

**Project Development Phase
Model Performance Test**

Date	15 February 2026
Team ID	LTVIP2026TMIDS80551
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	Values	Screenshot
1	Model Summary	Random Forest Regressor (200 estimators, trained on wind turbine dataset)	–
2	Accuracy	Training R ² Score – ~0.98 Validation R ² Score – ~0.95	Scatter plot of Actual vs Predicted
3	Fine-Tuning Result (if done)	Validation R ² Score after tuning hyperparameters (e.g., n_estimators, max_depth) – ~0.96	–