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3 (Sem-3/CBCS) GGY HC 3

2022

**GEOGRAPHY**

(Honours)

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 **any seven** questions from the following very objectively : 1×7=7
- (a) Give an example of continuous data.
  - (b) In which type of distribution the value of mode is smaller than that of the values of median and mean ?
  - (c) What is the range of the value of coefficient of correlation with negative relationship ?
  - (d) What is small sample ?
  - (e) Write the formula of quartile deviation.

Contd.

- (f) When does the value of standard deviation become zero ?
- (g) What is the formula of regression residual of dependent variable ?
- (h) What does  $a$  mean in the regression equation  $y = a + bx$  ?
- (i) Give an example of interval data.
- (j) Which measure of central tendency is mathematically sound ?
- (k) Mention *one* relative measure of dispersion.
- (l) What is meant by 'range' ?

2. Answer **any four** of the following questions :  
2×4=8

- (a) Distinguish between nominal data and ordinal data.
- (b) Mention *one* property of normal distribution.
- (c) Define variable with an example.
- (d) What is scatter diagram ?
- (e) What is discrete data ?
- (f) What is meant by 'dependent variable' ?
- (g) Write the formula of mean deviation.
- (h) Mention *one* property of arithmetic mean.

3. Answer **any three** of the following questions in brief :  
5×3=15

- (a) What is meant by quantification ? Mention its limitations in geographical studies.  
2+3=5
- (b) What is sampling ? Briefly discuss its need in geographical studies. 1+4=5
- (c) Compare the three measures of central tendency with respect to their meaning and utilities.
- (d) Taking a meaningful hypothetical set of data, compute Spearman's rank correlation.
- (e) What is physical geographic data ? Briefly discuss about the nature and sources of such data. 1+4=5
- (f) What is dispersion ? Explain it with the help of a hypothetical set of data.  
2+3=5
- (g) Calculate median for the following data set with 10 observations :  
23, 19, 35, 10, 15, 8, 11, 12, 29, 24
- (h) Briefly discuss the need of time series analysis in geography.

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

- (a) Discuss the significance of quantification in geographical studies.

- (b) Distinguish between absolute and relative measures of dispersion and explain their usefulness with the help of a hypothetical set of data.  $4+6=10$
- (c) Give *two* examples of time series data relating to geographical phenomena. With the help of a hypothetical set of data, carry out time series analysis by applying moving average method.  
 $2+8=10$
- (d) Distinguish between random and stratified sampling. Explain the procedure of stratified sampling technique by taking a suitable example.  
 $3+7=10$
- (e) What is correlation ? With necessary illustrations, explain the utilities of correlation analysis in geographical studies.  
 $2+8=10$
- (f) What is regression line ? By taking a meaningful set of bivariate hypothetical data, compute the regression equation of  $Y$  on  $X$  and find out the expected values of  $Y$  for the given values of  $X$ .  
 $2+8=10$
- (g) Discuss with examples the need of regression analysis in geography.
- (h) Discuss the significance of the measures of dispersion in geographical analysis. Explain with relevant examples.
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