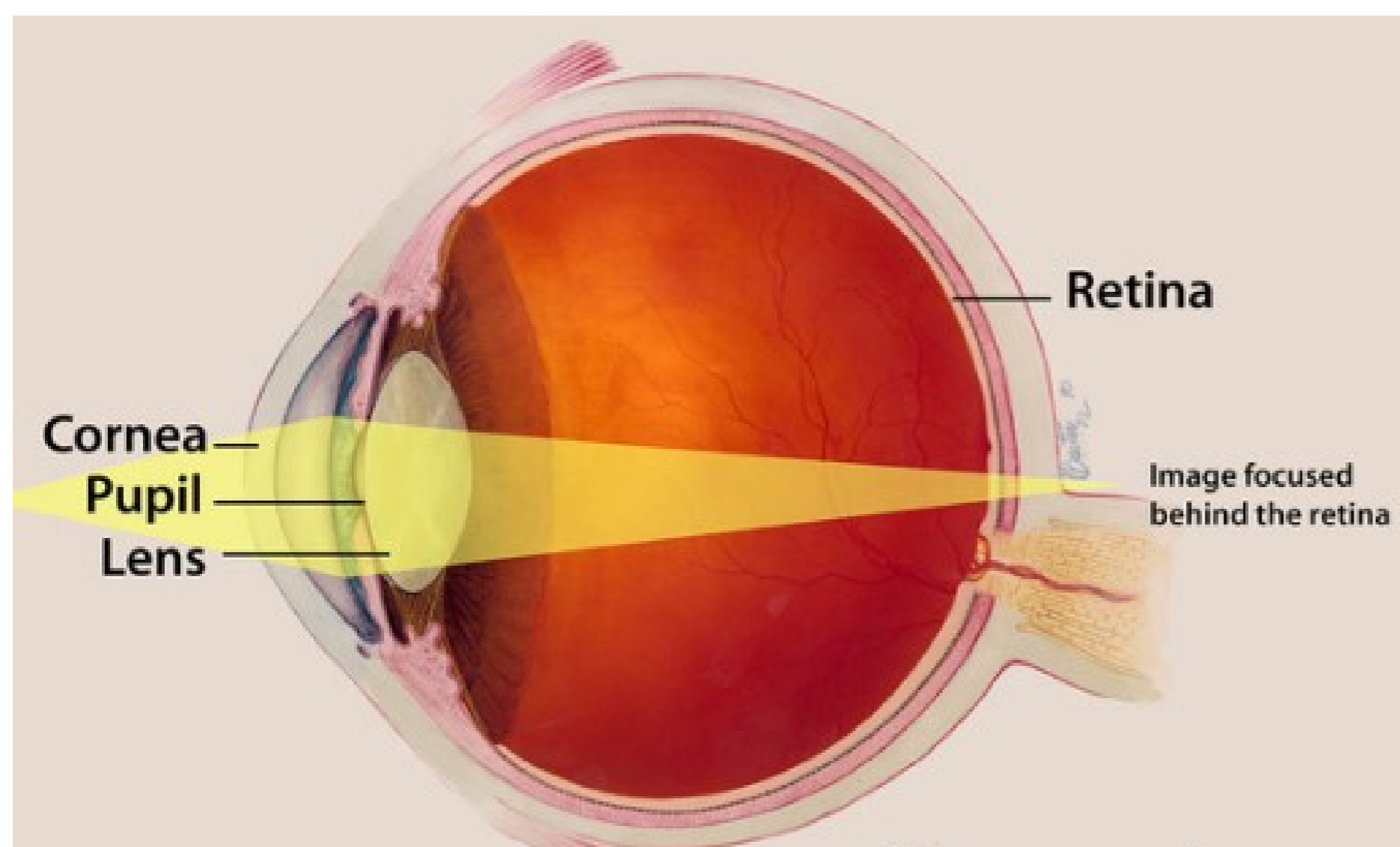


Case study based questions  
10th Science

## Human Eye and Colourful World

Passage - 1

5 Marks



Pinky needs a lens of power 5.5 D for correcting her distant vision. For correcting her near vision she needs a lens of power +1.5 D. Few questions came to her mind. Give answers to the below questions:

