**Project Development Phase**

**Model Performance Test**

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| Date | 10 February 2025 |
| Team ID | LTVIP2025TMID55320 |
| Project Name | LearnHub: Your Center for Skill Enhancement |
| Maximum Marks | 10 Marks |

**Model Performance Testing:**

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

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| **S.No.** | **Parameter** | **Values** | **Screenshot** |
|  | Metrics | **Regression Model:** MAE - , MSE - , RMSE - , R2 score -  **Classification Model:** Confusion Matrix - , Accuray Score- & Classification Report - | **Metrics**  **Regression Model (if used):**   * **MAE (Mean Absolute Error)** – e.g., 3.45 * **MSE (Mean Squared Error)** – e.g., 12.78 * **RMSE (Root Mean Squared Error)** – e.g., 3.57 * **R² Score** – e.g., 0.86   ✅ Use this if your model is predicting a **continuous numerical value**, like price, marks, completion time, etc.  **Classification Model (if used):**   * **Confusion Matrix:**   lua  CopyEdit  [[TN FP]  [FN TP]]  Example: [[88 12]  [5 95]]   * **Accuracy Score:** e.g., 0.91 or 91% * **Classification Report:**   markdown  CopyEdit  precision recall f1-score support  0 0.91 0.88 0.89 100  1 0.90 0.95 0.92 100  accuracy 0.91 200  macro avg 0.91 0.91 0.91 200  weighted avg 0.91 0.91 0.91 200  ✅ Use this if your model predicts **classes** like Pass/Fail, Yes/No, or any category. |
|  | Tune the Model | Hyperparameter Tuning -  Validation Method - | * Grid Search CV or RandomizedSearchCV was used to optimize model parameters such as:   + n\_estimators = 100, 200, 300   + max\_depth = 5, 10, 15   + learning\_rate = 0.01, 0.1   + C and gamma for SVM   + k for KNN   📌 Mention the exact method and parameters you tuned based on the model (Random Forest, SVM, etc.) |