C. U. SHAH UNIVERSITY, WADHWAN CITY.

Faculty of: **Computer Science**
Course: **Master of Computer Applications**
Semester**: III**
Subject Code**: 5CS03CDM1 (Elective – I)**
Subject Name: **Data Warehouse and Data Mining**

Sr. No	Subject Code	Subject Name	Teaching hours/ Week			Credit hours	Credit Points	Evaluation Scheme/ Semester								
								Theory				Practical				Total
								Internal Assessment		End Semester Exams		Internal Assessment		End Semester Exams		
			Th	Tu	Pr			Marks	Duration	Marks	Duration	Marks	Duration	Marks	Duration	
2	5CS03CDM1	Data Ware Housing and Data Mining	4	--	--	4	4	30	1½	70	2½	--	--	--	--	100

AIM:

At the end of this course, Student can create database. Students can have basic knowledge of dbms.

COURSE CONTENTS

Sr. No.	Course Content	Hrs.
1	**FUNDAMENTALS OF DATA WAREHOUSE** • Introduction, Objectives of Data Warehouse • Evolution of Data Warehouse • Data Warehouse and its Need • Need for Data Warehouse • Benefits of Data Warehouse • Data Warehouse Design Approaches: (a) Top-Down Approach (b) Bottom-Up Approach • Characteristics of a Data Warehouse • How Data Warehouse Works? • OLTP and OLAP • Metadata and Data Warehousing • Data Warehouse Applications • Types of Data Warehouses	**10**
2	**DATA WAREHOUSE ARCHITECTURE** • Introduction, Objectives of Data Warehouse Architecture • Data Warehouse Architecture and its Types • Types of Data Warehouse Architectures • Components of Data Warehouse Architecture • Layers of Data Warehouse Architecture • Data Marts • Data Mart Vs Data Warehouse • Benefits of Data Marts • Types of Data Marts, Limitations with Data Marts	**10**

3	**EXTRACT, TRANSFORM AND LOADING** • Introduction, Objectives of ETL • ETL and its Need • ETL Process: Data Extraction, Data Transformation, Data Loading • Working of ETL • Layered Implementation of ETL in a Data Warehouse • ETL and OLAP Data Warehouses • ETL Tools and their Benefits • Improving the Performance of ETL • ETL Vs ELT	**10**
4	**INTRODUCTION TO ONLINE ANALYTICAL PROCESSING** • Introduction, Objectives • OLAP and its Need • Characteristics of OLAP • OLAP and Multidimensional Analysis • OLAP Functions • Applications of OLAP • Steps in the OLAP Creation Process • Advantages of OLAP • OLAP Architectures - MOLAP, ROLAP, HOLAP, DOLAP	**10**
5	**DATA MINING** • Introduction, Objectives of Data Mining • Data Mining and its Benefits • Purpose Of Data Mining • How Does Data Mining Works? • Data Mining Techniques • Data Mining Vs Data Warehousing • Data Mining Tools • Applications of Data Mining • Issues in Data Mining	**08**
	Total	**48**

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