

NEW STANDARD ACADEMY

SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 10 (Physics) DPP (Academy)14-05-2024

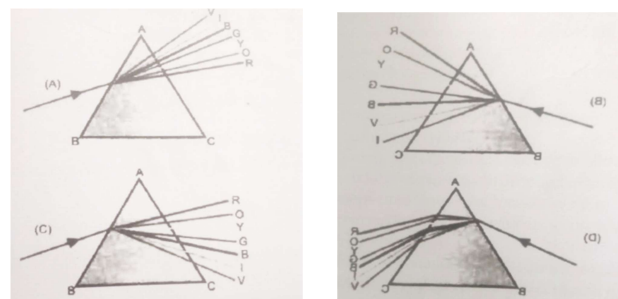
- In a prism
 - Rays deviate toward the base of the prism.
 - Rays deviate away from base of the prism
 - Rays are reflected internally toward the vertex of the prism.
 - Rays are diffracted around the prism.
- Dispersion is:
 - Bending of light toward the normal when it enters from a rarer medium to denser medium.
 - Splitting of light into its component colours when it passes through a prism.
 - Redistribution of energy of a beam of light when it passes through a slit
 - Bending of light around an obstacle when the size of the obstacle is comparable to the wavelength of light.
- Which colour suffers the least deviation when it passed through a prism?

a) Yellow	b) Red
c) Violet	c) Green
- When monochromatic light is passed through a prism it is:

a) Dispersed	b) Polarised
c) Diffracted	d) Deviated
- The least distance of distinct vision for a young adult with normal vision is

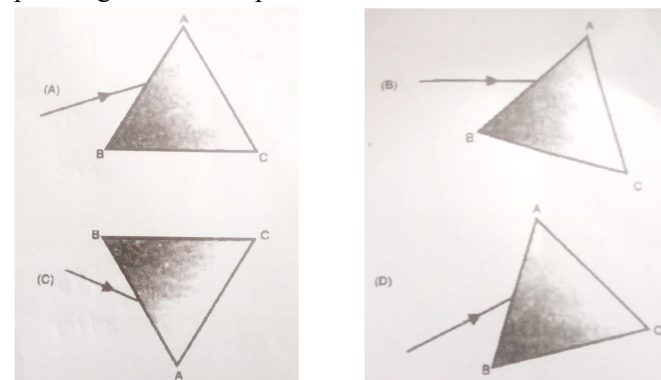
a) 25 m	b) 2.5 cm
c) 25 cm	c) 2.5 m
- Four students draw ray diagram showing the dispersion through a glass prism. When a narrow beam of white light incident on the glass

prism as shown in figure A,B,C and D. Which of following is correct ray diagram?



- a) A b) B c) C d) D

- A student is studying the dispersion of white light through a glass prism, which of the following positions of the prism is correct to have top colour corresponds to the colour of the solution of potassium permanganate in the spectrum obtained on the screen?



- a) A b) B c) C d) D

- Rainbow is formed due to
 - Reflection and dispersion of light through a water droplet
 - Refraction, reflection and dispersion of light through a water droplet
 - Only dispersion of light
 - Only refraction of light

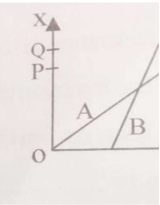
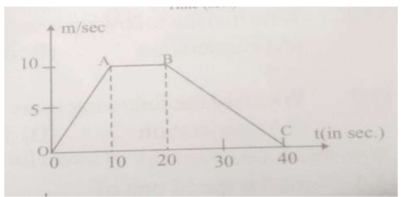
9. When we enter a dim-lit room from a bright light, we are not able to see the objects in the dim – light room for some time. This is because
- a) The iris contracts the pupil of an eye to allow less light to enter the eye in a dim –lit room
 - b) The iris takes time to expand the pupil of an eye to allow more light to enter the eye in a dim – lit room
 - c) Eye lens is unable to make images in a dim – lit room.
 - d) Optic nerve does not carry signals to the brain in a dim – lit room.
10. The eye lens is crystalline double convex lens made of transparent and flexible tissues. The focal length of the eye lens can be increased or decreased by.
- a) Iris
 - b) Retina
 - b) Ciliary muscle
 - d) Optic nerves

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- 1 km h⁻¹ is equal to
 - $\frac{5}{18} \text{ ms}^{-1}$
 - $\frac{18}{5} \text{ ms}^{-1}$
 - both of them
 - none of these
- 1 km/h² is equal to
 - $\frac{1000m}{3600 \times 3600 s^2}$
 - both A&B are equal
 - $\frac{1}{12960} m/s^2$
 - none of these
- A person travelling on a straight line moves with a uniform velocity V₁ for some time and with uniform velocity v₂ for the next equal time. The average velocity v is given by:
 - $V = \frac{v_1 + v_2}{2}$
 - $V = \sqrt{v_1 v_2}$
 - $\underline{v} = \frac{1}{v_1} + \frac{1}{v_2}$
 - $\underline{1} = \frac{1}{v_1} + \frac{1}{v_2}$
- A person standing near the edge of the top of a building throws two balls A and B. The ball A is thrown vertically upward and B is thrown vertically downward with the same speed the ball A hits the ground with a speed V_A and the ball B hits ground with a speed V_B. We have:
 - V_A > V_B
 - V_A < V_B
 - V_A = V_B
 - The relation between V_A and V_B depends on height of the building above the ground

- The following shows the time – velocity graph for a moving object. The maximum acceleration will be
 - 1m/sec²
 - 2m/ sec²
 - 3m/sec²
 - 4m/sec
- A player throws a ball upwards with an initial speed of 29.4 ms⁻¹. The time taken by the ball to return to the player's hands is (Take g = 9.8 ms⁻² and neglect air resistance).
 - 10 sec
 - 8 sec
 - 12 Sec
 - 6 sec
- Which of the following statements is wrong about a ball thrown vertically vertically up
 - it is moving with constant acceleration.
 - It may have different velocities at the same position.
 - It may have two positions at the same time .
 - The angular momentum of the particle about origin remains conserved.
 - C only
 - c,d
 - b,c,d
 - a,b,c and d
- The position time (x-t) graph for two children A and B returning from their school O to their homes P and Q respectively are shown in fig. choose the correct entries in the brackets below:
 
 - (B) live closer to the school than (A).
 - (B) start from the school earlier than (A)
 - (A) walks faster than(B)
 - (A/B) overtakes (B/A) on the road (once/twice)
- When a moving body makes a round trip and returns back to its initial position then its displacement is
 - +1
 - 1
 - 0
 - ≥ 1
- The adjoining curve represents the velocity time graph of a particle , its acceleration values along OA, AB and BC in m/sec²


a) 1,0,-0.5

b) 1,0,0.5

c) 1,1,0.5

d) 1,0.5,0