P G Even Semester Exam, 2023

GEOGRAPHY

2nd Semester

COURSE NO. GEOG-555

[Quantitative Methods in Geography]

Full Marks : 70
Pass Marks : 28

Time : 4 hours

The figures in the margin indicate full marks for the questions

Answer five questions, taking one from each Unit

UNIT-I

1. The following table shows the distribution of units under different height groups in a certain region. Compute the mean, median and modal height of the region. 4+4+3=11

Height groups in m.	0-400	400-800	800-1200	1200-1600	1600-2000	2000-2400
No. of Units	138	270	535	262	80	15

Turn over

2. The following table shows the distribution of electricity units consumed. Complete the mean deviation and standard deviation. 6+5=11

No. of Units	0-20	20-40	40-60	60-80	80-100	100-120	120-140	140-160
No. of Consumers	9	18	27	32	45	38	20	11

UNIT-II

3. Discuss the steps involved in sampling design. 11

4. A simple random sampling survey in respect of monthly earnings of semi-skilled workers in two cities gives the following information: 11

City	Mean monthly eraning (Rs.)	Standard deviation of sample data of monthly earnings (Rs.)	Size of sample
A	695	40	200
B	710	60	175

Test the hypothesis at 5 percent level that there is no difference between monthly earnings of workers in the two cities and interpret the result.

UNIT-III

5. a. Calculate the correlation coefficient using Karl Pearson's method from the following data: 4

X	9	8	7	6	5	4	3	2	1
Y	15	16	14	13	11	12	10	8	9

b. Perform the student 't' test for 'r' value, where the tabulated 't' value for 7 degrees of freedom is 3.50 at 1% , 3.00 at 2% and 2.36 at 5% level of significance. 4

c. Interpret the relationship between X and Y. 3

6. a. Calculate the correlation coefficient using Spearman's rank method from the data given in Q.5. 4

b. Perform the student 't' test for 'P' value, where the tabulated 't' value for 7 degrees of freedom is 3.50 at 1%, 3.00 at 2% and 2.36 at 5% level of significance. 4

c. Interpret the relationship between X and Y. 3

UNIT-IV

7. The district –wise total population of SC and ST population in Sikkim is given below for 2011. Find out the relative concentration of SC and ST population using Location Quotient and interpret the result. 11

District	Total Population	SC Population	ST Population
North District	43,709	982	28,715
West District	1,36,435	5,935	57,817
South District	1,46,850	6,053	41,392
East District	2,83,583	15,305	78,436

8. Calculate the Gini's Coefficient from the data given in Q. 7 and interpret the result. 11

UNIT-V

9. The state-wise data of average yield per hectare of crops (in kg per hectare) in North East India in 2011-12 is give below. Construct the composite index of agricultural productivity using the ranking methods. 11

State	Cereal	Pulses	Oilseed
Arunachal Pradesh	1,799	1,105	1,015
Assam	1,756	573	557
Manipur	2,562	942	788
Meghalaya	1,904	896	766
Mizoram	1,381	1,389	967
Nagaland	2,020	1,091	1,043
Sikkim	1,557	903	841
Tripura	2,681	697	751

10. Compute the principal Component from the following data:

X	4	8	13
Y	11	4	5

11. Notebook. 5

12. Viva-Voce 10

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