# **Functional & Performance Testing**

**Model Performance Test**

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| Date | 30 june 2025 |
| Team ID | LTVIP2025TMID60863 |
| Project Name | Revolutionizing liver care; Predicting liver cirrhosis using advanced machine learning techniques |
| Maximum Marks |  |

**🧪 Test Scenarios & Results – Liver Cirrhosis Prediction System**

| **Test Case ID** | **Scenario (What to test)** | **Test Steps (How to test)** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| --- | --- | --- | --- | --- | --- |
| **FT-01** | Patient Data Input Validation | Enter valid and invalid values for patient features (e.g., age, bilirubin, albumin, INR) | System accepts valid entries and flags invalid (e.g., negative values, missing inputs) |  |  |
| **FT-02** | Model Prediction Accuracy | Input known test data with known outcomes | Model predicts correct labels with high probability for known data |  |  |
| **FT-03** | Prediction Output Format | Enter full valid patient data and submit for prediction | Returns a clear output: class (Yes/No), confidence score |  |  |
| **FT-04** | API Connection and Model Serving | Simulate API call with valid JSON input | API returns a prediction with status 200 |  |  |
| **PT-01** | Prediction Response Time | Time the model from input submission to prediction | Should respond in under 2 seconds |  |  |
| **PT-02** | Concurrent Prediction Requests | Send 50+ requests simultaneously | System handles load without crashing or timing out |  |  |
| **PT-03** | File Upload Handling (e.g., CSV of patients) | Upload batch patient data for prediction | File is processed correctly; multiple predictions returned |  |  |
| **ST-01** | Model Stability with Edge Cases | Input edge cases (extreme lab values, missing fields) | System handles without crashing; gives appropriate error/warning |  |  |
| **ST-02** | Model Drift Monitoring | Re-test using data from a newer population | Model still performs within acceptable range |  |  |