University of Mumbai

Revised Syllabus w.e.f. Academic Year, 2018-19 (CBSGS)

T.Y.B.A. / T.Y.B.Sc. Geography, Semester –VI, Paper No: VI

Subject Title: TOOLS AND TECHNIQUES IN GEOGRAPHY FOR SPATIAL ANALYSIS-II (Practical)

COURSE CODE: _____, Credit: __03_

Unit -I	**Nature of data and central tendency**	Lectures
	1.1. Meaning and types of data, variable, observation, observation value, simple, discrete data and continuous data	09
	1.2. Frequency Distribution, Histogram, Frequency Polygon and Ogive	
	1.3. Measures of Central Tendency- mean, median and mode	
Unit -II	**Dispersion and Deviation**	
	2.1.Mean Deviation and Quartile Deviation	09
	2.2. Standard Deviation	
	2.3. Moving Averages (3 years and 5 years)	
Unit -III	**Correlation, Regression & Hypothesis Testing**	
	3.1. Calculation of correlation coefficient - Pearson's and Spearman's methods	09
	3.2. Regression analysis	
	3.3. Chi square test	
Unit-IV	**Sampling**	
	4.1. Sample and sample design in geography	09
	4.2. Point sampling –Systematic and random	
	4.3. Line sampling – Systematic and random	
	4.4. Area sampling – Systematic and random	
Unit-V	**Field work in Geography of any one place/village**	09
	5.1. **Collection of physiographic data** – Field observation, field sketching, collection of soil and rock samples, identification of vegetation etc.	
	5.2. **Collection of socio-economic data** – interviews, questionnaire survey, visit to local governing office, NGO's etc.	
	5.3. **Collection of geospatial data** – toposheets, aerial photographs, Google images/maps, Bhuvan images etc.	
	To prepare a geographical report **of a place** with the help of an available 5.1, 5.2, and 5.3 aspects	

Student list & Field visit (2022-23)

TYBA 2022-23

StudentNameWithMotherName	RollNumbe	
ALI SABA SAMSHER RUKHSANA	BA301	Absent
ANSARI SANA MOHD HUSSAIN TEHSEEN	BA302	Present
BIRDUGHANTI RISHIKA JOHN RUBY	BA303	Absent
KSHATRIYA AARTI GANESH VANITHA	BA304	Present
MISHRA RISHIKESH ANIL PREETI	BA305	Present
MISHRA RYAN SHIVKANT DEEPALI	BA306	Present
NAIR MARIA SUNDERRAJ ASHA	BA307	Present
P SUJATHA PONNUSAMY MALAR	BA308	Present
RAJBHAR SACHIN SHOBHNATH POONAM	BA309	Present
RAMANE SHILPA SANTOSH GEETA	BA310	Present
RANA HARSHITA SURESH ANJANA	BA311	Present
RANE PRANAV DATTARAM DEEPALI	BA312	Absent
- SHALOVIN SAMRAJ MANJU	BA313	Present
SONI DEVESH SURESH REETA	BA314	Present
TIWARI ARCHANA VINAY SUNITA	BA315	Present
TIWARI VANDANA JAGPRASAD SHANTI	BA316	Present
TORI USHA MALKAPPA RAMA	BA317	Present
VERMA MITALI DEEPAK NISHA	BA318	Present
GOWDA SUNIL SATYANARAYAN PUSHPA	BA319	Present
MISHRA ARUN DIWAKAR VIJAYLAXMI	BA320	Present
AWAD PRIYANKA SURESH REKHA	BA321	Present
SHETTY MITESH SURESH JAYA	BA322	Present
TIWARI NAVRATN RAJESH SAROJ	BA323	Present
PATEL DEEPALI SANTOSH SUMAN	BA324	Present
BODDU KAVERI ANJAYYA PADMA	BA325	Present
GUDA SUMANDEVI RAMKUMAR SEETA	BA326	Present
METRI PRAJWAL PARASHURAM SUNITA	BA327	Absent
SHAIKH ASMA NAZIR SHENAZ	BA328	Present
SHAIKH AFRIN KISMAT ALI RUKSANA	BA329	Present

Datta

HOD

Dr. Jayeeta Datta

A Jaiswal

faculty

Mrs. Anita Jaiswal

SHRI RAJASTHANI SEVA SANGH'S College of Arts, Commerce & Science MUMBAI 1986.

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COLLEGE OF ARTS, COMMERCE & SCIENCE
(AFFILIATED TO THE UNIVERSITY OF MUMBAI)

GEOGRAPHY FIELD VISIT

2022-23

Geography department had organized a **Geography Field visit** to Badlapur on 3rd and 4th of February, 2023 and also organized trip to Sanjay Gandhi National Park, Borivili, Mumbai on 4th February 2023. This trip has been organized by Department Head Dr. JAYEETA DATTA and MS. ANITA JAISWAL for the academic year 2022-23. The geography trip conducted socio-economic survey as a part of Semester-VI ,Paper no-6 , Unit-V. The number of students visited badlapur is 10 and Sanjay Gandhi National Park is 15.

OBJECTIVES

- Socio-economic survey enlarges the practical knowledge among the students.
- To study the methods of research work
- To study a how to communicates with respondent
- Student learn to develop hypothesis of research study
- To learn the problems of the stud y area
- To provide some applicable solution to the village of the study area.

Outcome: The students get a practical knowledge during a survey making journal and provide the solution give them the problem solving capability

This academic year students were allowed to visit Badlapur as well as Sanjay Gandhi National Park.

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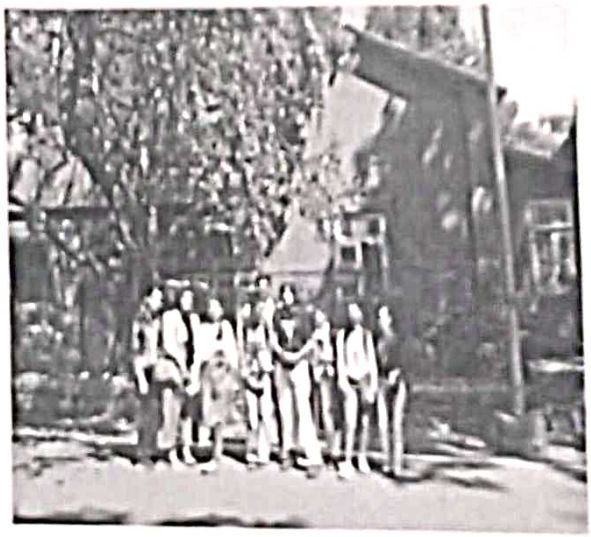
STRUCTURE OF THE SURVEY

Pre field Study: The Structured and unstructured questionnaire prepared by the students under the guidance of the faculties. They also prepare study area map and route map with help of topographical map, google map as pre field study. They also gathered the raw data about the study area from the different sources.

