

Chapter 10

REFLECTION AND REFRACTION

MIRROR FORMULA:

- $f = \frac{R}{2}$
- $\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$ (mirror equation)

If the incident ray is parallel to the principal axis of the mirror, after reflection the reflected ray passes through the focus of the mirror.

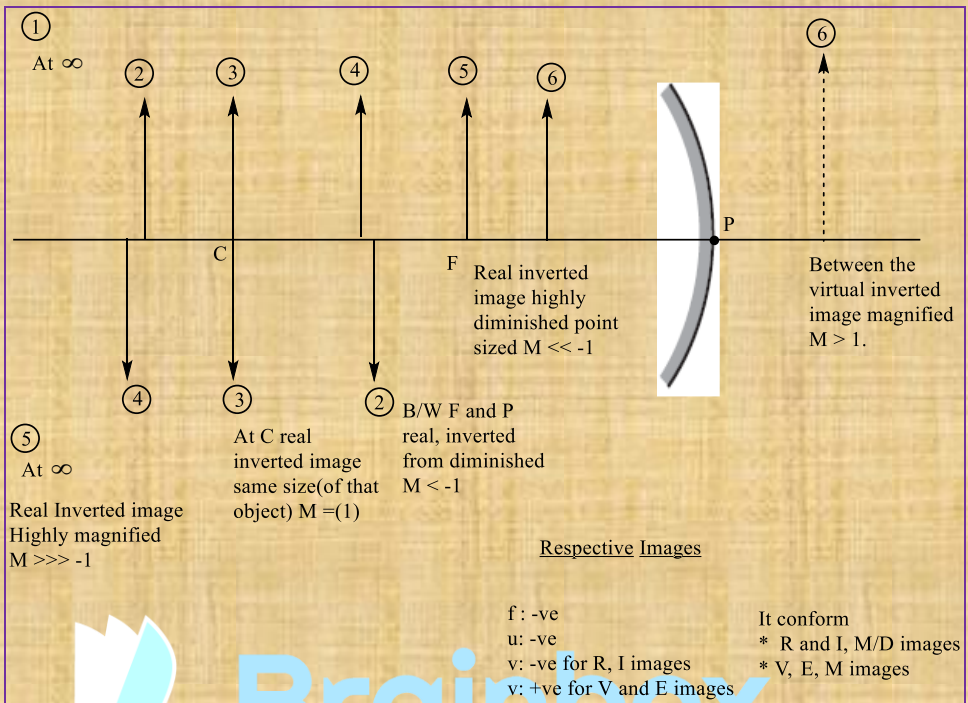
The ray passing through the centre of the curvature of a concave mirror or appearing to pass through it for a convex mirror. The reflected ray simply retraces the path.

The ray passing through the focus of the concave mirror (or) to pass through the focus of a convex mirror. The reflected ray is parallel to the principal axis.

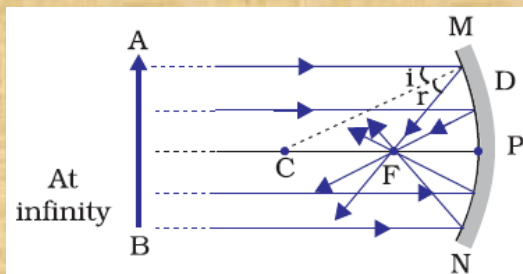
Images formed by spherical mirrors and their characteristics:

CONCAVE / CONVERGING MIRROR:

Different positions of the some object:

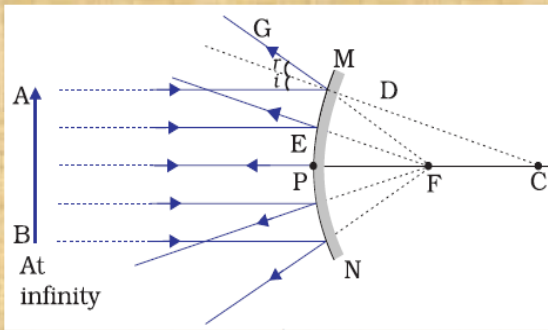


(a) CONCAVE / CONVERGING MIRROR:



f : -ve,

It can give the $\Rightarrow$ Real & Inverted images, and Virtual erect images.

(b) CONVEX / DIVERGING MIRROR:

$f : +ve$

It can give the virtual & Erect images only.

