20IT2601A - INTRODUCTION TO DATA WARE HOUSING AND MINING

Offering Branches	IT		
Course Category:	Open Elective -II	Credits:	3
Course Type:	Theory	Lecture-Tutorial-Practical:	3-0-0
Prerequisites:	Data Base Management Systems	Continuous Evaluation:	30
		Semester End Evaluation:	70
		Total Marks:	100

Course Outcomes

Upon successful completion of the course, the student will be able to:

CO1	**Understand** the basic principles, process and techniques of data mining.	K2
CO2	**Use** pre-processing techniques on different datasets.	K3
CO3	**Apply** techniques and algorithms for Mining frequent patterns, classifying and clustering data.	K3
CO4	**Analyze** the data for mining frequent patterns, associations, classification and outlier detection in a real scenario.	K4

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3												3	
CO2	3			3									3	
CO3	3			3									3	3
CO4	3	3											3	3
Avg.	**3**	**3**		**3**									**3**	**3**

1- Low **2-Medium** **3-High**

Course Content

UNIT-1	Introduction: What is data mining? What kinds of data can be mined? What kinds of pattern can be mined? Which technologies are used? Which kinds of applications are targeted?, Major Issues in Data Mining.	CO1
UNIT-2	Getting to Know Your Data: Data objects and Attribute Types, Basic statistical descriptions of data, Measuring Data Similarity and Dissimilarity. Data Preprocessing: An overview, Data Cleaning, Data integration, Data Reduction, Data Transformation and Discretization.	CO1 CO2
UNIT-3	Mining frequent patterns, Associations and Correlations- Basic Concepts, Frequent itemset Mining methods- Apriori Algorithm, Generating association rules from frequent itemsets, improving the efficiency of Apriori.	CO1 CO3 CO4
UNIT-4	Classification: Basic Concepts – Basic concepts, Decision Tree Induction, Rule Based Classification, Model evaluation and Selection.	CO1 CO3 CO4
UNIT-5	Cluster Analysis: Basic Concepts and Methods- Cluster Analysis, partitioning methods, Hierarchical Methods and evaluation of Clustering	CO1 CO3 CO4

Learning Resources

Text Books	1. Jiawei Han and Micheline Kamber, "Data Mining Concepts and Techniques" Third Edition, Elsevier, 2012.
Reference Books	1. Michael Steinbach, Vipin Kumar, Pang-Ning Tan, Introduction to data mining, First Edition, Addison Wesley, 2006 2. Margaret H. Dunham, Data Mining Introductory and Advanced Topics, 1/e, Pearson Publishers, 2006
E-Resources & other	1. https://www.coursera.org/lecture/code-free-data-science/introduction-to-data-mining-hbb2V 2. https://onlinecourses.swayam2.ac.in/cec19_cs01/preview

digital material	