Field Study: Student survey the local people with their questinnaire and also vitited local offices to accumulate data related to their survey. They also visit local school, post office, buss stop to accesses the knowledge of their socio-economic conditions.

Post Field: Student proccessed all the raw data with help of Excel format and thematic maps has been prepared and interpret to prepare the reports.



STUDENTS DOING THE SURVEY

Dr. Jayeeta Datta

(Head of Geography Department)

Ms. Anita Jaiswal

Faculty

Dr. (Mrs) Trishla Mehta

(Principal)

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(AFFILIATED TO THE UNIVERSITY OF MUMBAI)

NAME: P Sujatha ponnusamy

ROLL NO: 308

CLASS: Bachelor of art's

SUBJECT: Geography practical

TOPIC: Tools and techniques in geography for spatial analysis-ll

ACKNOWLEDGEMENT

I Would like to thank the faculty of **SMT.PARMESHWARI DURGADUTT TIBREWALA LIONS JUHU COLLEGE OF ARTS, COMMERCE AND SCIENCE** "affiliated to the University of Mumbai for their excellent suggestion.special thanks to **DR.MRS.JAYEETA DUTTA,** Coordinator and **PROF.ANITA JAISWAL** for their constant encouragement and guidance from the beginning to the end with never ending patience.their constant support and efforts helped me to complete my journal on time.

I would also like to take an opportunity to thank all friends for co-ordinate with me and to all the people who are directly or indirectly connected to the journal above.special thanks to our principal **DR.TRISHALA MEHTA** and president **DR.VINOD TIBREWALA** for their co-ordinate operation during the time of completion of the journal.

GEOGRAPHY DEPARTMENT

CERTIFICATE

SMT.PARAMESHWARIDEVI DURAGADUTT TIBREWALA LIONS JUHU COLLEGE OF ART'S, COMMERCE AND SCIENCE.

This to certify that
Miss:P.sujatha ponnusamy of T.Y.B.A
Roll no:308 Examination seat no
Has satisfactorily completed experiment in the
subject of GEOGRAPHY PAPER VI
(SEMESTER VI)
Prescribed by the syllabus of
MUMBAI UNIVERSITY

A Jaiswal 23/2/2023

Faculty signature
Date:
college seal:

SHRI RAJASTHANI SEVA SAMAJ'S S.P.D.T. COLLEGE OF ARTS, COMMERCE & SCIENCE MUMBAI 1986.

Dalla 23/2/2023

Head of Department
Examiner's signature
Date:

6/4/23

INDEX

UNIT-1

NATURE OF DATA AND CENTRAL TENDENCY

UNIT-2

DISPERSION AND DEVIATION

UNIT-3

CORELLATION, REGRESSION AND HYPOTHESIS TESTING

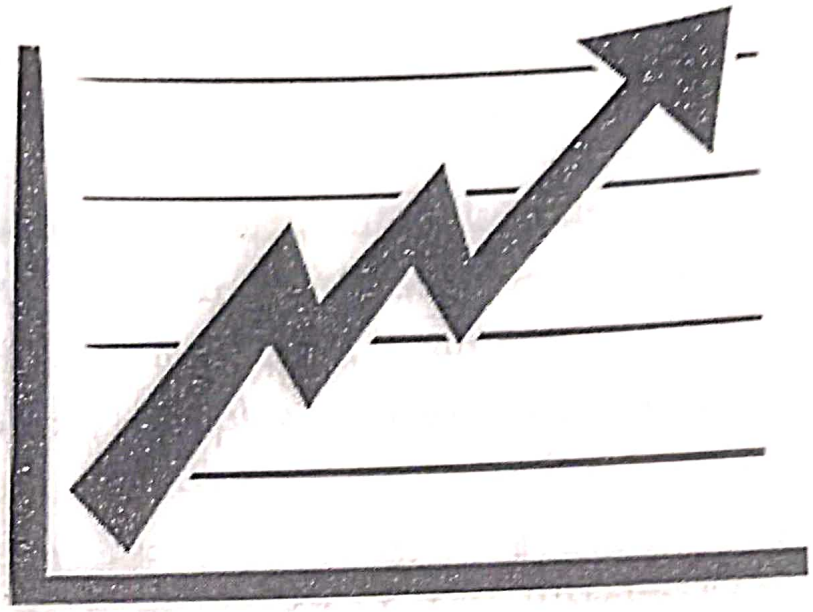
UNIT-4

SAMPLING

UNIT - 1

NATURE OF DATA AND CENTRAL TENDENCY

STATISTICS



STATISTICS

* INTRODUCTION :-

The Words Statistics is derived from a Latin words "Status" meaning a political state. Thus Statistics is linked with the administrative affairs of a state. Statistics is a branch of mathematics dealing with collection, presentation, analysis and interpretation of numerical data.

Statistics is used in every walk of life. It is used is almost all subjects such as agriculture, botany, bio-technology, bio-informatics, chemistry, economics, Commerce Geography, Sociology, insurance, medicine, management, education, Sports, meteorology, physis, etc.

Our Indian statistician have done great work in Statistics some of our well known statistician are Dr. Pc mahalanabis, Dr. P.v sukhatme, Prof. C.R. Rao, Dr. V.S Hugurbazar.

* SCOPE AND IMPORTANCE OF STATISTICS :-

In the field of Statistics, a small portion of a large group is used to formulate conclusions about the entire group. The smaller portion is the sample size and the entire group is referred to as the population. Millions of people may be derived from sample size of a few thousand people.

Acquiring data is dependent on the method of collection. The collection of data can be random or clustered depending on the nature of the survey. The methods used to collect the data are important to the Statisticians making conclusions from the final tallies. Whether the questionnaire allows people to submit their own answers or researchers obtain the data themselves, the method factors into the final conclusions.

