**1. How Online Quiz is Created**

The quiz is created using Python in Google Colab.

* The teacher or admin enters questions, options, and correct answers into a Python dictionary or CSV file.
* Google Colab provides a form-like interface using input() or interactive widgets.
* The questions can be of multiple types:
  + Multiple Choice Questions (MCQs)
  + True/False
  + Short Answers

**Example Code:**

quiz = {

"What is AI?": ["Artificial Intelligence", "Automatic Input", "Applied Innovation", "None", "A"],

"2 + 2 = ?": ["3", "4", "5", "6", "B"]

}

**2. How Evaluation is Done**

* After the student submits answers, the system compares responses with the correct answers stored in the dictionary.
* For short or descriptive answers, evaluation is done using **NLP similarity**.
  + Pre-trained models like **BERT** or **GPT** can check how semantically similar the student’s answer is to the model answer.
  + Example: Using cosine similarity between embeddings.
* Each question is given a score, and total marks are calculated automatically.

**Example Code:**

from sentence\_transformers import SentenceTransformer, util

model = SentenceTransformer('paraphrase-MiniLM-L6-v2')

ans1 = "AI is intelligence demonstrated by machines."

ans2 = "Artificial Intelligence means machines showing intelligence."

score = util.cos\_sim(model.encode(ans1), model.encode(ans2))

print(f"Similarity Score: {score.item():.2f}")

**3. Feedback**

* After evaluation, the system generates feedback for each question and overall performance.
* The feedback includes:
  + Correct answers for each question
  + Personalized comments (e.g., *“Good understanding!”*, *“Try to improve definitions.”*)
  + A total score and performance level (e.g., Excellent, Average, Needs Improvement)

**Example Feedback Output:**

Your Score: 8/10

Feedback:

Q1: Correct! Good understanding.

Q2: Incorrect. Review basic addition.

Overall: Excellent performance!