

**M.A. Semester II (2019-2021)**

**CC-9 (Practical)**

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## **GALL'S PROJECTION**

The Gall's Projection is a cylindrical projection. The meridians are equally spaced, but the parallels are spaced at increasing intervals away from the Equator. This projection is neither conformal nor equal-area, but has a blend of various features.

**Question:** Draw a net of Parallels and Meridians on Gall's Projection for the world, the R.R. is 2" and the interval during the parallels and meridians is 15°.

**Answer:**

Calculation

of this

projection-

Interval-

15°

Reduce

radii of the

Earth – 2"

R.F. -

1:125,000,0

00

Length of 45° latitude -

Formula -  $2\pi r$  -----1

$$\pi = 22/7$$

$$R = 2$$

$$\cos 45^\circ = 0.7071$$

Putting the value of these in equation 1

$$2\pi R \cos 45^\circ$$

$$2 \times 22/7 \times 2 \times 0.7071$$

$$88/7 \times 0.7071$$

$$12.57 \times 0.7071$$

$$8.888247$$

$$8.9''$$

Distance of Meridians of 15° interval

Formula-  $2\pi R \cos 45^\circ / 360^\circ \times \text{interval}$  -----2

Putting the value of  $2\pi R \cos 45^\circ$  in equation no. 2

$$= 8.9 / 360 \times 15$$

$$= 8.9 / 24$$

$$= 0.37''$$

Properties -

1. In this projection the considerable point is 45° N & S. Both parallels are true but in simple Cylindrical Projection equator touches the globe. Due to touching the 45° latitudes the error is less than the simple cylindrical projection. So this is more accurate than simple cylindrical projection.
2. All the parallels are equal to the length of 45° so the distortion.
3. All the parallels and meridians are straight line intersecting at right angle.
4. Meridians are equi spaced but parallels are not.

5. The length of equator is 7/10 of the actual.

Note:- Projection is neither orthomorphic nor homolographic but this is cylindrical stereographic projection because the distance between two parallels are calculated by the process of stereographically.

Merits - It's visual impression is very good.

Demerits - Area and direction both are not totally correct but due to presence of two standard parallels (45°N & S) the area is not increased than Mercator's Projection.

Uses - The world are shown satisfactory in this projection.

# THE WORLD

## ON GALL'S PROJECTION

R.F. - 1:125,000,000

