



**Term Evaluation (Odd) Semester Examination September 2025**

Roll no.....

Name of the Program and semester: MBA III

Name of the Course: *Data Visualization*

Course Code: MBA 303(BA2)

Time: 3 hours

Maximum Marks: 50

**Note:**

(i) This question paper contains two Sections - A and B

(ii) Both Sections are compulsory

(iii) Answer any two sub questions from a, b & c in each main question of Section A. Each sub question carries 5 marks.

(iv) Section B, consisting of a case study, is compulsory. It is of 20 Marks..

**Section – A**

Q.1	(5 X 2 Marks)
a)	Describe the key principles of effective data visualization and explain how they contribute to clarity, accuracy, and better decision-making. (CO1)
b)	Evaluate the role of data visualization in the real world and analyze how well-designed charts and graphs enhance data interpretation and understanding. (CO2)
c)	Demonstrate, through a step-by-step process, how Power BI can be used to connect with a data source, create a visualization, and publish it as an interactive report.(CO3)
Q.2	(5 X 2 Marks)
a)	Why should analysts carefully consider chart types when visualising different kinds of data? (CO2)
b)	What features make Microsoft Power BI unique compared to other BI tools, and how do these features support data integration, real-time analytics, and effective decision-making? (CO1)
c)	Using a visualization tool of your choice (e.g., Power BI, Tableau, or R), analyse a real-world dataset, create multiple visualizations to represent the data, and provide a detailed interpretation of the insights derived from these visualizations.(CO4)
Q.3	(5 X 2 Marks)
a)	Describe how you would design a visualization workflow to track patient admissions, discharges, and bed occupancy in real time. (CO3)
b)	A company wants to study the shopping patterns of its customers. The data collected includes



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	the type of membership card held by customers (Gold, Silver, Platinum), the satisfaction level with customer service (Very Low, Low, Medium, High, Very High), the amount spent by each customer in rupees during their last purchase, and the average monthly temperature of the store recorded in Celsius. Analyze the type of data for each variable and suggest the most suitable visualization technique to present it, giving reasons for your choices. (CO4)	
c)	As a marketing analyst, how would you use data visualization dashboards to track customer purchasing patterns and campaign performance, and how could these insights guide better decision-making? (CO3)	
	<b>SECTION B</b>	
Q4	<b>Case Study</b>  GreenCity Public Transport Authority (GPTA) manages bus and metro services in a rapidly growing metropolitan area. Over the past decade, GPTA has accumulated extensive operational data, including passenger counts, route efficiency, ticketing patterns, maintenance schedules, and fuel consumption. However, these datasets are fragmented across different departments, making it difficult for policymakers and managers to evaluate system performance. To enhance decision-making, GPTA decides to adopt data visualization tools to integrate and present real-time insights, aiming to improve passenger experience, reduce costs, and move toward sustainable urban mobility.  <b>Questions</b> <b>Q1.</b> Evaluate how the use of data visualization can help GPTA critically assess the effectiveness of its current transport routes and resource allocation strategies. Provide arguments for and against relying heavily on visualization dashboards for policy decisions. <b>Q2.</b> Assess the key success indicators GPTA should use to determine whether its data visualization initiative is improving sustainability, cost-efficiency, and passenger satisfaction. Which indicators would you prioritize, and why?	<b>(20 Marks)</b>  CO5