

## Functional & Performance Testing Template

### Model Performance Test

Date	18 February 2026
Team ID	LTVIP2026TMIDS65978
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	<b>Text Input Validation</b> (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	<b>Schema Parameter Validation</b> (Specific Columns)	Query specific student names or marks within and outside database ranges.	Accepts valid column targets (NAME, MARKS); ignores non-existent table requests.	Correctly mapped query to table schema.	Pass
FT-03	<b>SQL Content Generation</b> (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	<b>API Connection Check</b> (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	<b>Response Time Test</b> (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	<b>API Speed Test</b>	Simulate multiple	The API should	Stable throughput	Pass

	(Concurrency)	rapid-fire query calls to the Gemini model.	process requests without significant slowdown or throttling.	with no degradation.	
<b>PT-03</b>	<b>Database Load Test</b> (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