

# 34 Lecture - PHY101

## Important Mcqs

**What is the speed of light in a vacuum?**

- a.  $3 \times 10^5$  m/s
- b.  $3 \times 10^7$  m/s
- c.  $3 \times 10^8$  m/s
- d.  $3 \times 10^{10}$  m/s

**Answer: c.  $3 \times 10^8$  m/s**

**Which of the following is NOT part of the visible spectrum?**

- a. Infrared
- b. Ultraviolet
- c. Red
- d. Blue

**Answer: a. Infrared**

**Which phenomenon of light explains the double-slit experiment?**

- a. Reflection
- b. Refraction
- c. Interference
- d. Diffraction

**Answer: c. Interference**

**What is the wave-particle duality of light?**

- a. Light behaves only as a wave.
- b. Light behaves only as a particle.

- c. Light behaves as both a wave and a particle.
- d. Light does not have a wave-particle duality.

**Answer: c. Light behaves as both a wave and a particle.**

**What is the angle of incidence?**

- a. The angle between the normal and the reflected ray.
- b. The angle between the normal and the incident ray.
- c. The angle between the normal and the refracted ray.
- d. The angle between the reflected and refracted rays.

**Answer: b. The angle between the normal and the incident ray.**

**Which of the following is NOT an application of light in medicine?**

- a. X-ray imaging
- b. Fluorescence microscopy
- c. Laser surgery
- d. GPS technology

**Answer: d. GPS technology**

**What is fluorescence?**

- a. The emission of light by a material that has absorbed light of a different wavelength.
- b. The bending of light as it passes through a material with a different refractive index.
- c. The transfer of the energy of light to atoms or molecules within a material.
- d. The reflection of light by a smooth surface.

**Answer: a. The emission of light by a material that has absorbed light of a different wavelength.**

**How does light behave when it is absorbed by a material?**

- a. It is reflected back.
- b. It is transmitted through the material.
- c. Its energy is transferred to the atoms or molecules within the material.

d. It passes through the material without any interaction.

**Answer: c. Its energy is transferred to the atoms or molecules within the material.**

**Which of the following is an example of an LED?**

- a. A laser pointer
- b. A light bulb
- c. A computer screen
- d. A traffic light

**Answer: d. A traffic light**

**What is an X-ray?**

- a. A type of high-energy electromagnetic radiation used in medical imaging.
- b. A type of visible light.
- c. A type of infrared radiation.
- d. A type of ultraviolet radiation.

**Answer: a. A type of high-energy electromagnetic radiation used in medical imaging.**