

SEMESTER III

07. MAJOR COURSE- MJ 5: Subject: PRACTICALS-II: (STATISTICAL METHODS IN GEOGRAPHY)

Allotted: 144 Lectures

Course Objective:

- 1. To explain the concept quantitative information in general and Geographical data in particular.**
- 2. To explain the importance of data analytics. The ways data is collected, or data is taken from different sources.**
- 3. To familiarise students about methods of graphic data representations**

Sl.	Unit	Topics	Methodology	Assessment	Outcome
1	Unit 1: 17 Lectures	Use of Data in Geography; Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval and Ratio)	<ul style="list-style-type: none"> • Lecture • Digital Classes • Group Discussion • Self-study • In-situ Examples. • Practical 	<ul style="list-style-type: none"> • Quiz on basic concepts • Practical Class Test • Assignments • Presentation 	<ul style="list-style-type: none"> • It will equip students with the ability to effectively analyse and interpret geographic data, allowing them to draw meaningful conclusions about spatial patterns and relationships, ultimately enhancing their understanding of geographic phenomena through quantitative analysis. • .
2	Unit2: 15 Lectures	Tabulation and Descriptive Statistics: Frequencies (Deciles, Quartiles), Cross Tabulation, Central Tendency (Mean, Median and Mode, Centro-graphic Techniques, Dispersion (Standard Deviation, Variance and Coefficient of Variation).	<ul style="list-style-type: none"> • Lecture • Digital Classes • Group Discussion • Self-study • In-situ Examples. • Practical. 	<ul style="list-style-type: none"> • Quiz on basic concepts and Theories • Practical Class Test • Assignments • Presentation 	<ul style="list-style-type: none"> • Data organization • Data summarization • Trend identification • Visual interpretation • Informed decision making • Scientific research • Social science studies • .
3	Unit3: 10 Lectures	Sampling: Purposive, Random, Systematic and Stratified. Association and Correlation: Rank Correlation, Product Moment Correlation, and Simple	<ul style="list-style-type: none"> • Lecture • Digital Classes • Group Discussion. • Practical. 	<ul style="list-style-type: none"> • Quiz on basic concepts and Theories • Practical Class Test • Assignments 	It will equip students to make accurate inferences about the whole population based on data collected from that sample, which is crucial for conducting reliable research and analysis in various fields like statistics, market research, and social sciences.

		Regression.	<ul style="list-style-type: none"> • Self-study 	<ul style="list-style-type: none"> • Presentation 	
4	Unit4: 15 Lectures	Diagrammatic Data Presentation – Choropleth, Dot, pie, spherical and Proportional Circles; Point Data Isopleths.	<ul style="list-style-type: none"> • Lecture • Digital Classes • Group Discussion • Self-study 	<ul style="list-style-type: none"> • Quiz on basic concepts and Theories • Class Test • Assignments • Presentation 	It makes the presentation look neater and more organized. They visually aid the reader in understanding the exact situation and are also very easy to look at.
5	Unit5 15 Lectures	Graphic representation – Histogram, polygons, frequency curve (Ogive), Scatter diagram, Lorenz curve, Block pile diagram, Method of population projection	<ul style="list-style-type: none"> • Lecture • Digital Classes • Group Discussion • Self-study 	<ul style="list-style-type: none"> • Quiz on basic concepts and Theories • Class Test • Assignments • Presentation 	Helps with visualization of data and therefore reduces the cognitive load on students while performing measurement data analysis, so students should be encouraged to use it. Example of one participant's scan path. Centers of circles show position of fixations and lines show saccades

Suggested Readings:

1. Chauniyal, D.D. (2010) *Sudur Samvedan evam Bhogolik Suchana Pranali*, Sharda Pustak Bhawan, Allahabad
2. Berry, B. J. L. and Marble, D. F. (eds.): *Spatial Analysis A Reader in Geography*.
3. Ebdon, D., (1977): *Statistics in Geography: A Practical Approach*