SoulShift

SoulShift – Educational Q&A Platform

General Questions

Practice Questions

Q1. Which of the following phenomena is NOT explained by wave optics?
   A. Interference
   B. Diffraction
   C. Polarization
   D. Photoelectric effect

Solution: The photoelectric effect is explained by quantum mechanics and particle nature of light, not by wave optics.

Q2. What is the wavelength of light if the first-order maximum occurs at an angle of 30° in a double-slit experiment with slit separation of 0.1 mm and screen distance of 1 m?
   A. 0.5 mm
   B. 0.6 mm
   C. 0.7 mm
   D. 0.8 mm

*Solution: Using $d \sin \theta = m\lambda$, $\lambda = d \sin \theta/m$. For m=1, d=0.1 mm, θ=30°, λ = 0.1 mm * sin(30°) = 0.1 mm * 0.5 = 0.05 mm = 0.5 mm.*