DATA WAREHOUSING AND DATA MINING LABORATORY

VI Semester: CSE / IT

Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	**T**	**P**	**C**	**CIA**	**SEE**	**Total**
ACSB15	**Core**	-	-	2	1	30	70	100

Contact Classes: Nil	Tutorial Classes: Nil	Practical Classes: 24	Total Classes: 24

I. COURCE OVERVIEW:

Data mining techniques allow predicting future trends and behaviors of businesses to make proactive, knowledge-driven decisions. The data mining laboratory course is designed to practice the data mining techniques such as classification, clustering, pattern mining etc. with varied datasets and dynamic parameters on weka machine learning tool.

II. OBJECTIVES:

The course should enable the students to:

I   The data set understanding with visualizations and needed preprocessing.

II   The demonstration of data mining tasks such as classification.

III   The analysis on data models with variant parameters.

III. COURSE OUTCOMNES:

After successful completion of the course, students should be able to:

CO 1	**Apply** pre-processing statistical methods for any given raw data. .	Apply
CO 2	**Apply** Association rule process for a given dataset by using Apriorialgorithm.	Apply
CO 3	**Apply** Association rule process for a given dataset by usingFP-Growth algorithm.	Apply
CO 4	**Analyze** Classification rule process for a given raw data Decision tree and ID3 algorithm.	Analyze
CO 5	**Analyze** Classification rule process for a given raw data Decision tree and ID3 algorithm.	Analyze
CO 6	**Apply** Clustering on a given dataset by using k-means algorithm.	Apply

LIST OF EXPERIMENTS

Week-1	**PREPROCESSING**

Simulate preprocessing methods dataset student and labor in weka.

Week-2	**ASSOCIATION RULE**

1. Simulate association rule process on dataset contact lenses. arff using apriori algorithm in weka.
2. Simulate Association rule process on dataset test. arff using apriori algorithm in weka.

Week-3	**CLASSIFICATION RULE BY J48**

Simulate of classification rule process on dataset student. arff using j48 algorithm in weka.

Week-4	**CLASSIFICATION RULE BY J48**
Demonstration of classification rule process on dataset employee. arff using j48 algorithm.	
Week-5	**CLASSIFICATION RULE BY ID3**
Demonstration of classification rule process on dataset employee. arff using id3 algorithm.	
Week-6	**CLASSIFICATION RULE BY NAÏVE BAYES**
Demonstration of classification rule process on dataset employee. arff using naïve bayes.	
Week-7	**CLASSIFICATION RULE BY K-MEANS**
Demonstration of clustering rule process on datasetiris. arff using simple k-means.	
Week-8	**CLUSTERING**
Demonstration of clustering rule process on dataset student. arff using simple k- means this macro to print the elements of the array.	
Week-9	**CLUSTERING BY K-MEANS**
Implement k-means algorithm.	
Week-10	**DECISION TREE**
Implement decision tree classification algorithm.	
Week-11	**ASSOCIATION RULE MINING BY APRIORI ALGORITHM**.
Implement Apriori algorithm.	
Week-12	**ASSOCIATION RULE MINING BY FP- GROWTH ALGORITHM.**
Implement FP- growth algorithm.	

Reference Books:

1. J.Han, M.Kamber, "Data Mining: Concept and Techniques", Academic Press, Morgan Kanfman Publishers, 3rd Edition, 2008.
2. Alex Berson, Stephen J. Smith, "Data Warehousing, Data Mining & OLAP", Tata McGraw-Hill, 10th Edition, 2007.
3. Pieter Adrians, DolfZantinge, "Data Mining", Addison Wesley, Peter V, 2000.

Web References:

1. https://www.tutorialspoint.com
2. http://www.anderson.ucla.edu
3. https://www.smartzworld.com
4. http://iiscs.wssu.edu

SOFTWARE AND HARDWARE REQUIREMENTS FOR A BATCH OF 36 STUDENTS:

HARDWARE: Intel Desktop Systems: 36 nos

SOFTWARE: Application software: Weka