K20U 3201

Reg. No. : .....

Name : .....

I Semester B.Sc. Degree (CBCSS – Supplementary) Examination, November 2020
(2014-2018 Admissions)
Complementary Course in Statistics for Maths/Comp. Science/Ele. Core
1C01STA : BASIC STATISTICS

Time : 3 Hours Max. Marks : 40

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

PART – A

(Short Answer)

Answer **all** the questions. (6×1=6)

1. Define mean deviation about median.
2. Define skewness of a frequency data.
3. How do you find geometric mean of the sample values $x_1, x_2,...,x_n$?
4. What do you mean by principle of least square method ?
5. Write down the two normal equations for fitting a straight line.
6. Define price relative of an index number.

PART – B

(Short Essay)

Answer **any six** questions. (6×2=12)

7. Distinguish between primary and secondary data.
8. Define systematic sampling and give an example where this method is applicable.
9. Find the harmonic mean of the data 2574, 475, 75, 5, 0.8, 0.08, 0.005 and 0.0009.
10. Define coefficient of variation and mention its use.
11. How do you find quartile deviation ?
12. Describe the method of fitting a quadratic curve of the form $y = a + bx + cx^2$.
13. Write a short note on business cycle in time series.

P.T.O.

14. Calculate Paasches index number for the following data :

p_0	q_0	p_1	q_1
25	3	32	2
45	8	42	6
20	3	34	5

PART – C
(Essay)

Answer **any four** questions. **(4×3=12)**

15. Explain simple random sampling with replacement and without replacement.
16. List the merits and demerits of mean deviation.
17. Find the standard deviation of the data based on the following information $\overline{X} = 35$, Median = 38, Coefficient of skewness = – 0.2.
18. Define a scatter diagram and describe the use of it in identifying correlation.
19. Distinguish between partial and multiple correlation.
20. Define the terms trend and seasonal variations and give one example for each.

PART – D
(Long Essay)

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

21. Find the first four raw and central moments about mean for the data :

Marks :	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
No. of students	8	12	20	30	15	10	5

22. Find the two regression equations for the following data :

X : 6 12 10 4 8

Y : 9 11 5 8 7

23. Describe percentiles and deciles.
24. Show that Fishers index number satisfies the time reversal test and factor reversal test.