LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Com. DEGREE EXAMINATION – **CORPORATE SECRETARYSHIP**

SECOND SEMESTER – **APRIL 2022**

UCO 2302 – STATISTICS FOR DECISION MAKING

(21 BATCH ONLY)

Date: 27-06-2022 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

SECTION A

Answer ALL the Questions

1.	**Define the following terms with examples.**	**(5 x 1 = 5)**	
a)	Central Tendency.	K1	CO1
b)	Median.	K1	CO1
c)	Moving average method.	K1	CO1
d)	Regression line.	K1	CO1
e)	Index Numbers.	K1	CO1
2.	**Fill in the blanks:**	**(5 x 1 = 5)**	
a)	When mean is 79 and variance is 64, C.V……..	K1	CO1
b)	If Q_3=30, Q_1=20, Med. =25, Coefficient of skewness shall be……	K1	CO1
c)	The regression analysis helps us to study the …… relationship between the variables.	K1	CO1
d)	Laspeyre's index gives an ……. Bias whereas Paache's index downward bias.	K1	CO1
e)	…….. rule is used to find an initial feasible solution.	K1	CO1
3.	**Match the following**	**(5 x 1 = 5)**	
a)	Rank Correlation = $(Q_3 + Q_1)/2$	K2	CO1
b)	Time Reversal test = A.M.>G.M.> H.M.	K2	CO1
c)	Coefficient of Quartile deviation = $Q_3 + Q_1 + 2Q_2$	K2	CO1
d)	Negative coefficient of skewness = $1 - 6\sum D^2/N^3-N$	K2	CO1
e)	Asymmetrical distribution = P_{01} X $P_{10} = 1$	K2	CO1
4.	**Indicate the whether the following statements are TRUE or FALSE**	**(5 x 1 = 5)**	
a)	Range is the best measure of dispersion.	K2	CO1
b)	In a symmetrical distribution mean = median = mode.	K2	CO1
c)	Karl Pearson's coefficient of correlation always lies between 0 and +1.	K2	CO1
d)	The regression coefficient of Y on X is denoted by the symbol b_{xy}.	K2	CO1
e)	The circular test is an extension of the time reversal test.	K2	CO1

SECTION B

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

5. Apply standard deviation and find the answer from the data given below: — K3 — CO2

Size of the item	3.5	4.5	5.5	6.5	7.5	8.5	9.5
Frequency	3	7	22	60	85	32	8

6. From the data given blow construct Fisher's quantity index number: — K3 — CO2

Commodity	2004		2005	
A	2	4	6	18
B	5	3	2	2
C	7	8	4	24

7. Calculate standard deviation from the data given below: — K3 — CO2

Size	3.5	4.5	5.5	6.5	7.5	8.5	9.5
Frequency	3	7	22	60	85	32	8

8. Illustrate common measures of central tendency with suitable examples. — K3 — CO2

SECTION C

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

9. From the following data, analyse the coefficient of rank correlation between X and Y. — K4 — CO3

X	33	56	50	65	44	38	44	50	15	26
Y	50	35	70	25	35	58	75	60	55	26

10. Explain the first, second, third and fourth moments about the origin and mean for the set of numbers 2, 4,6, 8 — K4 — CO3

11. Explain secondary data and its sources. — K4 — CO3

12. Explain the importance of Time Series Analysis in business — K4 — CO3

SECTION D

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

13. Measure the mean, median and mode from the following data: — K5 — CO4

Wages (in Rs.)	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
No. of workers	31	47	59	78	104	113	81	60	52	25

14.	Evaluate Karl Pearson's Correlation coefficient for the data given below:	K5	CO4

X	45	55	56	58	60	65	68	70	75	80	85
Y	56	50	48	60	52	64	65	70	74	85	90

SECTION E

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

15.	Following are the marks obtained by a class of students in HRM and Financial Management. Prepare the regression equation.	K6	CO5

HRM	80	45	55	56	58	60	65	68	70	75	85
FM	82	56	50	48	60	62	64	65	70	74	90

16.	Construct a solution for the transportation problem by Vogel's approximation method.	K6	CO5

	D_1	D_2	D_3	D_4	Supply
Q_1	1	2	1	4	30
Q_2	3	3	2	1	50
Q_3	4	2	5	9	20
Demand	20	40	30	10	

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