

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
SCHOOL OF ENGINEERING SCIENCES & TECHNOLOGY
JAMIA HAMDARD
END SEMESTER EXAM 2024

PAPER: DATA MODELLING AND VISUALIZATION
CODE: MCSB 304

TIME: 2.5 HRS
MAXIMUM MARKS: 60

SECTION A
All questions of Section A are compulsory (4*5)

S No	Question	Marks	CO	BL
1.	How can storytelling with data add value to an organisation?	5	4	3
2.	What are the different steps of data preprocessing?	5	1	2
3.	What is data abstraction with respect to visualization?	5	3	1
4.	Why is validation important in visualization?	5	2	2

SECTION B
Answer any 4 questions in Section B (4*10)

S.N o	Questions	Marks	CO	BL
1.	Using a real-world scenario, explain how data visualization can benefit an organization. Additionally, outline the key principles that should be considered when creating effective visualizations.	10	4	3
2	A company wants to predict house prices based on the area (in square feet) and the number of rooms. A. Write the general equation of a multiple linear regression model for this scenario. B. Identify the dependent and independent variables.	10	4	4
3	Explain the working of the K-Nearest Neighbors (KNN) algorithm for classification. How does the choice of k impact the model's performance?	10	3	3
4	Discuss the importance of changing views over time in data visualization. Explain how selecting specific elements and reducing	10	3	2

	attributes can improve user interaction and decision-making with an example from social media analytics or sales dashboards.			
5	Briefly explain the importance of color theory in data visualization. What factors should be considered when selecting color maps?	10	2	1
6.	Summarize the key rules of thumb for arranging spatial data. How do these guidelines improve the usability and interpretability of visualizations?	10	1	2

BLOOMS TAXONOMY LEVELS (BL)

1-REMEMBERING, 2-UNDERSTANDING, 3-APPLYING, 4-ANALYZING, 5-EVALUATING, 6-CREATING