



# PRESIDENCY UNIVERSITY

BENGALURU

Roll No.																			
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## Make-up Examinations – December 2025

Date: 27 – 12- 2025

Time: 01:00pm – 04:00pm

<b>School:</b> SOIS	<b>Program:</b> BCA		
<b>Course Code :</b> CSA2018	<b>Course Name :</b> Data Modeling and Visualization		
<b>Semester:</b> MK	<b>Max Marks:</b> 100	<b>Weightage:</b> 50%	

CO - Levels	C01	C02	C03	C04	C05
<b>Marks</b>	<b>29</b>	<b>29</b>	<b>21</b>	<b>21</b>	

### Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

### Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1	List the steps involved in building a data model	2 Marks	L1	C01
2	Define missing data and its common causes	2 Marks	L2	C01
3	Define data transformation and give examples	2 Marks	L2	C02
4	How to load a sample dataset using Python	2 Marks	L2	C02
5	Define trees and graphs	2 Marks	L2	C03
6	Define multivariate data and provide examples.	2 Marks	L2	C03
7	Identify visualization techniques commonly used for time-oriented data	2 Marks	L2	C03
8	List the steps involved in designing effective visualizations.	2 Marks	L1	C04
9	Define the terms operators and Spaces	2 Marks	L2	C04
10	Define the network in visualization	2 Marks	L2	C04

## Part B

Answer the Questions.

Total Marks 80

11.	a.	Identify the role of programming, statistics, and machine learning in a Data Science project. [15 Marks]	25 Marks	L4	C01
	b.	Assess the relevance of specific skills (e.g., SQL, Python, R) in the Data Science industry. [10 Marks]			

or

12.	a.	Explain the role of data preparation in the modeling process. [15 Marks]	25 Marks	L4	C01
	b.	Justify the use of specific libraries or tools for loading datasets in a particular context. [10 Marks]			

13.	a.	Compare the assumptions underlying EDA, classical analysis, and Bayesian analysis. [15 Marks]	25 Marks	L4	C02
	b.	Describe when to use Min-Max Scaling [10 Marks]			

or

14.	a.	Explain the role of data transformation in preparing datasets for analysis or modeling. [15 Marks]	25 Marks	L4	C02
	b.	Describe the difference between normalization and standardization. [10 Marks]			

15.	a.	Compare the strengths and weaknesses of tree-maps and Sunburst chart for multivariate visualization.	15 Marks	L4	C03

Or

16.	a.	Describe how scatterplot matrices help in analyzing relationships between variables.	15 Marks	L4	C03

17.	a.	Describe Gestalts law using different visual variable	15 Marks	L4	C04

Or

18.	a.	Explain how displaying Hierarchical structures using different space filling methods	15 Marks	L4	C04