LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

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

SECOND SEMESTER – **APRIL 2025**

UBU2MC01 – BUSINESS STATISTICS

Date: 25-04-2025 Dept. No. Max. : 100 Marks

Time: 09:00 AM - 12:00 PM

SECTION A - K1 & K2 (CO1)			
Q.No	Levels	**Answer ALL the Questions**	**(10 x 2 = 20)**
1	K1	What is the difference between a Histogram and a Bar Diagram?	
2		What is a Pie Diagram?	
3		Define Mean.	
4		A shopkeeper records the number of customers visiting his shop in a week: 20, 25, 30, 35, 40, 45, 50. Find the mean number of customers.	
5		Find the Standard Deviation (SD) for: 2, 4, 6.	
6	K2	Find the range for the data set: 12, 18, 25, 30, 40.	
7		Define Correlation.	
8		What is the importance of Regression Analysis?	
9		What are the components of a Time Series?	
10		Compute a 3-year moving average for sales: 10, 20, 30, 40, 50.	

SECTION B – K3 & K4 (CO2)			
		Answer ALL the Questions	**(4 x 10 = 40)**
11	K3	Discuss the advantages and disadvantages of representing data visually.	
		[OR]	
12		Find the median for the following frequency distribution:	

Class Interval	Frequency (f)
0 – 10	5
10 – 20	9
20 – 30	15
30 – 40	10
40 – 50	6

13		Calculate Karl Pearson's coefficient of skewness.			

15	16	15	15	17

[OR]

14 Calculate the Karl Pearson's correlation coefficient (r) between X and Y.

X	10	11	12	13	14
Y	2	3	4	5	6

15 K4 Discuss about the various components of time series.

[OR]

16 Draw histogram and frequency curve to the following.

C-I	0-5	5-10	10-15	15-20	20-25
frequency	7	9	10	11	8

17 Calculate mode to the following.

Class-intervals	0-2	2-4	4-6	6-8	8-10
Frequency	6	7	12	5	8

[OR]

18 A company records its annual sales (in thousands of units) over six years as follows:

Year	2018	2019	2020	2021	2022	2023
Sales	15	18	21	24	28	32

Using the semi-average method, determine the trend equation.

SECTION C – K5 & K6 (CO3)

Answer ALL the Questions **(2 x 20 = 40)**

19 K5 Explain the importance and scope of statistics.

[OR]

20 Calculate quartile deviation to the following.

C-I	20	30	40	50	60
frequency	11	14	15	10	12

21 K6 The ranks of 8 students in Mathematics (X1), Statistics (X2), and Economics (X3) are given below. Compute Spearman's Rank Correlation Coefficient between:

1. Mathematics and Statistics
2. Mathematics and Economics
3. Statistics and Economics

Student	Rank in Mathematics (X1)	Rank in Statistics (X2)	Rank in Economics (X3)
A	1	2	3
B	2	1	2
C	3	4	1
D	4	3	4
E	5	6	6
F	6	5	5
G	7	8	8
H	8	7	7

[OR]

22 The following table shows the yearly production (in thousand units) for a company.

Year	2015	2016	2017	2018	2019	2020
X (Year - 2017)	-2	-1	0	1	2	3
Y (Production)	30	35	42	47	50	55

(a) Find the equation of the least squares regression line.

(b) Estimate the production for 2022.

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