

## **Assignment on Neural Networks (4)**

1. Write a program to classification breast cancer dataset using a single layer perceptron model. Evaluations should be in the form of F-1 score, Accuracy and ROC Curve (You can use sklearn for all evaluation metrics).
2. Implement a two-layer perceptron (input, hidden, output) with the back propagation algorithm to classify MNIST dataset. This dataset contains the pictures of numbers from '0' to '9' and their labels. Vary the number of hidden neurons in the hidden layer and observe their effect on accuracy. You can use function from sklearn to implement it. Encode the output using one-hot encoder. Normalize the dataset before passing it to neural-network. Evaluations should be in the form of F-1 score, Accuracy and ROC Curve (You can use sklearn for all evaluation metrics)