

PROPORTIONATE CIRCLE

PRESENTATION BY

PROF.(DR.) SANJAY KUMAR

(PROFESSOR AND HOD)

P.G. DEPARTMENT OF GEOGRAPHY

MAHARAJA COLLEGE, ARA

P.G.SEM-1

PAPER-104

UNIT- 1

PROPORTIONATE CIRCLE

- We have different type of data.
- The data may be of two variables or more than two variables.
- It is a difficult task to select any one diagram for the given data.
- It is obvious that data have definite set of information's.

PROPORTIONATE CIRCLE

- e.g.-
- The data related to population are also of different type.
- It may be data of population, it may be of density, it may be of literacy, occupation or so on.
- The representation of data through diagram is a technique.
- You have to be expert in selection of diagram for the data given or provided.

PROPORTIONATE CIRCLE

- The data of population are also of different type.
- The population data either of urban area or rural area or of metro cities.
- Then question arises what diagram we have to choose to represent such type of data.
- Here your expertise in selection of diagram works.

PROPORTIONATE CIRCLE

- In a simple manner, e.g. when we have to represent the population of metro cities then we will select spherical diagram and if we have population of different cities and towns then we will select Proportionate Circle to represent or show the absolute population of the given cities and town.

PROPORTIONATE CIRCLE

- Proportionate Circle uses different circles of varying sizes to represent them according to the given statistical data.
- The radius of each circle is drawn in proportion to the magnitude of the data .

PROPORTIONATE CIRCLE

- **Method to construct –**
 1. Collection of data
 2. Sequential arrangement of data
 3. Calculation of the radius for the circles
 4. Scale determination
 5. Drawing of the circles

PROPORTIONATE CIRCLE

1. Collection of data

- It refers to the data you want to represent.
- If there is a data of cities or towns, then collect the data of that cities or towns.
- List the city or town with their population like this-

Town/City	Population (in lakh)
• A	15
• B	55
• C	76
• D	48
• E	27

PROPORTIONATE CIRCLE

- 2.
- Here you have three choices :-
- A- Either arrange the data in increasing order.
- B- Either arrange the data in decreasing order.
- C- Let it be as it is, as given.

PROPORTIONATE CIRCLE

A. Arrange the data in increasing order

• Town/City	Population (in lakh)
• A	15
• E	27
• D	48
• B	55
• C	76

PROPORTIONATE CIRCLE

B. Arrange the data in decreasing order

• Town/City	Population (in lakh)
• C	76
• B	55
• D	48
• E	27
• A	15

PROPORTIONATE CIRCLE

C. Let it be as it is, as given.

• Town/City	Population (in lakh)
• A	15
• B	55
• C	76
• D	48
• E	27

PROPORTIONATE CIRCLE

3. Calculation of the radius for the circles

- i. The area of the circle or radius of the circle must be proportionate to the given data.
- ii. Formula for radius calculation-

$$r = a.r \sqrt{\frac{\text{Given figure}}{\text{Assumed figure}}}$$

- iii. With this formula ,you can calculate the radius for the each city or town given in the data.
- iv. Assumed figure must be either lowest or highest figure of the given data.

PROPORTIONATE CIRCLE

- Q. Draw a Proportionate Circle to represent the urban agglomeration of given cities of earlier Bihar, according to 1991 census figure.

CITIES	POPULATION	ROUND FIGURE
PATNA	10,98,572	1098
BHAGALPUR	2,61,855	262
PURNEA	1,35,995	136
GAYA	2,93,971	294

PROPORTIONATE CIRCLE

- Assumed radius- $136=1\text{cm}$
- Radius for Patna $r= 2.84\text{cm}$
- Radius for Bhagalpur $r=1.39\text{cm}$
- Radius for Purnea $r= 1\text{cm}$
- Radius for Gaya $r= 1.47\text{cm}$

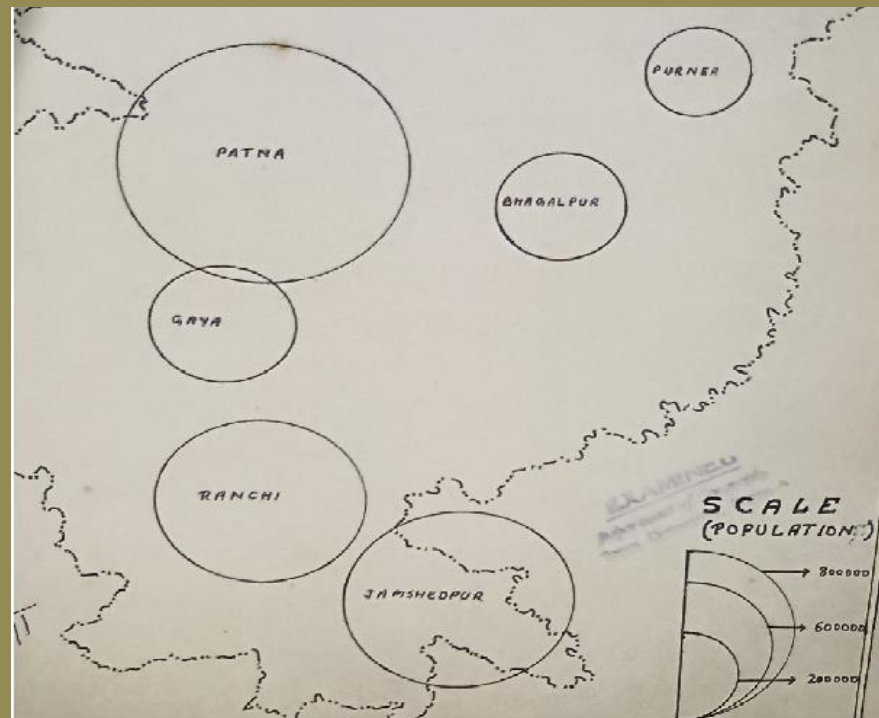
PROPORTIONATE CIRCLE

4. Scale Determination / scale Selection :-

- If 136 = 1 cm then calculate the radius for the scale more than two figure.
- In the given data maximum figure is 10 lakh 98 thousand and minimum figure is 1 lakh 35 thousand .
- Hence the scale for 2,4 and 8 lakh population should be calculated and draw.
- Calculate their radius with the used formula.

PROPORTIONATE CIRCLE

5. Drawing of the circles



PROPORTIONATE CIRCLE

- **THE END**

- **THANK YOU**



- **HAVE A NICE DAY.**