GUJARAT TECHNOLOGICAL UNIVERSITY
MBA INTEGRATED-SEMESTER- II-EXAMINATION- SUMMER-2024

Subject Code: 2527102   **Date: 12/06/2024**
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)**	Explain in detail "Importance & Scope of Statistics"	07
	(b)	Explain the following terms:	07

    1. Statistics
    2. Parameter
    3. Variable
    4. Pareto diagram
    5. Polygon
    6. Contingency Table
    7. Histogram

Q.2	**(a)**	Explain empirical relationship between Median and Mode.	07
	(b)	Write a Note: Principles of measurement.	07

OR

Q.2 (b) **Compute the mean of the following frequency distribution using step deviation method.**   **07**

Class	0-11	11-22	22-33	33-44	44-55	55-66
Frequency	9	17	28	26	15	8

Q.3 (a) **Compute the lower and upper quartiles for the following distribution:**   **07**

Marks group	No. of students
5-10	**5**
10-15	**6**
15-20	**15**
20-25	**10**
25-30	**5**
30-35	**4**
35-40	**2**
40-45	**2**

(b) Explain Skewness and Kurtosis.   **07**

OR

Q.3 (a) Explain various Algebraic measures of Variation   **07**

(b) **Calculate the S.D. and coefficient of variation (C.V.) for the following table:**   **07**

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	5	10	20	40	30	20	10	5

Q.4 (a) From the above table calculate karl peason's correlation co-efficient.   **07**

Production	100	102	104	107	105	112	103	99
Unemployed	15	12	13	11	12	12	19	26

(b) Write a note: Type of correlations. **07**

OR

Q.4 **(a)**

R1	1	2	3	4	5	6	7	8	9	10	11	12
R2	2	3	5	1	9	10	11	12	8	7	6	4

07

Calculate rank correlation from the above table.

(b) Fit a linear regression equation to suggest owner the weekly rate at which his sales are rising. **07**

Week	1	2	3	4	5	6
Sales(in Rs. 1000's)	2.69	2.62	2.80	2.70	2.75	2.81

Q.5 **(a)** Explain following terms: **07**
    1. Independent event
    2. Complementary event
    3. Sample space

(b) What is the probability that a randomly chosen card from deck of cards will be either a king or a heart? **07**

OR

Q.5 **(a)** Explain rule of addition and Multiplication. **07**

(b) A problem in business statistics is given to five students, A,B,C,D, and E. Their chances of solving it are ½, 1/3, ¼, 1/5, 1/6 respectively. What is the probability that the problem will be solved? **07**

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