Q1. (1) -0.181 m

Q2. (2) 0.667 m

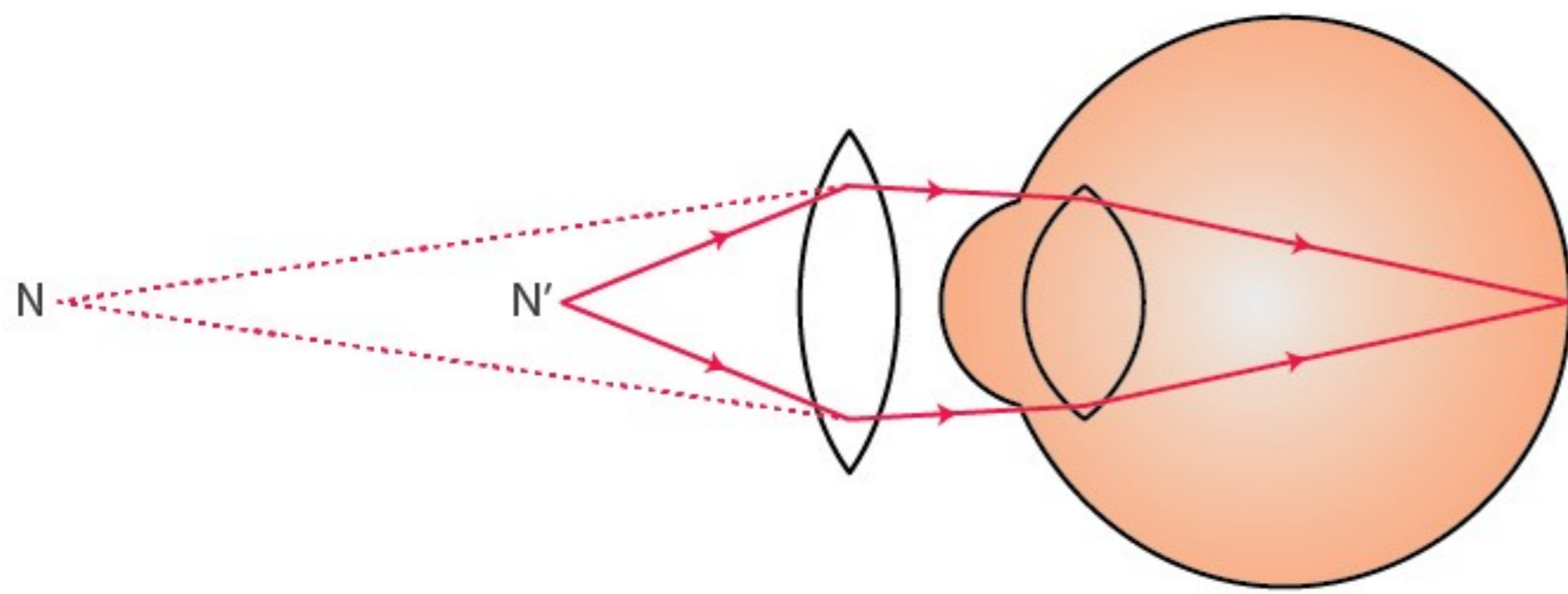
Q3. (2)  $\frac{1}{P}$

Q4. (1) Dioptre

Q5. (2) Millimeter

Passage - 2

5 Marks



The near point of a hypermetropic eye is 1 m. Assume that the near point of the normal eye is 25 cm. Pinky has seen the above image in her classroom with the given details. Few questions came to her mind. Give answers to the below questions:

