# **Functional & Performance Testing**

**Model Performance Test**

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| Date | 25 June 2025 |
| Team ID | LTVIP2025TMID31802 |
| Project Name | Citizen AI |
| Maximum Marks |  |

**Test Scenarios & Results**

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| **Test Case ID** | **Scenario (What to test)** | **Test Steps (How to test)** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| FT-01 | Text Input Validation (e.g., citizen query) | Enter valid and invalid text in the chat interface. | Valid inputs are accepted; errors or neutral handling for invalid inputs. | Valid inputs received accurate AI replies. Invalid/empty inputs returned default fallback responses. | Pass |
| FT-02 | Sentiment Feedback Input Validation | Submit valid and malformed feedback texts in the sentiment analysis box. | Valid text is analyzed correctly; nonsensical or empty text is ignored or rejected. | Analysis succeeded for structured feedback; nonsensical entries returned 'Neutral'. | Pass |
| FT-03 | Chatbot Response Accuracy | Ask domain-relevant queries and observe model output using IBM Granite. | Context-aware, accurate, human-like responses. | Granite model responded well with nuanced, contextual replies on governance-related topics. | Pass |
| FT-04 | API Key Connection and Model Access | Verify IBM and Hugging Face API key connectivity and response. | Stable API responses after key validation. | All APIs responded within expected parameters when tokens were valid. | Pass |
| PT-01 | Chatbot Response Time | Use a stopwatch to measure time from input to response. | Should be under 3 seconds for most responses. | Average response time: 1.8 seconds for chatbot. | Pass |
| PT-02 | Concurrent API Call Speed | Simultaneously trigger sentiment analysis and chat requests. | No degradation in speed or timeouts. | Smooth concurrent processing; no performance drop noted. | Pass |
| PT-03 | Dashboard Load Rendering | Upload/submit multiple sentiment entries; view dynamic plots. | Charts render without lag or error. | Dashboard updated correctly with accurate sentiment plots. | Pass |