# **Functional & Performance Testing**

**Model Performance Test**

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| Date | 28 JUNE 2025 |
| Team ID | LTVIP2025TMID60863 |
| Project Name | Revolutionizing liver care; Predicting liver cirrhosis advanced machine learning techniques |
| Maximum Marks |  |

**✅ Test Scenarios & Results for Liver Cirrhosis Prediction System**

| **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., patient name, notes) | Enter valid/invalid text in patient name or notes fields | Valid inputs accepted; errors for invalid (e.g., numbers in names) |  |  |
| FT-02 | Numeric Input Validation (e.g., lab values: bilirubin, ALT, AST) | Enter values within/without medically valid ranges | Accept valid lab values; show error/warning for biologically implausible ones |  |  |
| FT-03 | Model Prediction Accuracy | Enter complete and realistic patient data; click "Predict" | Model returns cirrhosis risk score and interpretation |  |  |
| FT-04 | API Connection with Model Backend | Test if API responds correctly when given valid data | API returns model output without errors |  |  |
| FT-05 | Edge Case Prediction | Enter borderline lab values (e.g., near cirrhosis threshold) | System handles gracefully and provides interpretable result |  |  |

**🔄 Performance Testing**

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| --- | --- | --- | --- | --- | --- |
| PT-01 | Prediction Response Time | Time the model response for a prediction request | Should return within 2–3 seconds |  |  |
| PT-02 | API Throughput (Concurrent Predictions) | Send multiple prediction requests simultaneously | No slowdown or crashes; consistent response time |  |  |
| PT-03 | Bulk File Upload (e.g., patient CSV) | Upload large batch of patient data | System parses and processes all without crashing |  |  |