Q1. (1) YES

Q2. (1)  $+3.0D$

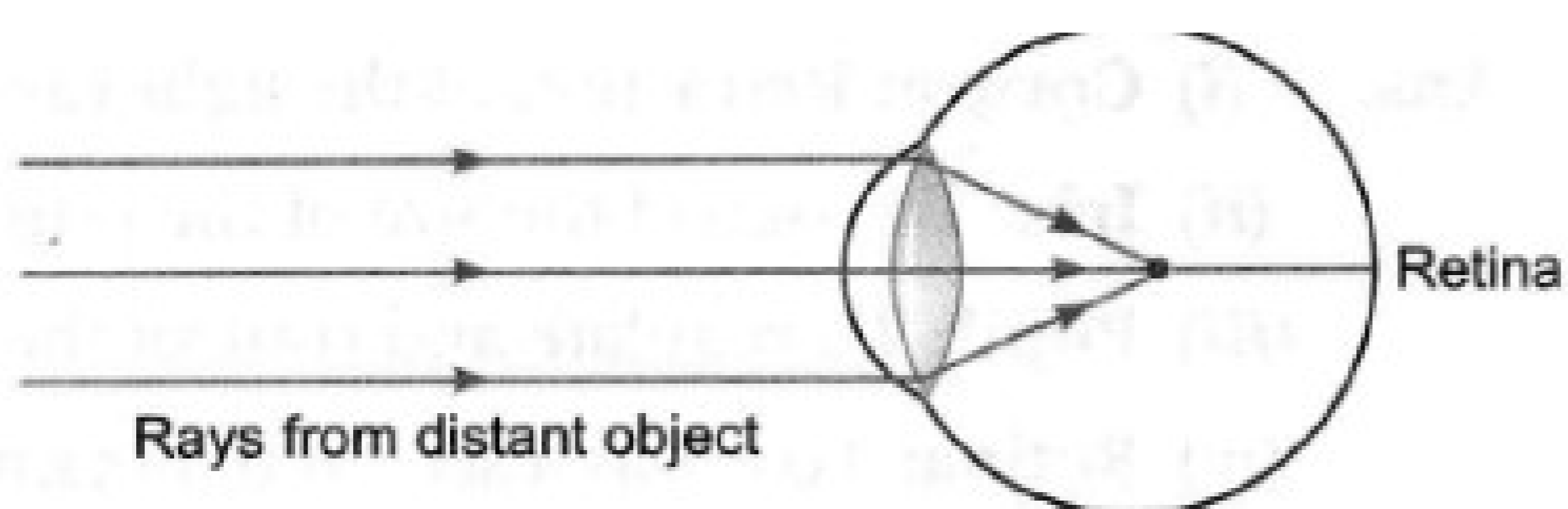
Q3. (2) - 25 cm

Q4. (2) 0.33 m

Q5. (1) - 1 m

Passage - 3

5 Marks



Pinky sees that the far point of a myopic person is 80 cm in front of the eye. Few questions came to her mind. Give answers to the below questions:

