SEMSETER-II

GANPAT UNIVERSITY									
FACULTY OF MANAGEMENT STUDIES									
Program	MBA		Branch/Spec.		Tech MBA (MBA Technology Management)				
Semester	II				Version	1.0.0.0			
Effective from Academic Year		2025-26			Effective for the batch Admitted in		January 2025		
Subject code	**IIA04DWH**		Subject Name		**Database Management Systems and Warehousing**				
Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	4	0	0		4	Theory	60	40	100
Hours	4	0	0		4	Practical			

Objective:
To provide future managers with a strategic understanding of how data is managed, governed, and leveraged as a corporate asset through database systems and data warehousing, enabling them to lead data-driven decision-making initiatives.

Course Outcome:
CO 1: The students will be able to explain the strategic role of operational database systems (DBMS) and differentiate between relational and NoSQL databases based on business application needs.
CO 2: The students will be able to formulate a business-centric view on data governance, outlining the strategic importance of data quality, master data management (MDM), and security.
CO 3: The students will be able to explain the architecture of a data warehouse and its role in enabling business intelligence by transforming operational data into analytical insights.
CO 4: The students will be able to analyze modern data warehousing strategies, comparing cloud platforms, data lakes, and lakehouses, and evaluate their impact on business agility and self-service analytics.

Theory syllabus

Unit	Content	Hrs
1	Foundations of Data Management, Data as a Strategic Corporate Asset, Data vs. Information vs. Intelligence, The Problem with Spreadsheets at Scale, Operational Systems (OLTP) & DBMS, Role of Databases in Core Applications (CRM, ERP), Relational vs. NoSQL Databases: A Manager's View, Use Cases for Structured vs. Unstructured Data, Conceptual SQL: The Language of Business Questions, Case Study: Database as a Competitive Edge.	15
2	Data Governance, Quality, and Security, Data Governance Frameworks & Principles, Establishing Data Ownership & Stewardship, Master Data Management (MDM): A Single Source of Truth, The Business Cost of Poor Data Quality, Data Quality Dimensions & Metrics, Data Security & Privacy for Managers (CIA Triad), Navigating Regulatory Compliance (GDPR, CCPA), Managerial Role in Data Breach Mitigation.	15
3	Data Warehousing & Business Intelligence (BI), From Operations (OLTP) to Analytics (OLAP), Data Warehouse Architecture & Components, Dimensional Modeling Concepts (Star Schema), The ETL/ELT Process for Business, The Business Intelligence (BI) Ecosystem, BI Tools: Reports, Visualizations & Executive Dashboards, Role of Data Marts for Departmental Analysis, Case Study: BI Implementation in a Large Enterprise.	15

Note: Version 1.0.0.0 (First Digit= New syllabus/Revision in Full Syllabus, Second Digit=Revision in Teaching Scheme, Third Digit=Revision in Exam Scheme, Forth Digit= Content Revision)

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CE= Continuous Evaluation, SEE= Semester End Examination

4	Modern Analytics Infrastructure & Strategy, The Cloud Revolution in Data Warehousing, On-Premise vs. Cloud Platforms (Snowflake, BigQuery), Data Lake vs. Data Warehouse: A Strategic Comparison, The Data Lakehouse Architecture, Enabling Self-Service Analytics & Data Democratization, The Modern Data Stack: A Conceptual Overview, Future Outlook: Real-Time Analytics & AI/ML Integration, Data Mesh: A Decentralized Approach to Data.	15
Practical content		
Reference Books		
1.	Kimball, Ralph, and Ross, Margy. The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling. 3rd Edition, Wiley, 2013.	
2.	DalleMule, L., and Davenport, T. H. "What's Your Data Strategy?". Harvard Business Review, May-June 2017.	
3.	Fisher, T. The Data Asset: How Smart Companies Govern Their Data for Business Success. Wiley, 2020.	
4.	Inmon, W. H. Building the Data Warehouse. 4th Edition, Wiley, 2005.	
5.	Redman, Thomas C. Data Driven: Profiting from Your Most Important Business Asset. Harvard Business Review Press, 2018.	
6.	Zikopoulos, P., and Eaton, C. Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data. McGraw-Hill, 2011.	
7.	Howson, Cindi. Successful Business Intelligence: Unlock the Value of BI & Big Data. 2nd Edition, McGraw-Hill, 2013.	
8.	Shron, Y. Thinking with Data: How to Turn Information into Insights. O'Reilly Media, 2016.	
9.	Firican, G. The Data Governance & Data Quality Toolkit. Independently published, 2022.	
10.	Marr, Bernard. Data Strategy: How to Profit from a World of Big Data, Analytics and the Internet of Things. Kogan Page, 2017.	
11.	Zham, Z., and Tan, L. The Modern Data Warehouse in Theory and Practice. Manning, 2024.	
12.	Ladley, John. Data Governance: How to Design, Deploy and Sustain an Effective Data Governance Program. 2nd Edition, Academic Press, 2019.	

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