Project Development Phase
Model Performance Test

Date	17 February 2026
Team ID	LTVIP2026TMIDS70003
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 R² Score – ~0.98** **Validation R² Score – ~0.95**	**Scatter plot of Actual vs Predicted**
3	**Fine-Tuning Result (if done)**	**Validation R² Score after tuning hyperparameters (e.g., n_estimators, max_depth) – ~0.96**	**–**