



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Course / Subject Code: MB01092031

Course / Subject Name : Information Systems and Analytics for Management
Decision Making

w. e. f. Academic Year:	2024-25
Semester:	1
Category of the Course:	Core Course (CC)

Prerequisite:	Any Graduate
Rationale:	Studying Information Systems and Business Analytics will help students with essential skills to harness data-driven insights for strategic decision-making. It enhances their ability to leverage technology effectively, leading to competitive advantages in today's digital business landscape. Mastery of these subjects prepares future managers to navigate complexities and innovate within organizations, ensuring sustainable growth and operational excellence.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Understand organizational structures, types of decisions, and the role of Information Systems (IS) in a changing business environment	Understand
02	Apply concepts of data mining and analytics to business support functions and industries	Apply
03	Apply different types of Information Systems for strategic business uses.	Apply
04	Analyze the components and applications of Business Intelligence (BI) and Business Analytics (BA).	Analyze

*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
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	1	0	4	70	30	50	0	150



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Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Organization and Information Systems: The Organization: - Structure, Managers and activities. - The level of people and types of decisions and the information needs. - Changing Environment and its impact on Business – The IT/IS and its influence. Information Systems: - Data, information and its attributes. - Information Systems – meaning functions and dimensions and need. - Categorization of Organizational Information Systems – hierarchical and functional perspective. Strategic business use of IS: - Interdependence between organization and IS IS strategies for competitive advantage using Porter's Five Forces Model and Value Chain Model	10	20
2.	Types of Information Systems: Hierarchical Information Systems: - Transaction Processing Systems - Management Information Systems - Decision Support Systems - Executive Support / Information Systems Enterprise Information Systems: - Enterprise Resource Planning System (ERP) - Supply Chain Management Systems (SCM) - Customer Relationship Management Systems (CRM)	10	20
3.	Business Intelligence: - Definitions and Examples in Business Intelligence - From DSS to BI - Need, Features and Use of Business Intelligence (BI) - Components of BI - Data Warehouse - Business Analytics - Business Performance Management - User Interface	12	30



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	Business Analytics: • Introduction to Business Analytics (BA) • Components (Business Context, Technology, Data Science) • Types of BA (Descriptive, Predictive and Prescriptive) • Business Intelligence versus Business Analytics • Transaction Processing v/s Analytic Processing ○ OLTP v/s OLAP ○ OLAP Operations Business Reporting, Visual Analytics: • Definition, concepts • Different types of charts and graphs Emergence of data visualization and visual analytics		
4.	Data Mining: • Concepts and applications • Data mining process Text & Web Analytics – overview and application: • Text analytics and text mining • Web mining • Social media analytics • Sentiment analysis overview Analytics in Business Support Functions: • Sales & Marketing Analytics • HR Analytics • Financial Analytics • Production and Operations analytics • Important KPI and Dashboard in each functional area Analytics in Industries: • Telecom, Retail, Healthcare, Financial Services • Important KPI and Dashboard in each industry	13	30
5.	Practical: Students should visit manufacturing/service organizations and study their information systems. Students should also study its reporting systems and analytics applications to make decisions. Students should prepare a detailed report on applications of analytics from different perspectives.	15	NIL
	Total	60	100



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Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
0	30%	40%	30%	0	0

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	Name of the Book	Publisher	Year of Publication/ Edition
1	Kenneth Laudon, Jane Laudon	Essentials of Management Information Systems	PHI	Latest
2	Kenneth Laudon, Jane Laudon	Information Systems: Managing the Digital Firm Management	Pearson	Latest
3	Stephen Haag, Amy Philips	Business Driven Technology	McGraw Hill	Latest
4	Stephen Haag, Maeve Cummings, Amy Philips	Management Information Systems for the Information Age	McGraw Hill	Latest
5	W .S .Jawadekar	Management Information Systems	TMH	Latest
6	Raymond Mc Leodand George P.Schell	Management Information systems	Pearson	Latest
7	Ramesh Sharda, Dursun Delen, Efraim Turban	Business Intelligence: A Managerial Perspective on Analytics	Pearson	Latest
8	R. N. Prasad and Seema Acharya	Fundamentals of Business Analytics	Wiley	Latest
9	U. Dinesh Kumar	Business Analytics – The Science of Data-Driven	Wiley	Latest



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		Decision-Making		
10	Anil Maheshwari	Data Analytics	McGraw Hill	Latest
11	Jesper Thorlund & Gert H.N. Laursen	Business Analytics for Managers: Taking	Wiley	Latest
12	Sahil Raj	Business Analytics	Cengage	Latest

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

(b) List of Journals /Periodicals /Magazines/Newspapers/Web resources, etc.

1. MIS Quarterly ,University of Minnesota
2. CIO
3. Computer Express
4. Digichip
5. PC World
6. Computer Shopper
7. Dataquest

CO- PO Mapping:

Semester 1	Information Systems and Analytics for Management Decision Making				
	POs				
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1	3	2	3	3	2
CO2	2	-	-	3	-
CO3	2	2	1	-	3
CO4	3	3	2	3	3

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

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