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Map And Its Element

Map = making a small scale on the Papers with the help of Scale is the location of the Places cities, countries, mountains, Rivers etc. of a Part of the Surface of the earth. a map is made up of two words, Value and Picture, which means to Display a measure as value by a Picture

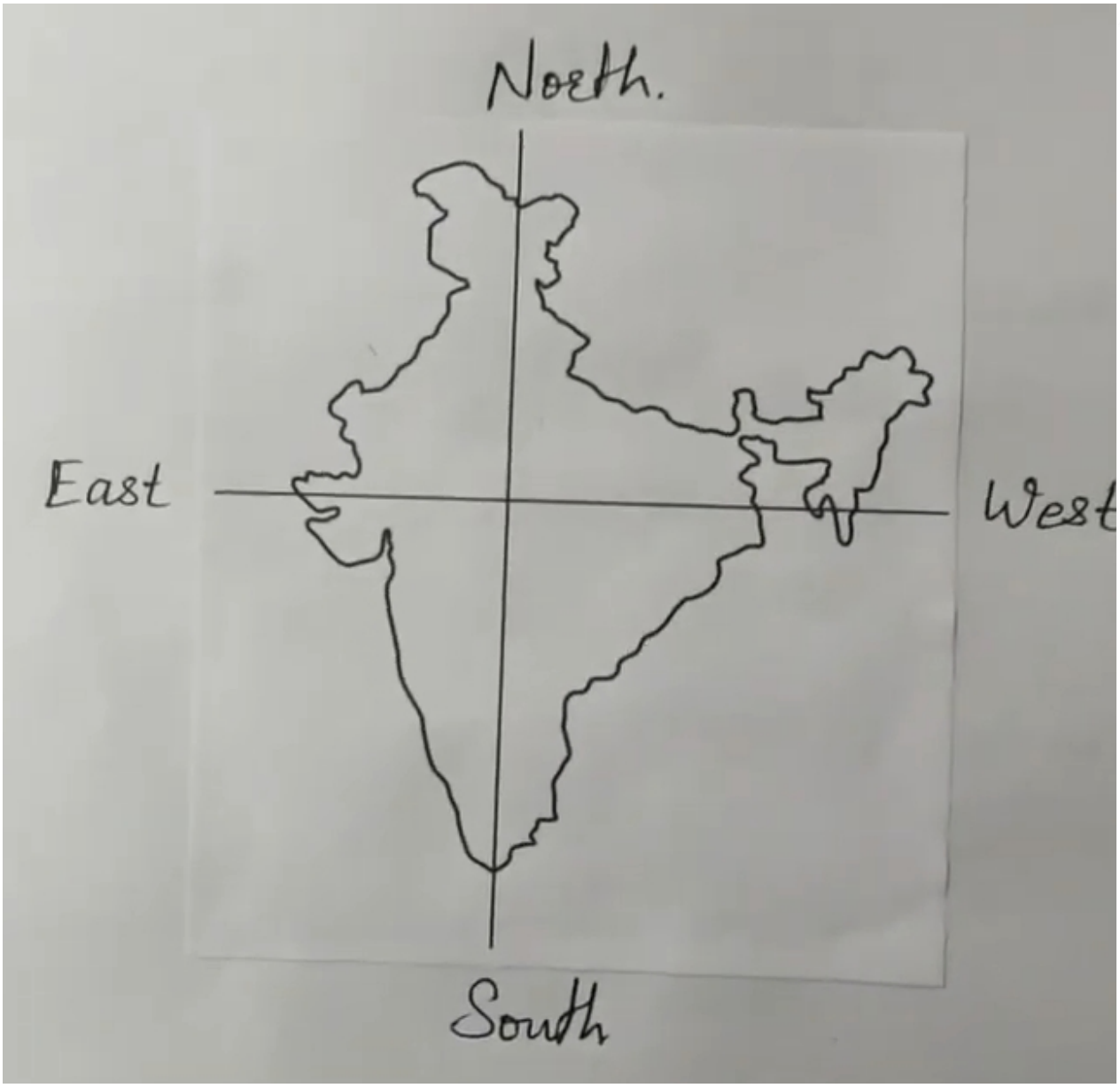
Types of maps – maps are classified Two ways.

