



<b>Name of the Bundle</b>	Proficient and Advanced Bundle V2	<b>Subject</b>	Competitive Exams Training ( Science & Geography)
<b>Topic</b>	LIGHT	<b>Last updated on</b>	18 January 2024

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

- a) 300,000 meters per second      b) 186,282 miles per second  
c)  $3 \times 10^8$  meters per second      d)  $1 \times 10^6$  meters per second

**Ans: c)  $3 \times 10^8$  meters per second**

2. Which part of the electromagnetic spectrum contains visible light?

- a) Infrared      b) Ultraviolet      c) X-rays      d) Visible

**Ans: d) Visible**

3. When light passes from air into water, it typically:

- a) Speeds up      b) Slows down  
c) Stays at the same speed      d) Reverses direction

**Ans: b) Slows down**

4. What color of light has the shortest wavelength in the visible spectrum?

- a) Red      b) Blue      c) Green      d) Violet

**Ans: d) Violet**

5. Which of the following phenomena is responsible for the formation of a rainbow?

- a) Refraction      b) Reflection      c) Dispersion      d) Absorption

**Ans: c) Dispersion**

6. What is the primary function of the cornea in the human eye?

- a) To control the size of the pupil      b) To focus incoming light onto the retina  
c) To detect light intensity      d) To process visual information

**Ans: b) To focus incoming light onto the retina**

7. What type of mirror is commonly used in car rearview mirrors?

- a) concave mirror      b) Convex mirror  
c) Plane mirror      d) Spherical mirror

**Ans: b) Convex mirror**



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8. Which of the following types of light bulbs is the most energy-efficient?

- a) Incandescent
- b) Compact fluorescent (CFL)
- c) Halogen
- d) Light-emitting diode (LED)

**Ans: d) Light-emitting diode (LED)**

9. What phenomenon occurs when light waves bounce off a surface and travel in different directions?

- a) Absorption
- b) Refraction
- c) Diffraction
- d) Reflection

**Ans: d) Reflection**

10. What is the unit of measurement for the brightness of light?

- a) Watts
- b) Lumens
- c) Volts
- d) Ampere

**Ans: b) Lumens**

11. Which part of the electromagnetic spectrum has the shortest wavelength

- a) Radio waves
- b) Microwaves
- c) X-rays
- d) Gamma rays

**Ans: d) Gamma rays**

12. What is the phenomenon where light bends as it passes from one medium to another, such as from air to water?

- a) Reflection
- b) Refraction
- c) Dispersion
- d) Diffraction

**Ans: b) Refraction**

13. Which of the following colors has the longest wavelength in the visible spectrum?

- a) Red
- b) Green
- c) Blue
- d) Violet

**Ans: a) Red**

14. What is the unit of measurement for the intensity of light?

- a) Lux
- b) Kelvin
- c) Hertz
- d) Watt

**Ans: a) Lux**



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15. In which type of lens do parallel rays of light converge to a single point?

- a) Convex lens
- b) Concave lens
- c) Plano-concave lens
- d) Plano-convex lens

**Ans: a) Convex lens**

16. What is the primary function of the cornea in the human eye?

- a) To control the amount of light entering the eye
- b) To focus light onto the retina
- c) To produce tears
- d) To change the shape of the lens

**Ans: a) To control the amount of light entering the eye**

17. What type of mirror forms a virtual, upright, and diminished image?

- a) Plane mirror
- b) Convex mirror
- c) Concave mirror
- d) Spherical mirror

**Ans: a) Plane mirror**

18. Which gas is often used in signs to produce colored light?

- a) Helium
- b) Neon
- c) Argon
- d) Krypton

**Ans: b) Neon**

19. What is the color of an object that appears white under white light when it is illuminated by a red filter?

- a) Red
- b) White
- c) Black
- d) Green

**Ans: a) Red**

20. Which colors of light make up white light when combined?

- a) Red, green and blue
- b) Red, yellow and blue
- c) Red, green and purple
- d) Red, blue and orange

**Ans: a) Red, green, and blue**



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21. Which phenomenon is responsible for the bending of light when it passes from one medium to another, such as from air to water?

- a) Reflection    b) Diffraction    c) Dispersion    d) Refraction

**Ans: d) Refraction**

22. What type of electromagnetic waves are visible light rays?

- a) Ultraviolet    b) Infrared    c) X-rays    d) Visible

**Ans: d) Visible**

23. Which color of light has the shortest wavelength?

- a) Red    b) Blue    c) Green    d) Yellow

**Ans: b) Blue**

24. In a concave mirror, where is the focal point located?

- a) In front of the mirror    b) Behind the mirror  
c) At the center of the mirror    d) There is no focal point in a concave mirror

**Ans: b) Behind the mirror**

25. What is the phenomenon in which light waves interfere with each other, creating regions of increased and decreased intensity?