Organization of data is the visualization of all the varying answers through the use of charts & graphs. These visual aids help to organize the data in a clear manner. The analysis of data is called descriptive statistics. The mean is the average of the data collected. The range shows how spread out the data is.

Geographers study how and why elements differ from place, as well as how spatial patterns change through time. Geographers begin with the question "where"? exploring how features are distributed on a physical or cultural landscape, observing spatial pattern & the variation of phenomena. Contemporary geographical analysis has shifted to "why"? determining why a Special Spatial pattern exists, what spatial or ecological processes may have affected a pattern, & why such processes operate only by approaching the "why"? questions can Social Scientists begin to appreciate the mechanism of change which are infinite in their complexity.

* ROLE OF STATISTICS IN GEOGRAPHY

Statistical techniques are produres are applied in all fields of academic research; wherever data are collected & summarized or wherever any numerical information is analyzed or research is conducted, statistics are needed for sound analysis & interpretation of result.

→ Geographers use statistics in numerous ways.

→ Describe and summarize spatial data.

→ To make generalizations concerning complex Spatial patterns.

→ To estimate the probability of outcomes for an event at a given location.

→ To use samples of geographic data to infer characteristics for a larger set of geographic data (Population)

→ To determine if the magnitude or frequency of some phenomenan differs from one location to another

→ To learn whether an actual Spatial pattern matches some expected pattern.

* Spatial Data And Descriptive Statistics :-

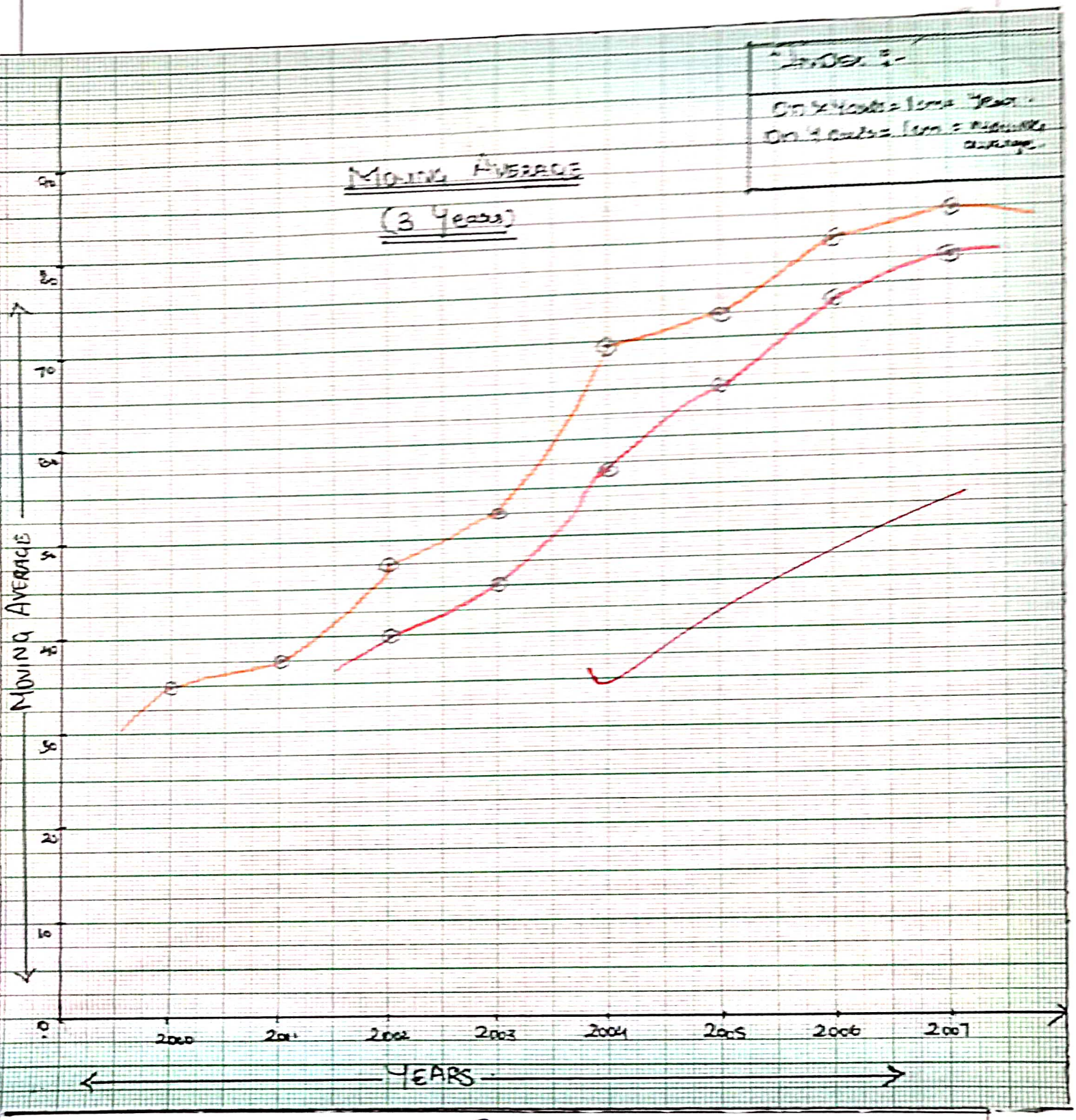
There are several potential difficulties associated with the analysis of Spatial data, among these are boundary delineation, modifiable areal units, & the level of Spatial aggregation or Scale. In each of these cases, the absolute descriptive statistics of an area - the mean, median, mode.

Standard deviation, & Variation - are changed through the manipulation of these spatial problems.