Q1. (2) Concave lens

Q2. (2) - 1.25 D

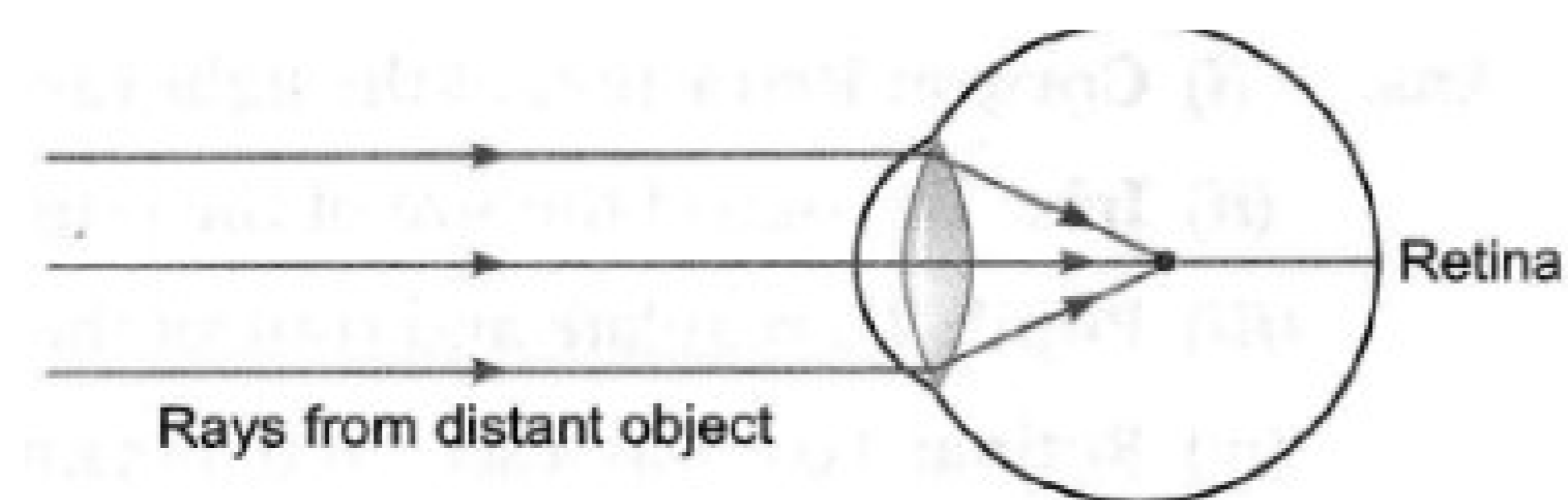
Q3. (1) In front of the retina

Q4. (1) Infinity

Q5. (3) -80 cm

**Passage - 4**

**5 Marks**



Balu observes that a 14-year old student is not able to see clearly the questions written on the blackboard placed at a distance of 5 m from him. Few questions came to his mind. Give answers to the below questions:

Q1. (1) Myopia

Q2. (2) Concave Lens

Q3. (1)

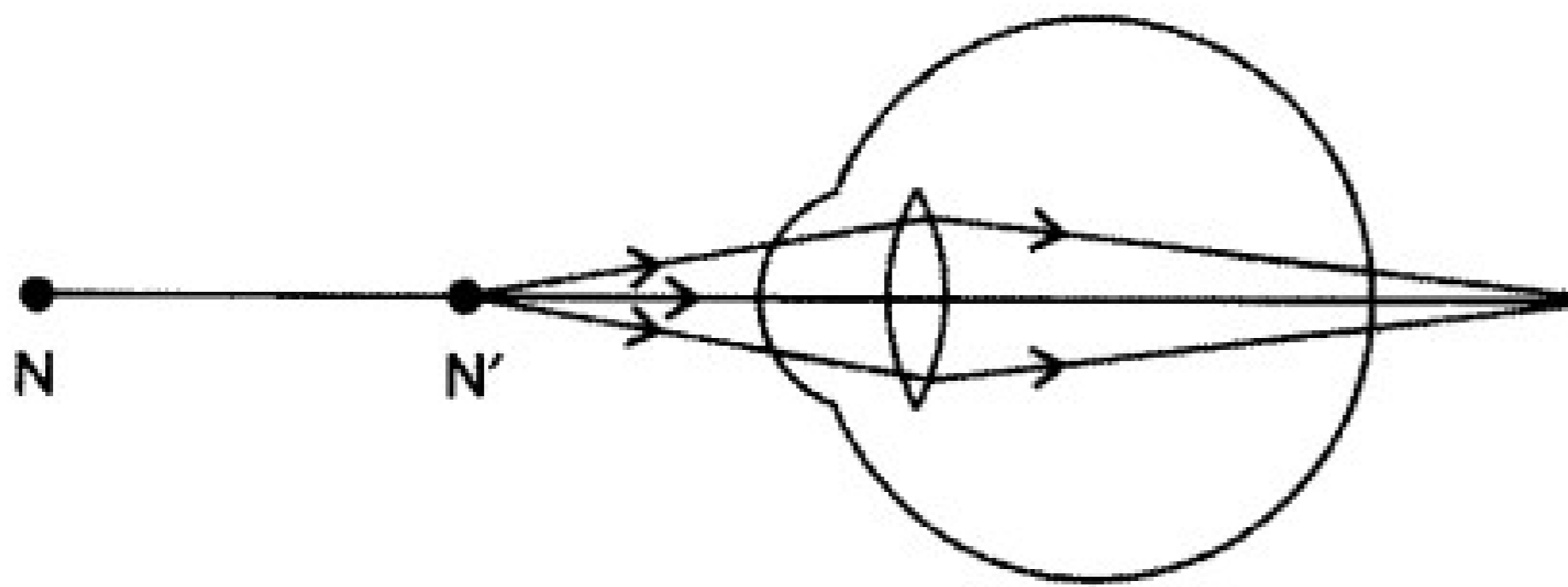
Q4. (2)

Q5. (2) Short-sightedness

**Passage - 5**

**5 Marks**

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Pinky has seen the above diagram in her classroom and she had few doubts in her mind. Study the diagram given above and answer the questions that follow it:

Q1. (1) Hypermetropia

Q2. (3) Both A and B

Q3. (1)

