

23U128

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Name:

Reg.No:

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

(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 major divisions of CSO?
2. Mention any two limitations of statistics
3. Define a ratio scale with an example.
4. Define quartile deviation.
5. For a certain data variance is 36 and coefficient of variation is 5. Find the mean.
6. Define moments.
7. What is a scatter diagram ?
8. Explain the method of least squares.
9. What purpose is served by time series analysis?
10. Write a short note on Curve fitting.
11. What are the characteristics of 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. Calculate mean, median and mode for the following data

Class	4-8	8-12	12-16	16-20	20-24
Frequency	3	7	16	8	2

15. Fit a straight line to the given data regarding x as the independent variable.

x	1	2	3	4	6	8
y	2.4	3.1	3.5	4.2	5.0	6.0

16. Find the equation to the best fitting exponential curve of the form $y = ae^{bx}$ to the following data

x	1	2	3	4	5	6
y	1.6	4.5	13.8	40.2	125	300

17. Differentiate between secular trend and periodic movement of time series.
18. Explain the methods of moving averages for calculating the trend.
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 Karl Pearson's measure of skewness for the following data.

Class Interval	130-134	135-139	140-144	145-149	150-154	155-159	160-164
Frequency	3	12	21	28	19	12	5

21. The equations of two regression lines obtained are $8x - 5y + 14 = 0$ and $24x - 7y - 5 = 0$
- (i) Identify the regression lines.
- (ii) Show that mean of x and mean of y are 1.923 and 5.875.
- (iii) Show that $r_{xy} = +0.683$

(1 × 10 = 10 Marks)
