BACHELOR OF SCIENCE EXAMINATION, 2019

(2nd Year, 1st Semester, New Syllabus)

GEOGRAPHY (HONOURS)

Statistical Methods in Geography

Paper - C 307 T

Time : Two hours   Full Marks : 30

Use a separate answer script for each group.

GROUP - A
Answer any *four* questions.   5x4=20

1. What is a sample ? Explain the methods of random sampling. How are the random sampling methods applied to a spatial distribution ?   1+2+2=5

2. Show that if $\bar{x}$ be the arithmetic mean of the values x_i weighted by f_i $(i = 1, 2, ...n)$, then $\sum_{i=1}^{n} f_i(x_i - \bar{x}) = 0$.   5

3. Calculate correlation coefficient from the following results :
   $n = 10$; $\Sigma x = 140$; $\Sigma y = 150$; $\Sigma(x-10)^2 = 180$; $\Sigma(y-15)^2 = 215$; $\Sigma(x-10)(y-15) = 60$.   5

4. For a regression equation $y = a + bX$, prove that
$$b = r\frac{\sigma_x}{\sigma_y}.$$
3+2=5

5. Discuss the different scales of measurement with suitable examples. Differentiate between continuous and discrete variables. 3+2=5

6. The lines of regression concerning variables X and Y are given by $(y = 32 - x)$ and $(x = 13 - 0.25\ y)$. Obtain the values of the means $(\bar{x}, \bar{y})$. 5

GROUP - B

Answer any *two* questions. 5x2=10

7. In a certain distribution, the sum of two qartiles is 20 and quartile deviation is 4. Find the quartiles.

8. If $r = 0.8$; $\Sigma xy = 60$; $\sigma_x = 2.5$; $\Sigma x^2 = 90$; find the number of samples.

9. Which measure of central tendency is known as a positional average and why?

10. On a final examination in staistics, the mean grade obtained by a group of 25 students was 78 and the standard deviation was 8. In mathematics, the mean grade of the group was 73 and the standard deviation was 7.5. In which subject was there greater (a) absolute dispersion and (b) relative dispersion?

11. If the mean and mode for a data set are 5 and 2 respectively, what will be the median?

12. 'For a set of observations, if the values are same, the SD would be 1' – Justify the statement.

13. Differentiate between cluster sampling and stratified sampling.

14. What do you mean by root mean squared deviation?

—— X ——