BOUNDARY DELINEATION :-

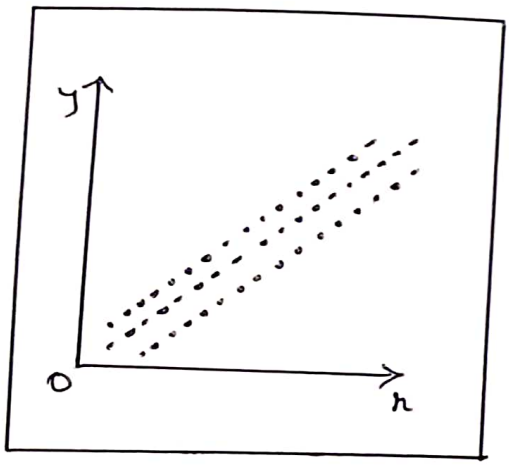
The location of a study are boundary & the positiong of internal boundaries affect various descriptive statistics with respect to measures such as the mean or standard deviation, the study area size alone may have large implications, consider a study of per capita income within a city, if confined to the inner city, income levels are likely to be include the suburbs or surrounding communities, income levels will become greater with the influence of homeowner populations; because of this problems, absolute descriptive statistics such as the mean, standard deviation & variance should be evaluated comparatively only in relation to a particular study area In the determination of internal boundaries this is also true as these statistics may only have valid interpretations for the area & sub area configuration over which they are calculated

Moving Average
(3 Years)



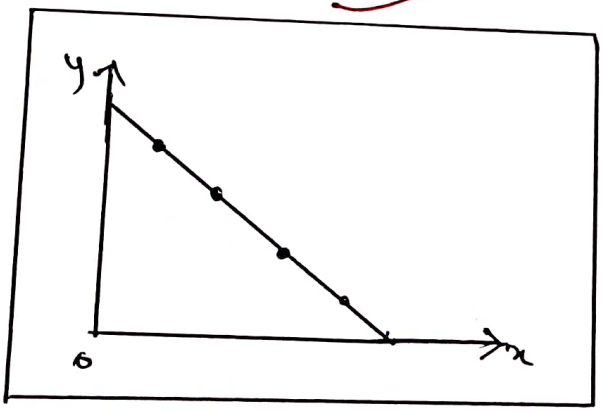
ii) Positive Correlation :-

if the points cluster arround and they asend from lower left hand carner to upper right hand carner - Then there is positive correlation.



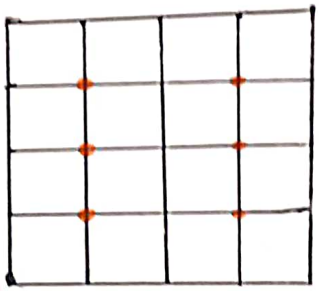
iii) Perfect Negative :-

if all the points lie on the straight line starting from upper left hand corner to lower right hand carner then there is perfect negative correlation.

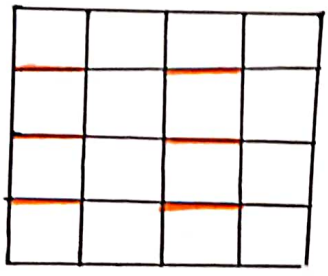


* Systematic Sampling :-

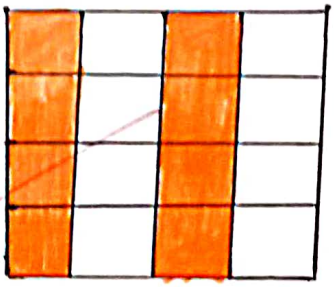
Systematic Sampling method is a Sampling method in which sample members from a larger population are selected according to periodic interval. This interval is called sampling interval.



Systematic Point Sampling.



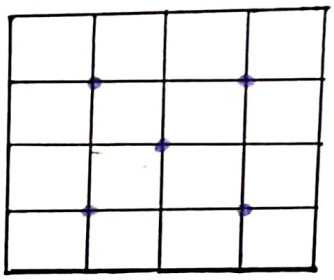
Systematic Line Sampling



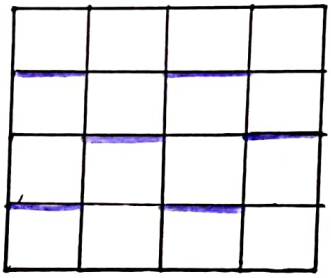
Systematic Area Sampling.

* Random Sampling :-

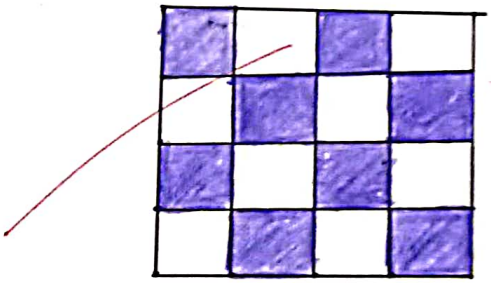
Random Sampling is a method of Selecting Sample from a statistical population in such a way that every possible Sample that could be selected has a pre-determined probability of being selected.



Random Point Sampling.

