**Machine Learning Laboratory Assignment Vl**

Your task is to develop a multiclass classification model by building an Artificial Neural Network (ANN) step-by-step using the MNIST dataset. This will include data preprocessing, parameter initialization, forward propagation, backpropagation, parameter updates, and model evaluation.

**Subtasks**

1) Design an ANN model architecture with multiple hidden layers.

2) Experiment with different numbers of hidden layers and neurons per layer to find an optimal architecture.

3) Compile the model using an appropriate optimizer and loss function.

4) Experiment with different batch sizes and epochs to optimize model performance.

5) Calculate and print the accuracy on both the training and test datasets.

6) Implement a predict function to classify inputs from the test set.