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| Hours / Week | : | 4 | |  | Sessional Marks | : | 40 |
| Credits | : | 4 | |  | End Examination Marks | : | 60 |

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| **UNIT - I** |
| **Introduction :** Fundamentals of data mining, Data Mining Functionalities, Classification of Data Mining systems, Major issues in Data Mining, Data Warehouse and OLAP Technology for Data Mining Data Warehouse, Multidimensional Data Model, Data Warehouse Architecture, Data Warehouse Implementation, Further Development of Data Cube Technology, From Data Warehousing to Data Mining,  **Data Preprocessing:** Needs Preprocessing the Data, Data Cleaning, Data Integration and Transformation, Data Reduction, Discretization and Concept Hierarchy Generation, Online Data Storage. |
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| **UNIT – II** |
| **Languages and System Architectures:** Data Mining Primitives, Data Mining Query Languages, Designing Graphical User Interfaces Based on a Data Mining Query Language Architectures of Data Mining Systems |
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| **UNIT – III** |
| **Concepts Description: Characterization and Comparison:** 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. |
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| **UNIT – IV** |
| **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 |
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| **UNIT – V** |
| **Cluster Analysis Introduction:** 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.  **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, Mining the World Wide Web. |
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| TEXT BOOKS |
| 1. Data Mining-Concepts and Techniques-JIAWEI HAN & MICHELINE KAMBER Harcourt India. 2. Data Mining Techniques - ARUN K PUJARI, University Press 3. Building the DataWarehouse- W. H. Inmon, Wiley Dreamtech India Pvt. Ltd. |
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| REFERENCE BOOKS |
| 1. Data Warehousing in the Real World-Sam Anahory & Dennis Murray. Pearson Edn Asia. 2. Data Warehousing Fundamentals - Paulraj Ponnaiah Wiley Student Edition 3. The Data Warehouse Life cycle Tool kit - Ralph Kimball Wiley Student Edition 4. Data Mining Introductory and advanced topics -Margaret H Dunham, Pearson Education |
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