LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

B.B.A. DEGREE EXAMINATION – **BUSINESS ADMINISTRATION**

SECOND SEMESTER – **APRIL 2025**

UBU 2502 – BUSINESS STATISTICS

Date: 29-04-2025   Dept. No.   Max. : 100 Marks
Time: 09:00 AM - 12:00 PM

	SECTION A - K1 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
1.	**Definitions**	
a)	Frequency Curve.	
b)	Measure of Central Tendency	
c)	Skewness.	
d)	Regression Line	
e)	Cyclical Variation	
2.	**True or False**	
a)	Statistics helps people make decisions in different jobs and industries.	
b)	Mean, median, and mode tell us what is normal in a group of numbers.	
c)	Range tells us the smallest and largest numbers in the given data.	
d)	Regression is mainly used to prove the relationship between variables.	
e)	Time series looks at data over time to find trends.	
	SECTION A - K2 (CO1)	
	Answer ALL the Questions	**(10 x 1 = 10)**
3.	**Fill in the blanks**	
a)	All sources of data that come from outside the organization are called _____.	
b)	The middle number in a group of values arranged in order is called the _____.	
c)	_____ shows how much the data spreads out by taking away the lowest value from the highest one.	
d)	_____ analysis helps us understand how one thing changes based on one or more other things.	
e)	_____ analysis looks at data collected over time to find patterns, trends, or repeated changes.	
4.	**MCQ**	
a)	The Census Method refers to: I. Studying a selected sample from the population II. Studying every unit in the population III. Observing only important individuals IV. Ignoring a portion of data	
b)	The average of the values 66, 34, 83, 12, 56, 79, 34, 54, 90 is: I. 60 II. 56.44 III. 57.56 IV. 58.56	
c)	The range of the data set 23, 45, 67, 43, 89, 12, 64, 87 is: I. 75 II. 66 III. 79 IV. 77	
d)	Rank correlation shows: I. The average of two ranked values	

	II. The strength of relationship between two sets of ranks III. The frequency of ranked items IV. The total score of ranked variables
e)	The components of time series include: I. Trend and Seasonal variation II. Cyclical and Irregular variation III. Only Trend IV. All of the above

SECTION B - K3 (CO2)

Answer any TWO of the following in 100 words each. (2 x 10 = 20)

5.	Explain the Scope and Importance of Statistics.
6.	4. Calculate Karl Pearson's Coefficient of Skewness: <table><tr><td>X</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>F</td><td>10</td><td>18</td><td>30</td><td>25</td><td>12</td><td>3</td><td>2</td></tr></table>
7.	Calculate the Mean Deviation about the Median and its coefficient for the following data: <table><tr><td>X</td><td>10</td><td>11</td><td>13</td><td>14</td><td>12</td></tr><tr><td>F</td><td>3</td><td>12</td><td>12</td><td>3</td><td>18</td></tr></table>
8.	Compare and contrast the concepts of Regression and Correlation with suitable examples.

SECTION C – K4 (CO3)

Answer any TWO of the following in 100 words each. (2 x 10 = 20)

9.	Calculate Rank Correlation for the following data: <table><tr><td>Marks in Maths</td><td>85</td><td>60</td><td>73</td><td>40</td><td>90</td></tr><tr><td>Marks in Statistics</td><td>93</td><td>75</td><td>66</td><td>50</td><td>80</td></tr></table>
10.	Discuss the Importance of Regression Analysis.
11.	Calculate the Standard Deviation: <table><tr><td>Marks</td><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td></tr><tr><td>No. of Students</td><td>8</td><td>12</td><td>20</td><td>10</td><td>7</td><td>3</td></tr></table>
12.	Elaborate the Components of Time Series.

SECTION D – K5 (CO4)

Answer any ONE of the following in 250 words (1 x 20 = 20)

13.	Draw a Histogram and Frequency Curve: <table><tr><td>Class Interval</td><td>10–20</td><td>20–30</td><td>30–40</td><td>40–50</td><td>50–60</td><td>60–70</td><td>70–80</td><td>80–90</td></tr><tr><td>Frequency</td><td>5</td><td>10</td><td>15</td><td>17</td><td>20</td><td>24</td><td>16</td><td>8</td></tr></table>
14.	. Devise the Quartile Deviation for the following distribution: <table><tr><td>Class Interval</td><td>0–10</td><td>10–20</td><td>20–30</td><td>30–40</td><td>40–50</td><td>50–60</td></tr><tr><td>Frequency</td><td>8</td><td>20</td><td>25</td><td>30</td><td>12</td><td>5</td></tr></table>

SECTION E – K6 (CO5)

Answer any ONE of the following in 250 words (1 x 20 = 20)

15.	. Formulate the Correlation Coefficient between production and sales: <table><tr><td>Month</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr><tr><td>Production</td><td>46</td><td>54</td><td>56</td><td>58</td><td>58</td><td>60</td><td>62</td></tr><tr><td>Sales</td><td>36</td><td>40</td><td>44</td><td>54</td><td>42</td><td>58</td><td>54</td></tr></table>
16.	Fit a Trend Line using the Method of Semi Averages: <table><tr><td>Year</td><td>1989</td><td>1990</td><td>1991</td><td>1992</td><td>1993</td><td>1994</td><td>1995</td></tr><tr><td>Sales (Firm A)</td><td>112</td><td>115</td><td>124</td><td>120</td><td>118</td><td>126</td><td>122</td></tr></table>

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