(A) Based on Scale

1. Cadence
2. Topographic
3. wall
4. Atlas

(B) Based on work

1. Physical or natural
- Geology
- Stress
- climate
- vegetation
- marine depth


North.
East
West
South

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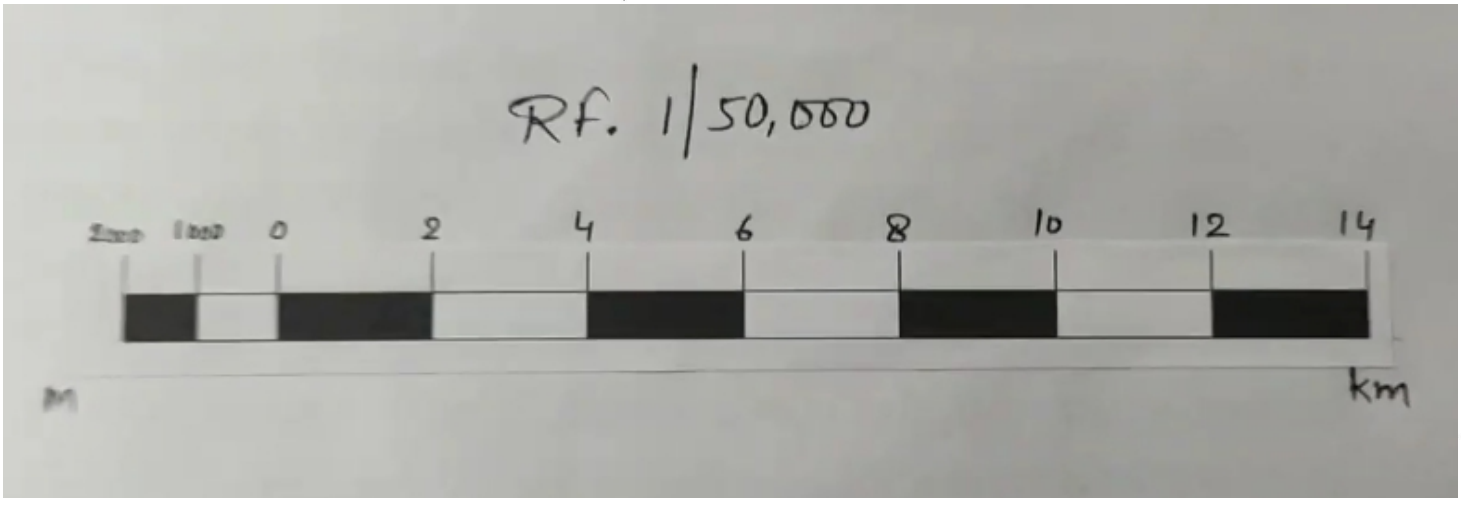
2. Cultural
- Population
- language
- Economic Bussiness
- Industrial
- Historical
- Tourism

Direction of the map is shown by arrow marks The Tip of the arrow Points Towards the north. Sometimes maps Do not Have Compass arrow. Such maps usually Have north Towards the Top. arrow maps also usually Have north In this way map is north and east Direc-on The map Has a northeast in the Right Corner of the Top Its southwest Direction in the Right corner of the Top Its, southwest Direction opposite similarly in the left corner of the Top the north-west is exactly opposite to the southeast Direction


Rf. 1/50,000
2000
1000
0
2
4
6
8
10
12
14
m
km

MAP Scale

The number of Information displayed on the ~~map~~ map is determined by the scale of the map a map showing a large Terrain in which less Information is marked called a small scale map a map showing more Information of a small area is called a map of a larger scale.

- **Scale** ⇒ a scale is the Ratio Between the Distance Between two Points on the map and the Actual Distance Between the same two Points on the ground

- Scale is Displayed on the map in Three ways.

1. **Calculative Scale** - In this method, the measure is expressed in words such as a centimeter Distance of one kilometer of the surface

2. **Exhibitor fractions** - This method is also called Denative or Representive fraction. It is generally abbreviated as R.F in this method the Distance of the surface And Distance of the map are Expressed By a single unit of measure.

3. Linear scale - linear scale is performed by a simple line which is divided in this way into large or primary departments and small or secondary departments That the distance of the map can be scale directly And the Actual distance of the surface can be found.

