GUJARAT TECHNOLOGICAL UNIVERSITY
M.E   Semester: 2
Computer Engineering

Subject Name   Data Mining and Data Warehousing

Sr.No	Course content
1.	Introduction to Data Mining, Importance of Data Mining, Data Mining functionalities, Classification of Data mining systems, Data mining architecture, Major Issues in Data Mining, Applications of Data Mining, Social impacts of data mining.
2.	Introduction to Data Warehouse and OLAP Technology for Data Mining, Multidimensional data Model, Data warehouse Data Model, Data warehouse Architecture, Data warehouse Implementation, Development of Data Cube Technology, From Data warehousing to Data Mining.
3.	Data Preprocessing, Data cleaning, Data Integration and Transformation, Data reduction, Discretization and Concept Hierarchy Generation.
4.	Data Mining primitives, Languages and System Architectures, Concept description: Characterization and Comparison, Analytical Characterization, Mining Class Comparison.
5.	Association Rule Mining, Mining of Single dimensional Boolean association rules, Multilevel association rules and Multidimensional association rules, Correlation Analysis, Constraint based association Mining.
6.	Classification and Predication: Basic issues regarding classification and predication, Classification by Decision Tree, Bayesian classification, classification by back propagation, Associative classification, Prediction, Classifier accuracy.
7.	Cluster Analysis, basic issues, clustering using partitioning methods, Hierarchical methods, Density based methods, Grid based methods and model based methods, Algorithms for outlier analysis.
8.	Mining complex Types of data: Multidimensional analysis and descriptive mining of complex data objects, Introduction to spatial mining, multimedia mining, temporal mining, text mining and web mining with related algorithms.

Reference Books:

1. Data Mining concepts and Techniques by Jiawei Han, Micheline Kamber – Elsevier.
2. Data Mining by Arun K. Pujari – University Press.
3. Mordern Data Warehousing, Data Mining and Visualization by George M. Marakas –Pearson.
4. Data Mining by Vikram Puri And P.RadhaKrishana –Oxfrod Press.
5. Data Warehousing by Reema Theraja –Oxford Press