Q4. (1) Convex lens

Q5. (2) Beyond the retina

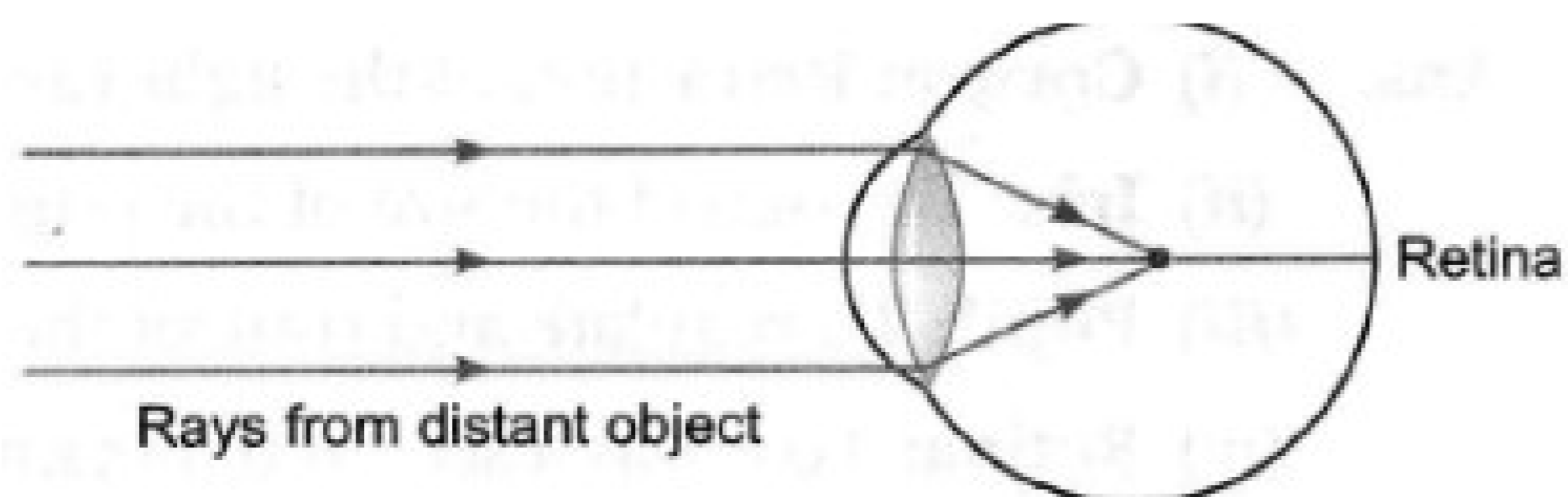
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Case study based questions  
10th Science

## Human Eye and Colourful World

Passage - 1

5 Marks



Some of the terms used in relation to defects in vision and correction provided by them are not understood by Pinky. Answer the below questions for her better understanding.

Q1. (1) Ability to see close objects more clearly than distant objects.

