Answer Key 11.3

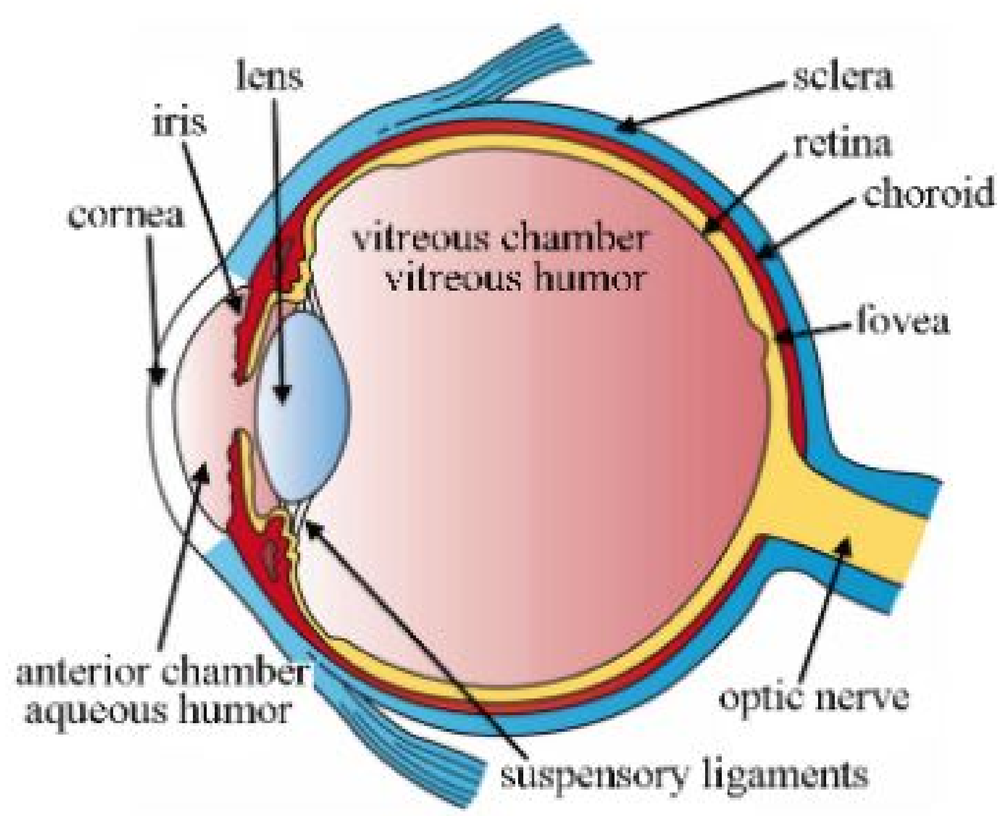
Marks - 25

Case study based questions

10th Science

Human Eye and Colourful World

Passage - 1 **5 Marks**



Balu observes that the minimum power of the eye lens is 40 D. If the far point of the normal eye is infinity. Answer the below questions by reading the above information.

Q1. (2) 2f

Q2. (3) 2.5 cm

Q3. (3) 2.5 cm

Q4. (1) Dioptre

Q5. (2) $\frac{1}{P}$

Answer Key 11.3

Marks - 25

Passage - 2

5 Marks

Ravi got his eyes tested. The optician prescription for the spectacle read: Left eye = -3 D and right eye = -3.5 D. Answer the below questions by reading the above information.

