GUJARAT TECHNOLOGICAL UNIVERSITY
MBA - SEMESTER - I EXAMINATION - WINTER 2025

Subject Code: MB01098051   **Date: 21-01-2026**

Subject Name: Fundamentals of DATA Analysis

Time: 10:30 AM TO 01:30 PM   **Total Marks: 70**

Instructions
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. USE of SIMPLE calculators AND non-programmable scientific calculators are permitted.

		Marks
Q.1	ALL 7 Questions must be Compulsory.	**14**
(a)	Data Visualization	
(b)	Dashboard	
(c)	Data Preparation	
(d)	Information	
(e)	Semi Structured Data	
(f)	Business Intelligence	
(g)	KPI	
Q.2 (a)	Describe the different types of IS and explain how each supports managerial decision-making.	**07**
(b)	Explain characteristics of structured, semi-structured, and unstructured data. Explain with suitable examples.	**07**

OR

(b)	Describe the data life cycle in MIS, Explain each stage and its significance.	**07**
Q.3 (a)	Discuss the importance of data quality in MIS with reference to integrity, consistency, and completeness.	**07**
(b)	Discuss the dos and don'ts of effective dashboard design for managerial use	**07**

OR

(a)	Discuss the importance of data visualization in managerial decision-making with suitable examples.	**07**
(b)	Distinguish between internal and external data sources and discuss their importance in managerial decision-making	**07**
Q.4 (a)	Explain how information systems support key business functions such as marketing, finance, HR, and operations with suitable examples	**07**

(b) A regional manager wants to analyze sales performance of different states and cities. Explain how drill-down and filtering can help in analysis   **07**

<div align="center">**OR**</div>

(a) An e-commerce firm wants to improve customer retention. Explain how data analytics and dashboards can help managers take strategic decisions   **07**

(b) An organization is facing issues such as missing values, duplicate records, and incorrect entries in sales data. Explain the steps involved in data cleaning to improve data quality   **07**

Q.5 Mascot Foods Pvt Ltd. is a Noida based packaged food manufacturing firm. It also manufactures biscuits and bakery products. In all 25 different products are produced and sold by the firm. Their products are mainly distributed in North Indian states of UP, Uttarakhand, Himachal Pradesh, Punjab and Haryana. Ever since its inception in the year 2005, the firm has been purchasing its raw material like wheat flour, sugar, eggs, preservatives and additional flavors from the local farmers and nearby markets. The input cost varies with the cost of the products which in turn depends on the crop production and dependent on rainfall in the previous year. Besides the raw material cost, labour management is another factor that the company has to take care of. Looking at the seasonal variations in raw material availability, the company has to maintain enough buffer stocks.

The company distributes its products through a network of dealers and distributors. They have appointed distributors in all the major zone in which they operate. Further, the distributors supply goods to the dealers in each city. The dealers approach retailers in towns and villages. Thus, the products of the company reach thousands of retailers in the areas they are operating in. To create demand and awareness about its products, the company regularly launches advertising campaigns in the visual and print media. The marketing manager has to be careful in choosing the most affective media to reach out to the customers. Besides the publicity, he also has to resort to discounts, freebies and attractive schemes for retailers to push the product sales.

The company sales have been almost stagnant for the last three years despite of manufacturing good quality product and tireless efforts by the company to increase sales and build new customers. A major portion of its margins is utilized up in maintaining dealers / retailers. To grow the firm's business and to meet the future demands, the top management is exploring the option of increasing reach by marketing their products in central Indian states. To meet the demands, the firm will have to set up new manufacturing unit in some other regions to take the benefits of attractive tax-free zones provided in those states. They are also looking for adopting information systems so as to facilitate in their working. Mascot Foods has approached you as an IT consultant to the firm.

(a) Suggest what IT systems can be adopted by the firm that can help them overcome the problems the firm is facing. Highlight the benefits of each tools / technologies suggested by you   **07**

(b) Elaborate what components would be required for automating the business processes.   **07**

<div align="center">**OR**</div>

(a) Sales of Mascot Food Pvt Ltd is stagnant for three years suggest your views how company can use information Technology to increase sales   **07**

(b) How Mascot food Pvt. Ltd. Use Information Technology to maintain relationship with trading partners. **07**

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