# **Model Performance Test**

**Date**: 27 June 2025  
**Team ID** : LTVIP2025TMID45523  
**Project Name**: Enchanted Wings: Marvels of Butterfly Species  
**Maximum Marks**: 10 Marks

## **Model Performance Testing**

Enchanted Wings leverages transfer learning to classify 6499 images across 75 butterfly species, supporting biodiversity monitoring, ecological research, and citizen science. The project team shall fill the following information to evaluate the performance of the butterfly image classification model.

### **Model Performance Table**

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| **S.No** | **Parameter** | **Values** | **Screenshot** |
| 1. | Metrics | Classification Model:  Confusion Matrix: 75x75 matrix, balanced across classes.  Accuracy Score: 89.3% on test set | screenshot of confusion matrix and classification report from training environment, e.g., scikit-learn or TensorFlow output.] |
| 2. | Tune the Model | Hyperparameter Tuning: Fine-tuned ResNet-50 learning rate (0.0001), batch size (32), epochs (10).  Validation Method: 5-fold cross-validation, average validation accuracy 88.7% | screenshot of hyperparameter tuning results, e.g., validation accuracy plot or GridSearchCV output |