* Composition of Linear Scale -
create a graphical scale on 1:50000 scale in which kilometers And meters can be Read

Solution
RF. $\frac{1}{50000}$

1cm expresses = 50000 km

15 cm expresses = $\frac{50000 \times 15}{1000000} = \frac{15}{2} = 7.5$ km

7.5 km is an Incompelete number, So It Should be an Integer number 8

7.5km is expressed by = 15cm

8 km will express = $\frac{8 \times 15}{7.5} = 16$ cm

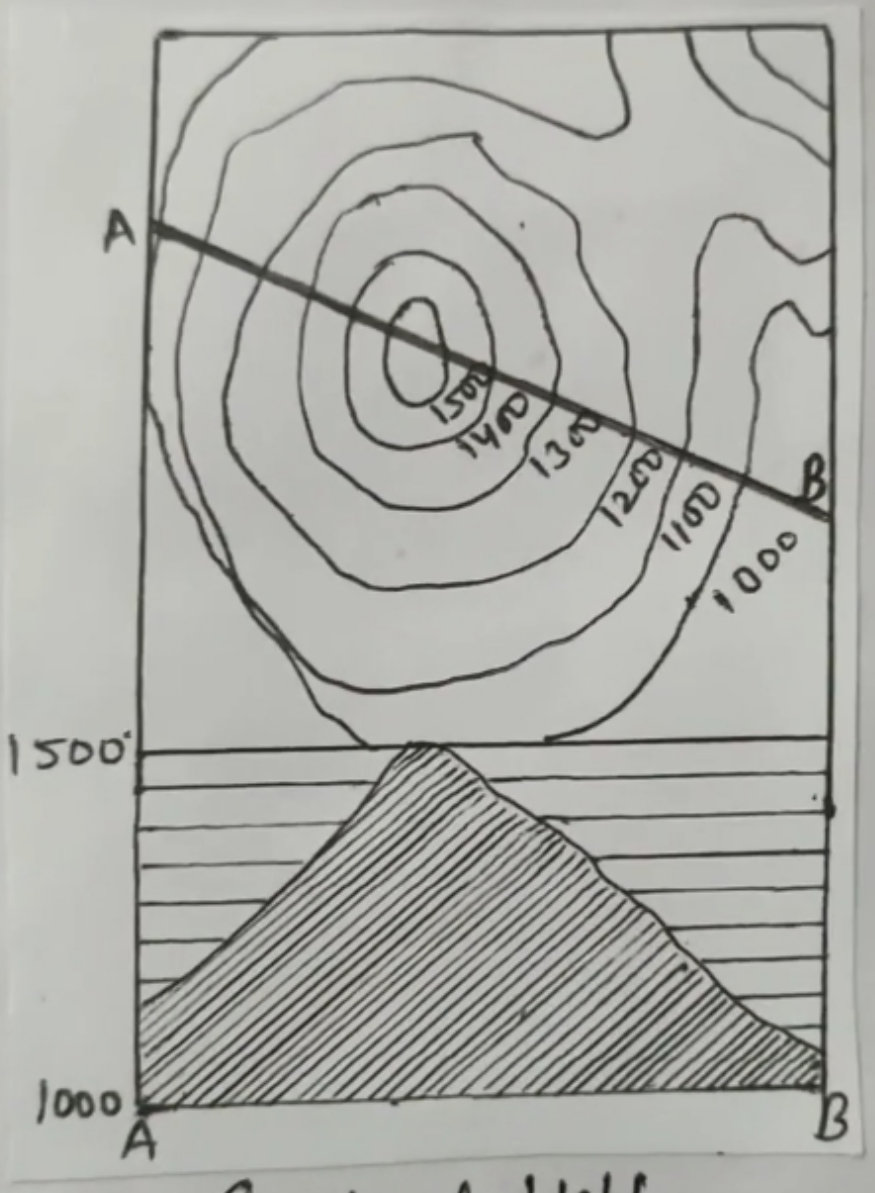
Hence a Distance of 8km will be Read by a 16 cm

line which can be Represented by the following Diagram.

