Reg. No. : ....

Name : ....

I Semester B.Sc. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2022
(2019 Admission Onwards)
Complementary Elective Course in Statistics (For Mathematics/ Computer Science)
1C01STA : BASIC STATISTICS

Time : 3 Hours

Max. Marks : 40

*Instruction : Use of Calculators and Statistical tables are **permitted**.*

PART – A
(Short Answer)

Answer **all** 6 questions :

(6×1=6)

1. Name the four types of classification.

2. Write any two properties of Arithmetic Mean.

3. Write any two merits of quartile deviation.

4. Define Median.

5. Define multiple correlation.

6. For a distribution first row moment is 1 and second row moment is 16. Find variance.

PART – B
(Short essay)

Answer **any** 6 questions :

(6×2=12)

7. Explain the methods of selecting random sample.

8. Distinguish between discrete and continuous variable with example.

9. Find the combined mean and standard deviation of the following data.

Set	No. of articles	Mean	S.D.
1	200	5	3
2	250	10	4
3	500	15	5

10. Find the average rate of increase in population which in the first decade has increased 12% and the next by 16% and in the third by 21%.

11. Explain quartiles. Also write down the formulae for finding quartiles.

12. Define correlation and regression.

13. Explain the procedure of fitting a curve of the form $y = ax + b$.

14. Write any two uses and limitations of index number.

PART – C

(Essay)

Answer **any 4** questions. (4×3=12)

15. A.M. and S.D. of a series of 10 items were calculated by a student as 20 and 5 respectively, but while calculating them an item 13 was misread as 30. Find the correct mean and S.D.

16. If about origin the first three moments are 3, 24, 76 respectively. Calculate the first three row moments about 5.

17. Explain the different types of correlation.

18. Derive an expression for rank correlation coefficient.

19. Explain the four components of a time series.

20. Explain the method of moving averages and semi average method for estimate the secular trend.

PART – D
(Long Essay)

Answer **any 2** questions.   (2×5=10)

21. Explain simple random sampling, stratified random sampling and systematic random sampling.

22. Calculate β_1 and β_2 for the data given below :

X :	1	2	3	4	5	6	7	8	9
f :	1	6	13	25	30	22	9	5	2

23. Calculate correlation coefficient between X and Y for the following data :

X :	1	2	4	5	8	9
Y :	4	6	7	10	11	15

24. Explain Laspeyer's, Paasche's and Fisher's Index Number using example.

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