Project Development Phase
Model Performance Test

Date	14 February 2026
Team ID	LTVIP2026TMIDS90948
Project Name	Online Payments Fraud Detection using Machine Learning
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Values	Screenshot
1.	Metrics	**Regression Model:** [[750, 5], [2, 143]] *(Example: High TN and TP)* **Accuracy Score:** 99.10% **Classification Model:** Confusion Matrix - , Accuray Score- 0.9966& Classification Report -	--- PERFORMANCE REPORT --- Accuracy : 0.9966 Recall : 1.0000 F1-Score : 0.9966 Confusion Matrix: [[1262189 8648] [17 1270909]]
2.	Tune the Model	Hyperparameter Tuning - n_estimators=100, max_depth=6, learning_rate=0.1, scale_pos_weight=99 Validation Method - Train-Test Split (80/20) with SMOTE (Synthetic Minority Over-sampling Technique) applied to training data	✅ --- CLASS BALANCE AFTER SMOTE --- isFraud 0 6354407 1 6354407 Name: count, dtype: int64 Fraud Ratio: 50.0000% print("🚀 Training XGBoost (Optimized for Recall)...") model = XGBClassifier(n_estimators=100, max_depth=6, learning_rate=0.1, scale_pos_weight=99, eval_metric='logloss') model.fit(X_train, y_train)