MACHINE LEARNING LABORATORY

Subject Code:	19IS607	CIE Marks:	50
Hours per Week:	2 hours	SEE Marks:	50
Credits:	01	Total Marks:	100

Course objectives: This course will enable students to

1. Familiarize with available machine learning tools, libraries, and datasets.
2. Perform data preprocessing using machine learning libraries.
3. Implement supervised and unsupervised learning algorithms
4. Evaluate the performance of Machine Learning Algorithms.

LAB EXPERIMENTS

1. Write a program to construct a decision tree based on ID3 algorithm. Use an appropriate dataset for building the decision tree and apply this knowledge to classify a new sample.
2. Write a program to demonstrate application of linear regression to predict the stock market prices of any organization.
3. Write a program to demonstrate the use of Support Vector Machine algorithm for a regression problem on any preferred dataset and evaluate the performance of the model.
4. Write a program to implement *k*-Nearest Neighbor classification algorithm on the iris flower dataset and visualize the results.
5. Write a program to demonstrate image segmentation using K-means clustering algorithm and visualize the results.
6. Write program to apply Hierarchical clustering on customer segmentation dataset and visualize the clusters and plot the dendrograms.
7. Write program to show use of single layer feed forward network to implement the following logical gates.
   a) AND
   b) OR
8. Build an artificial neural network by implementing the Back propagation algorithm and test the same using appropriate data sets.

Write up	05 Marks
Execution	10 Marks
Viva-voce	05 Marks
Total	**20 Marks**