Subject Code	Subject Name	Credits
26CS613	DATA MINING AND BUSINESS INTELLIGENCE	4

Course Objectives

1. To understand Business and the role of Data Mining in it
2. To learn Data Modeling for Business solutions
3. To understand Prediction and Classification methods
4. To understand Data Mining Concepts and Applications

Learning Outcomes

After the completion of the course, the graduate will be able to

1. To learn Predictive analysis and time series forecasting

Unit 1 - Introduction to Business Intelligence (12 Hrs.)

Definition of Business Intelligence-Task and Analysis formats-Data task-Business and Data understanding Task-Modeling Task-Analysis and Evaluation Task –Modeling in Business Intelligence

Unit 2 - Business Intelligence concepts and Applications (12 Hrs.)

Business Intelligence concepts and Applications - BI for better decisions-Decision Types – Tools – Skills - Applications – Data Warehousing - Design considerations for DW-DW Architecture - Data Sources - Data loading processes - DW Design and Access - Data mining - Gathering and selecting data - Data cleansing and Preparation - outputs of Data mining - Evaluating Data mining Results - Data mining techniques - Tools.

Unit 3 - Data Modeling for BI Solutions (12 Hrs.)

Data Modeling for BI Solutions - Modeling Steps-Defining our model - Exploring Data modeling Possibilities - ETL basics - understanding ETL concepts

Unit 4 - Prediction and classification methods (12 Hrs.)

Prediction and classification methods-Multiple linear regression-Explanatory vs Predictive Modeling – The Naïve Bayes Classifier - Cut off Probability Method -Conditional Probability - Applying the Bayesian Classifier – Classification Trees - Evaluating the performance of a Classification Tree-Regression Trees – Predition -measuring impurity - Evaluating performance

Unit 5 - Data Mining Concepts and applications (12 Hrs.)

Data Mining Concepts and applications - Definitions, characteristics and benefits -How data mining works – Applications – Process – Methods - Software tools.

References:

1. Wilfried Grossmann," Fundamentals of Business Intelligence" © Springer-Verlag Berlin Heidelberg
2. Albert Nogues,"Business Intelligence Tools for Small companies" A Guide to free and low cost solutions Apress Media
3. Galit Shmueli,"Data mining for Business Analytics", Concept, Techniques and applications, John Wiley & Sons, Inc.
4. Ramesh Sharda," Business Intelligence, Analytics and Data Science", A managerial perspective, Pearson education.