GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– VI (NEW) EXAMINATION – WINTER 2021

Subject Code:3161613   **Date:30/11/2021**
Subject Name:Data Analysis and Visualization
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)**	Define: probability and inferential statistics.	**03**
	(b)	Write a note on data visualization.	**04**
	(c)	Discuss working of classification in brief.	**07**
Q.2	**(a)**	Discuss outliers.	**03**
	(b)	Briefly discuss time series analysis.	**04**
	(c)	List and discuss clustering techniques.	**07**
		OR	
	(c)	Explain reduction of data dimensionality.	**07**
Q.3	**(a)**	Explain over fitting problem.	**03**
	(b)	Write the differences between supervised and unsupervised techniques.	**04**
	(c)	Discuss Random Forest Algorithm.	**07**
		OR	
Q.3	**(a)**	Write a note on tree pruning.	**03**
	(b)	What are the requirements of good clustering?	**04**
	(c)	Write a note on decision tree induction algorithm.	**07**
Q.4	**(a)**	Write a note on real word problems using data analysis techniques.	**03**
	(b)	Explain working of k-Means clustering algorithm.	**04**
	(c)	Write a note on Linear Regression, Multi Linear and Non Linear Regression.	**07**
		OR	
Q.4	**(a)**	Discuss web based applications for visualization design	**03**
	(b)	Compare classification with prediction.	**04**
	(c)	Discuss working of k- nearest neighbor algorithm.	**07**
Q.5	**(a)**	Write a note on Big three of Data Visualization.	**03**
	(b)	Write a note on D3.JS.	**04**
	(c)	Write a note on D3-DOM Selection methods.	**07**
		OR	
Q.5	**(a)**	Discuss the appropriate design style for data visualization.	**03**
	(b)	Discuss data visualization graphs.	**04**
	(c)	Write and execute programs of D3-Function of Data.	**07**

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