VIDYASAGAR UNIVERSTY

M.A/M.Sc. 4th. Semester Practical Examinati

GEOGRAPHY

Course No. - GR-2411

Full Marks- 50

UNIT- XLV: (Advanced Quantitative Metho

Answer the following questions:

1. A geomorphologist wants to know if there are significant differences different segments of a hill slope. Using clinometer, he measured randomly selected stations in each of the slope segments. Readings a

Slope Segment	Amount of slope in degrees				
Shoulder slope	11	13	10	12	11
Upper Middle Slope	8	9	11	10	9
Lower Middle Slope	7	8	10	9	7
Foot Slope	6	7	8	6	8

   a) Perform One-way, fixed effect ANOVA to decide over the enq
   b) Test for significant differences between the means and interp

2. Following table represents pH and Cation Exchange Capacity (in meq/ from different blocks of Paschim Medinipur district

pH	CEC (meq/100gm)	pH	CEC (meq/10
5.0	1.90	6.4	2.76
5.5	2.10	6.3	2.76
5.7	2.20	6.2	2.58
5.6	2.18	6.4	2.84
6.6	3.10	5.8	2.31

   a) Fit a polynomial curve of second degree to the data.
   b) Perform ANOVA to test whether the quadratic curve is a bett

3. The following table gives you the data on:

y = Gauge readings (in m) recorded at a river gauge station
x_1 = Total amount of rainfall (in cm) during a storm event
x_2 = No. of rainy days associated

y	x_1	x_2	y	x_1	x_2
3.52	13.40	5	2.01	4.02	3
3.15	12.65	4	4.30	11.18	6
2.2	10.21	4	5.37	23.63	2
3.65	4.58	3	3.89	7.39	3
2.12	3.21	4	4.31	13.70	7
3.85	9.96	5	2.50	4.85	3

a) Regress y on x_1 and x_2 and find the equation of the regression line
b) Calculate $r_{yx1.x2}$; and $r_{yx2.x1}$
c) Interpret the results.

4. Laboratoty Note Book and Viva-voce

Answer the Following questions:

1. a) What are the basic data sources in GIS?
   b) Mention the fields of application of Vector and Raster data.
   c) Distinguish between spatial data and attribute data. 3 +

2. a) What are the different operational techniques used in overlay ana
   b) How is the location of a point determined by trilateration?
   c) What is a precise positioning code? 2 +

3. a) Navigate along the legs of a closed traverse given in the field wit
   the navigational information.
   b) Download the information onto a computer using supporting soft
   c) Manually plot the traverse using the above information and prop

4. Laboratoty Note Book and Viva-voce