

Scientific Foundations of Film Studies

Film Studies · Answer Key · 8 Questions

1. What physiological phenomenon is historically cited as the basis for the perception of motion in film by allowing the brain to fill in gaps between still images?

- A) The Purkinje effect
- B) Persistence of vision**
- C) The Doppler effect
- D) Chromatic aberration

2. Which standard frame rate, established in the late 1920s with the introduction of synchronized sound, remains the global industry baseline for cinematic motion?

- A) 16 fps
- B) 24 fps**
- C) 30 fps
- D) 60 fps

3. In film production, what is the primary function of a 'fresnel lens' when used in lighting instruments?

- A) To polarize light for color accuracy
- B) To focus light into a steerable beam**
- C) To diffuse light to reduce shadows
- D) To convert AC power to DC

4. The 'persistence of vision' theory was famously challenged by the discovery of which psychological effect, describing how the brain perceives motion between two stationary objects?

- A) The phi phenomenon**
- B) The Ganzfeld effect
- C) The McGurk effect
- D) The Troxler effect

5. Which chemical element is the primary light-sensitive component in traditional silver-halide photographic film emulsions?

- A) Silver bromide**
- B) Lead iodide
- C) Copper sulfate
- D) Zinc oxide

6. What is the 'focal length' of a camera lens technically defined as?

- A) The diameter of the lens aperture
- B) The distance from the optical center to the image sensor when focused at infinity**
- C) The total length of the physical lens barrel
- D) The degree of light sensitivity of the glass

7. In color science, what are the three primary additive colors used in digital sensors to reproduce the visible spectrum in cinema?

- A) Cyan, Magenta, Yellow
- B) Red, Green, Blue**
- C) Red, Yellow, Blue
- D) Cyan, Yellow, Black

8. What term describes the reduction of light intensity that occurs as light travels through a lens, often measured in f-stops?

- A) Vignetting
- B) Diffraction
- C) Transmission loss**
- D) Chromatic dispersion