



SMRJ Government College, Siwani (Bhiwani)
(Affiliated to Chaudhary Bansi Lal University, Bhiwani)

Session: 2026-27

Teaching Plan (Department of Geography)



Teacher: Mr. Rahul
Class: B.A & B.A with major in Geography
Semester: 5th
Maximum Marks: 100
End Term Exam Marks: 50 (T) + 20 (P) = 70

Paper: Statistical Methods in Geography (T)
Course Code: 25UN-GEO-501
Credits: 03 + 01 = 04
Internal Assessment Marks: 20 (T) + 10 (P) = 30

Course Outcomes:

After completing this course, the learner will be able to:

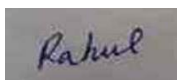
- understand the basics of quantitative methods
- enrich understanding about types of data
- skilled to data analysis and its presentation.
- acquaint with data summarization and nuances of data.

Sr. No.	Week/Month, 2026	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	01.08.2026	Familiar with Syllabus	
2	03.08.2026 – 08.08.2026	Discuss concepts & Definition of Statistics	
3	10.08.2026 – 14.08.2026	Data organization and its type, Tabulation of data	
4	17.08.2026 – 22.08.2026	Frequency distribution of nominal, interval and ordinal data, class interval, ratios and rates.	
5	24.08.2026 – 29.08.2026	Graphical presentation of data: histogram, frequency polygon and ogives.	
6	31.08.2026 – 05.09.2026	Measures of central tendency: mean,	
7	07.09.2026 – 12.09.2026	Median, quantile, decile and percentile.	
8	14.09.2026 – 19.09.2026	1. Mapping/ Graphic presentation of mean Centre. 2. Mapping/ Graphic presentation of median center.	Assignment
9	21.09.2026 – 26.09.2026	Mode & Graphical presentation of mode.	
10	28.09.2026 – 03.10.2026	Absolute measures of dispersion: range, quartile deviation.	
11	05.10.2026 – 10.10.2026	Mean deviation	
12	12.10.2026 – 17.10.2026	standard deviation	

13	19.10.2026 – 24.10.2026	Illustration of standard distance	Test
14	26.10.2026 – 31.10.2026	Relative measures of deviation: coefficient of variation, Location quotient.	
15	02.11.2026 – 04.11.2026	1. Mapping/ Graphical representation relative distance. 2. Exercise based on coefficient of variation. (Temperature and Rainfall variability across seasons and its mapping). (2)	
16	12.11.2026 – 14.11.2026	Basics of bivariate: scatter diagram, rank correlation	
17	16.11.2026 – 21.11.2026	Graphical presentation of Bi-variate data.	
18	23.11.2026 – 28.11.2026	Revision	
19	30.11.2026 – 01.12.2026	Revision	

Recommended Books/ E resources/ LMS

1. Gregory, S. Statistical Methods and the Geographers, Longman, London, 1964.
2. Gupta, C. B. An Introduction to Statistical Methods, Vikas Publishing House, Delhi, 1974.
3. Johnston, R.J. Multivariate Statistical Analysis in Geography, Longman Scientific and Technical, John Wiley & Sons, 1989.
4. Mahmood, A. Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi, 1993.
5. Paul, S.K. Statistics for Geoscientists: Techniques and Applications, Concept Publishing Company, New Delhi, 1998.
6. Houshmand, A.R. Statistical Methods for Environmental and Agricultural Sciences, CRC Press, New York, 1998.
7. Levin, J and Fox, J.A. Elementary Statistics in Social Research, Pearson Education, New Delhi, 2006.
8. Rogerson. P. A. Statistical Methods for Geography, Sage Publication, New Delhi, 2010.
9. Sarkar, A. Quantitative Geography: Techniques and Presentations. 2013.



