K20U 3337

14/9/2021

I Semester B.Sc. Degree CBCSS (OBE) Reg./Sup./Imp.
Examination, November 2020
(2019 Admn. Onwards)
COMPLEMENTARY ELECTIVE COURSE IN STATISTICS
1C01STA : Basic Statistics

Time : 3 Hours

Max. Marks : 40

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

PART – A
(Short Answer)

Answer **all** questions.

$(6 \times 1 = 6)$

1. What is meant by nominal scale of measurement ?
2. Give the relationship between AM, GM and HM.
3. Give any two measures of Kurtosis.
4. What do you mean by coefficient of range ?
5. What is meant by curve fitting ?
6. Define correlation.

PART – B
(Short Essay)

Answer **any 6** questions.

$(6 \times 2 = 12)$

7. What are the principle steps in a sample survey ?
8. What is stratified sampling ? Give its advantages over SRS.
9. Define dispersion. What are the various measures ?
10. Explain Sheppard's correction.
11. Differentiate between absolute and relative measure of dispersion.
12. Define partial correlation.
13. Define regression coefficients. How they are related to correlation coefficient ?
14. What are the various components of a time series ?

P.T.O.

PART – C
(Essay)

Answer **any 4** questions. (4×3=12)

15. For a distribution, the mean is 10, variance is 16, $\gamma_1 = +1$ and $\beta_2 = 4$. Obtain the first four moments about origin.

16. Show that mean deviation is minimum when the deviations are measured about median.

17. Show that with usual notations, $r = \dfrac{\sigma_x^2 + \sigma_y^2 - \sigma_{x-y}^2}{2\sigma_x \sigma_y}$

18. Why there are two regression lines ?

19. What are the properties of moving average method for finding the trend ?

20. Define index numbers. Give the formula for Laspeyer's index number.

PART – D
(Long Essay)

Answer **any 2** questions. (2×5=10)

21. Explain sampling and non-sampling errors.

22. The scores of two golfers for 24 rounds were as follows :

Golfer A : 74 75 78 72 77 79 78 81 76 72

Golfer B : 86 84 80 88 89 85 86 82 82 79

Find which golfer may be considered to be more consistent.

23. A computer while calculating correlation coefficient between two variables X and Y from 25 pairs of observations obtained the following results :

$\sum x = 125, \sum x^2 = 650, \sum y = 100, \sum y^2 = 460, \sum xy = 508$

Later, it is discovered that two observations (8, 12) and (6, 8) are misread as (6, 14) and (9, 6). Obtain the correct correlation coefficient.

24. What are the uses of index numbers ?