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3 (Sem-3/CBCS) GGY HC 3

2023

## GEOGRAPHY

(Honours Core)

Paper : GGY-HC-3036

**(Quantitative Methods in Geography)**

Full Marks : 60

Time : Three hours

**The figures in the margin indicate full marks for the questions.**

1. Answer the following objective type questions :  $1 \times 7 = 7$

(a) What is data ?

(b) You obtained a sample data which is relatively normally distributed. Which measure of central tendency would you use to calculate the average value of the same ?

(c) Mention *any one* of the Relative Measures of Dispersion.

Contd.



- (d) Name the method where the researcher divides a population into relatively similar subpopulations and obtains a representative sample.
- (e) If  $r$  is the simple correlation coefficient, the quantity  $r^2$  is known as \_\_\_\_\_.
- (f) The slope of regression line of  $Y$  on  $X$  is also called \_\_\_\_\_.
- (g) Student's  $t$ -test was designed by
- (i) R. A. Fisher
  - (ii) Wilcoxon
  - (iii) Wald-Wolfowitz
  - (iv) W. S. Gosset

2. Answer the following very short answer type questions : 2×4=8

- (a) What is the objective of sampling techniques ?
- (b) If in an asymmetrical distribution median is 28 and mean is 31, what will be the value of mode ?
- (c) What is correlation ?
- (d) What are the main objectives of time series analysis ?

3. Answer the following short answer type questions : **(any three)** 5×3=15

- (a) What is the best measure of dispersion, and how ? If the mean and coefficient of variation of a data set are 15 and 48 respectively, then find the value of standard deviation.
- (b) The temperature of two cities  $A$  and  $B$  in a winter season are given below. Find which city is more consistent in temperature changes ?

Temperature of city $A$ in degree Celsius	18	20	22	24	26
Temperature of city $B$ in degree Celsius	11	14	15	17	18

- (c) Write a note on how Regression Analysis is useful in geographical data analysis.
- (d) Write briefly about the nature and sources of geographical data.
- (e) Explain the Moving Average method of Time Series Analysis.

4. Answer the following questions : **(any three)** 10×3=30

- (a) With suitable examples, discuss the different types of levels of data measurement. Also mention their basic characteristics. 5+5=10



(b) What are different measures of dispersion? Discuss the utility of these measures in geographical studies.

2+8=10

(c) What is meant by quantification? Discuss its significance in geographical studies.

2+8=10

(d) What is Time Series? Why do we need to analyse Time Series data? Discuss with examples.

1+3+6=10

(e) What is Central Tendency? What are its common measures? Stating the reason for choosing, calculate the most representative value of Central Tendency for the following data :

2+2+6=10

The size of land holding of 380 families in a village of Assam

Size of land Holding (in acres)	Less than 100	100-200	200-300	300-400	400 and above
Number of Families	40	89	148	64	39

(f) What is sampling? Discuss the various methods of sampling used by the geographers.

2+8=10