Q1. (1) Concave lens

Q2. (1) Myopia

Q3. (2) Infinity

Q4. (1) Distant objects

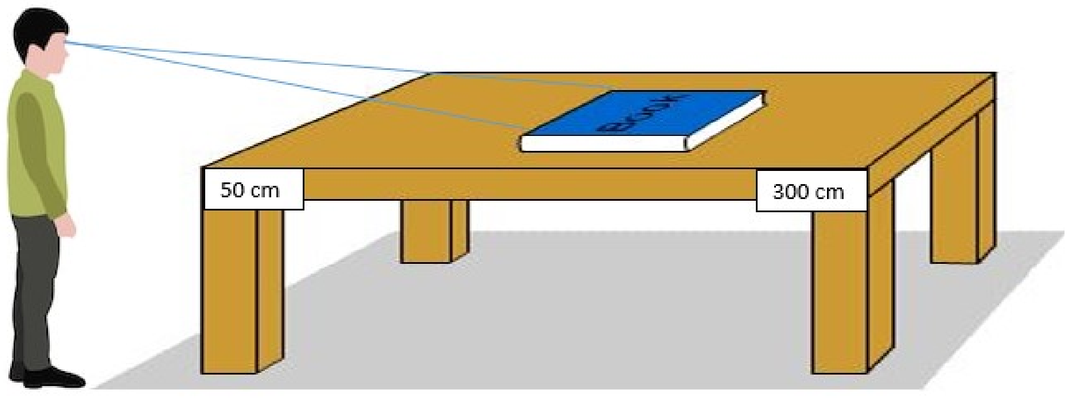
Q5. (2) Due to eye ball being too long

Passage - 3

5 Marks

Answer Key 11.3

Marks - 25



A person is able to see objects clearly only when these are lying at distance between 50 cm and 300 cm from his eyes. Answer the below questions by reading the above information.

Q1. (3) Both A and B

Q2. (1) Myopia

Q3. (2) Hypermetropia

Q4. (1) Lenses with upper concave and lower convex surface.

Q5. (2) Bifocal lens

Passage - 4 **5 Marks**

Answer Key 11.3

Marks - 25

A near sighted person wears eye glass of power 5.5D for distant vision. His doctor prescribes a correction of + 1D in near vision part of his bifocals, which is measured relative to the main part of the lens.