Latitude and longitude -
a Network of Two types of lines is Drawn on a latitude and longitudinal globe or map. The lines Drawn in east - west Direction are called latitude and the lines Drawn in north - South Direction are called longitude

Important longitudes
Equator - 0°
Tropic of Cancer in the Northern Hemisphere - 23.5°
Tropic of Capricorn in the southern hemisphere - 23.5°
North Pole - 90°
South Pole - 90°
arctic circle - 66.5°
antarctica circle - 66.5°

Longitude and Time
Longitude and Time (15°/Hours)
Indian standard time (5 Hours 30 minutes)
International Date line the International Date line is Drawn from north to South at 190° outpost Pecific ocean



Conical Hill

3

MAP Projection

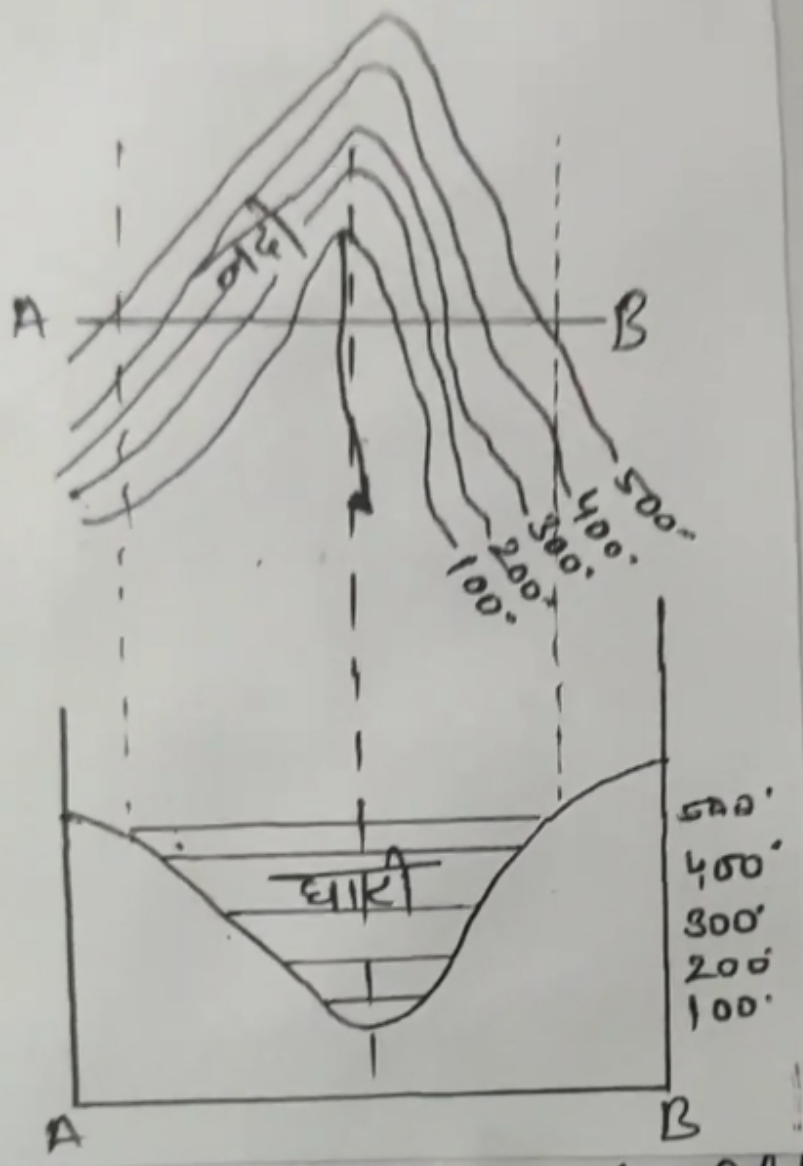
maps in the atlas or wall maps may Have seen a network of vertical and Horizontal lines are latitudinal lines The network of latitude and longitude lines is called a line-line This Helps to create a gratuitous map.

Methods of representing the Reliefs in the Map

a variety of shapes emerge from the sequence of contour lines on the map which Represent Different Relief features such as Hills valley verges

Conical Hills ⇒ The concentric contour lines on the map Represent the Conical Hill. all these lines are Drawn at the same Distance. The value of contour lines Increases Towards the center.

Plateau ⇒ a High land with a flat surface Rising above the adjacent Plain is called a Plateau. In the Representation of the cover an absent or very wide area on Its Surface. The value of contour lines Increases Towards the Top Surface



V-Shaped Valley.

V- Shaped valley - It is Built by the River in Its youth. It is shaped liked the letter V of english. Hence It is called V- Shaped valley The V- Shaped valley in the map is shown by contour lines. The Contour line the middle of the valley Has the lowest value.

Waterfall ⇒ the site of the sudden fall of water on the vertical Slope of the River floods is called waterfall. The waterfall on the map is Identified by Contour lines Crossing the River at Site.