- a) Polarization    b) Diffraction  
c) Dispersion    d) Interference

**Ans: d) Interference**

26. What is the phenomenon where light changes direction as it passes from one medium to another?

- a) Reflection    b) Absorption  
c) Refraction    d) Diffraction

**Ans: c) Refraction**



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27. Which of the following is NOT a type of electromagnetic radiation?

- a) X-rays      b) Microwaves      c) Sound waves      d) Infrared radiation

**Ans: c) Sound waves**

28. When white light passes through a prism, it separates into a spectrum of colors. This is known as:

- a) Dispersion      b) Reflection      c) Absorption      d) Diffraction

**Ans: a) Dispersion**

29. What is the primary function of the cornea in the human eye?

- a) To focus light onto the retina  
b) To change the size of the pupil  
c) To produce tears  
d) To filter out harmful UV radiation

**Ans: a) To focus light onto the retina**

30. In a concave mirror, if an object is placed between the focal point and the mirror, the image formed is:

- a) Real, inverted, and diminished      b) Real, upright, and magnified  
c) Virtual, upright, and magnified      d) Virtual, inverted, and diminished

**Ans: c) Virtual, upright, and magnified**

31. What is the unit of luminous flux?

- a) Candela      b) Lumen      c) Watt      d) Lux

**Ans: b) Lumen**

32. Which type of lens can correct nearsightedness?

- a) Convex lens      b) Concave lens  
c) Plano-concave lens      d) Plano-convex lens

**Ans: b) Concave lens**



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33. What type of electromagnetic radiation is used in communication via optical fibers?

- a) Infrared      b) Ultraviolet      c) Gamma rays      d) Radio waves

**Ans: a) Infrared**

34. The focal length of a plane mirror is

- a) 0      b) infinite      c) 25 cm      d) -25 cm

**Ans: b) infinite**

35. Which statement is true for the reflection of light?

- a) The angle of incidence and reflection are equal.  
b) The reflected light is less bright than the incident light.  
c) The sum of the angle of incidence and reflection is always greater than  $90^\circ$ .  
d) The beams of the incident light, after reflection, diverge at unequal angles.

**Ans: a) The angle of incidence and reflection are equal.**

36. Image formed by a convex spherical mirror is:

- a) virtual      b) real      c) enlarged      d) inverted

**Ans: a) virtual**

37. Magnification produced by a rearview mirror fitted in vehicles:

- a) Less than one      b) More than one  
c) Equal to one      d) Can be more than or less than one

**Ans: a) Less than one**

38. A full length of the image of a distant tall building can definitely be seen using:

- a) a concave mirror      b) a convex mirror  
c) a plane mirror      d) both concave as well as plane mirrors Correct

**Ans: b) a convex mirror**



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39. Which of the following has the highest Refractive Index?

- a) Water    b) Glass    c) Vacuum    d) Diamond

**Ans: d) Diamond**

40. What is the Refractive Index of Diamond?

- a) 1.003    b) 1.333    c) 2.417    d) 3.243

**Ans: c) 2.417**

41. What is the Refractive Index of Water?

- a) 1.003    b) 1.333    c) 2.417    d) 3.243

**Ans: b) 1.333**

42. What is the Refractive Index of Air?

- a) 1.003    b) 1.333    c) 2.417    d) 3.243

**Ans: a) 1.003**

43. Which lens is also called diverging lens?

- a) Concave lens    b) convex lens    c) Bifocal lens    d) Both a & b

**Ans: a) Concave lens**

44. Which of the following is suitable to be used as shaving glass?

- a) Concave Mirror    b) convex Mirror  
c) Cylindrical Mirror    d) Plane Mirror

**Ans: Concave Mirror**

45. Which of the following is called a Luminous Object?

- a) Sun & Moon    b) Bulb    c) Torch    d) Wood

**Ans: a) Sun & Moon**



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46. Which of the following is called a Non- Luminous Object?

- a) Sun   b) Moon   c) Torch   d) Wood

**Ans: c) Torch**

47. Image formed by Plane Mirror is always -----

- a) Virtual and Erect                      b) Real and Inverted  
c) Virtual and Inverted                  d) Real and Erect

**Ans: a) Virtual and Erect**

48. Which of the following is called the Lens formula?

- a)  $1/f=1/v \times u$   
b)  $1/f=1/v + u$   
c)  $1/f=1/v - u$   
d)  $1/f=1/v/u$

**Ans: c)  $1/f=1/v - u$**

49. Which lens is used in compound microscopes?

- a) Convex lens   b) Concave lens   c) Mirror   d) Both concave and convex lenses

**Ans: d) Both concave and convex lenses.**

50. The power of the lens is the reciprocal of its \_\_\_\_\_

- a) Optical Centre   b) focal length   c) Principal axis   d) Aperture

**Ans: b) focal length**