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D1BST2301 (S1) **Reg. No.....**

Name: .....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(Improvement/Supplementary)

STATISTICS: COMPLEMENTARY COURSE FOR MATHEMATICS & CS

GSTA1C01T: INTRODUCTORY STATISTICS

Time: 2 Hours **Maximum Marks: 60**

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 20 Marks)

1. What are the limitations of statistics?
2. Define coefficient of variation.
3. Define Histogram.
4. What are the methods of collecting primary data?
5. Distinguish between ordinal scale and nominal scale.
6. If the SD of X values is 2. Find the SD of 9X-6 values.
7. What are the uses of index numbers?
8. Define simple correlation.
9. What is Scatter diagram?
10. Write down the normal equation for fitting a curve of the form y=ab^x.
11. Distinguish between positive and negative skewness.
12. The mean of a series is 10 and its coefficient of variation is 40 percent. Find the variation of the series.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 30 Marks)

13. Obtain the recurrence relation between raw and central moments.
14. Write down the points to be noted when making a good questionnaire.
15. Find QD and coefficient of QD for the following data.

X	5-15	15-25	25-35	35-45	45-55	55-65	65-75
f	7	12	25	34	22	12	8

16. Define kurtosis. Distinguish between lepto kurtic and plati kurtic curves.

(PTO)

17. Fit a curve of the form $y=ab^x$ to the data given below

X	2	3	4	5	6	7	8
f	10	14	21	45	72	94	120

18. Calculate the cost of living index number for the year 2005 related to 2000 using aggregate expenditure method

	A	B	C	D	E	F
Base year quantity q_0	3	2	6	4	3	5
Base year cost p_0	5	6	4	7	6	8
Current year cost p_1	6	5	7	8	10	9

19. Draw histogram, frequency polygon and frequency curve of the following data.

Class	10-14	15-19	20-29	30-39	40-49	50-74	75-89
Frequency	6	12	24	32	20	18	6

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. a) Calculate the coefficient of correlation between X and Y.

X:	50	14	16	17	18	19	20	21	22	23
Y:	30	85	78	70	75	66	67	62	58	60

b) Prove that coefficient of correlation always lies in the interval -1and +1

21. Calculate (i) Fisher's index number (ii) Marshal Edgeworth index number using the following data.

Item	2009		2013	
	p_0	q_0	p_1	q_1
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	3

(1 x 10 = 10 Marks)