

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3174301****Date:06-12-2023****Subject Name: Data Visualization and Modeling****Time: 10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) What is data visualization?	03
	(b) What are different applications of data visualization? Explain it in short	04
	(c) Explain Matplotlib library in detail.	07
Q.2	(a) What is Power BI Desktop? What are different components of Power BI?	03
	(b) List down different data sources supported by Power BI. Explain it in short.	04
	(c) Draw and Explain Power BI architecture.	07
OR		
	(c) Explain different types of views available in Power BI Desktop	07
Q.3	(a) Write short note: DAX functions	03
	(b) What is Tableau? What are different steps for Tableau installation?	04
	(c) Differentiate Power BI Vs Tableau	07
OR		
Q.3	(a) What is Matplotlib? Explain it in short.	03
	(b) Write down a code for Line plots using Matplotlib with Python and draw it.	04
	(c) What is Box plot? What is Bubble plot? Write down code for both Box plot and Bubble plot using Matplotlib with Python and draw it.	07
Q.4	(a) What is Waffle chart? What are its advantages and disadvantages?	03
	(b) What is Word clouds? List Python libraries that needed to install Word clouds.	04
	(c) What is Seaborn? Write a code for Scatter plot using Seaborn in Python.	07
OR		
Q.4	(a) Write a code for a Waffle chart using pyWaffle in Python.	03
	(b) Write a code for a Word clouds using Python.	04
	(c) What is Folium? Write down code for spatial visualizations and analysis in Python with Folium.	07
Q.5	(a) What is Data modeling? What are its advantages in Power BI?	03
	(b) What is a Star schema? Explain it.	04
	(c) What is a Data model? Explain different types of Data models in detail.	07
OR		
Q.5	(a) Short note: Tableau basic filters	03
	(b) Which are the Menu options available in Tableau? Explain in short.	04
	(c) What is Pie chart? What are the steps to create it in Tableau?	07
