LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIRST SEMESTER – **NOVEMBER 2022**

17/18UST1AL01 – INTRODUCTION TO STATISTICS

Date: 01-12-2022   Dept. No.   Max. : 100 Marks
Time: 01:00 PM - 04:00 PM

PART – A

Q. No	Answer ALL the questions	(10 X 2 = 20 Marks)
1	Distinguish between primary and secondary data.	
2	Define Statistics.	
3	The coefficients of variation of two series are 58 and 69. Their standard deviations are 21.2 and 15.6. What are their arithmetic means?	
4	What is meant by one dimensional diagrams?	
5	State the rules for diagrammatic presentation.	
6	Calculate weighted mean from the following data:	

Value	10	12	15	18	20
Weight	2	5	10	4	7

Q. No		
7	Write a short note on skewness.	
8	Define correlation.	
9	Write any two properties of Regression coefficients.	
10	What is meant by time series analysis?	

PART – B

Answer any FIVE questions   **(5 X 8 = 40 Marks)**

11	Draw a frequency curve for the following data:

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	6	8	10	15	13	8	5

12	Discuss briefly the various limitations of statistics.

13 From the following data:

	X	Y
Mean	48.4	85.6
Standard deviation	8.4	10.5
Correlation coefficient	0.62	

Find the two regression equations.

14 Find the standard deviation and quartile deviation for the following data:

Class	4.5	14.5	24.5	34.5	44.5	54.5	64.5
Frequency	1	5	12	22	17	9	4

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15	Calculate Spearman's coefficient of rank correlation for the following data:

X	53	98	95	81	75	61	59	55
Y	47	25	32	37	30	40	39	45

16	Fit a linear trend for the following data by Least Square method. Also find production for the 2020.

Year	2009	2010	2011	2012	2013
Production of Steel (m. Tonnes)	12	20	28	32	50

17	Explain the various components of time series.

18	Calculate geometric mean and harmonic mean form the data given below:

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	8	12	18	8	6

PART – C

Answer any TWO questions (2 X 20 = 40 Marks)

19	(i).Calculate the Pearson's correlation coefficient for the following data: (10+10)

X	1	2	3	4	5	6	7	8	9
Y	9	8	10	12	11	13	14	16	15

(ii) Explain briefly the various methods of sampling.

20	(i).Calculate Bowley's coefficient of skewness for the following data: (10+10)

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	5	8	7	12	28	20	10	10

(ii).Draw a suitable diagram to represent the sources of fund of X Ltd.

Sources of Funds	Rs. In Crores		
	2010-11	2011-12	2012-13
Share capital	2000	2000	2000
Reserves and Surplus	3000	4000	5000
Borrowings	4000	5000	6000

21	Calculate seasonal indices by the ratio to moving average method from the following data: (20)

Quarter	Wheat prices (in rupees per quintal)			
	2005	2006	2007	2008
I	75	86	90	100
II	60	65	72	78
III	54	63	66	72
IV	59	80	85	93

22	(i).Find the coefficient of variation for the following data: (10+10)

Size (in cms)	0-10	10-20	20-30	30-40	40-50	
No. of items	7	12	24	10	7	

(ii). Define classification. Explain the various types of classification used in statistics.