Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA(INTEGRATED) - SEMESTER–II EXAMINATION – SUMMER 2020

Subject Code:2527102   **Date:**05/11/2020
Subject Name: Business Statistics
Time:10:30am to 01:30pm   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain four levels of data measurement with suitable example.	**07**
	(b)	Explain any 4 types of charts used for graphical representation of data in statistics.	**07**
Q.2	**(a)**	What is statistics? Write a note on various functions and applicability of statistics in business.	**07**
	(b)	Construct a Stem & Leaf Plot of the following data:	**07**

86   77   91   60   55
76   92   47   88   67
23   59   72   75   83
77   68   82   97   89
81   75   74   39   67
79   83   70   78   91
68   49   56   94   81

OR

	(b)	Describe Skewness and Kurtosis in detail.	**07**
Q.3	**(a)**	What do you mean by Quartiles, Deciles and Percentiles? Explain uses of it with examples.	**07**
	(b)	There are 155 employees working at one of the four types of positions shown below in table along with gender specification. If an employee of the company is selected randomly, what is the probability that the employee is female or a professional worker?	**07**

Type of Position	Gender	
	Male	Female
Managerial	8	3
Professional	31	13
Technical	52	17
Clerical	9	22

OR

Q.3	**(a)**	A sample of 12 advertising agencies revels the following numbers of artists per agency:	**07**

6 8 10 13 11 9 7 15 12 5 13 4

Determine the following for above data:
1. Mode
2. Mean
3. Median
4. Inter-Quartile Range

	(b)	Explain the measures of dispersion? Explain various measures of variation with suitable examples.	**07**
Q.4	**(a)**	Write a short note on Coefficient of Correlation & Coefficient of Determination.	**07**

(b) Find Range, 40th Percentile , 80th Percentile and Q2 of the following data: **07**
       18 20 22 27 21 29 27 29 28 29 16

OR

Q.4 **(a)** Explain the Structure of probability with suitable examples.   **07**

(b) Find the Karl Pearson's Coefficient of Correlation of following data: **07**

X	4	5	7	8	6	3	5
Y	11	9	13	7	13	8	8

Q.5 **(a)** Explain Spearman's Rank Correlation with example.   **07**

(b) A box contains 7 red marbles and 5 black marbles. Two marbles are selected   **07**
without replacement from the box.
1. What is the probability that selected both of the marbles are black?
2. What is the Probability that selected one marble is red and one marble is black?

OR

Q.5 **(a)** Explain any three of the following terms: **07**
1. Mutually Exclusive events
2. Independent Events
3. Sample Space
4. Joint Probability

(b) Find variance and Standard deviation of the following data: **07**

Class	1-3	3-5	5-7	7-9	9-11	11-13
Frequency	4	12	13	19	7	5

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