

Systems (Elective)

Data warehousing and Data Mining (Elective-I)

1. **Managing Data:** Individual Data Management, Organisational Data Management, Components of Organisational Memory, Evaluation of Database Technology
2. **File-Oriented Systems:** Meeting the Need for Random Access Processing Information as Resource, Other Limitations of Traditional File Systems, Data Base Systems, Hierarchical Network Model Systems, Relational Database Systems - Database Systems: Hardware, Software, Data, People and Relationship of the four System Components.
3. **Database Systems in the Organisations:** Data Sharing and Data Bases – Sharing Data Between Functional Units, Sharing Data Between Different Levels of Users, Sharing Data Between Different Locations, The Role of the Data Base, Strategic Data Base Planning – The Need for Data Base Planning, The Data Base Project, The Data Base Development Life Cycle (DDLC)
4. **Risks and Costs of Database:** Organizational Conflicts – Development Project Failures – System Failure – Overhead costs – Need for Sophisticated Personnel – Separating Physical and Logical Data Representation – Client / Server Data Base Architecture, Three-Level Data Base Architecture
5. **Data warehousing Introduction:** What is a Data warehouse, Who uses Data warehouse, Need for Data warehouse, Applications of Data warehouse Concepts.
6. **The Data warehouse Data Base:** Context of Data warehouse Data Base, Data Base Structures – Organizing Relational Data warehouse – Multi-Dimensional Data Structures – Choosing a Structure, Getting Data into the Data warehouse – Extraction, Transformation, Cleaning, Loading and Summarization,
7. **Analyzing the Contexts of the Data warehouse:** Active Analysis, User Queries – OLAP, OLAP Software Architecture – Web Based OLAP, General OLAP Product Characteristics,

Automated Analysis – Data Mining, Creating a Decision Tree, Correlation and Other Statistical Analysis, Neural Networks, Nearest Neighbour Approaches, Putting the Results to Use.

8. Case Study

References

1. George M Markas: Modern Data Warehousing, Mining and Visualization, Pearson Education, New Delhi, 2009
2. Bharat Bushan Agarwal: Data Mining and Data Ware Housing, University Science Press, New Delhi, 2009
4. Gary W Hansen, James V Hansen: Data Base Management and Design, 2/E, PHI – 2000 New Delhi.
3. Hector Garcia, Molina, Jeffrey D. Ullman, Jennifer Widom: Data Base System Implementation, Pearson Education, 2001.
4. Arun K Majumdar, Primitimoy Bhattacharyya: Data Base Management Systems, Tata McGraw- Hill, New Delhi, 2003.
5. Reema Thareja: Data Ware Housing, Oxford University Press, New Delhi, 2009