



Subject Code: 09CT0611
Subject Name: Fundamental of Data Mining
Diploma Year – III (Semester VI)

Objective:

This course focuses on both concepts and practice. We will introduce (a) the core data mining concepts and practical skills for applying data mining techniques to solve real-world problems.

Credits Earned: 04

Course Outcomes: After completion of this course, student will be able to:

1. Understand about Data mining, Clustering and Data processing.
2. Describe the Data mining Tool and its various techniques.
3. Interpret the various Clustering methods and Data mining Application.
4. Evaluate different data mining techniques like classification, prediction, clustering and association rule mining.
5. Apply appropriate data mining algorithms to solve real world problems

Pre-requisite of course: Basic knowledge of visual studio

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term Work (TW)	
3	0	2	4	50	30	20	25	25	150

Contents:

S.NO	TOPIC	Hours
1	Introduction to Data Mining: Introduction: Scope of knowledge Mining: what's data processing; however will knowledge Mining Works, prophetic Modeling: data processing and knowledge Warehousing: design for data processing: Profitable Applications: knowledge Mining Tools:	05
2	Data Pre-processing: Introduction, knowledge Pre-processing summary, knowledge clean up, knowledge Integration and Transformation, knowledge Reduction, Discretization and construct	08



	Hierarchy Generation.	
3	Data Mining Techniques- Introduction, data processing, data Processing Versus direction System, data processing Techniques- Association rules, Classification, Regression, Clustering, Neural networks.	08
4	Clustering: Introduction, Clustering, Cluster Analysis, Clustering Methods- K means, Hierarchical clustering, Agglomerative clustering, Divisive clustering, clustering and segmentation software, evaluating clusters.	07
5	Applications of Data mining: Introduction, Business Applications exploitation knowledge Mining- Risk management and targeted promoting, client profiles and have construction, Medical applications, Scientific Applications exploitation data processing, different Applications.	07
6	Data Mining Tools: Available Tools :XLMiner, WEKA , Basic of WEKA Installing WEKA, WEKA data file format, Data visualization in WEKA, Data filtering, Using the concepts of data mining with WEKA	07
	Total Hours	42

Suggested Theory distribution:

The suggested theory distribution as per Bloom’s taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
40%	40%	10%	10%	0	0

Suggested List of Experiment:

- Data Pre-processing and Data Exploration understanding.
- Study of WEKA Tool.
- Explore Classification and Clustering using WEKA tool.
- Apply filters on the dataset using WEKA.
- Implement Pre-processing in WEKA Tool.
- Demonstration of Weka Explorer, Mining techniques and Attribute Relation File Format (ARFF) <http://archive.ics.uci.edu/ml/>



SUGGESTED LEARNING RESOURCES

List of Books:

S.No.	Title of Books	Author	Publication
1	“Data Mining Concepts and Techniques”	J. Han, M. Kamber	Morgan Kaufmann
2	“Data mining: Concepts, models, methods and algorithms	M. Kantardzic	John Wiley & Sons Inc.
3	“Data Mining: Introductory and Advanced Topics”	M. Dunham	Pearson Education.

Supplementary Resources:

- Data Mining Tutorial http://www.tutorialspoint.com/data_mining/