Q2. (1) Inability to focus the light in both vertical and horizontal lines

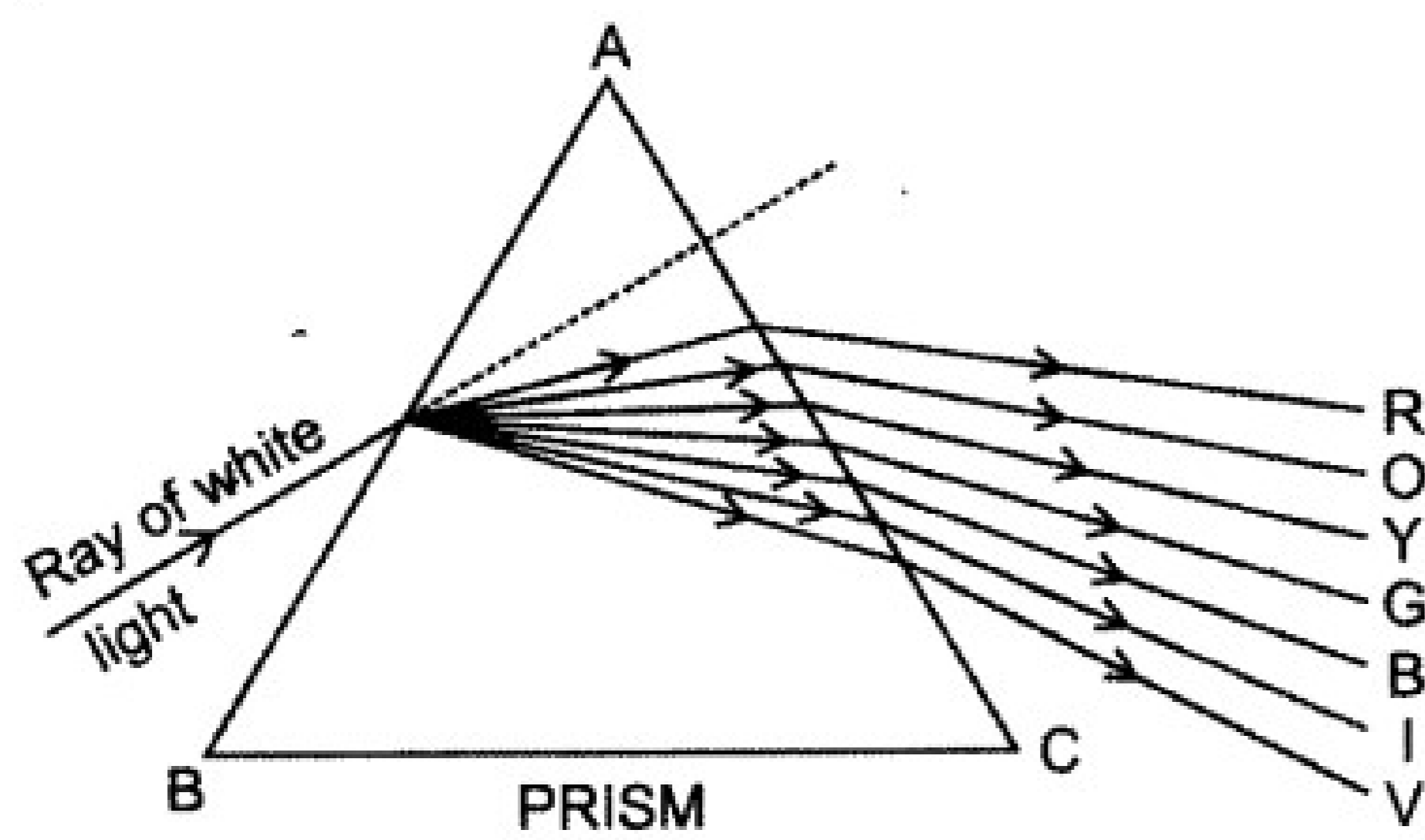
Q3. (1) Lenses with upper concave and lower convex surface.

Q4. (1) Condition in which you can see distant objects clearly, but nearby objects may be blurry.

Q5. (2) Cylindrical lens

Passage - 2

5 Marks



Pinky has seen the above diagram in her classroom and she had few doubts in her mind. Study the diagram given above and answer the questions that follow it:

Q1. (1) Dispersion of white light by a glass prism.

