



A zone plate is a diffracting screen which behaves like a

- (A) convex lens
- (B) concave lens
- (C) convex mirror
- (D) concave mirror

The correct answer is: **(A) convex lens**

Explanation:

A **zone plate** is an optical device made up of **alternating transparent and opaque concentric rings**, designed based on the principle of **diffraction**.

- It **focuses light** through **constructive interference** of diffracted waves.
- It produces a real focus just like a **convex lens**, even though it has no curved surfaces.

Key Point:

- While a **convex lens** focuses light through **refraction**, a **zone plate** does so through **diffraction**.
- But in terms of **function**, both produce similar focusing effects.