

0023242



K19U 3201

Reg. No. :

Name :

I Semester B.Sc. Degree (CBCSS- Supplementary./Improvement.)

Examination, November-2019

(2014 -2018 Admissions)

COMPLEMENTARY COURSE IN STATISTICS FOR MATHEMATICS/
COMPUTER SCIENCE/ ELECTRONICS - CORE

1C01 STA: BASIC STATISTICS

Time : 3 Hours

Max. Marks :40

Instructions : (Use of calculators and statistical tables are permitted)

PART - A

I. Short Answer (Answer **ALL** the questions): (6×1=6)

- 1) Define simple random sampling with replacement.
- 2) Define raw moments of a random variable.
- 3) How do you find standard deviation of the sample values x_1, x_2, \dots, x_n ?
- 4) What is the general equation for fitting a quadratic type relationship between the variables y and x?
- 5) Define correlation coefficient.
- 6) List the important components of time series.

PART - B

II. Short Essay (Answer any **SIX** questions) : (6×2=12)

- 7) What are the limitations of sampling?
- 8) Distinguish between absolute and relative measures of dispersion.

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- 9) Find the three quartiles Q_1 , Q_2 and Q_3 of the data 256, 200, 348, 275, 296, 185, 270, 294 and 322.
- 10) Distinguish between probability sampling and non- probability sampling.
- 11) Define kurtosis and explain any one method of measuring it.
- 12) What are the properties of multiple correlation coefficient?
- 13) What is meant by seasonal variation? Give an example for it.
- 14) Explain time reversal test.

PART - C

III. Essay (Answer any **Four** questions.): (4×3=12)

- 15) List the principal steps in a sample survey.
- 16) The average mark of 100 students was 241. It was later found that the mark 56 was wrongly entered as 65. Find the corrected average.
- 17) Discuss the merits of a good measure of dispersion.
- 18) Describe the method of fitting a curve of the form $y = ab^x$.
- 19) Find the rank correlation coefficient for the following data set:
X: 14 15 12 13 18
Y: 75 78 66 71 72
- 20) Find the Laaspeyres and Paasches index numbers for the following data.

1999		2000	
Price	Quantity	Price	Quantity
2	8	4	6
5	10	6	5
4	14	5	10
2	19	2	13

**PART - D**

IV. Long Essay (Answer any **TWO** questions.): (2×5=10)

21) Goals scored **two** teams in a football session are as follows:

Team A: 15 10 7 5 3 2

Team B: 20 10 5 4 2 1

Which team is more consistent?

22) Explain quartiles, deciles and percentiles.

23) Find the two regression equations : for the following data:

X: 6 12 10 4 8

Y: 9 11 5 8 7

24) Explain the uses of index numbers.