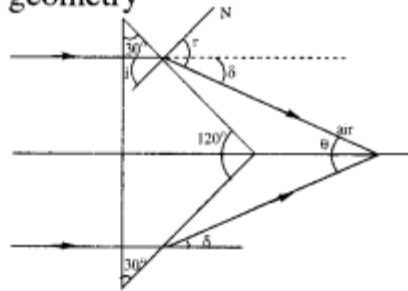**An isosceles prism of angle 120° has a refractive index 1.44. Two parallel monochromatic rays enter the prism, parallel to each other in air, as shown. The rays which emerge from the opposite faces [1995-2 marks]**

Sol-

(c) $\angle i = 30^0$, by geometry

$$\frac{\sin i}{\sin r} = \frac{\sin 30^0}{\sin r}$$

$$\frac{1}{1.44} = \frac{\sin 30^0}{\sin r}$$

or $\sin r = 0.72$ $\delta = \angle r - \angle i$

$\therefore \delta = \sin^{-1}(0.72) - 30^0$

or $(2\delta) = 2\left[\sin^{-1}(0.72) - 30^0\right]$.

or $\theta = 2\left[\sin^{-1}(0.72) - 30^0\right]$.

θ is the angle at which the emergent rays from the opposite faces meet each other.