FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2022

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U STA1 C01 - INTRODUCTORY STATISTICS

(Statistics - Complementary Course)

(2019 Admission onwards)

Time : 2.00 Hours   Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. What are the four divisions of NSSO ?

2. Define statistics and discuss its scope.

3. Define mean deviation.

4. Define standard deviation

5. Define moments.

6. Give the formula for Karl Pearson's coefficient of skewness.

7. What is a scatter diagram ?

8. What are regression coefficients ?

9. Discuss mathematical models for time series analysis.

10. Give the names of different methods of measuring trend.

11. What are quantity index numbers?

12. Compare between Laspeyer's and Paasche's Index numbers.

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer *all* questions. Each question carries 5 marks.

13. Write a short note on Indian Statistical System.

14. Distinguish between quantitative and qualitative data.Give examples for each.

15. Fit a parabola to the following data

x	1	2	3	4	5
y	2.18	2.44	2.78	3.25	3.83

16. A computer while calculating the correlation coefficient between two variables X and Y from 25 observations obtained the following results.

$n = 25, \sum X = 125, \sum Y = 100, \sum X^2 = 650, \sum Y^2 = 460$ and $\sum XY = 508$. It was however discovered that two pairs of observations were not correctly copied. They were taken as (6,14) and (8,6), while the correct values were (8,12) and (6,8). Prove that the correct value of correlation coefficient should be 2/3.

17. What are the advantages and disadvantages of the moving average method?

18. Fit trend of the type $y = ab^x$ for the following data.

x	1	2	3	4
y	5	8	10	15

19. What do you understand by price relatives and discuss the methods of constructing index numbers based on them.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

20. Compute mean, median, mode, geometric mean and harmonic mean.

Age	15-19	20-24	25-29	30-34	35-39	40-44
No. of persons	4	20	38	24	10	4

21. Fit a second degree polynomial to the following data.

x	1.0	1.5	2.0	2.5	3.0	3.5	4.0
y	1.1	1.3	1.6	2.0	2.7	3.4	4.1

(1 × 10 = 10 Marks)

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