



PHYSICS

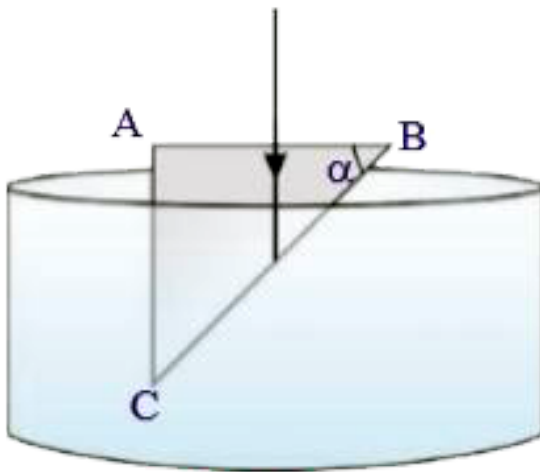
NCERT - NCERT Physics(Telugu)

REFRACTION OF LIGHT AT PLANE SURFACES

Example

1. A rectangle glass wedge (prism) is immersed in water as shown in figure E-a. For what value

of angle α , will the beam of light, which is normally incident on AB, reach AC entirely as shown in figure E-b. Take the refractive index of water as $\frac{4}{3}$ and the refractive index of glass



as $\frac{3}{2}$.



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1. The speed of the light in a diamond is 1.24×10^8 km/s. Find the refractive index of diamond if the speed of light in air is 3×10^8 km/s. (AS_1)



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2. Refractive index of glass relative to water is $\frac{9}{8}$. What is the refractive index of water relative to glass? (AS_1)



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3. The absolute refractive index of water is $4/3$.

What is the critical angle? (AS_1)



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4. Determine the refractive index of benzene if the critical angle of benzene with respect to air is 42° . (AS_1)



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Application Of Concepts

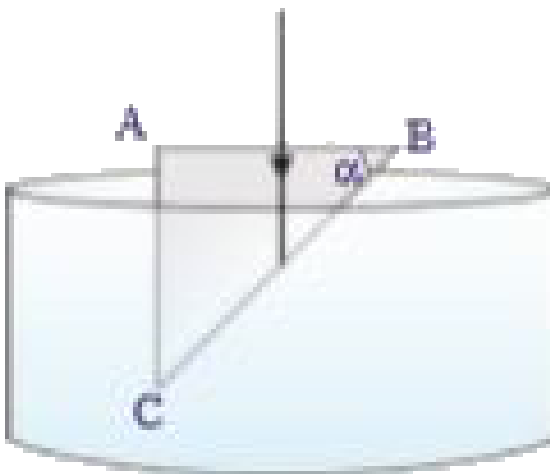
1. A light ray is incident on air-liquid interface at 45° and is refracted at 30° . What is the refractive index of the liquid? For what angle of incidence will the angle between reflected ray and refracted ray be 90° ? (AS_7)



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Examples

1. A rectangular glass wedge (prism) is immersed in water as shown in figure . For what value of angle α , will the beam of light, which is normally incident on AB, reach AC entirely as shown in figure E-b. Take the refractive index of water as $4/3$ and the refractive index of glass as $3/2$.





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Let Us Improve Our Learning Reflection On Concepts

1. The absolute refractive index of water is $\frac{4}{3}$.

What is the critical angle?



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Let Us Improve Our Learning Application Of Concepts

1. A light ray is incident on air-liquid interface at 45° and is refracted at 30° . What is the refractive index of the liquid? For what angle of incidence will the angle between reflected ray and refracted ray be 90° ?



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