2008

M.Sc.

2nd Semester Examination

REMOTE SENSING & GIS

PAPER—VIII (RG—1207 & 1208)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Write the answers of questions for each module in separate books.

Answer any *two* questions taking *one* from each unit.

Fundamental of Statistical Concepts and Geo-Statistics

RG—1207 (Full Marks : 20)

Answer any *two* questions.

UNIT—I

1. (a) Define frequency distribution.

(b) Construct a frequency distribution table from the following scores :
8, 9, 8, 7, 10, 9, 6, 4, 9, 8, 7, 8, 10, 9, 8, 6, 9, 7, 8, 8.

(c) Define with examples of Nominal, Ordinal, Interval and Ratio levels of measurement. 2+4+4

2. (a) Distinguish between Statistical Population and Sample with the help of suitable examples.

(b) Comments on the statement 'The median may be considered more typical than the mean because the median is not affected by the size of the extremes'.

(c) Define Z-score and write its formula. State the characteristics of the Z-score distribution.

UNIT—II

3. What do you mean by errors in statistics ? Explain how do you reduce different non-sampling errors at the time of your statistical investigation. 2+8

4. Write down the one of two uses of chi-square test. Give the formula for chi-square test. The following table shows the observed and expected frequency distribution of quartz, K-feldspar and plagioclase contained in 20 granite samples. Test whether observed and expected distribution differs significantly or not. It is given that chi-square value of 2 olf at 0.05 level is 5.99 :

	Observed	*Expected*
Quartz	10	8
K-feldspar	6	6
Plagioclase	4	6

Fundamental of Statistical Concepts and Geo-Statistics

RG—1208 (Full Marks : 20)

Answer any *two* questions.

1. Calculate the Locational Quotient of forest of West Midnapore District from the given data. In which Block the forest area is better performed and why ?

	Name of the Blocks	*Area in Hect.*	*Forest area in Hect.*
1.	Jhargram	54276	18172
2.	Binpur — I	35931	11467
3.	Binpur — II	58006	26882
4.	Jamboni	32616	13229
5.	Nayagram	50374	23875
6.	Sankrail	27014	2423
7.	Gopi – I	27857	6963
8.	Salboni	54972	23168
9.	Keshpur	47695	4758
10.	Garbeta – I	36064	11107
11.	Garbeta – II	38543	15712
12.	Garbeta – III	31324	11253
13.	Midnapore	33561	7412
14.	Keshiary	29208	2367
15.	Narayangarh	50549	3487
16.	Kharagpur	32674	1989
17.	Chandrakona	17002	852

2. What do you understand by spatial auto-correlation? Why is spatial auto-correlation an important consideration in spatial researches? How is Moran's spatial auto-correlation co-efficient calculated using joint count statistics? 3+2+5

3. Following are the sets of values of two correlated variables, x and y :

x	y
20	3.5
30	7.5
40	7.0
50	15.0
70	11.0
90	15.0
100	25.0
120	27.0

(a) Find the regression equations x on y and y on x.

(b) Calculate the standard error of estimates.

(c) Find out the standarized residuals for the above data sets.

2+4+4

4. Explain the method of Nearest Neighbour Analysis and analyze the logic that enables this analysis to derive spatial pattern of distribution of any geo-spatial data. 5+5

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