Syllabus - V Semester
5AIML4-21: Applied Machine Learning Lab

Credits: 1.5 **Max. Marks: 75 (IA:45, ETE: 30)**
0L+0T+3P **End Term Exam: 3 Hours**

.

S.No.	Objectives
1	To perform the importing and extraction of data from different file formats and display the summary statistics.
2	To implement the operation of extracting the words (features) used in a sentence.
3	To perform Exploratory Data Analysis on real time datasets using the following approaches: a) Univariate Analysis b) Multivariate Analysis c) Visualization using correlation matrix
4	To evaluate and compare learning curves of leave-one-out with two-, three-, five-, and ten-fold cross-validation on a learning problem using real time dataset.
5	To perform the following Dimensionality Reduction techniques on real time datasets. a) Principal Component Analysis b) Single value Decomposition c) Linear Discriminant Analysis d) Factor Analysis
6	To evaluate classifiers using baseline methods constant, uniform, stratified, prior and most frequent on wine dataset and find the accuracy. Identify the patterns using RoC, AUC.
7	To perform Model diagnosis and tuning on any real time dataset using any of the following ensemblers: a) RandomForestClassifier b) BaggingClassifier c) AdaBoostClassifier d) GradientBoostingClassifier e) XGBClassifier
8	To implement the DBSCAN clustering algorithm.
9	To demonstrate the LocalOutlierFactor method on a predictive modeling dataset.
10	To perform the task of Web scraping. (Ex: using python library like Beautiful Soup)

Suggested References/Books:
1. Dipanjan Sarkar, Raghav Bali, Tushar Sharma, Practical Machine Learning with Python-A Problem-Solver's Guide to Building Real-World Intelligent Systems, Apress. 2018.
2. Sikar Dutt, Subramanian Chandramouli, Amit Kumar Das, Machine Learning, Ninth Impression, Pearson,2022.
3. Manohar Swamynathan, Mastering Machine Learning with Python in Six Steps -A