GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING(A)

MADHURAWADA, VISAKHAPATNAM

DEPARTMENT OF INFORMATION TECHNOLOGY

SCHEME OF COURSE WORK

Course Details:

Course title	Data warehousing and Data mining
Course code	15CT1132
Program	B.Tech
Specialization	Information Technology
Semester	VII
Prerequisites	Database Management Systems
Course to which it is a pre requisite	Big Data Analytics

CO-Course Outcomes

CO No.	Course outcomes	Cognitive level
CO1	Apply data pre-processing techniques.	Understand and Apply
CO2	Design data warehouse schema.	Understand and Apply
CO3	Discover associations and correlations in given data.	Understand and Apply
CO4	Apply classification techniques.	Understand and Apply
CO5	Apply clustering techniques.	Understand and Apply

Course Outcome-PO matrix

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3		2	2	2								1		
CO2			2	3	2								1		
CO3	3	3	2	3	2							2	1		
CO4	3	3	2	3	2							2	1		
CO5	3	3	2	3	2							2	1		

3 - Strongly correlated, *2* - *Moderately* correlated, *Blank* - *No correlation*

Assessment Methods: Assignment/ Quiz/ Seminar/ Case study/ Mid Test

Assignments, Quiz, Mid Test

Teaching-Learning and Evaluation

Week	TOPIC / CONTENTS	Course Outcomes	Sample questions	TEACHING-LEARNING STRATEGY	Assessment Method & Schedule
1	Introduction: Data mining-On what kinds of Data, Data Mining Functionalities, Classification of Data Mining systems, Data Mining Task Primitives	CO-1	1.Define Data mining. 2.Compare and contrast Data, information and knowledge.	▫ Lecture / Discussion	Assignment (Week 7-8) Mid-Test 1 (Week 9)
2	Integration of a Data Mining System with a Database or Data Warehouse System, Major issues in Data Mining.	CO-1	. 1. What is the difference between prediction and classification	▫ Lecture / Discussion	Assignment (Week 7-8) Mid-Test 1 (Week 9)
3	Data Preprocessing: Descriptive data summarization, Data Cleaning, Data Integration and Transformation,	CO-1	1.What is the need of Preprocessing.	▫ Lecture / Discussion ▫ Problem solving	Mid-Test 1 (Week 9)
4	Data Reduction, Discretization and Concept Hierarchy Generation.	CO-1	1. What are the phases in preprocessing.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 7-8) Mid-Test 1 (Week 9)
5	Data Warehouse and OLAP Technology: Multidimensional Data Model, Data Warehouse Architecture	CO-2	1.What is the model used for construction of a warehouse. 2. What are the ways in which the warehouse may be coupled with the data mining system 3. Expand OLAP system 4. Give the difference between OLAP and OLTP.	▫ Lecture ▫ Problem solving	Mid-Test 1 (Week 9)
6	Data Warehouse Implementation, From Data Warehousing to Data	CO-2	1.What are the application	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 7-8) Mid-Test 1

	Mining		areas of OLAP system.		(Week 9)
7	Mining Frequent Patterns, Association and Correlations: Basic concepts	CO-3	1.Differnce between association and correlation	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 7-8) Mid-Test 1 (Week 9)
8	Efficient and Scalable Frequent Itemset Mining Methods	CO-3	1. When is an item said to be frequent. 2. Define support and confidence.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 7-8) Mid-Test 1 (Week 9)
9	**Mid-Test 1**	CO-3			
10	Mining Various kinds of Association Rules	CO-3	1. What is the purpose of mining frequent item sets. 2.What re the drawbacks of apriori algorithm.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 15-17) Mid-Test 2 (Week 18)
11	From Association Mining to Correlation Analysis, Constraint Based Association	CO-3	1 What are constraints imposed over assoc rules.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 15-17) Mid-Test 2 (Week 18)
12	Classification and Prediction-1: Issues Regarding Classification and Prediction, Classification by Decision Tree Induction.	CO-4	1.Give the formula for gain ratio. 2. What is Bayes rule. 3. Give the formula for error in back propagation classification.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 15-17) Mid-Test 2 (Week 18)
13	Bayesian Classification, Rule-Based Classification, Classification by Backpropagation.	CO-4	1. What is the basic ides in ID3 algorithm. 2.What is training set.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 15-17) Mid-Test 2 (Week 18)
14	Cluster Analysis Introduction: Types of Data in Cluster Analysis, A Categorization of Major Clustering Methods, Partitioning Methods, Hierarchical Methods,	CO-5	1.Define cluster. 2. Give the formula for precision and recall. 3. What is cluster ability.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 15-17) Mid-Test 2 (Week 18)
15	Density-Based Methods, Grid-Based Methods, Model-Based Clustering Methods.	CO-5	1. Mention different types of clustering techniques 1.Give example for Partional clustering.	▫ Lecture / Discussion ▫ Problem solving	Assignment (Week 15-17) Mid-Test 2 (Week 18)
16	**Mid-Test 2**				
	END EXAM				