Signature of the teacher concerned

Head of the Department



SMRJ Government College, Siwani (Bhiwani)
(Affiliated to Chaudhary Bansi Lal University, Bhiwani)

Session: 2026-27

Lesson Plan

(Department of Geography)



Teacher: Mr. Rahul

Class: MSc. 1st

Semester: 1st

Maximum Marks: 100

End Term Exam Marks: 50 (T) + 20 (P) = 70

Course Type & Title: Statistical Methods in Geography

Course Code: 25PG-GEO-104

Credits: 03 + 01 = 04

Internal Assessment Marks: 20 (T) + 10 (P) = 30

Course Outcomes:

Through this course following outcomes will be: -

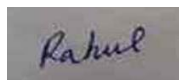
- 1. Explain demographic theories, transitions, and spatial population structures in developed and developing regions.**
- 2. Analyze the relationships between population growth, human development, resources, and environmental sustainability.**
- 3. Evaluate contemporary population issues such as migration, ageing, urbanization, and gender disparities.**
- 4. Apply demographic data, GIS tools, and statistical techniques to population mapping and regional analysis.**

Sr. No.	Week/Month, 2025	Unit/ Topic/ Chapter to be covered	Assignment/ Test/ Remarks, if any
1	31.08.2026 – 05.09.2026	Familiar with Syllabus	
2	07.09.2026 – 12.09.2026	Fundamentals of Statistical Analysis in Geography: Nature and significance of statistical methods in geography, Types and sources of data: primary, secondary, spatial, and temporal data,	
3	14.09.2026 – 19.09.2026	Measures of central tendency (mean, median, mode)	
4	21.09.2026 – 26.09.2026	Measures of dispersion (standard deviation, coefficient of variation),	
5	28.09.2026 – 03.10.2026	Probability distributions: normal, binomial, and Poisson, Data visualization: histograms, box plots, scatter diagrams, cartograms.	
6	05.10.2026 – 10.10.2026	Correlation: Bivariate and multiple correlation analysis,	
7	12.10.2026 – 17.10.2026	Regression, and Hypothesis Testing: Bivariate and multiple correlation analysis, Linear regression: applications in spatial and environmental studies, Hypothesis formulation, significance testing, levels of confidence	

8	19.10.2026 – 24.10.2026	Parametric and non-parametric tests: t-test, chi-square, ANOVA, Mann-Whitney U-test.	Assignment
9	26.10.2026 – 31.10.2026	Multivariate and Spatial Statistical Techniques: Principal Component Analysis (PCA) and Factor Analysis,	
10	02.11.2026 – 04.11.2026	Cluster analysis and spatial classification, Discriminant analysis and canonical correlation, Time series analysis and trend forecasting in climatology and demography,	Test
11	12.11.2026 – 14.11.2026	Introduction to geostatistics: kriging, interpolation, and spatial modelling, Use of R, SPSS, and GIS for spatial statistical computation.	
12	16.11.2026 – 21.11.2026	Descriptive statistics and data visualization using Excel and SPSS (02) and Correlation and regression analysis of geographical data (02)	
13	23.11.2026 – 28.11.2026	Principal Component and Factor Analysis using SPSS or R (02) and Spatial autocorrelation and mapping using Moran's I in GIS (02)	
14	30.11.2026 – 05.12.2026	Trend and time series analysis in climate or population datasets (01) and Application of kriging/interpolation using GIS (QGIS/ArcGIS) (01)	

Recommended Books/ E resources/ LMS

1. Mahmood, A. (1977). Statistical methods in geographical studies. Rajesh Publications.
2. Gregory, S. (1978). Statistical methods and the geographer. Longman.
3. Ebdon, D. (1985). Statistics in geography: A practical approach (2nd ed.). Blackwell.
4. Hammond, R., & McCullagh, P. S. (1980). Quantitative techniques in geography: An introduction (2nd ed.). Oxford University Press.
5. Rogerson, P. A. (2015). Statistical methods for geography: A student's guide (4th ed.). Sage.
6. Wong, D. W. S., & Lee, J. (2005). Statistical analysis with ArcGIS. Wiley.
7. Johnston, R. J., & Semple, R. K. (2010). A quantitative revolution in geography. Routledge.
8. de Smith, M. J., Goodchild, M. F., & Longley, P. A. (2018). Geospatial analysis: A comprehensive guide (6th ed.). Winchelsea Press.



Signature of the teacher concerned

Head of the Department