

# CBCS SCHEME

USN 1 C R 2 4 B A D 4 5

MBABA314

Third Semester MBA Degree Examination, Dec.2025/Jan.2026

## Data Visualization

Time: 3 hrs.

Max. Marks: 100

- Note: 1. Answer any FOUR full questions from Q.No.1 to Q.No.7.  
2. Question No. 8 is compulsory.  
3. M : Marks, L: Bloom's level, C: Course outcomes.*

			M	L	C
Q.1	a.	Define Visual Perception.	3	L1	CO1
	b.	What are the challenges faced in validating data visualisations?	7	L2	CO1
	c.	Explain Gestalt Principles.	10	L3	CO1
Q.2	a.	Define Visual mapping.	3	L1	CO1
	b.	Discuss validation approaches in visualization with examples.	7	L2	CO2
	c.	Explain task abstraction with examples.	10	L2	CO3
Q.3	a.	What are marks and channels in visualization?	3	L1	CO2
	b.	Discuss the role of data structures in visualization.	7	L2	CO2
	c.	Discuss visualization of multi-dimensional data with examples.	10	L3	CO3
Q.4	a.	What are text visualizations?	3	L1	CO2
	b.	Compare the visualization of clusters vs. groups. How does each help in interpreting complex data sets?	7	L3	CO3
	c.	Assess the role of software tools (Tableau, Power BI) in supporting strategic decision-making.	10	L2	CO4
Q.5	a.	Define volumetric data visualization and give one example of its application.	3	L1	CO3
	b.	Describe visualization of two-dimensional data with examples.	7	L3	CO2
	c.	Compare the visualization of process simulations vs. collaborative visualizations. How does each contribute to strategic insights?	10	L3	CO3
Q.6	a.	List any three uses of GIS systems in geographic information visualization.	3	L1	CO4

	b.	Explain how spatial axis orientation influences the interpretation of visualized data.	7	L2	CO3
	c.	Explain visualization techniques for text and text documents.	10	L3	CO3
Q.7	a.	Differentiate between color theory and color maps in visualization.	3	L2	CO2
	b.	How does collaborative visualizations contribute to strategic insights?	7	L2	CO3
	c.	Assess the role of color theory and map color channels in enhancing strategic communication through geographic visualizations.	10	L3	CO3
Q.8	<b>Compulsory Question :</b>				
	a.	A retail company faces information overload in its reporting system. Analyze how visualization can reduce cognitive burden using Gestalt principles.	10	L4	CO1
	b.	A policymaker wants to apply rules of thumb for arranging tables. Theoretically analyze categorical regions.	10	L4	CO2



## CMR Institute of Technology

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### VTU Third Semester MBA Degree Examination (Dec 2025/Jan 2026) Data Visualization (MBABA314).

#### Question 1

##### a. Define Visual Perception.

Visual perception is the process by which the brain organizes and interprets sensory information from the eyes to understand the surrounding environment. In data visualization, it refers to how users "see" and decode graphical elements like shapes, colors, and spatial arrangements to derive meaning from data.

##### b. What are the challenges faced in validating data visualizations?

Validating a visualization is difficult because it involves both technical accuracy and human psychology.