FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(CBCSS - UG)

CC19U STA1 C01 - INTRODUCTORY STATISTICS

(Statistics - Complementary Course)

(2019 to 2023 Admissions - Supplementary/Improvement)

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 components of Statistics Wing of Ministry of Statistics and Programme Implementation?

2. Write any four responsibilities of NSSO

3. Distinguish between inclusive and exclusive classes.

4. Differentiate between nominal and ordinal scale of measurement.

5. Let the average mark of 40 students of class A be 38; the average mark of 60 students of another class B is 42. What is the average mark of the combined group of 100 students?

6. State any two properties of standard deviation.

7. Explain the terms skewness and kurtosis.

8. Prove or disprove that correlation co-effiicient is invariant under linear transformation.

9. What do you understand by secular trend?

10. Explain clearly the additive and multiplicative models of time series analysis.

11. Write a short note on Curve fitting.

12. What are the uses of Index numbers?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. Calculate Quartile deviation and Coefficient of quartile deviation for the following data

Class	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	6	18	25	50	37	30	24	10

14. The first four raw moments of a distribution are 1, 4, 10 and 46 respectively. Compute the first four central moments beta constants.

15. Show that correlation coefficient between two variables lies between -1 and +1.

16. Fit a straight line to the following data.

x	1	2	3	4	5
y	14	13	4	5	2

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

x	0.0	1.0	2.0
y	1.0	6.0	17.0

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

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. (i) Obtain the regression line y on x and x on y from the following data

x	50	60	50	60	80	50	80	40	70
y	30	60	40	50	60	30	70	50	60

(ii) Also find the coefficient of correlation between x and y.

21. Construct index numbers of price from the following data by applying:

(i) Laspeyre's method.　　　　(ii) Paasche's method　　　　(iii) Bowley's method

(iv) Fisher's ideal method　　　(v) Marshall-Edgeworth method

Commodity	1999		2000	
	Price	Quantity	Price	Quantity
A	2	40	5	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

(1 × 10 = 10 Marks)

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