FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2023
(Regular/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. Distinguish between primary and secondary data.

2. What are the steps for constructing a histogram?

3. What do you mean by ogives?

4. Prove that the sum of deviations from mean is zero.

5. Define absolute and relative measures of dispersion. Give one example of each.

6. What is the purpose of a Box Plot?

7. Define regression coefficient.

8. Define raw moments and central moments.

9. Explain scatter plot.

10. What are the components of time series?

11. Discuss mathematical models for a time series analysis.

12. What are the merits and demerits of a semi average method?

SECTION B: Answer the following questions. Each carries *five* marks.
(Ceiling 30 Marks)

13. List the characteristics of a good questionnaire.

14. Distinguish between nominal, ordinal and time series data.

15. Define skewness and kurtosis. Discuss measures of skewness and kurtosis based on moments.

16. The arithmetic mean of two numbers is 10 and their geometric mean is 8. Find the numbers.

17. If the regression lines are 2X+3Y-70=0 and 3X+2Y-80=0 and variance of X=9, Find

   (i) Mean values of X and Y.

   (ii) Regression coefficients of X on Y line and Y on X line.

   (iii) Coefficient of correlation between X and Y.

(PTO)

18. Construct a trend line for the following data by the method of semi averages.

Year	1980	1981	1982	1983	1984	1985	1986
Value	40	47	54	59	61	67	73

19. Calculate Laspeyres' Index number of prices for the following data:

Commodity	1998		1999	
	Price	Quantity	Price	Quantity
A	40	15	35	20
B	30	10	25	15
C	15	7	20	7
D	10	8	20	6
E	25	2	40	1

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

20. Find the Mean, Median and Mode of the following distribution.

Class interval	20-30	30-40	40-50	50-60	60-70
Frequency	3	5	20	10	5

21. Calculate Karl Pearson's coefficient of correlation.

X	62	64	69	70	65	61	62
Y	41	45	49	44	41	49	50

(1 x 10 = 10 Marks)