



# **SoulShift - Educational Q&A Platform**

## **General Questions**

Practice Questions



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**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  $30^\circ$  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  $m=1$ ,  $d=0.1 \text{ mm}$ ,  $\theta=30^\circ$ ,  $\lambda = 0.1 \text{ mm} * \sin(30^\circ) = 0.1 \text{ mm} * 0.5 = 0.05 \text{ mm} = 0.5 \text{ mm}$ .*



