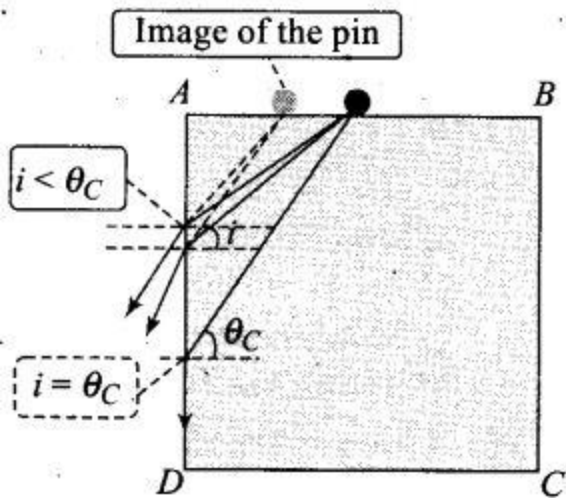


Question 4. A rectangular block of glass ABCD has a refractive index 1.6. A pin is placed midway on the face AB of figure. When observed from the face AD, the pin shall:

- (a) appear to be near A
- (b) appear to be near D
- (c) appear to be at the centre of AD
- (d) not be seen at all

**Solution:** (a, d) As long as angle of incidence on AD of the ray emanating from pin is less than the critical angle, the pin shall appear to be near A.



When angle of incidence on AD of the ray emanating from pins is greater than the critical angle, the light suffers from total internal reflection and cannot be seen through AD.