PHYSICS

BOOKS - MBD NCERT SOLUTIONS

THE HUMAN EYE AND THE COLOURFUL WORLD

Example

1. What is meant by the power of accommodation of the eye ?

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2. A person with a myopic eye cannot see objects beyond $1.2m$ distinctly. What should be the type of corrective lens to restore proper vision ?

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3. What are the far point and near point of the human eye with normal vision ?

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4. A student has difficulty reading the blackboard while sitting in the last row. What could be the defect the child is suffering from? How can it be corrected?

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5. The human eye can focus objects at different distances by adjusting the focal length of the eye lens. This is due to

A. presbyopia

B. accommodation

C. near-sightedness

D. far-sightedness

Answer:

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6. The human eye forms the image of an object at its

A. cornen

B. irirs

C. pupil

D. retina

Answer:

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7. The least distance of distinct vision for a young adult with normal vision is about :

A. 25 m

B. 2.5 cm

C. 25 m

D. 2.5 m

Answer:

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8. The change in focal length of an eye lens is caused by the action of the

A. pupil

B. retina

C. ciliary muscles

D. iris.

Answer:

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9. A person needs a lens of power -5.5 dioptres for correcting his distant vision. For correcting his near vision, he needs a lens of power + 1.5

dioptres. What is the focal length of the required for correcting (i) distant vision, and (ii) near vision ?

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10. The far point of a myopic person is 80 cm in front of the eye. What is the nature and power of the lens required to correct the problem?

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11. Make a diagram to show how hypermetropia is corrected. The near point of a hypermetropic eye is $1 metre$. What is the power of the lens required to correct this defect ? Assume that the near point of the normal eye is $25 cm$.

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12. Why is normal eye not able to see clearly the objects placed closer than 25 cm ?

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13. What is the function of the ciliary muscles?

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14. What is the least distance of distinct vision?

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15. A 14 year old student is not able to see clearly the questions written of the black board placed at a distance of 5 m from him. Name the type of lens used to correct this defect?

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16. A 14 year old student is not able to see clearly the questions written of the black board placed at a distance of 5 m from him.

Draw the diagram to show how this defect can be corrected.

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17. Why do we see a rainbow in the sky only after rainfall?

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18. Why does the sky appear blue?

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19. What is myopia or nearsightedness? What are the possible reasons of myopia? How is myopia corrected ? Explain with diagrams.

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20. Power of Accomodation

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21. Define the following: far point

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22. Define the following:Near point

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23. The least distance of distinct vision is

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24. What are the differences between simple microscope and compound microscope.

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25. A person with a myopic eye cannot see objects beyond $1.2m$ distinctly. What should be the type of corrective lens to restore proper vision ?

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26. The near point of a person having hypermetropia is 60 cm in front of the eye. Find the focal length and power of lens required to enable him to see the objects clearly placed at 25 cm from the eye.

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27. The near point of a hypermetropic eye is 1 m. What is the nature and power of the lens required to correct this defect ? (Assume that the near point of the normal eye is 25 cm).

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28. What is the least distance of distinct vision?

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29. Write a function of each of: Retina

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30. What is the function of the ciliary muscles?

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31. What is the main function of the rods in the eye?

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32. Why cats and bats are able to see at night?

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33. Colour of a star depends upon

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34. What is basic cause of colour blindness?

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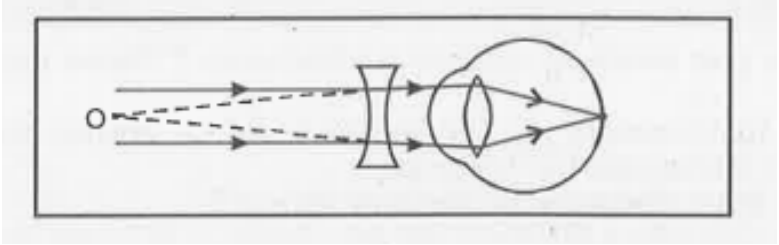
35. In the given diagram which defect of the human eye is being corrected using a concave

lens?



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36. The least distance of distinct vision for a normal person is about

A. 35 m

B. 3.5 m

C. 25 cm

D. 2.5 cm

Answer:

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37. The focal length of objective is chagned by:

A. pupil

B. retina

C. cilicary muscles

D. iris.

Answer:

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38. Answer the following questions.

What is the far point of a normal human eye?

A. at 25 cm

B. at 25 mm

C. at 25 m

D. at infinity

Answer:

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39. The human eye forms the image of an object at its

A. pupil

B. retina

C. cornea

D. eye ball

Answer:

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40. When light rays enter the eye, most of the refraction occurs at the

A. crystallin lens

B. outer surface of cornea

C. pupil

D. iris.

Answer:

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41. Most insensitive part of the eye is called :

A. black spot

B. yellow spot

C. cornea

D. blue spot

Answer:

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42. Focal length of the eye lens can be adjusted by action of :

A. ciliary muscles

B. choroid

C. optical nerves

D. retina

Answer:

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43. When light rays enter the eye, most of the refraction occurs at the

A. crystallin lens

B. irirs

C. outer surface of cornea

D. pupil

Answer:

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44. The least distance of distinct vision for a normal person is

A. 25 m

B. 2.5 m

C. 25 cm

D. 2.5 cm

Answer:

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45. The least distance of distinct vision is

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46. The human eye forms the image of an object at its

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47. The focal length of the lens of a normal human eye is about

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48. Splitting of white light into seven colours is called :

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49. A concave lens is used to correct myopia.

True/False

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50. When the light is very bright,

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