Study of weather maps -
Weather Map is a symbolic Representation of the atmospheric conditions of a given time of a Region Therefore in a wheather map, Temperature are Pressure Direction and speed of winds. clouds amount of Precipitation and other elements of the weather are Shown with Different signs Each of these Components of the weather is calculated numberically and each is Represented By a specific symbal

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Weather Equipment

1. Thermometer – Thermometer is used in measuring Temperature. a thermometer is used clared thin glass tube with a Hole of similar size. This Tube is clared on one side and there is a Bulb on the other side

2. Anemometer – The Divice By which the velocity of the wind on the Earth is measured is called Anemometer. measurement of force and velocity of wind from Different types of wind velocity measurements is called wind velocity measurement

3. Hygrometer – means of measuring the Humadity of the atmosphere is called Hygrometer

4. Barometer – a Pressure gauge is an Instrument by which the pressure of atmosphere is called measured

5. Rain gauge ⇒ a Rain gauage is used to measure the level Rain fall

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Interpretation And Statist
Diagrams of DATA

The Numbers used in statics are called statics statistics are groups of different facts that are collected by a systematic method with a Pre-determined Purpose and can be tabulated and categorized.

* Types of DATA

1. Primary Data – The Data collected first time By a Researcher either Invidually or By a group of Individuals, Institution and Organization is called Primary Data.

2. Secondary DATA – The figures which Have already been collected and Published By any Person or Institution are called secondary figures.

3. Mode –
Palymer is the value of a series that occurs most frequently in a series that is the most common value of a series. In statistics it is determined by 2 letters

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1. marks in mathamatics of 60 students of class 10 are shown in the Table below. find the Palymer of the Recipients.

Square Inter	0-10	10-20	20-30	30-40	40-50	50-60
Student Number	6	14	10	15	5	10

The maximum frequency is 15 So the Palymer class is 30-40

$l = 30 \quad f_1 = 15, \quad f_2 = 5, \quad f_0 = 10, \quad h = 10$

$$z = l + \frac{f_1 + f_0}{2f_1 - f_0 - f_2} \times h$$

$$= 30 + \frac{15 - 10}{2 \times 15 - 10 - 5} \times 10$$

$$= 30 + \frac{50}{15} = 30 + 3.33 = 33.33 \text{ Ans}$$

Median

After arranging a number series in ascending descending order the one that lies in the middle of the Price range is called the median of the Range. In statistics. It is expressed by letters for Example If 13 students of a class are standing According to their height, then the seventh student's height will be called the median

1. The marks obtained by 100 students of class 10 in Mathematics are given in the table below. find the Mean of Digits obtained

Scores	40-49	50-59	60-69	70-79	80-89	90-9
Number of Students	5	10	20	30	20	15

Scores	Number of students	Cumulative frequency
39.5 - 49.5	5	5
49.5 - 59.5	10	15
59.5 - 69.5	20	35
69.5 - 79.5	30	65
79.5 - 89.5	20	85
89.5 - 99.5	15	100
	N = 100	

$$\frac{N}{2} = \frac{100}{2} = 50$$

$$M = l + \left[\frac{\frac{n}{2} - cf}{f}\right] \times h$$

$$= 69.5 + \left[\frac{50-35}{30}\right] \times 10$$

$$= 69.5 + \left[\frac{15}{30}\right] \times 10$$

$$= 69.5 + 5 = 74.5$$ Ans

Mean –

The Mean is the MOST Important and Popular Parallel Mean Among Mathematical Means. The arithmetic Mean is the value obtained by Dividing the SUM of all values of that Catagory by their Number

1. The following is the distribution of marks obtained by 30 students in a mathematics examination

Square Interval	10-25	25-40	40-55	55-70	70-85	85-100	
Number of students							

Solution : $A = 50$ $h = 10$

Square Interval	frequency	x	$d = x - 47.5$	fd
10-25	2	17.5	-30	-60
25-40	3	32.5	-15	-45
40-55	7	47.5	0	0
55-70	6	62.5	15	90
70-85	6	77.5	30	180
85-100	6	92.5	45	270

$\Sigma f = 30$ $\Sigma fd = 435$

Month	January	Febyrary	March	Aprill	May
Temperature	24.5	26.6	32.2	38.1	42.5

Penal Diagrams – Sometimes the values of variables figures are given in terms of time, not in Terms of area, Objects or Bar Diagram Instead of linear graphs

Examples – According to 1991 census the Population of Some Big states of India is given below Represe these Data by bar diagram