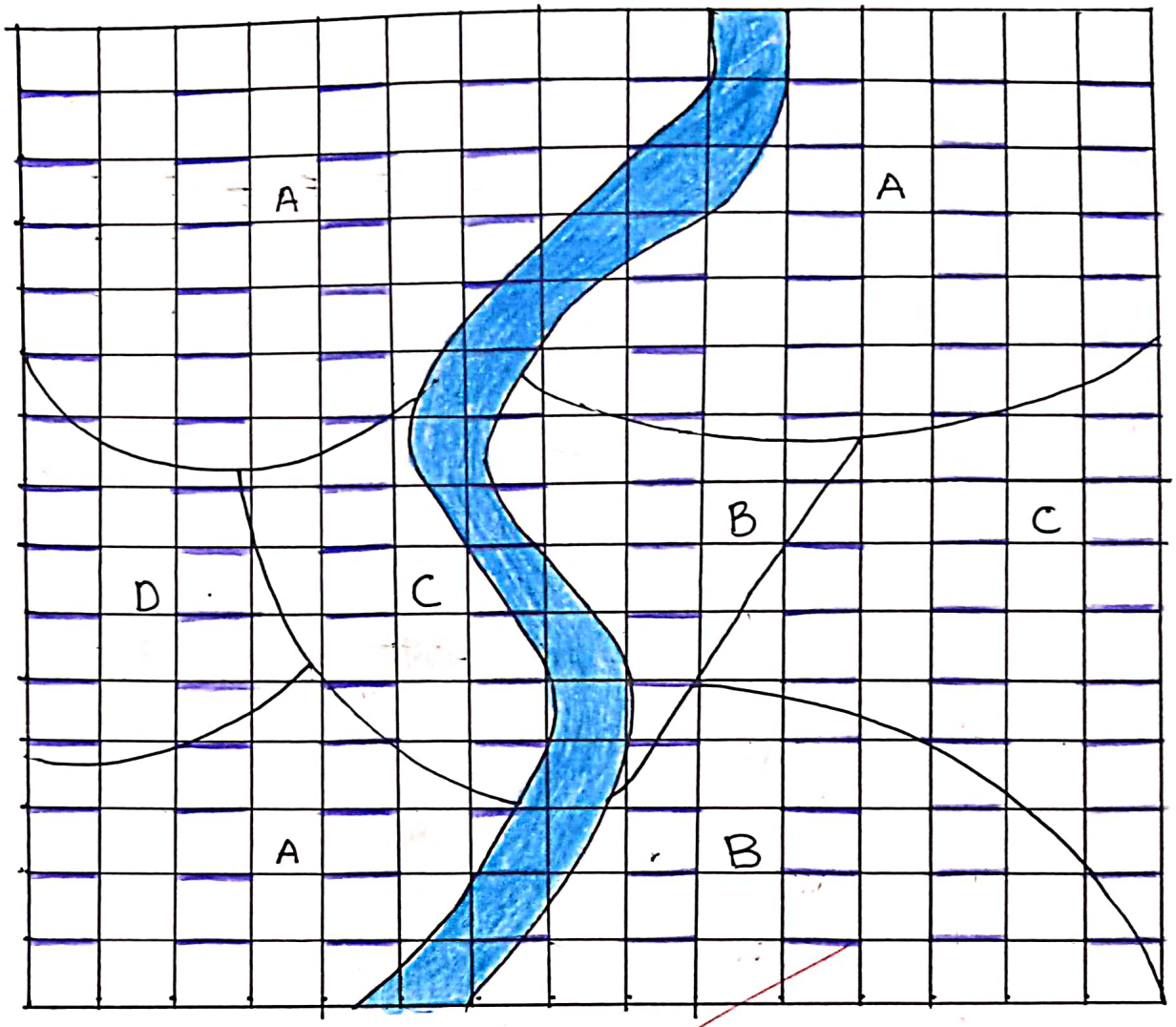


Random Line Sampling.



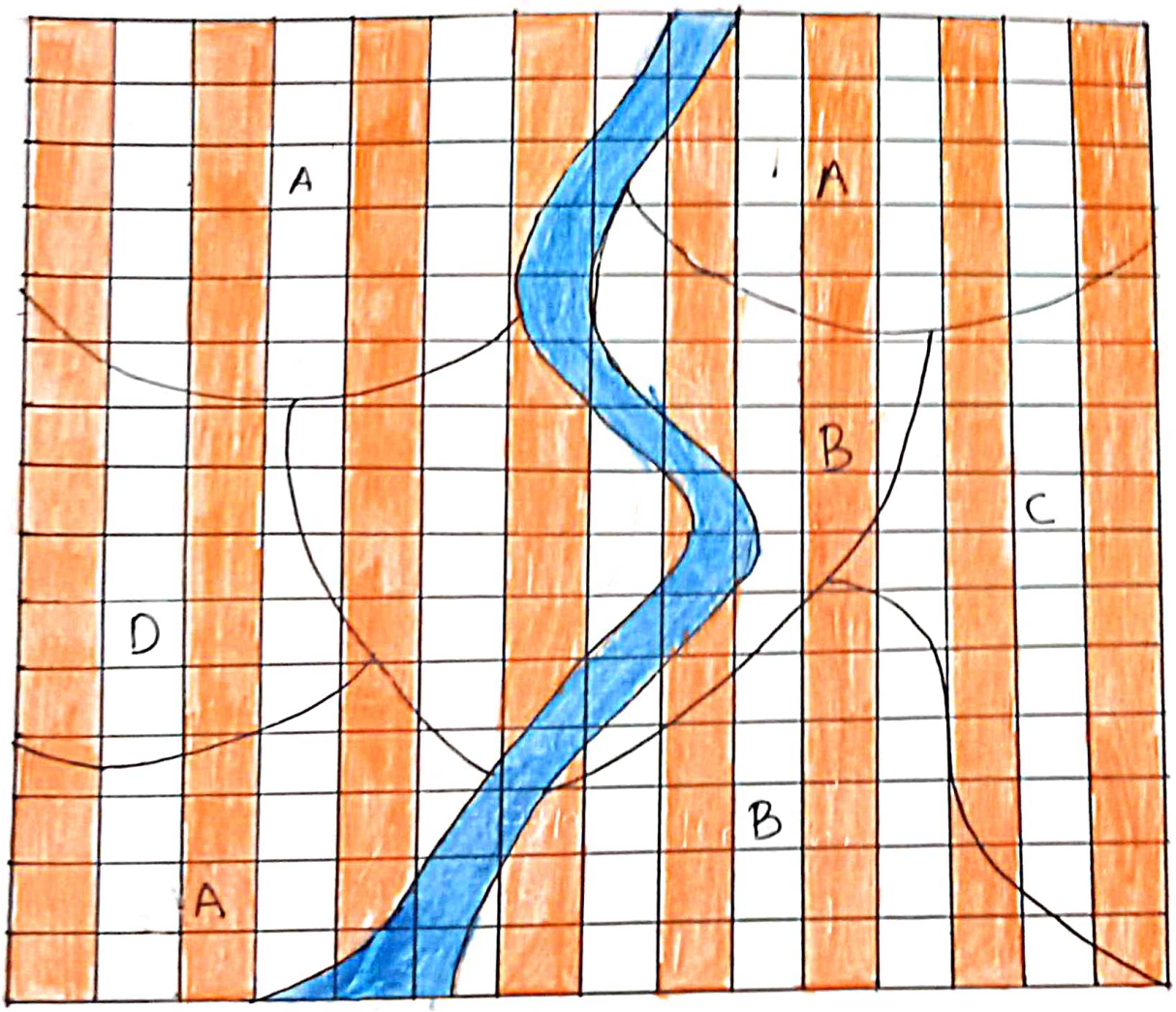
Random Area Sampling.

LINE SAMPLING



Index	
A	Rice
B	Wheat
C	Vegetable
D	Fallow.

