GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Branch: Information Technology

Course / Subject Code: MB04096021

Course / Subject Name : Cloud Data Insights

w. e. f. Academic Year:	2025-2026
Semester:	4
Category of the Course:	Interdisciplinary Elective (Minor 2)

Prerequisite:	Any graduate
Rationale:	This course aims to equip students with a foundational understanding of data warehousing, mining, and cloud computing technologies. It emphasizes integration between enterprise data systems and cloud-based analytics. The course combines theoretical understanding with practical exposure to warehouse design, data mining algorithms, and cloud infrastructure for business intelligence and strategic decision-making.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Understand core concepts of data warehousing, mining, and cloud computing.	Remember, Understanding
02	Apply ETL, OLAP, and data mining algorithms for business analytics.	Understanding, Apply
03	Analyze data integration challenges across warehouse and cloud platforms.	Understanding, Analyse
04	Evaluate performance, scalability, and security of cloud-based data solutions.	Evaluate

**Revised Bloom's Taxonomy (RBT)*

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
				Theory		Tutorial / Practical		
L	T	PR	C	ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	1	0	4	70	30	50	0	150

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	**Data Mining:**	12	25

	• What is Data Mining? • What kind of Data can be Mined? • Which technologies can be used? • Major Issues in Data Mining **Data warehousing concepts:** • Difference between DWH and OLTP-based DBMS environments • DW development life cycle • Data warehouse Design • Data Extraction • Transformation and Loading Process • Data Marts.		
2.	**Data Processing and Over View** • Data Cleaning • Overview of Data Reduction Strategies • Histogram • Sampling • Data Cube Aggregation Association Rule Mining **Basic Concepts: Association** • Apriori Algorithm **Classification And Prediction:** • Basic Concepts • Decision Tree Induction • Bayesian Classification, Rule Based Classification • Associative Classification **Clustering And Trends In Data Mining:** • Cluster Analysis: • K-Means – Partitioning Methods, Hierarchical Methods, Density-Based Methods, Grid Based Methods, Model-Based Clustering Methods, Clustering High Dimensional Data, Constraint Based Cluster Analysis • Outlier Analysis. • Overview of Text Mining, Web mining & Multimedia. Data Mining. Data Mining Applications.	11	25
3.	**Cloud Computing at a glance:** • The vision of cloud computing • Defining a cloud • A closer look	11	25

	• The cloud computing reference model • Characteristics and benefits • Types of cloud • Challenges in cloud **Virtualization:** • Introduction • Characteristics of virtualized environments • Types of virtualization • Benefits And Challenges **Data Storage And Cloud Computing:** • Enterprise Data Storage • Data Storage Management • File System • Cloud Data Stores Grids For Data Storage		
4.	**Cloud Application:** • Moving Application To Cloud • Microsoft Cloud Services • Google Cloud Application • Amazon Cloud Services • Other Cloud Applications **Future Cloud:** • Future Trends • Mobile Cloud • Multimedia Cloud • Energy Aware Cloud Computing	11	25
5.	**Practical** • Assignment related to cloud computing may be given in groups or individual • Relevant case studies should be discussed in class room. Students are required to make presentation on applications of Data mining in business areas like Risk management and targeted marketing, Customer profiles and feature construction, Medical applications, Scientific Applications etc.	15	CEC
	Total	**60**	**100**

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
20%	30%	25%	10%	15%	---

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

No.	Author	Title	Publisher	Edition
1	P. S. Deshpande	Data Mining and Warehousing	Dreamtech Press	Latest
2	Ralph Kimball and Margy Ross	The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling	Wiley	Latest
3	Dr. Kumar Saurabh	Cloud Computing	Wiley	2011
4	Thomas Erl	Cloud Computing: Concepts, Technology & Architecture	Prentice Hall	Latest

(b) Open source software and website:

1. https://www.geeksforgeeks.org/data-mining/
2. https://www.tutorialspoint.com/cloud_computing/index.htm
3. https://rapidminer.com
4. https://hadoop.apache.org

CO- PO Mapping:

Semester 4	**Subject Name: Cloud Data Insights**				
	POs				
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1	3	2	1	0	0
CO2	2	3	3	2	0
CO3	1	2	3	2	1
CO4	2	2	3	3	2
CO5	-	-	-	-	-

*Legend: '**3**' for high, '**2**' for medium, '**1**' for low and '**-**' for no correlation of each CO with PO.*