

## Functional & Performance Testing

### Model Performance Test

|               |   |
|---------------|---|
| Date          | 27 June 2025  |
| Team ID       | LTVIP2025TMID59371  |
| Project Name  | HealthAI-Intelligent-Healthcare-Assistant-Using-IBM-Granite |
| Maximum Marks |   |

### Functional & Performance Testing Report – HealthAI

| 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., symptoms, condition input, queries) | Enter valid and invalid health-related text in input fields (e.g., “fever”, “cold”) | Valid inputs accepted, errors shown for invalid or empty inputs | Valid text accepted, error shown for symbols and empty input      | Pass      |
| FT-02        | Number Input Validation (e.g., age, vitals)                      | Enter valid and out-of-range values (e.g., age = -5, 200)                           | Accept valid range, reject invalid inputs                       | Out-of-range inputs flagged, correct range accepted               | Pass      |
| FT-03        | Content Generation (Patient Chat, Treatment Plans, Predictions)  | Provide sample inputs and generate response   | Correct, contextual content generated for each input            | Relevant AI-generated outputs shown based on patient data         | Pass      |
| FT-04        | API Connection Check   | Load .env with valid and invalid API key, test model connection                     | API should respond only when valid key is present               | Invalid key returns error, valid key initiates model successfully | Pass      |
| PT-01        | Response Time Test   | Measure time between request and AI-generated response                              | Response should be under 3 seconds                              | Avg: 2.4 seconds  | Pass      |

|              |  |  |   |  |      |
|--------------|--|--|---|--|------|
| <b>PT-02</b> | API Speed Test   | Send multiple simultaneous symptom-based queries | API handles concurrency without timeout | API responded within limits under moderate load (5+ users) | Pass |
| <b>PT-03</b> | File Upload Load Test (Health Metrics CSV/JSON upload) | Upload multiple health logs in supported format  | Files upload and process without crash  | All test files processed successfully                      | Pass |