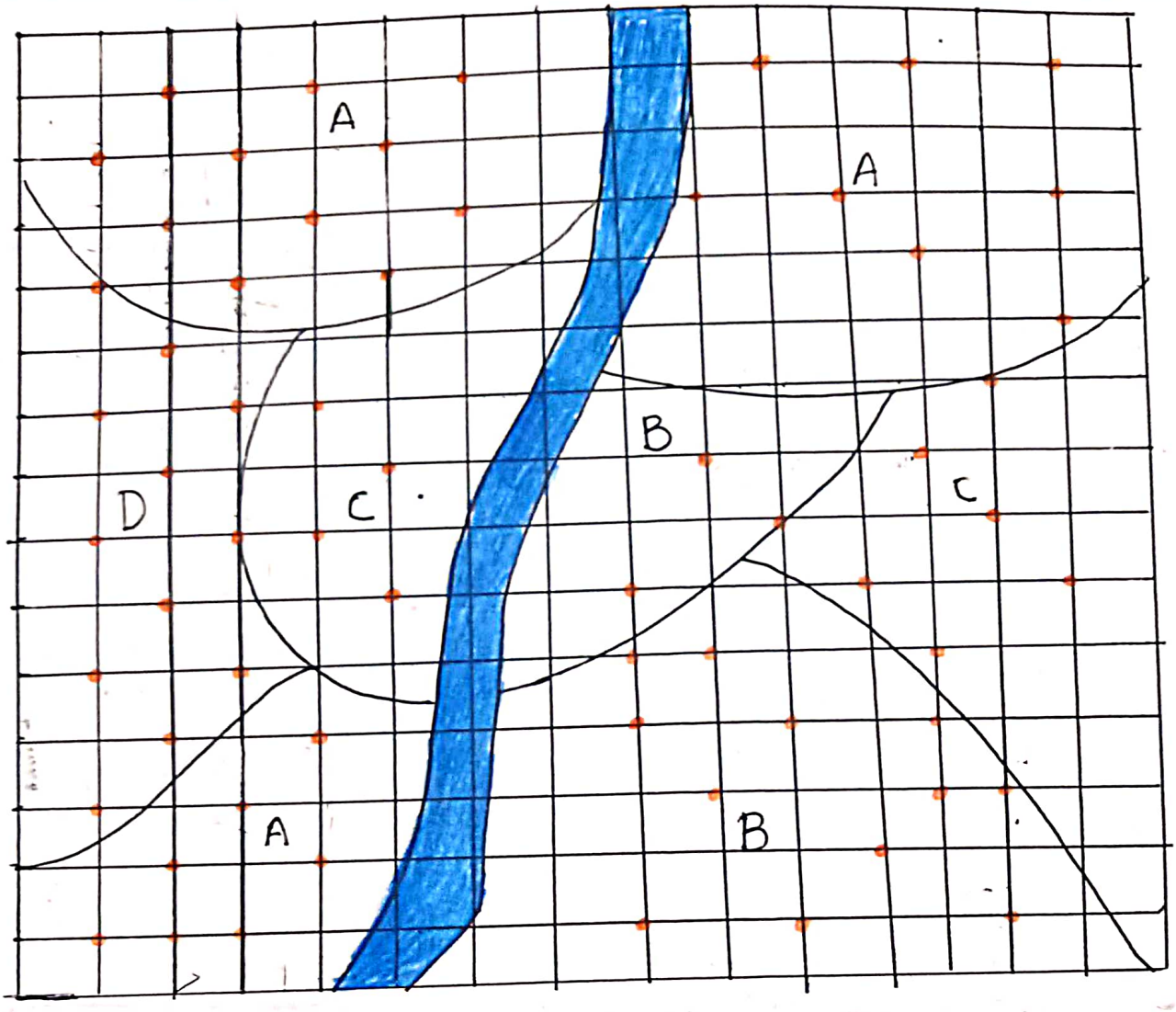
AREA SAMPLING



Index	
A	Rice
B	Wheat
C	Vegetables
D	Fallows

5/1/84

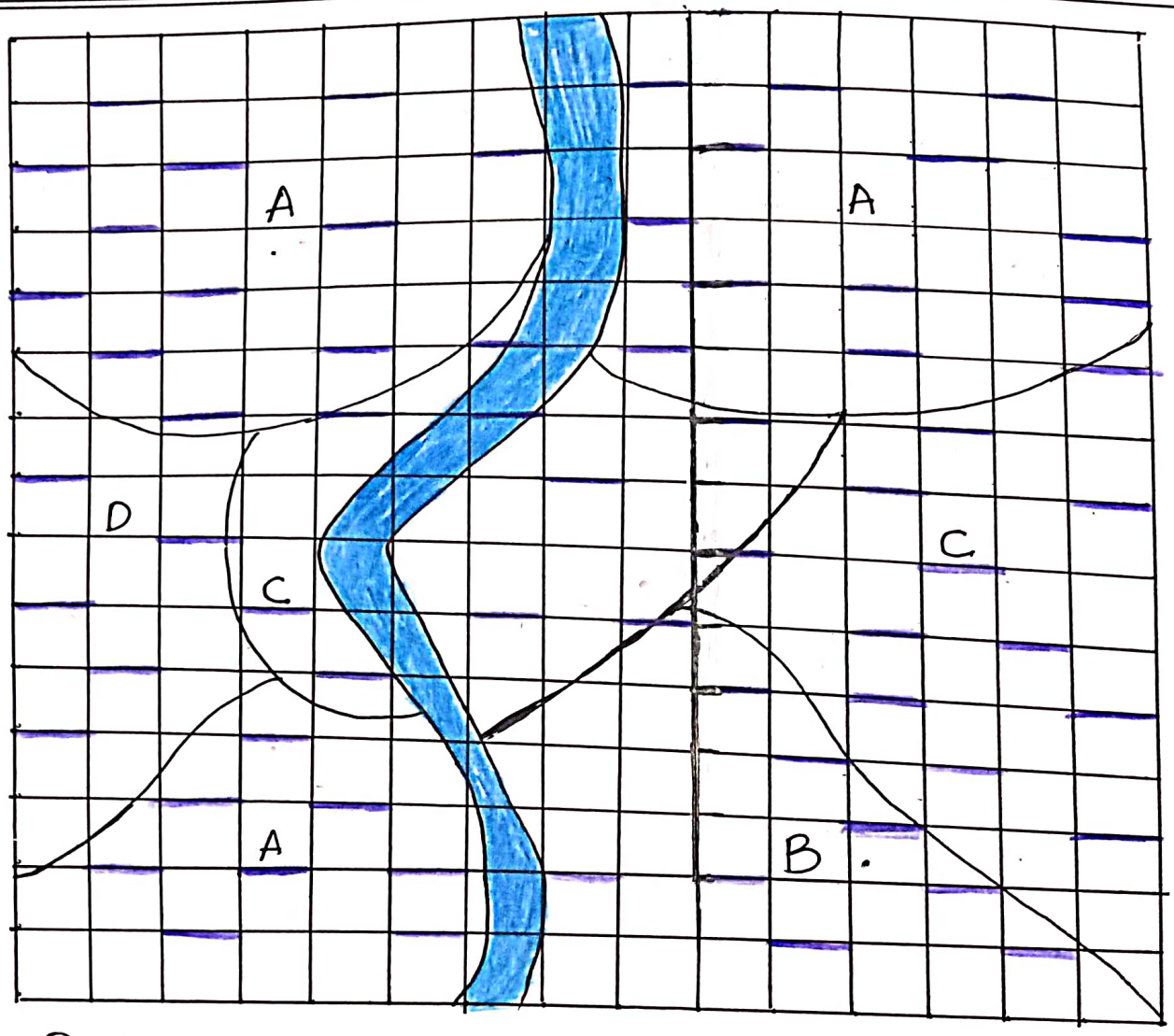
POINT SAMPLING



RANDOM SAMPLING

Index	
A	Rice
B	Wheat
C	Vegetable
