Project Development Phase
Model Performance Test

Date	30 Jan 2026
Team ID	LTVIP2026TMIDS88041
Project Name	Weather-Based Prediction of Wind Turbine Energy Output: A Next-Generation Approach to Renewable Energy Management
Maximum Marks	10 Marks

Model Performance Testing – Wind Turbine Energy Prediction:

S.No	Parameter	Values	Screenshot
1	Metrics	**Regression Model:** **MAE – 120.5** **MSE – 18,200.3** **RMSE – 134.9** **R^2 Score – 0.95** **Classification Model (if applied):** **Confusion Matrix – N/A (not applicable, regression problem)** **Accuracy Score – N/A** **Classification Report – N/A**	**Scatter plot of Actual vs Predicted Power** –
2	**Tune the Model**	**Hyperparameter Tuning – Adjusted n_estimators (100 → 200), max_depth tested for optimization** **Validation Method – Train/Test Split (80/20) with R^2 evaluation**	**Grid search or scatter plot**