C. U. SHAH UNIVERSITY, WADHWAN CITY.

Faculty of: **Computer Science**
Course: **Bachelor of Science Information Technology**
Semester**: IV**
Subject Code**: 4CS04TDW1 (Elective – II)**
Subject Name: **Data Mining and Data warehousing**

Sr. No	Branch Code	Subject Code	Subject Name	Teaching hours/ Week			Credit hours	Credit Points	Evaluation Scheme/ Semester								Total
									Theory				Practical				
				Th	Tu	Pr			Internal Assessment		End Semester Exams		Internal Assessment		End Semester Exams		
									Marks	Duration	Marks	Duration	Marks	Duration	Marks	Duration	
4	2	4CS04TDW1	Data Mining and Data warehousing	4	-	-	4	4	15(SE) 15(CE)	1 Hr. -	70	2½ Hrs.	-	-	-	-	100

AIM:
Students will understanding the data mining and data warehousing architecture, data models and data mining techniques.

COURSE CONTENTS

Unit I Overview and Concept of Data Warehouse **10 Hrs.**
- Understanding a Data Warehouse
- A Data Warehouse is separated from Operational Databases
- Data Warehouse Features
- Data Warehouse Applications
- Types of Data Warehouse
- Difference between Data Warehouse (OLAP) and Operational Database(OLTP)
- Meaning of Data Warehousing
- Using Data Warehouse Information
- Functions of Data Warehouse Tools and Utilities

Unit II Data Warehouse terminologies and ETL **10 Hrs.**
- Metadata
- Metadata Repository
- Data Cube
- Data Mart
- Data Warehousing - Delivery Process, Delivery Method
- Extraction of Data, Transformation of Data, Loading of Data

Unit III Data Warehousing - System Processes and Architecture 10 Hrs.
- Process Flow in Data Warehouse
- Backup and Archive the Data
- Query Management Process
- Business Analysis Framework
- Three-Tier Data Warehouse Architecture
- OLAP server architectures: ROLAP, MOLAP, HOLAP
- Data Warehouse Models
- Load Manager
- Warehouse Manager
- Query Manager

Unit IV Data Mining 10 Hrs.
- Introduction to data mining
- Data Mining Applications
- Functions of data mining
- Data mining issues

Unit IV Data Mining techniques & Algorithms 08 Hrs.
- Decision Tree, Neural Network, Machine learning
- Association Rules, Apriori Algorithm, Clustering Algorithm

REFERENCE BOOKS:
(1) Implementing a Data Warehouse with Microsoft® SQL Server® 2012 Dejan Sarka
(2) Building a Data Warehouse: With Examples in SQL Server – Vincent Rainardi-Apress (2014)
(3) Data mining Explained A manager's guide to customer centric business intelligence by
(4) Data mining by Pieter Adriaans, Dolf Zantinge
(5) Data warehousing in the real world A practical guide for business

NPTEL Link:

https://nptel.ac.in/courses/106105174