

**III B.SC– V SEMESTER**  
**DATA MINING AND DATA WAREHOUSING**

**UNIT I**

Data Mining – Introduction – Functionalities – Classification of Data Mining System – Issues – Data Preprocessing – Data Cleaning – Data Integration and Transformation – Data Reduction.

**UNIT II**

Data Mining Primitives – Query Language Architecture of Data Mining System – Data Generalization and Summarization Based Characterization – Analytical Characterization – Mining Class Comparisons.

**UNIT III**

Association Rule Mining – Mining Single Dimensions Boolean Association Rules from Transactional Databases – Multilevel Association Rule – Classification and Prediction – Classification by Decision Tree Induction – Bayesian Classification – Predictive.

**UNIT IV**

**Web Mining:** Introduction - Web Content Mining - Web Structure Mining - **Advanced Topics:** Spatial Mining - Temporal Mining- **Visualization:** Data Generalization and Summarization- Based characterization - Analytical Characterization- Analysis of Attribute Relevance - Mining Class Comparisons - Discriminating between different Classes - Mining Descriptive Statistical Measures in Large Databases

**UNIT V**

**Data Warehouse:** Overview - Architecture – Back Room Technical Architecture – Architecture for Front Room Meta Data and Meta Data Catalog. **Security:** Vulnerabilities- Solutions- Managing Security for Data Warehouse Environment Physical Design – Data Staging.

**Reference Books:**

1. Data Mining Concepts and Techniques - Jiawei Han, Micheline Kamber - Elsevier Publishers.
2. The Data Warehouse Life Cycle Toolkit - Ralph Kimball - Wiley Publishers.
3. M.H. Dunham, “*Data Mining Introductory and Advanced Topics*”, Pearson Education - Wiley Publishers.