COURSE TITLE	**DATA WAREHOUSING AND DATA MINING**
COURSE CODE	**05DS0303**
COURSE CREDITS	**4**

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

1 Describe the aspect of data warehouse and pre-processing.
2 Explain the concept of Data Cleaning & Integration.
3 Describe the concept of Data Mining & its attributes.
4 Explain decision Trees and clustering.
5 Ability to perform classification and prediction of data.

Pre-requisite of course: Basic Knowledge of RDBMS and Statistics.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
4	0	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	**Introduction To Data and Data Preprocessing** Introduction to Data, Database data, Data warehouses, Transactional data, Other kinds of data, Data processing, Preprocess data, Major task in data processing.	10
2	**Data Warehousing & Online Analytical Processing** Data Warehousing Basic Concepts, Data Warehouse : A Multitiered Architecture, Data Extraction, Transformation and Loading, OLAP (Online Analytical Processing, Typical OLAP Operation	10
3	**Data Mining** Data Mining Definition, KDD vs Data Mining -DBMS vs Data Mining, Data Mining Techniques, Issues and challenges in Data Mining, Data Mining Application Areas, Data Mining Application – Case Study	10
4	**Association Rules & Decision Trees** Introduction,Methods to discover Association Rules, Apriori Algorithm, Partition Algorithm, Decision Tree introduction, Tree Construction Principle, Best Split -Decision Tree Construction Algorithms	10

Contents : Unit	Topics	Contact Hours
5	**Cluster Analysis Basic Concepts and Methods** About Cluster Analysis, A Categorization of Major Clustering Methods , Partitioning Methods , Hierarchical methods , Density-Based Methods , Grid-Based Methods , Evaluation of Clustering	10
Total Hours		**50**

Textbook :

1 Data Mining Concepts and Techniques, Jiawei Han and Micheline Kambar, Kaufmann, 2011

2 Data Mining Techniques, Arun K Pujari, Orient Longman Publishers, .

3 Fundamentals of Data Warehouse, M. Jarke, M Lenzerni, Springer, 2010

4 Principles of Data Mining, David Hand, Heikki Mannila, Padhraic Smyth, PHI, .

5 Data Mining: Methods and Techniques, A B M Shawkat Ali, Saleh A, Wasimi, CENGAGE Learning, .

References:

1 Data Warehousing, Data Mining & OLAP, Data Warehousing, Data Mining & OLAP, Alex Berson and Stephen J. Smith, Tata McGraw – Hill Edition, 2007

2 Insight into Data mining Theory and Practice, Easter Economy Edition, Insight into Data mining Theory and Practice, Easter Economy Edition, K.P. Soman, Shyam Diwakar and V. Ajay, Prentice Hall of India, 2006

3 Introduction to Data Mining with Case Studies, Easter Economy Edition, Introduction to Data Mining with Case Studies, Easter Economy Edition, G. K. Gupta, Prentice Hall of India, 2006

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as 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 / Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Higher order Thinking**
20.00	30.00	25.00	15.00	10.00	20.00

Instructional Method:

1 DEMO

2 VIDEO

3 PPT

Supplementary Resources:

1 https://www.topcoder.com/thrive/articles/data-warehousing-and-data-mining

Supplementary Resources:

2 https://www.javatpoint.com/data-mining-cluster-vs-data-warehousing