

ELECTIVE COURSE 1: (ii) DATA MINING

UNIT I

Introduction: Data mining-motivation, importance-DM Functionalities, Basic Data Mining Tasks, DM Vs KDD,DM Metrics, DM Applications, Social implications.

UNIT II:

Data Warehousing: Difference between Operational Database and Data warehouse-Multidimensional Data Model: From tables to data Cubes, Schemas, Measures-DW Architecture: Steps for design and construction of DW, 3-tier DW Architecture-DW Implementation: Efficient computation of DATA Cubes, Efficient Processing of OLAP queries, Metadata repository.

UNIT III :

Data Preprocessing: Data Mining Primitives,Languages: Data cleaning, Data Integration and Transformation, Data Reduction. Discretization and concept Hierarchy Generation. Task-relevant data, Background Knowledge, Presentation and Visualization of Discovered Patterns. Data Mining Query Language-other languages for data mining.

UNIT IV:

Data Mining Algorithms: Association Rule Mining: MBA Analysis, The Apriori Algorithm, Improving the efficiency of Apriori. Mining Multidimensional Association rules from RDBMS and DXV. Classification and Predication: Decision Tree, Bayesian Classification back propagation, Cluster Analysis: Partitioning Methods, Hierarchical Method, Grid-based methods, Outlier Analysis.

UNIT V:

Web, Temporal And Spatial Data Mining: Web content Mining, Web Structure Mining, Web usage mining. Spatial Mining: Spatial DM primitives, Generalization and Specialization, Spatial rules, spatial classification and clustering algorithms. Temporal Mining: Modeling Temporal Events, Times series, Pattern Detection, Sequences.

TEXT BOOK:

- 1.Jiawei I-lan, & Micheline kamber,"data Mining: Concepts and Techniques".
Harcourt India Private Limited, First Indian Reprint, 2001

REFERENCE BOOK

2. Margaret H.Dunham,"Data Mining: Introductory and Advanced Topics"
Pearson Education,First Indian Reprint,2003
3. Arun K. Pujari," Data Mining Techniques", University Press (India) Limited,
First Edition,2001