**Light – Mirrors & Lenses (Quick Revision Notes)**

1. Mirror Formula

$1/f = 1/v + 1/u$

2. Lens Formula

$1/f = 1/v – 1/u$

3. Sign Conventions

- Distances measured from pole/optical center
- Distances measured against incident light are negative
- Real image positive (mirror), virtual negative (mirror)
- Lenses: real image (+v), virtual image (-v)

4. Magnification

Mirror: $m = -v/u$

Lens: $m = v/u$

5. Ray Diagram Principles

Concave Mirror

- Ray parallel → reflects through focus
- Ray through center of curvature → returns back

Convex Mirror

- Always virtual, erect, diminished

Convex Lens

- Parallel ray → refracts through focus
- Ray through center → undeviated

Concave Lens

- Always virtual, erect, diminished

6. Quick Table

Concave Mirror → Real/Virtual images (depends on object)

Convex Mirror → Always Virtual

Convex Lens → Real/Virtual images

Concave Lens → Always Virtual

Useful Formulas

- Mirror/Lens formula: $1/f = 1/v \pm 1/u$
- Magnification: $m = v/u$ (lens); $m = -v/u$ (mirror)