D	Fallow.

LINE SAMPLING



RANDOM SAMPLING.

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A	Rice
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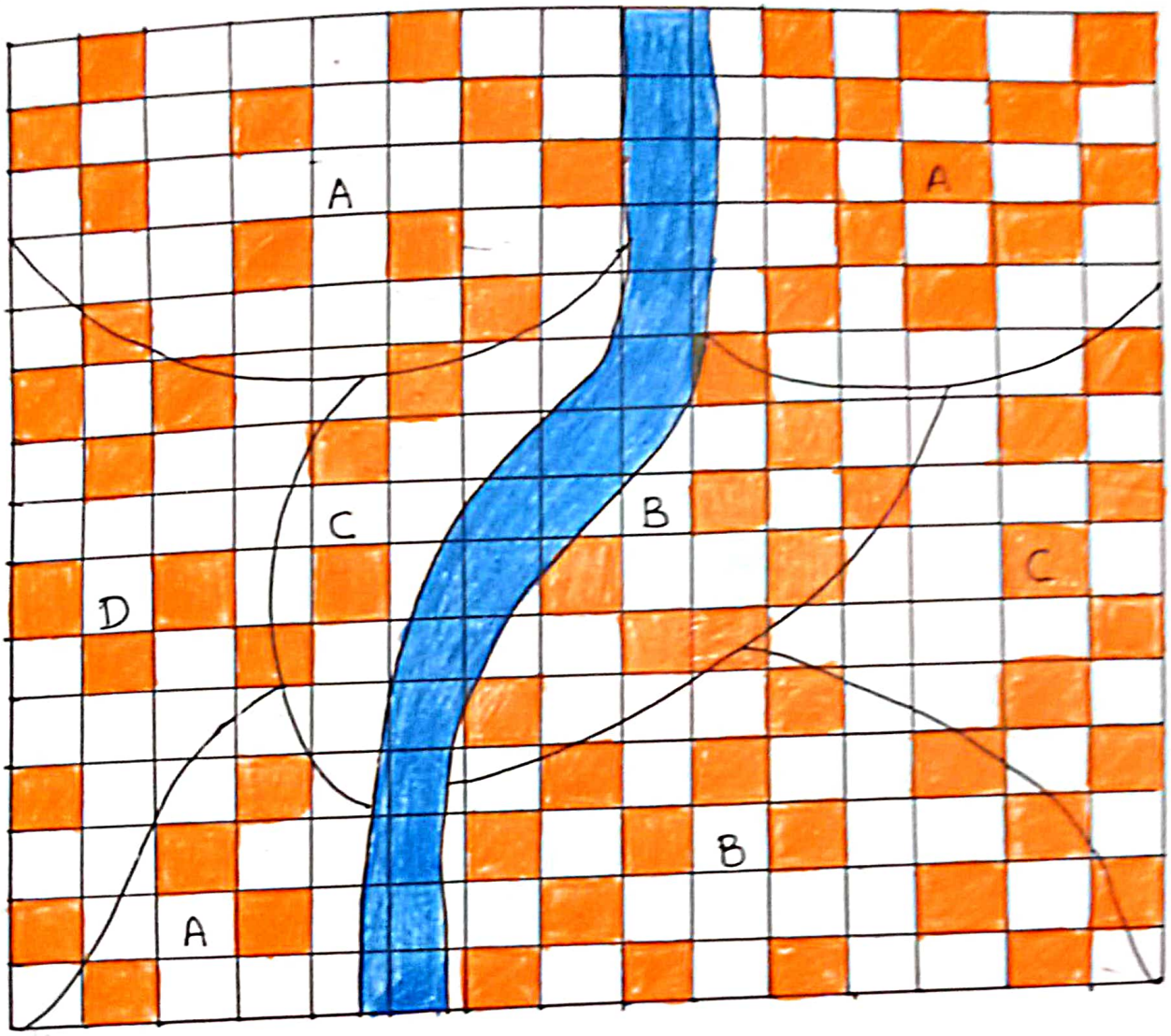
AREA SAMPLING



