

Fundamentals of Optics

Optics · Answer Key · 8 Questions

1. In what year did Willebrord Snellius formulate the law of refraction, now known as Snell's Law?

- A) 1621**
- B) 1609
- C) 1635
- D) 1666

2. What is the approximate speed of light in a vacuum, expressed in meters per second?

- A) 299,792,458**
- B) 150,000,000
- C) 384,400,000
- D) 330,000,000

3. Who is credited with the publication of 'Opticks' in 1704, which detailed experiments on the spectrum of light?

- A) Christian Huygens
- B) Isaac Newton**
- C) Thomas Young
- D) Augustin-Jean Fresnel

4. Visible light occupies which range of the electromagnetic spectrum in nanometers?

- A) 100-300 nm
- B) 380-750 nm**
- C) 800-1200 nm
- D) 1500-2000 nm

5. Which scientist conducted the famous experiment in 1801 demonstrating the wave nature of light through double-slit interference?

- A) James Clerk Maxwell
- B) Albert Einstein
- C) Thomas Young**
- D) Max Planck

6. The refractive index of a vacuum is defined exactly as which value?

- A) 0.5
- B) 1.0**
- C) 1.33
- D) 2.42

7. In 1905, Albert Einstein published a paper proposing that light consists of individual packets of energy called what?

- A) Electrons
- B) Quarks
- C) Photons**
- D) Neutrinos

8. What is the standard unit of power for an optical lens, equal to the reciprocal of the focal length in meters?

- A) Dioptre**
- B) Watt
- C) Candela
- D) Lumen