

## Human Eye and colourful World - Previous Years Questions

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1. The image distance from the eye lens in the normal eye when we increase the distance of an object from the eye
  1. increases.
  2. decreases.
  3. remains unchanged.
  4. depends on the size of eyeball **[CBSE 2020] [1 Mark]**
2. List two causes of presbyopia. Draw labelled diagram of this defect of vision. **[CBSE 2019] [2 Marks]**
3. Why is the colour of the clear sky blue? **[CBSE 2019] [2 Marks]**
4. A star sometimes appears brighter and some other times fainter. What is this defect called? State the reason for this effect. **[CBSE 2012] [2 Marks]**
5. What is atmospheric refraction? Explain with the help of a labelled diagram that the position of a star as seen by us is not its true position. **[CBSE 2018] [3 Marks]**
6. When do we consider a student sitting in the class to be myopic? List two causes of this defect. Explain using a ray diagram how this defect of eye can be corrected. **[CBSE 2019] [3 Marks]**
7. A student uses spectacles of focal length  $-2.5$  m.
  1. Name the defect of vision he is suffering from.
  2. Which lens is used for the correction of this defect?
  3. List two main causes of developing this defect?
  4. Calculate the power of this lens. **[CBSE 2020] [3 Marks]**
8. Give reasons:
  1. Red colour is selected for danger signals.
  2. The sky appears dark in space.
  3. The time difference between actual sunset & apparent sunset is about 2 minutes. **[CBSE 2020] [3 Marks]**
9. A student cannot see a chart hanging on a wall placed at a distance of 3 m from him. Name the defect of vision he is suffering from. How can it be corrected? Draw a ray diagram for the (i) defect of vision & also (ii) for its correction. **[CBSE 2012] [3 Marks]**
10. With the help of a labelled diagram, explain why the sun appears reddish at the sun-rise & the sunset. **[CBSE 2015] [3 Marks]**
11. .
  1. What is dispersion of white light? What is the cause of this dispersion? Draw a diagram to show the dispersion of white light by a glass prism.

2. A glass prism is able to produce a spectrum when white light passes through it but a glass slab does not produce any spectrum. Explain why? **[AI CBSE 2008] [5 Marks]**
12. .
1. A person cannot read newspaper placed nearer than 50 cm from his eyes. Name the defect of vision he is suffering from. Draw a ray diagram to illustrate this defect. List its two possible causes. Draw a ray diagram to show how this defect may be corrected using a lens of appropriate focal length.
  2. We see advertisements for eye donation on television or in newspapers. Write the importance of such advertisement. **[CBSE 2013] [5 Marks]**
13. Explain giving reason why the sky appears blue to an observer from the surface of the earth? What will the color of the sky be for an astronaut staying in the international space station orbiting the earth? Justify your answer giving reason. **[CBSE 2013] [5 Marks]**
14. .
1. Write the function of each of the following parts of human eye:
    1. Cornea
    2. Crystalline lens
    3. Iris
    4. ciliary muscles
  2. Why does the sun appear reddish early in the morning? Will this phenomenon be observed by an astronaut on the Moon? Give reason to justify your answer. **[CBSE 2018] [5 Marks]**
15. .
1. A student is unable to see clearly the words written on the black board placed at a distance of approximately 3 m from him. Name the defect of vision the boy is suffering from. State the possible causes of this defect and explain the method of correcting it.
  2. Why do stars twinkle? Explain. **[CBSE 2018] [5 Marks]**
16. .
1. A person suffering from myopia (near-sightedness) was advised to wear corrective lens of power -2.5 D. A spherical lens of same focal length was taken in the laboratory. At what distance should a student place an object from this lens so that it forms an image at a distance of 10 cm from the lens?
  2. Draw a ray diagram to show the position and nature of the image formed in the above case. **[CBSE 2018] [5 Marks]**