Project Development Phase
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	

Model Performance Testing – Wind Turbine Energy Prediction

S.No	Parameter	Screenshot / Values
1	Data Rendered	Wind turbine dataset loaded successfully (CSV file with columns: ActivePower, WindSpeed, TheoreticalPower).
2	Data Preprocessing	Missing values handled, irrelevant columns dropped, features renamed for clarity.
3	Utilization of Data Filters	Applied filters to remove nulls, inconsistencies, and outliers in wind speed/ power data.
4	DAX Queries Used	Not applicable (Python-based ML pipeline used instead of Power BI DAX).
5	Dashboard Design	Flask-based dashboard with 2 visualizations (Weather data display, Predicted Power Output).
6	Report Design	Jupyter/Matplotlib-based report with 3 visualizations (Scatter plot Actual vs Predicted, Line chart trends, Correlation heatmap).