



<b>Program</b>	Master of Business Administration (MBA)	<b>Semester - 3</b>
<b>Type of Course</b>	Major	
<b>Prerequisite</b>		
<b>Rationale</b>	-	
<b>Effective From A.Y.</b>	2024-25	

Teaching Scheme (Contact Hours)				Examination Scheme				
Lecture	Tutorial	Lab	Credit	Theory Marks		Practical Marks		Total Marks
				T	T	P	P	
4	-	-	4	50	30	-	-	150

*SEE - Semester End Examination, T - Internal Theory, P - Internal Practical*

Course Content		T - Teaching Hours   W - Weightage	
Sr.	Topics	T	W
1	<b>RDBMS concepts</b> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Normaliation (1NF to BCNF)</li> <li>• Structured Query Language (SQL)</li> <li>• Features of SQL</li> <li>• Data Definition Language (DDL)</li> <li>• Data Manipulation Language (DML)</li> <li>• Views, Functions in SQL</li> <li>• Group By and Having Clauses</li> <li>• Subqueries</li> <li>• Examples of SQL</li> </ul>	15	25
2	<b>Data warehousing &amp; Data Mining concepts</b> <ul style="list-style-type: none"> <li>• Data warehousing concepts:               <ul style="list-style-type: none"> <li>◦ Difference between DWH and OLTP-based DBMS environments</li> <li>◦ Development Process, DW development life cycle</li> <li>◦ DW development Methodologies</li> <li>◦ DW Process framework</li> <li>◦ Data warehouse Design</li> <li>◦ Detailed Dimensional Modelling</li> <li>◦ Reporting and Query tools</li> <li>◦ Data Extraction</li> <li>◦ Transformation and Loading Process</li> <li>◦ Meta Data Management, Data Marts</li> </ul> </li> <li>• Data Mining concepts:               <ul style="list-style-type: none"> <li>◦ Data Pre-processing including Data types, attributes and properties</li> <li>◦ Data Quality</li> <li>◦ Pre-processing</li> <li>◦ Types of Data Mining, cleaning, integration and reduction</li> </ul> </li> </ul>	15	25
3	<b>Association Rule Mining , Classification and Prediction:</b>	15	25



<b>Course Content</b>		<b>T - Teaching Hours   W - Weightage</b>	
<b>Sr.</b>	<b>Topics</b>	<b>T</b>	<b>W</b>
	<ul style="list-style-type: none"> <li>• Association Rule Mining and Classification               <ul style="list-style-type: none"> <li>◦ Mining Frequent Patterns</li> </ul> </li> <li>• Associations and Correlations:               <ul style="list-style-type: none"> <li>◦ Mining Methods</li> <li>◦ Association Rules – Correlation Analysis, Constraint Based Association Mining</li> </ul> </li> <li>• Classification and Prediction:               <ul style="list-style-type: none"> <li>◦ Basic Concepts</li> <li>◦ Decision Tree Induction</li> <li>◦ Bayesian Classification, Rule Based Classification</li> <li>◦ Classification by Back Propagation</li> <li>◦ Support Vector Machines</li> <li>◦ Associative Classification</li> <li>◦ Lazy Learners</li> <li>◦ Other Classification Methods – Prediction.</li> </ul> </li> </ul>		
<b>4</b>	<b>Clustering and Trends in Data Mining</b>	<b>15</b>	<b>25</b>
	<ul style="list-style-type: none"> <li>• Cluster Analysis:               <ul style="list-style-type: none"> <li>◦ Types of Data</li> <li>◦ Categorization of Major Clustering Methods</li> <li>◦ K-Means – Partitioning Methods, Hierarchical Methods, Density-Based Methods, Grid Based Methods, Model-Based Clustering Methods, Clustering High Dimensional Data, Constraint Based Cluster Analysis</li> <li>◦ Outlier Analysis</li> <li>◦ Overview of Text Mining, Web mining &amp; Multimedia Data Mining</li> <li>◦ Data Mining Applications</li> </ul> </li> </ul>		
<b>Total</b>		<b>60</b>	<b>100</b>

**Suggested Distribution Of Theory Marks Using Bloom's Taxonomy**

<b>Level</b>	<b>Remembrance</b>	<b>Evaluate</b>	<b>Create</b>
<b>Weightage</b>	25	50	25

*NOTE : This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.*

**Course Outcomes**

<b>At the end of this course, students will be able to:</b>	
CO1	Explain and discuss the importance of data warehouses and their strategic role in a firm's IT infrastructure and decision-making processes.
CO2	Evaluate the role of data mining techniques in business decision making and the opportunities and challenges of managing data analytics.
CO3	Explore and assess recent trends in data mining, including web mining and spatial-temporal mining, and their application across different industries.
CO4	Design a data mart or data warehouse for an organization, evaluating methodologies and models used in data warehousing and their role in customer relationship management systems.



**CO PO Mapping**

CO	CO - 1	CO - 2	CO - 3	CO - 4
PO - 1	3	2	1	3
PO - 2	2	3	3	3
PO - 3	0	1	0	0
PO - 4	2	2	2	2
PO - 5	1	0	0	2

**Reference Books**

1.	<b>Data mining concepts and techniques (TextBook)</b> By Jiawei, Han Micheline Kamber, Jian Pei Professor   Morgan Kaufmann
2.	<b>The Data Warehouse Toolkit</b> By Ralph Kimball   Wiley   3rd, Pub. Year 2013
3.	<b>Data Warehousing, Data Mining and OLAP (TextBook)</b> By Alex Berson, Stephen Smith   McGraw Hill   Latest Edition