

B. Sc. (IT) Final Semester -V
Paper IV
Data Warehousing

Unit I

Introduction, Definition, Components, Warehousing databases, Users, Advantages, Features, Data Granularity, Information Flow Mechanism, Metadata, Classes of Data, Lifecycle of Data, Data Flow. Architecture of Data Warehouse, characteristics, Goals, Data Marts, Building Data Marts, Pushing and Pulling Data

Unit II

Data Warehousing Schema, Dimensional Modeling, Star Schema, Snowflake Schema, Aggregate Tables, Fact Constellation Schema, Data Modeling, Dimensional Modeling: Dimension Table, Fact Tables, Fatless Fact Tables, Updates to Dimension Tables, other types of dimension table, Performance of Data Warehouse. ELT Process: Data Extraction, Data Transformation, Data Loading, Data Quality

Unit III

Data warehousing design Review, Developing data warehouse, Testing, Monitoring, Tuning, Feedback Loops. OLAP in Data warehouse: OLAP, ROLAP, HOLAP, Multidimensional Analysis, OLAP Functions, OLAP Application\,s, OLAP Models, OLAP Considerations, Tools and Products, Data Design, Administration and Performance, OLAP Platforms

Unit IV

Building Data Warehouse: Problem Definition, Success Factors, Requirement Analysis, Planning, Design Stage, Building and Implementation of Data Marts, Building Data Warehousing, Backup and Recovery, quality Frameworks, Operating warehouse, Recipe for Successful Warehouse, Pitfalls, factor