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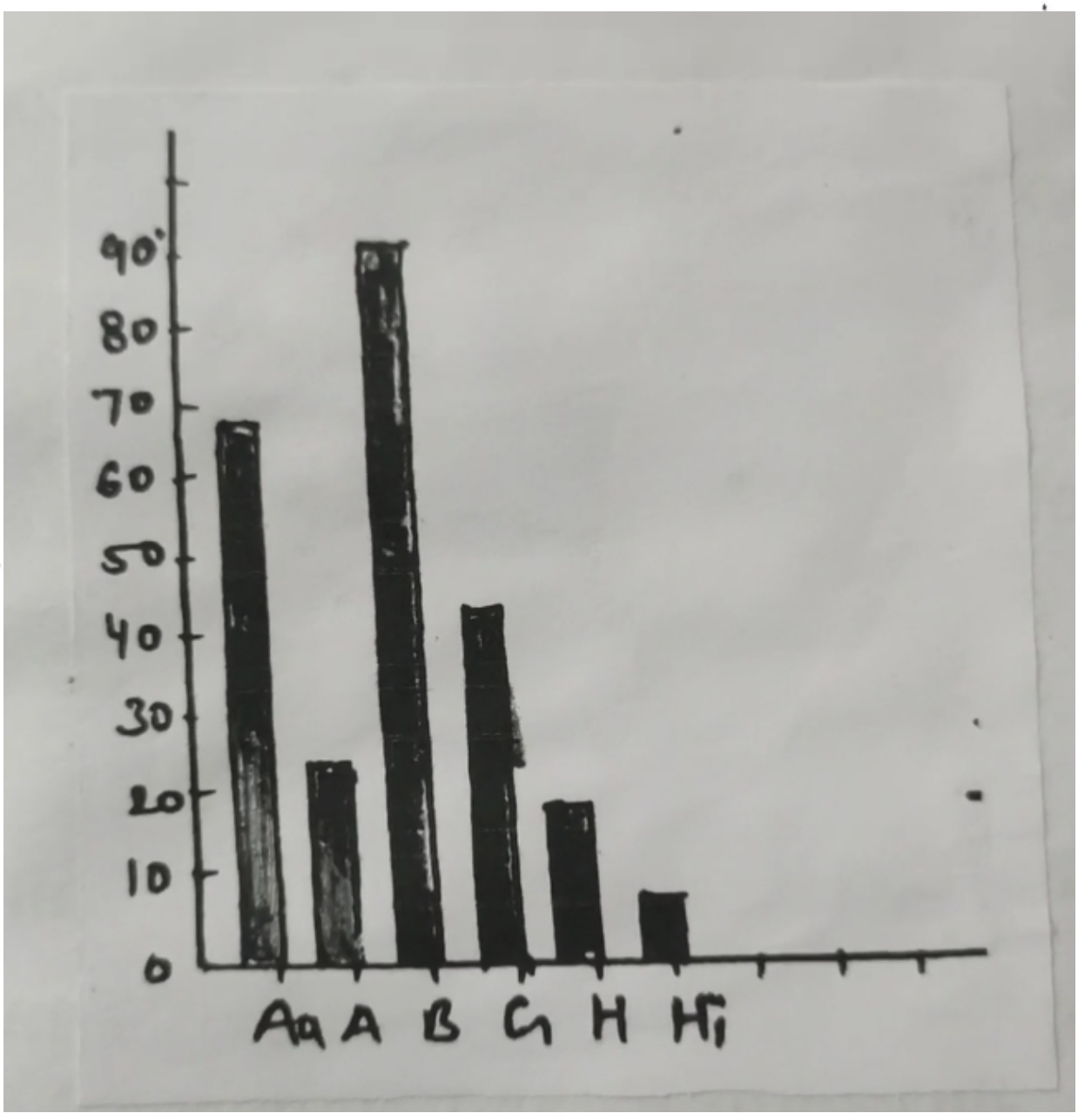
Demonstration of Statistical Data By Diagrams

The symbolic expression of an Information According to a visual technique in Anatomical geometry is called a graph or Diagram. It is also known By the name of graph. a Diagram is a Diagram whose Interelations of Diffrent Parts Explain the Relationship Between the objects Represented in the Diagram and these Relations which are not expressiv in a Diagrammatic way, shown By Numbers Inscribed in the picture

