

Code No: R20A6702

**MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

**III B.Tech II Semester Regular/Supplementary Examinations, June 2024****Data Handling and Visualization****(B.Tech-AIDS & B.Tech-AIML)**

<b>Roll No</b>									
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**Time: 3 hours****Max. Marks: 70**

**Note:** This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing **ONE** Question from each SECTION and each Question carries 14 marks.

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			<b>BCLL</b>	<b>CO(s)</b>	<b>Marks</b>
<b><u>SECTION-I</u></b>					
<b>1</b>	<b>A</b>	Define statistics and explain its role in data analysis.	<b>L3</b>	<b>CO-I</b>	<b>[7M]</b>
	<b>B</b>	What are scalar techniques in data visualization, and how are they used to represent data?	<b>L3</b>	<b>CO-I</b>	<b>[7M]</b>
OR					
<b>2</b>	<b>A</b>	Define inferential statistics and explain how it is used to draw conclusions about a population.	<b>L3</b>	<b>CO-I</b>	<b>[7M]</b>
	<b>B</b>	Discuss the properties of vectors in data visualization and how they can be visualized using glyphs.	<b>L3</b>	<b>CO-I</b>	<b>[7M]</b>
<b><u>SECTION-II</u></b>					
<b>3</b>	<b>A</b>	Explain how a histogram is constructed and how it differs from a bar chart in univariate data visualization.	<b>L4</b>	<b>CO-II</b>	<b>[7M]</b>
	<b>B</b>	Explain bivariate data visualization methods.	<b>L3</b>	<b>CO-II</b>	<b>[7M]</b>
OR					
<b>4</b>	<b>A</b>	Explain basic functions used to describe data in R.	<b>L6</b>	<b>CO-II</b>	<b>[7M]</b>
	<b>B</b>	Describe the process of importing a dataset into R and display the first few rows of the dataset.	<b>L3</b>	<b>CO-II</b>	<b>[7M]</b>
<b><u>SECTION-III</u></b>					
<b>5</b>	<b>A</b>	Describe the process of loading a function in R programming.	<b>L3</b>	<b>CO-III</b>	<b>[7M]</b>
	<b>B</b>	Write an R function called calculate_discount that takes two arguments: price and discount_rate, and returns the discounted price after applying the discount rate.	<b>L4</b>	<b>CO-III</b>	<b>[7M]</b>
OR					
<b>6</b>	<b>A</b>	Explain the concept of scope in R functions and how it affects variable visibility.	<b>L4</b>	<b>CO-III</b>	<b>[7M]</b>
	<b>B</b>	Describe the process of defining a function in R, including the syntax and components of a basic function.	<b>L3</b>	<b>CO-III</b>	<b>[7M]</b>
<b><u>SECTION-IV</u></b>					
<b>7</b>	<b>A</b>	Explain how you would create a choropleth map in Tableau.	<b>L3</b>	<b>CO-IV</b>	<b>[7M]</b>
	<b>B</b>	Explain about data visualization in R	<b>L3</b>	<b>CO-IV</b>	<b>[7M]</b>
OR					
<b>8</b>	<b>A</b>	Describe the process of creating a dashboard in Tableau	<b>L3</b>	<b>CO-IV</b>	<b>[7M]</b>
	<b>B</b>	Explain why it is important to consider data ethics when creating visualizations	<b>L3</b>	<b>CO-IV</b>	<b>[7M]</b>
<b><u>SECTION-V</u></b>					
<b>9</b>	<b>A</b>	Compare and contrast Seaborn's scatterplot and lineplot functions, including their use cases and differences in syntax.	<b>L3</b>	<b>CO-V</b>	<b>[7M]</b>
	<b>B</b>	Discuss the advantages and disadvantages of using Seaborn for data visualization compared to other libraries like Matplotlib.	<b>L3</b>	<b>CO-V</b>	<b>[7M]</b>
OR					
<b>10</b>	<b>A</b>	Compare and contrast Folium with other Python libraries used for spatial visualizations, such as Plotly and Basemap.	<b>L3</b>	<b>CO-V</b>	<b>[7M]</b>
	<b>B</b>	Explain how you would use Seaborn to visualize the relationship between two continuous variables in a dataset,	<b>L4</b>	<b>CO-V</b>	<b>[7M]</b>

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