Q2. (2) Splitting up of white light into its component colours

Q3. (3) Red

Q4. (2) Violet

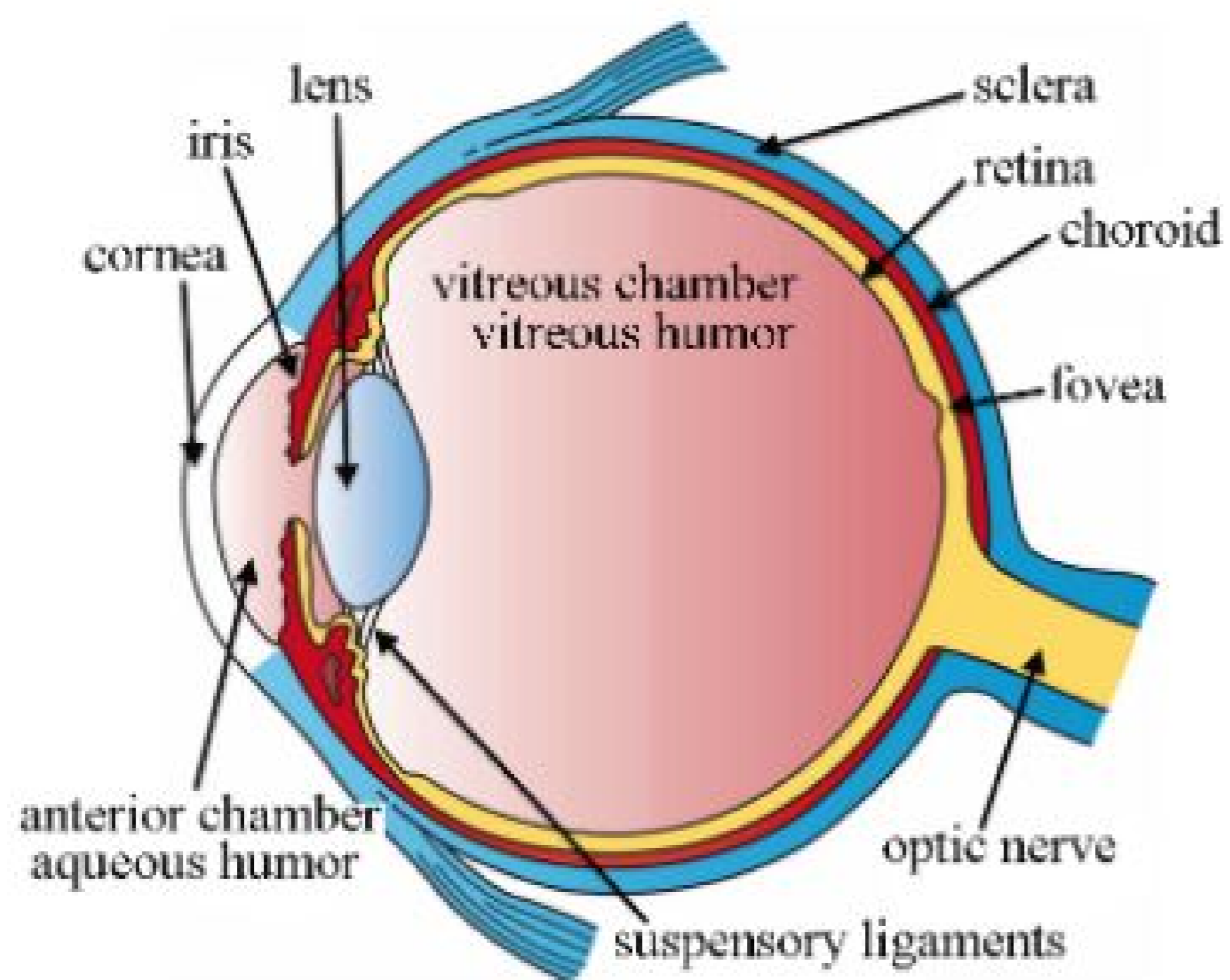
Q5. (3) Red

Passage - 3

5 Marks

# Answer Key 11.2

Marks - 25



A teacher is teaching her students certain concepts related to the human eye. See the above image and answer the below questions.

Q1. (1) Cornea

Q2. (2) Retina

Q3. (3) Lens

Q4. (2) Ciliary muscles

Q5. (1) Optic nerve

Passage - 4

5 Marks



A boy uses spectacles of focal length  $-60\text{cm}$ . He had few doubts in his mind and consults doctor for clearing them. Answer the below questions by using the above information.

Q1. (1) Myopia

Q2. (1) Concave lens

Q3. (1)  $-1.667\text{ D}$

Q4. (2)  $-0.60\text{ m}$

Q5. (1) Concave lens

Passage - 5

5 Marks



Ravi is a student of class VII. During summer vacation, his parents planned a visit to Haridwar by their car. During the journey from Delhi to Haridwar, Ravi sat on the front seat and his father was driving the car. Ravi observed that the road ahead on the highway appears to be wet but when the car reached the spot, road is found to be dry. He was perplexed by this observation. He asked his father. His father advised Ravi not to disturb him during driving and said that he will discuss the problem on reaching Haridwar. In the evening, when they were settled in a hotel at Haridwar, Ravi's father told him that the illusion observed by ravi was on account of atmospheric refraction. Now, Ravi was happy as he knew the real explanation of his observation.

Q1. (1) Atmospheric refraction

Q2. (3) Both A and B

Q3. (1) Curiosity and an urge to learn are shown

Q4. (1) Not to disturb him during driving

Q5. (2) One should drive very carefully and should not be distracted for a safe journey.