K17U 2559

Reg. No. : .....

Name : .....

I Semester B.Sc. Degree (C.B.C.S.S. – Reg./Supple./Improv.) Examination, November 2017

COMPLEMENTARY COURSE IN STATISTICS FOR MATHS/ COMP.SCI./ELE. CORE

1C01 STA : Basic Statistics (2014 Admn. Onwards)

Time : 3 Hours Max. Marks : 40

Instruction : ***Use*** *of calculators and statistical tables are* ***permitted.***

PART – A **(Short Answer)**

Answer **all** the **6** questions (**6** questions × **1** mark **each** = **6** Marks)

1. Write any two properties of Arithmetic Mean.
2. For a distribution Bowley's Coefficient of skewness is – 0.36, $Q_1 = 8.6$ and Median = 12.3. What is quartile coefficient of dispersion ?
3. Find S.D. of first 10 natural numbers.
4. Mention one specific use of Harmonic Mean.
5. What is the principle of least squares ?
6. The first 2 moments of a distribution about the value 5 of the variable as 2 and 20. Find mean and variance.

PART – B **(Short Essay)**

Answer **any 6** questions (**6** questions × **2** marks **each** = **12** Marks)

7. Explain probability and non probability sampling.
8. What is the difference between absolute and relative measures of dispersion ?
9. Define Kurtosis.
10. Explain Scatter diagram.

P.T.O.

11. From the data given below find Karl Pearson's Coefficient of correlation ?

$\Sigma x = 9$, $\Sigma y = 50$, $\Sigma xy = 819$, $\Sigma x^2 = 260$ $\Sigma y^2 = 2672$ $n = 9$.

12. What are index numbers ? What are their uses ?

13. The mean of 5 items of an observation is 4 and the variance is 5.2. If three of the five items are 1, 2 and 6. Find the other two.

14. Define Quartiles and Deciles.

PART – C (Essay)

Answer **any 4** questions (**4** questions × **3** marks **each** = **12** Marks)

15. Compare census method and sampling.

16. Define row and central moments. Also state and prove a relation between them.

17. What is skewness ? Explain the various methods of measuring it.

18. Find the Mean, the mean deviation from the mean and standard deviation of the series a, a + d, a + 2d... a + 2nd and prove that the S.D. is greater than M.D. from mean.

19. Why is Fisher's index number known as ideal index number ?

20. The equation of 2 regressions are as follows $25x - 6y - 7 = 0$ and $9x - 4y = -15$ obtain the mean values of x and y and the correlation coefficient.

PART – D (Long Essay)

Answer **any 2** questions (**2** questions × **5** marks **each** = **10** Marks)

21. Explain the components of time series with example.

22. Fit a curve of the form $y = ab^x$ for the data given below

Income :	15	20	25	30	35	40
Expenditure :	35	30	26	24	20	15

23. Explain the correlation analysis and regression analysis.

24. The runs scored by two batsmen in 5 innings are given below. Who is the more consistent batsman ?

A :	25	50	45	30	70
B :	10	70	50	20	95