
Shri Sant Gajanan Maharaj College of Engineering, Shegaon
Computer Science & Engineering Department

Course Title & Course Code: Operating System – 5KS03

Class: Second Year CSE

Semester: IV

Name of the Course Teacher: Dr. Pankaj K. Bharne

Title of the Innovative Practice: Content-Based Question Making

Objectives / Goals of the Practice

- To encourage **critical thinking** by involving students in the creation of subject-related questions.
 - To promote **deep understanding** of Operating System concepts through question formulation.
 - To improve **exam preparedness** by exposing students to different types of questions (short/long, problem-based, conceptual).
 - To enhance **creativity and participation** in the learning process.
 - To develop **peer-learning culture** by discussing student-generated questions in class.
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Use of Appropriate Methods

To achieve the stated goals, the following methods were implemented:

- Students were asked to **read specific topics** (e.g., Process Scheduling, Deadlocks, File Management).
 - Each student prepared **2–3 questions** (objective, descriptive, or problem-solving) from the content.
 - Selected questions were discussed in class, and peers attempted answers.
 - Faculty guided students to **refine poorly framed questions** into exam-oriented ones.
 - A **question bank** was gradually developed by compiling student-generated questions.
 - Periodic **mini-quizzes** were conducted using these student-created questions.
 - Online platforms (Google Forms/Google Classroom) were used for submission and evaluation.
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Significance of Results

- Students gained **better conceptual clarity** in OS topics such as Process Synchronization, Paging, and Deadlock Handling.

- Student participation and engagement increased, as they were directly involved in the teaching-learning process.
 - Improved performance in **internal assessments and university examinations** due to exposure to diverse question types.
 - The practice strengthened **analytical and higher-order thinking skills**.
 - Created a **student-owned repository of questions** useful for revision and future batches.
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Effective Implementation

- Practice was scheduled after completion of **each unit** of OS.
 - Faculty monitored the **quality of student-prepared questions** and ensured coverage of Bloom's Taxonomy levels (Remember, Understand, Apply, Analyze, Evaluate, Create).
 - Questions were categorized into **MCQs, short answer, and long answer**.
 - Group discussions ensured collaborative refinement of questions.
 - Top-quality student questions were included in **mock tests and assignments**.
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POs Mapped: PO1, PO2, PO3, PO4, PO9, PO10

Reflective Critique

- Students actively participated in **framing and answering questions**.
 - Faculty observed a shift from rote memorization to **conceptual and application-based learning**.
 - Some students initially struggled with framing analytical questions, but improved with practice and guidance.
 - Students appreciated the activity as it boosted **confidence for exams and interviews**.
 - Link : https://docs.google.com/forms/d/14T5-pclxINWEJcShE6nZq7wmGHXF9Qb0ZdJ6Cj_uIdI/edit?pli=1
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Evidences of Success

- Higher attendance and classroom participation during OS lectures.
 - Positive student feedback – they found the activity **engaging and exam-focused**.
 - Average internal marks showed an **upward trend**.
 - The compiled **student-generated question bank** was used as a reference for revision.
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Challenges Faced During Implementation

- Some students initially lacked confidence in creating high-quality questions.

- Limited class time made it difficult to discuss all student-prepared questions.
 - Ensuring originality – few students tended to copy standard textbook questions.
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✧ **Link to Collected Student Questions / Google Form Repository:**

<https://docs.google.com/document/d/1hdiGDE3firKOLdkixNL9SdCvySpBD5k3/edit?usp=sharing&oid=113649557007870009235&rtpof=true&sd=true>