Linear Diagram - The Temperature or Rainfall statistics of an area variables that change over Time similarly the Population, Agriculture, and Industrial Production Personal Income, the value of Various commodities etc. are Such variable Numbers that keep on Increasing - over Time These variables are callected and Tabulated over TIME. It is then Plotted on a linear graph

Examples - Below are average monthly maximum Temperature fraction of Months of a Place in Celsius Represent there data by linear graph


90
80
70
60
50
40
30
20
10
0
Aa
A
B
G
H
Hi

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* **Penal Diagram** = Some values of variable figures are given in terms of time not in terms of area, objects or any other context, then such figures usually expressed by bar diagrams instead of linear graphs

According to 1991 census the population of some big states of India is given below, Represent these data by bar diagram

S No	State	Population
1.	Andhra Pradesh	66.5
2.	Assam	22.5
3.	Bihar	86.5
4.	Gujrat	41.3
5.	Haryana	16.5
6.	Himachal Pradesh	5.2

* **Pie Diagram** = In the multiplex diagram we compare the squares of the variables numbers of different Regions but when the squares of the variables are many and the area is small

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Example :- Draw a circle Diagram with the Help of the following figures. working Population in 2015. working in various Sector in India

Agriculture	53%
manufacturing	22%
Bussiness	9%
Transport	4%
Education	2%
Government Service	2%
other	8%

According to the question, the total working Population in Different Areas together is 100%. This is to be shown in circle 360° for each area. Separate Portions Have to be Drawn And Displayed in a circle. The value of numerator of the value is Derived from the following formula

$$\text{Angle of sector} = \frac{\text{value}}{100} \times 360^\circ$$

Based on the above formula, Agriculture will be the leading value in the fraction of the working Population working in Different Areas

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Distribution MAP

The Display of the Statical Date of Any Region on a Map is called Distribution Map. Various Types of Distribution Maps are Prepared such as Soils Crops Population, Population Density, Literacy, Rainfall, Temperature etc. the following are Required to Prepare a Distribution Map

1. Line Map of the Respective State / Territory / Adminstrative unit
2. A Relief Map of the same Area on which the forest Area, water Blocks, marshy lands, And contour lines are Displayed
3. There should be a Soil Map and climatic Map of the same Area
4. There should be a map Showing the cities

* There are many Methods to make a Distribution Map But only two Methods.
:- Dot Map And choropleth Method will be explained Here

हरियाणा

जनगणना वर्ष 2001

जनगणना मुख्यालय
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Example :- Distribution of Population in Haryana 2021

S.No	District	Number Person	Number Point
1	Ambala	1013660	51
2	Kurukshetra	828120	41
3	Karnal	1274843	64
4	Jind	1189725	59
5	Sonipat	1278830	64
6	Panipat	967338	48
7	Rohtak	940036	47
8	Panchkula	469210	23
9	Faridabad	2193276	110
10	Gurgaon	1659669	83
11	Mahendragarh	812022	41
12	Bhivani	1424554	71
13	Hisar	1536417	77
14	Sirsa	1111012	56
15	Rivadi	764727	38
16	Kaithal	845631	47
17.	Yamunanagar	982369	49
18.	Fatehabad	806158	40
19.	Jhjhar	887392	44
	HARIYANA = 21082989		

Choropleth method = Choropleth is a method of Displaying Spatial Data on a Map. In this, Area is Formed Based on the chemistry And Density of Information The Raw of Spatital Data is first arranged

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And Its various classes are made. a simillar Aura or Color is Assigned to a class. Aura is selected on the Basis of certain Rules

* Example ⇒ To understand the alphabetical method, the Density of Population of all the District of Haryana State is given Below.

S.No	District	Area	Population	Density
1	Ambala	1569	1013660	680
2	Kurukshetra	1217	828120	516
3	Karnal	2471	1278830	435
4	Jind	2736	967338	566
5	Sonipat	2260	940036	774
6	Panipat	1250	469210	564
7	Rohtak	1668	2193276	575
8.	Panchkula	816	1657669	1042
9.	Faridabad	2105	812022	614
10	Gurgaon	2700	1625 7669	483
11.	Mahendragarh	1683	812022	277
12.	Bhivani	5140	1424554	406
13	Hisar	3788	1536487	491
14.	Sirsa	4276	1111012	228
15.	Kaithal	2799	764727	559
16.	Yamuna nagar	1756	982369	324
17.	Fatehabad	2491	806158	475
18.	Jhjhar	1868	887392	478

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