Data Warehousing and Data Mining	**L**	**T**	**P**	Database Management Systems
	3	**0**	**2**	

Course Objective: To introduce the concept of Data Warehousing and Data Mining, respective techniques and applications in real world scenario.

S. NO	**Course Outcomes (CO)**
CO1	Identify the scope and necessity of Data Mining & Warehousing for the society
CO2	To understand various tools of Data Mining and their techniques to solve the real time problems.
CO3	To develop ability to design various algorithms based on data mining tools.
CO4	To develop further interest in research and design of new Data Mining techniques.

S. NO	**Contents**	**Contact Hours**
UNIT 1	Data Warehousing: - Basic concepts in data warehousing, Collecting the requirements of data warehouse, Data Warehouse Architecture, Design, Implementation & Maintenance, OLAP in data warehouse, Data warehousing and the web, Data Cube Technology, From Data Warehousing to Data Mining.	**10**

UNIT 2	Mining Association Rules in Large Databases: Association Rule Mining, Mining Single Dimensional Boolean Association Rules from Transactional Databases, Mining Multilevel Association Rules from Transaction Databases, Mining Multidimensional Association Rules from Relational Databases and Data Warehouses, From Association Mining to Correlation Analysis, Constraint Based Association Mining.	**8**
UNIT 3	Classification and Prediction: Issues Regarding Classification and Prediction, Classification by Decision Tree Induction, Bayesian Classification, Classification by Back propagation, Classification Based on Concepts from Association Rule Mining, Other Classification Methods, Prediction, Classifier Accuracy.	**8**
UNIT 4	Cluster Analysis in Data Mining: Types of Data in Cluster Analysis. A Categorization of Major Clustering Methods, Partitioning Methods, Density Based Methods, Grid Based Methods; Model Based Clustering Methods, Outlier Analysis	**8**
UNIT 5	Mining Complex Types of Data: Multidimensional Analysis and Descriptive Mining of Complex Data Objects, Mining Spatial Databases, Mining Multimedia Databases, Mining Time Series and Sequence Data, Mining Text Databases.	**8**
	TOTAL	**42**

REFERENCES

S.No.	**Name of Books/Authors/Publishers**	**Year of Publication / Reprint**
1	Data Warehousing Fundamentals, P. Ponnian, John Wiley	2011
2	Data Mining Introductory & Advanced Topics, M.H. Dunham, Pearson Education	2012
3	Data Mining Concepts & Techniques, Han Kamber, M. Kaufman, 2nd ed,	2011

<table>
<tr><th colspan="5">B.Tech. Information Technology</th></tr>
<tr><th>Course code: Course Title</th><th colspan="3">Course Structure</th><th>Pre-Requisite</th></tr>
<tr><td rowspan="2">Game Theory</td><td>L</td><td>T</td><td>P</td><td rowspan="2">Mathematical Foundations, Discrete Mathematics.</td></tr>
<tr><td>3</td><td>1</td><td>0</td></tr>
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