

21U129

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Name:

Reg.No:.....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

(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 responsibilities of CSO ?
2. Define cumulative frequency distribution.
3. Differentiate between interval and ratio scale of measurement.
4. 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?
5. Calculate mean deviation about mean of 8, 24, 12, 16, 10, 20.
6. Define standard deviation and coefficient of variation.
7. What is a scatter diagram ?
8. Write any two properties of regression coefficients
9. Give the idea of seasonal variation.
10. Discuss mathematical models for time series analysis.
11. What is an Index Number?
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. Establish the relationship between raw moments and central moments.

15. Calculate rank correlation coefficient of the following data

Mathematics	78	36	98	25	75	82	90	62	65	69
Statistics	84	51	91	60	68	62	86	58	53	47

16. Fit a straight line $y=a+bx$ to the following data

x	1	2	3	4	6	8
y	2.4	3	3.6	4	5	6

17. Compute the trend values by finding three-yearly moving averages for the following time series.

Year	2005	2006	2007	2008	2009	2010	2011
Population (in millions)	412	438	446	454	470	483	490

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

x	1	2	3	4
y	5	8	10	15

19. From the following data compute price index by suppling weighted average of price method using:

(a) Arithmetic mean

(b) Geometric mean.

Commodity	p0(Rs.)	q0	p1(Rs.)
Sugar	4.0	3.0	20kg
Flour	1.6	1.5	40kg
Milk	1.5	1.0	10lt

(Ceiling: 30 Marks)

Part C (Essay questions)

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

20. Calculate Karl-Pearson's coefficient of skewness for the following data

Class	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104
Frequency	8	15	18	25	14	9	6	5

21. Fit an exponential curve of the form $y = ab^x$ to the following data.

x	1	2	3	4	5	6	7	8
y	1.0	1.2	1.8	2.5	3.6	4.7	6.6	9.1

(1 × 10 = 10 Marks)
