

Optics and Light Knowledge Quiz

Optics · Practice Test · 8 Questions

1. What is the approximate speed of light in a vacuum?

- A) 300,000 kilometres per second
- B) 150,000 kilometres per second
- C) 3,000,000 kilometres per second
- D) 30,000 kilometres per second

2. Which optical phenomenon allows light signal transmission through fiber optic cables with minimal loss?

- A) Diffraction
- B) Total internal reflection
- C) Polarization
- D) Refraction

3. Which scientist demonstrated in 1666 that white light is composed of a spectrum of colors using a glass prism?

- A) Isaac Newton
- B) Christiaan Huygens
- C) Thomas Young
- D) James Clerk Maxwell

4. Which famous experiment conducted in 1801 demonstrated the wave nature of light through interference patterns?

- A) Michelson-Morley experiment
- B) Young's double-slit experiment
- C) Cavendish experiment
- D) Fizeau-Foucault experiment

5. Which type of lens is used to correct myopia (nearsightedness)?

- A) Diverging (concave) lens
- B) Converging (convex) lens
- C) Cylindrical lens
- D) Bifocal convex lens

6. What characteristic of light waves allows light to be polarized?

- A) It is a longitudinal wave
- B) It is a transverse wave
- C) It has a constant frequency
- D) It requires a physical medium

7. Which optical scattering process explains why the clear daytime sky appears blue?

- A) Raman scattering
- B) Mie scattering
- C) Rayleigh scattering
- D) Tyndall effect

8. What unit is used to measure the optical power of a lens, equal to the reciprocal of its focal length in meters?

- A) Lumen
- B) Candela
- C) Diopter
- D) Lux