GUJARAT TECHNOLOGICAL UNIVERSITY
MBA INTEGRATED-SEMESTER-II-EXAMINATION-SUMMER-2025

Subject Code: 2527102 **Date: 04/06/2025**
Subject Name: Business Statistics
Time: 10:30 AM TO 01:30 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Use of simple calculators and non-programmable scientific calculators are permitted.**

Q.1	**(a)**	Define Statistics. Mention use of Statistics in Business decision making along with limitations of Statistics.	**07**
	(b)	Determine value of Karl Pearson's coefficient of Correlation r :	**07**

X	4	6	7	11	14	17	21
Y	18	12	13	8	7	7	4

Q.2	**(a)**	Explain the following graphs used for graphical representation of data in statistics with necessary example of your choice: 1. Histogram 2. Frequency Polygon 3. Pie Chart	**07**
	(b)	Explain four levels of Data measurement with relevant examples of each.	**07**

OR

	(b)	Find 35th Percentile, 55th Percentile and Q$_3$ of the following data:	**07**

16 28 29 13 17 20 11 34 32 27 25 30 19 18 33

Q.3	**(a)**	Explain measures of shape: Skewness and Kurtosis.	**07**
	(b)	A bin contains six parts. Two of the parts are defective and four are acceptable. If three of the six parts are selected from the bin, how large is the sample space? What is the probability that exactly one of the three sampled parts is defective?	**07**

OR

Q.3	**(a)**	Explain Measures of Central Tendency with suitable example.	**07**
	(b)	Use the values in the contingency table to solve the equations given.	**07**

	D	E
A	10	20
B	15	5
C	30	15

1. P(E)
2. P(B U D)
3. P(B/E)

Q.4	**(a)**	Compute a Spearman's rank correlation for the following variables to determine the degree of association between the two variables :	**07**

X	23	41	37	29	25	17	33	41	40	28	19
Y	201	259	234	240	231	209	229	246	248	227	200

	(b)	What is Simple Linear Regression Model? Explain with a suitable example of your choice.	**07**

Q.4 **(a)** Explain Scatter plot diagram? Also mention various correlations based on Scatter plot. **07**

(b) Determine the equation of the regression line for the following data: **07**

X	15	8	19	12	5
Y	47	36	56	44	21

Q.5 **(a)** Define Probability. Explain general law of addition and general law of multiplication in probability. **07**

(b) Determine mean and median for the following grouped data. **07**

Class Interval	frequency
0–under 2	39
2–under 4	27
4–under 6	16
6–under 8	15
8–under 10	10
10–under 12	8
12–under 14	6

OR

Q.5 **(a)** Explain the following terms of Probability with suitable examples. **07**
- Sample Space
- Events
- Mutually exclusive events

(b) A data set contains the following seven values. **07**

6   2   4   9   1   3   5

- Find the range.
- Find the population variance.
- Find the population standard deviation.

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