

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA INTEGRATED – SEMESTER - II EXAMINATION- SUMMER-2023**

**Subject Code: 2527102****Date: 14-07-2023****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)** What is statistics ? Explain in detail uses of statistics in business unit . **07**

**(b)** Differentiate between correlation and cointegration . **07**

**Q.2 (a)** Explain in detail various shapes in measures of dispersion which related to skewness and kurtosis . **07**

**(b)** How many six letter word can be formed by using letter of word MONDAY ? How many word commence with M and end with Y ? **07**

**OR**

**(b)** The rank data related to two variables X & Y such as following : **07**

<b>Sr. No.</b>	1	2	3	4	5	6	7
<b>X</b>	3	2	5	1	7	4	6
<b>Y</b>	1	2	4	3	7	5	6

Calculate Ranking correlation method .

**Q.3 (a)** Compute combined mean and standard deviation from following data : **07**

	<b>Group –I</b>	<b>Group –II</b>
No.of observation	10	40
Mean	25	20
Variance	16	25

**(b)** Write a short note on : **07**

- A) Union event and Intersection event
- B) Mutually exclusive event
- C) Permutation and combination

**OR**

**Q.3 (a)** Find out mode from following information : **07**

<b>Class</b>	0-15	15-30	30-45	45-60	60-75	75-90	90-105
<b>Frequency</b>	8	10	23	57	33	23	30

(b) Briefly explain Karl Pearson method of correlation method . 07

**Q.4 (a)** Determine central Tendency's for following data : 07

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	30	60	40	50	60	30	70	50	60

(b) For the following frequency distribution, draw the cumulative frequency polygon (or ogive) of less than type: 07

Class	Frequency
1-4	3
4-7	5
7-10	4
10-13	1
13-16	6
16-19	7
19-22	5
22-25	14
25-28	1
28-31	4

**OR**

**Q.4 (a)** Explain in detail any 3 graphs in business statistics . 07

(b) Find co-regression line of two variables : 07

<b>X</b>	25	10	22	44	40	50	60
<b>Y</b>	45	20	34	55	50	70	80

**Q.5 (a)** Find range and relative range of given information : 07

Class	20-29	30-39	40-49	50-59	60-69	70-79
Frequency	5	60	130	52	40	3

(b) What is co-relation ? Briefly explain types of co-relation . 07

**OR**

**Q.5 (a)** Find out 4<sup>th</sup> decile , 2 quartile and 70<sup>th</sup> percentile of following data : 07  
5 ,8,10,12,19,20,24,28,30,35

(b) Explain in details Bayes' Theorem about Probability. 07

\*\*\*\*\*