



## **Model Development Phase Template**

| Date          | 20 July 2024   |
|---------------|--|
| Team ID       | SWTID1720108903                                      |
| Project Title | Ecommerce Shipping Prediction Using Machine Learning |
| Maximum Marks | 6 Marks  |

## **Model Selection Report**

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

| Model                      | Description   | Hyperparameters | Performance<br>Metric (e.g.,<br>Accuracy, F1<br>Score) |
|----------------------------|---|-----------------|--|
| Random<br>Forest           | Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance | -               | Accuracy score = 67.45%                                |
| Logistic<br>Regressi<br>on | Linear model suitable for binary classification tasks, interpretable results.   | 1               | Accuracy score = 63.95%                                |
| KNN                        | Non-parametric method classifying based on nearest neighbors  | -               | Accuracy score = 64.55%                                |





| XG<br>Boosting | Gradient boosting ensemble method known for high performance in various tasks. | - | Accuracy score = 67.36% |
|----------------|--|---|-------------------------|

| Ridge Classifier             | Regularized linear model that handles multicollinearity well. | - | Accuracy score=66.77% |
|------------------------------|---|---|-----------------------|
| Support Vector<br>Classifier | SVM-based classifier, effective with non-linear boundaries.   | - | Accuracy score=65.05% |
|                              |   |   |                       |