

Functional & Performance Testing Template

Model Performance Test

Date	15 February 2026
Team ID	LTVIP2026TMIDS90527
Project Name	Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management
Maximum Marks	

Test Scenarios & Results – Wind Turbine Energy Prediction

Test Case ID	Scenario (What to test)	Test Steps (How to test)	Expected Result	Actual Result	Pass/Fail
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FT-01 Input Validation – Theoretical Power & Wind Speed Enter valid and invalid numeric values in input fieldsValid inputs accepted, errors shown for invalid/non-numeric inputs – –

FT-02 Weather API Connection Select a city and check if OpenWeather API responds API responds successfully with temperature, humidity, pressure, wind speed – –

FT-03 Prediction Output Provide valid inputs (Theoretical Power, Wind Speed) and click “Predict” Correct energy output is generated by ML model – –

FT-04 Error Handling Provide invalid inputs (e.g., empty fields, strings instead of numbers) Application shows “Invalid Input” message – –

PT-01 Response Time Test Measure time taken for prediction after submitting inputs Prediction should be generated in under 3 seconds – –

PT-02 API Speed Test Send multiple API calls simultaneously for different cities API should respond without slowing down or

