SEMESTER-1 (HONS.)
GEO-A-CC-2-P
GEOTECHTONICS AND GEOMORPHOLOGY
TOPIC :3

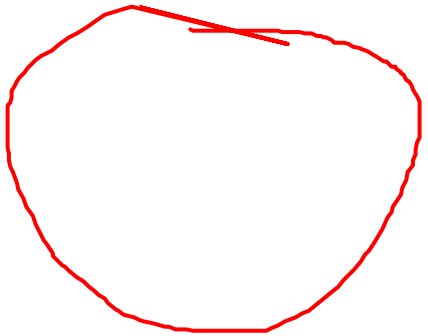
DOT AND SPHERE DIAGRAM

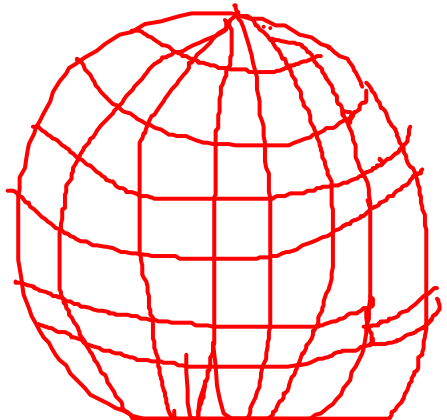
NAME OF TEACHER:
MOUMITA MONDAL
DEPARTMENT OF GEOGRAPHY
RAMMOHAN COLLEGE

- Dot and Sphere Diagram is generally used to represent Rural and Urban population respectively at one go. However dots can be used separately and sphere can be used separately in different diagrams to represent other aspects.

- generally Sphere are 3 dimensional diagrams comprising a series of sphere proportional in size to the quantities they represent.

- ***Volume of a sphere for a representable item is directly proportional to the quantity of the item it represents.***





- Calculation of radius of a sphere to represent urban population
- Formula for volume of sphere= $\frac{4}{3}\pi r^3$
- So; $\frac{4}{3}\pi r^3$ = volume of sphere
- Or $\frac{4}{3}\pi r^3$ =urban population
- Or $\pi r^3 = \frac{4}{3} \times$ urban population
- Or $\pi = \sqrt[3]{\frac{(3xU \cdot P)}{4\pi}}$
- Where u.p.=urban population(in given sum)


DOT & SPHERE MAP
SHOWING
DISTRIBUTION OF RURAL & URBAN POPULATION
OF DARJILING DIST.
SIKKIM
BHUTAN
GRAPHICAL SCALE
NO OF URBAN POPULATION
1 Cm = 20 Unit

DOT & SPHERE MAP

SHOWING

DISTRIBUTION OF RURAL & URBAN POPULATION OF DARJILING DIST.

GRAPHICAL SCALE

NO. OF URBAN POPULATION

30000
16750
3500

1 Cm. = 20 Unit

1 DOT(·)=5000 Rural Popula

DOT AND SPHERE

Step – I

We know, Volume of sphere $= \frac{4}{3}\pi r^3$

or, Volume of sphere = urban population (U.P.)

or, $\frac{4}{3}\pi r^3$ = U.P.

$\therefore r = \sqrt[3]{\frac{U.P \times 3}{4\pi}}$

Step – II

Name of the districts	Rural Population	Selected Scale	No. of the dots (.)	Urban Population	$r_i = \sqrt[3]{\frac{U.P \times 3}{4\pi}}$	Selected Scale	Radii of the sphere (cm)
Darjiling Pulbazar	15225	1 dot (.) = 5000 Rural Population	3	—	—	1 cm. = 20 unit	—
Rangli Rangliot	5202		1	—	—		—
Jore bunawl sukia pokhri	89663		18	28885	19.03		0.95
Kalimpong – I	36645		7	3533	9.45		0.47
Kalimpong – II	52836		11	27044	19.07		0.95
Gorubathan	29402		6	—	—		—
Siliguri Naxalbari	72467		14	8708	12.76		0.64
Mirik	107464		16	—	—		—
Kharibari Phansidewa	78232		21	4378	10.15		0.31
Kurseong	51646		10	—	—		—
				Calculation for Graphical Scale	30000	19.28	0.96
					16750	13.87	0.79
					3300	9.42	0.47

- References:
- Sarkar, A. 2015. PRACTICAL GEOGRAPHY: A SYSTEMETIC APPROACH.
- MONKHOUSE, F.J. WILKINSON, H.R. 1971 MAPS AND DIAGRAMS: THEIR COMPILATION AND CONSTRUCTION