# SPECTRUM OF LIGHT

INCLUDED IN THIS SECTION

- ✓ Multiple-Choice Questions (MCQs)
- ✓ Solutions



**1. The total angle of deviation of a prism depends on**

a) The angle of incidence (i) and the angle of the prism (A)
b) The refractive index of the material ($\mu_\mu$ )
c) The wavelength of the incident light
d) All the above

**2. When a white ray of light falls on a prism, the ray at its first surface suffers:**

a) No refraction
b) Only Dispersion
c) Only deviation
d) Both deviation and dispersion

**3. How the deviation caused by a prism is related with the wavelength of incident light**

a) They are directly proportional
b) They are inversely proportional
c) There is no relation between them
d) None of these

**4. In visible light which colour light has maximum deviation when passing through a prism?**

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

**5. The wavelength of red light obtained from two different sources A and B is λA and respectively. What is the relation between two wavelengths?**

a) $\lambda A > \lambda B$
b) $\lambda A < \lambda B$

c) $\lambda A = \lambda B$ d) $\lambda A \geq \lambda B$

**6. The wavelength of red colour light is**

a) 5920 A° to 6200 A° c) 6200 A° to 8000 A°
b) 4000 A° to 4460 A° d) None of these

**7. A° = _____Nm**

a) 10 c) 0.01
b) 100 d) 0.1

**8. In visible light which colour light has maximum frequency?**

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

**9. One of the first scientists to experiment with prism dispersion was?**

a) Einstein c) Molar
b) Rontgen d) Newton

**10. A red rose appears _____ when seen in green light.**

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

**11. A piece of red cloth appears red in white light because it _____ blue and green and _____ only red.**

a) absorbs, absorbs c) reflects, absorbs
b) absorbs, reflects d) reflects, reflects

**12. Name the extreme colours in a pure spectrum of light.**

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

**13. Which colour of light is polychromatic in nature?**

a) Red c) Green
b) Blue d) White

**14. The phenomenon of splitting of white light by a prism into its constituent colours is known as _____**

a) Diffraction c) Dispersion
b) Diffusion d) Deviation





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**15. Upon passing white light through a prism, you obtain a band of colours on a screen known as?**

a) scattering
b) a dispersion band
c) spectrum
d) none of these

**16. On the second surface of a prism _____ can take place.**

a) only reflection
b) only refraction
c) both reflection and refraction
d) none of these

**17. In the white light of the sun, maximum scattering occurs from the air molecules present in Earth's atmosphere for:**

a) red colour
b) yellow colour
c) green colour
d) blue colour

**18. We can see the Sun before the actual sunrise by about ____ minutes.**

a) 5
b) 3
c) 2
d) 1

**19. The process of re-emission of absorbed light in all directions with different intensities by the atom or molecule is called _____**

a) dispersion
b) scattering
c) diffraction
d) interference

**20. The band of colours obtained by dispersion of light is called ____ of light.**

a) diffraction
b) spectrum
c) propagation
d) interference

**21. The ____ component of sunlight is least scattered during sunrise and sunset.**

a) red
b) blue
c) green
d) violet

**22. The frequency of ____ colour of light is maximum and ____ colour of light is minimum.**

a) violet, red
b) blue, red
c) green, blue
d) red, violet

**23. The angle 'δ' through which incident ray has been deviated by the prism is known a**

a) angle of prism
b) angle of deviation
c) angle of dispersion
d) angle of incidence

**24. Blue coloured light present in sunlight is scattered ____ times more than the red light.**

a) 2
b) 5
c) 10
d) 7

**25. An isosceles glass prism having one angle 90° is called ____prism.**

a) totally reflecting
b) partially reflecting
c) refracting
d) totally diffracting

**26. If a ray of light moves from a rarer medium to a denser medium, will it bend towards the normal or away from it?**

a) bends towards the normal
b) bends away from the normal
c) goes undeviated
d) is reflected back

**27. Twinkling of stars, apparent sunrise and sunset can be explained by the phenomenon of**

a) atmospheric reflection
b) atmospheric refraction
c) atmospheric dispersion
d) total internal reflection

**28. Colour of sky appears blue its due to.**

a) shorter wavelength of blue colour
b) the size of fine particles in atmosphere is almost equal to wavelength of blue colour
c) Since blue light scatters more, it enters the eye more easily
d) All of the above

**29. Clouds appears white because**

a) water droplets scatters all wavelengths
b) water in frozen conditions looks icy white
c) white fog is formed around clouds
d) All of these

**30. A transparent medium bounded by two plane surfaces inclined at an angle is known as a**

a) Lens
b) prism
c) mirror
d) rectangular slab

**31. There is a very fine particle in the atmosphere that deflects light in all directions as it enters the atmosphere. This is caused by?**

a) reflection of light
b) scattering of light
c) atmospheric refraction
d) dispersion of light





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**32. The phenomenon of scattering of light by the colloidal particles is known as.**

a) Raman effect
b) Tyndall effect
c) Newton's ring
d) Spectral effect

**33. When a spectrum is obtained on dispersion of white light through a prism, which of these colours is nearest to the base of the prism ?**

a) violet
b) green
c) yellow
d) red

**34. The colour which deviates the most during dispersion of white light is :**

a) red
b) blue
c) orange
d) violet

**35. The intensity of scattered violet light is 16 times the intensity of scattered :**

a) green light
b) red light
c) yellow light
d) blue light





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