RANDOM SAMPLING

Index	
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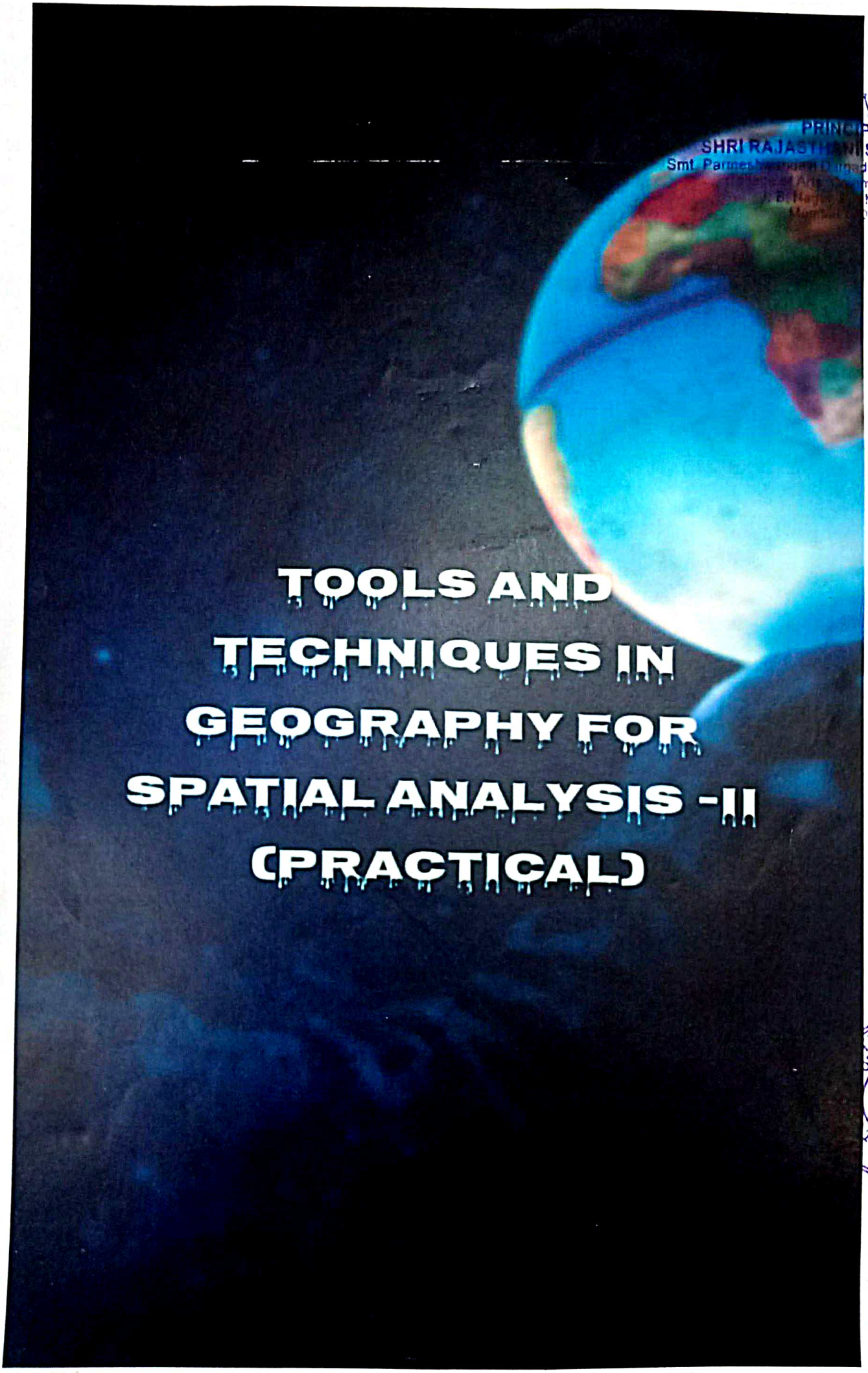
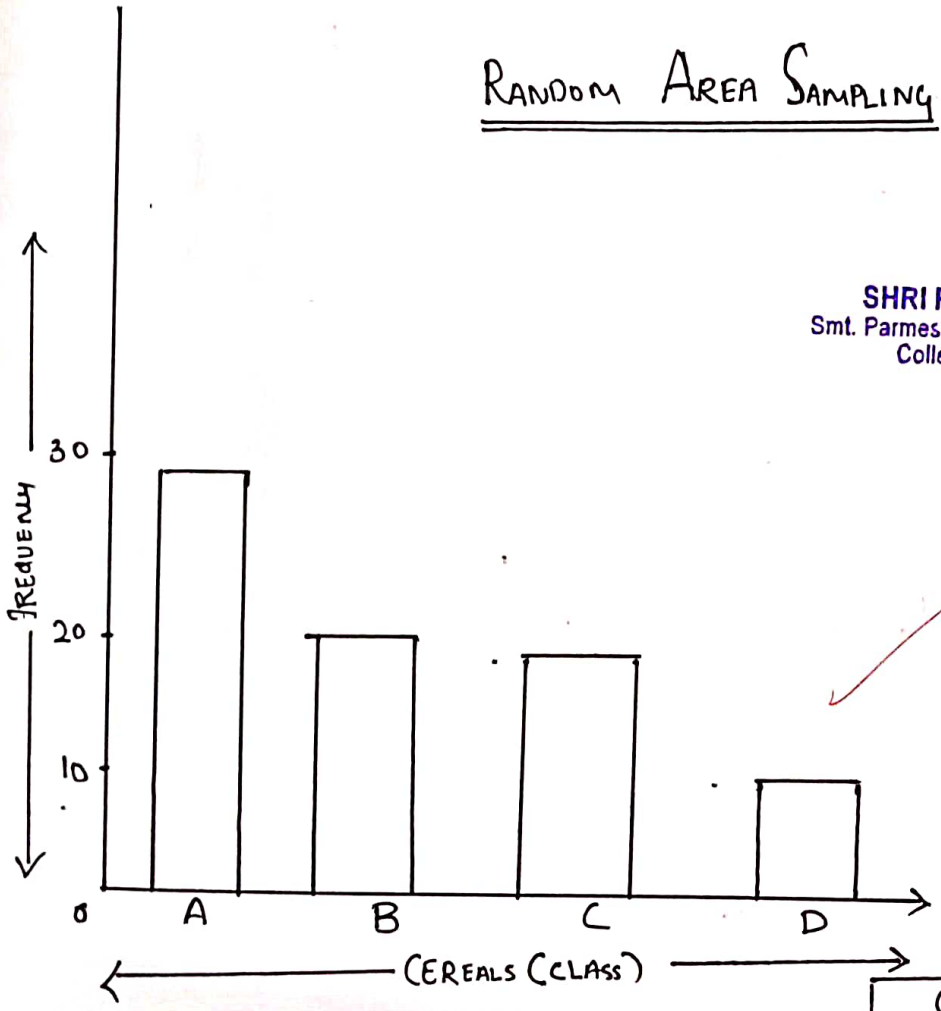


Cereals	Tally mark	Frequency
A	𝍸 𝍸 𝍸 𝍸 𝍸 I	26
B	𝍸 𝍸 𝍸 𝍸	20
C	𝍸 𝍸 𝍸 II	17
D	𝍸 IIII	9

Random Area Sampling



Scale :-
On X-axis = 1cm = Cereals
On Y- axis = 2cm = Frequency