



2. Scope

This procedure applies to all undergraduate Petrochemical Technology programs, covering both theoretical subjects like "Mass Transfer" and laboratory courses like "Crude Oil Testing".

3. Procedural Steps (Petrochemical Adaptation)

Step 1: Planning of Quizzes

- Identify syllabus topics suitable for quick assessment, such as **Refining Process flowsheets** or **Polymerization techniques**.
- Map these topics to specific Course Outcomes, such as the ability to "Analyze the properties of petroleum products".
- Choose the mode, utilizing **Quizizz** for live, gamified classroom sessions or as homework assignments with set deadlines.

Step 2: Design of Quiz Questions

- Prepare questions across three difficulty levels: **Easy** (basic chemical formulas), **Moderate** (calculating API gravity), and **Difficult** (predicting reactor yields).
- Include various formats such as MCQs for rapid recall and numerical/application-based questions for heat balance calculations.
- Ensure every question is mapped to a CO to track technical competency.

Step 3: Approval and Scheduling

- Obtain approval for the quiz content from the Course Coordinator or HoD.
- Inform students of the date and the specific Quizizz join code in advance.

Step 4: Conduct of Quiz

- Use the **Quizizz** platform to host the session, incorporating gamified elements like music and live scoreboards to increase engagement.
- Clearly explain the time limits for complex petrochemical calculations and ensure academic integrity during the live session.

Step 5: Student Participation

- Students join via smartphone or computer to attempt the quiz individually.
- Participation and completion rates (e.g., 85% completion) are automatically recorded by the platform.

Step 6: Evaluation and Feedback

- Utilize **Automated Grading** provided by Quizizz to give students immediate performance results.
- Teachers use data reports to identify if specific topics, like "Catalytic Reforming," had low accuracy (e.g., 38%) and require re-teaching.
- Provide feedback to help students understand their rankings and areas for improvement.

Step 7: CO Attainment Analysis

- Analyze the quiz data to see how it contributes to the overall mastery of Petrochemical Technology.
- Map the final results to CO attainment levels to verify if the students have successfully learned to apply engineering principles to refinery challenges.