

Functional & Performance Testing Template

Model Performance Test

Date	18 February 2026
Team ID	LTVIP2026TMIDS66060
Project Name	IntelliSQL: Intelligent SQL Querying with LLMs Using Gemini Pro
Maximum Marks	

Test Scenarios & Results

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass/Fail
FT-01	Text Input Validation (Query Phrasing)	Enter valid English queries (e.g., "Show marks") and invalid gibberish.	Valid queries generate SQL; invalid inputs are handled without crashes.	Successfully filtered valid/invalid text.	Pass
FT-02	Schema Parameter Validation (Specific Columns)	Query specific student names or marks within and outside database ranges.	Accepts valid column targets (NAME, MARKS); ignores non-existent table	Correctly mapped query to table schema.	Pass
FT-03	SQL Content Generation (LLM Logic)	Provide complete English prompts and click " Get Answer ".	Correct SQL is generated and cleaned by the Regex layer.	Generated clean SELECT statements.	Pass
FT-04	API Connection Check (Gemini Authentication)	Verify if the GOOGLE_API_KEY is loaded and the model responds.	API responds successfully and initializes the session.	200 OK / Successful handshake.	Pass
PT-01	Response Time Test (Latency)	Use a timer to check the time from clicking "Get Answer" to result display.	Content generation and DB fetch should be under 3 seconds.	Avg: 1.8 seconds (using Gemini Flash).	Pass

PT-02	API Speed Test (Concurrency)	Simulate multiple rapid-fire query calls to the Gemini model.	The API should process requests without significant slowdown or throttling.	Stable throughput with no degradation.	Pass
PT-03	Database Load Test (SQLite Handling)	Run queries that require scanning all rows in the STUDENTS table.	Results should render smoothly without freezing the Streamlit UI.	Rapid rendering of table dataframes.	Pass