Q1. (1) - 22.22 cm

Q2. (1) Myopia

Q3. (2) -4.5 D

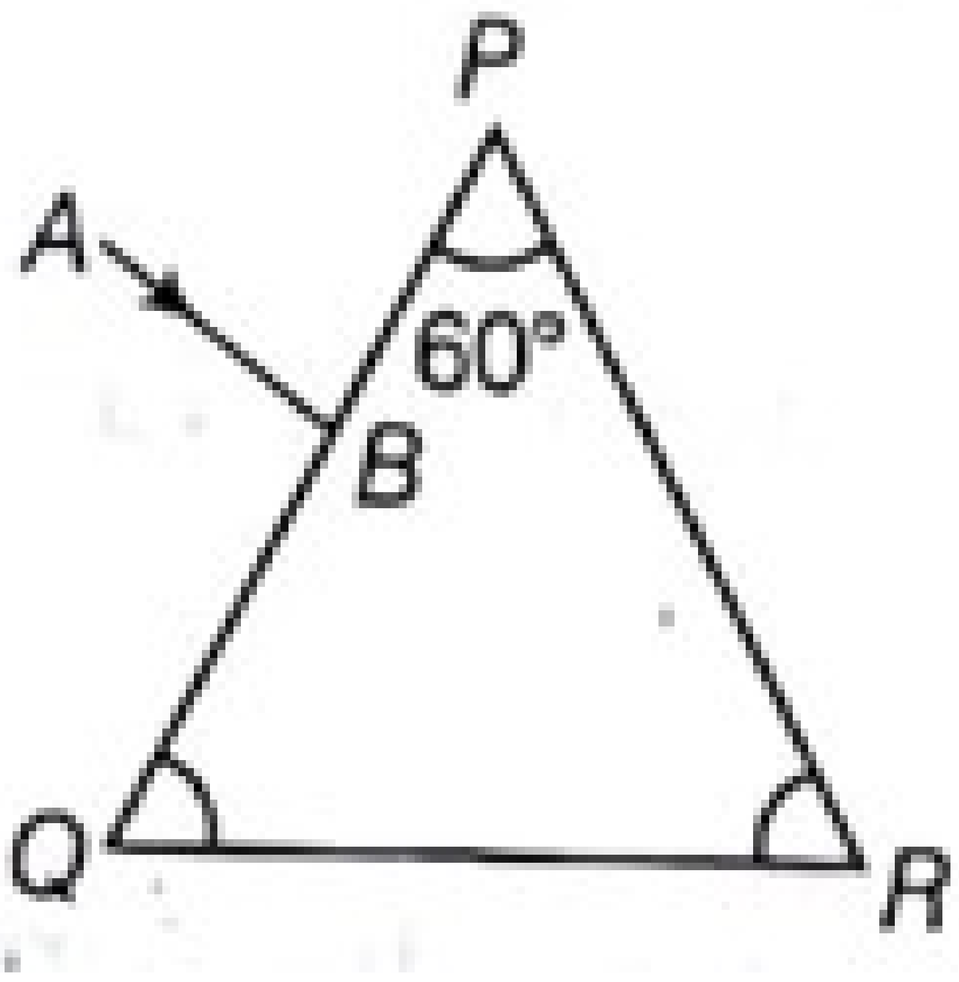
Q4. (1) Concave lens

Q5. (1) Concave lens

Passage - 5 **5 Marks**

Answer Key 11.3

Marks - 25



In given figure, a light ray AB is incident normally on one face PQ of an equilateral glass prism. Answer the below questions by reading the above information.

Q1. (1) 60°

Q2. (2) $A = r_1 + r_2$

Q3. (1) r = sin(i)×n

Q4. (3) 0°

Q5. (1) 60°

Answer Key 11.4

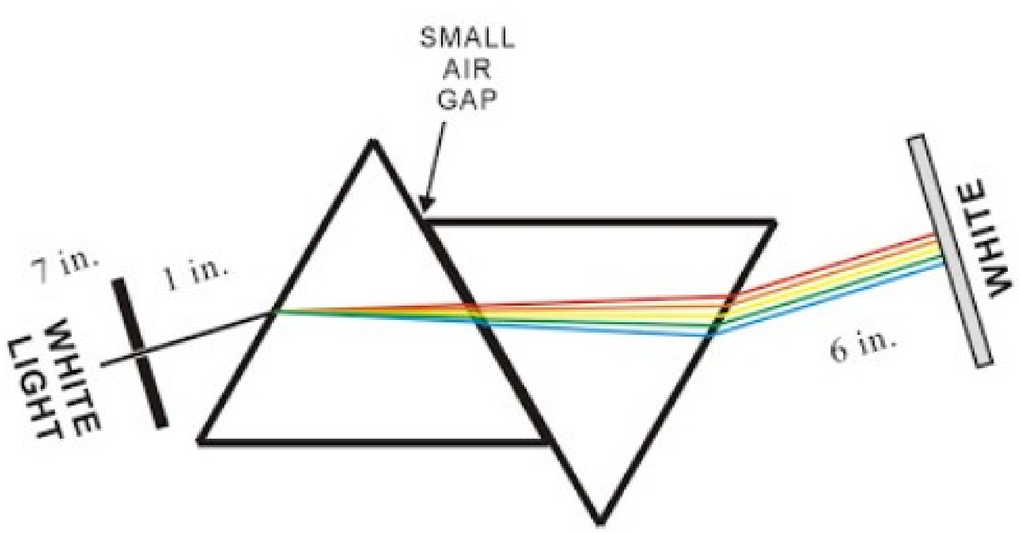
Marks - 25

Case study based questions

10th Science

Human Eye and Colourful World

Passage - 1 **5 Marks**



A thin prism
p_1
with angle 4° and made from glass of refractive index 1.54 is combined with another prism
p_2
made from glass of refractive index 1.92 to produce dispersion without deviation. Answer the below questions by reading the above information.

Q1. (2) 2.3°

Q2. (1) $\Delta = (n - 1) \times A$

Q3. (2) Produce dispersion without deviation

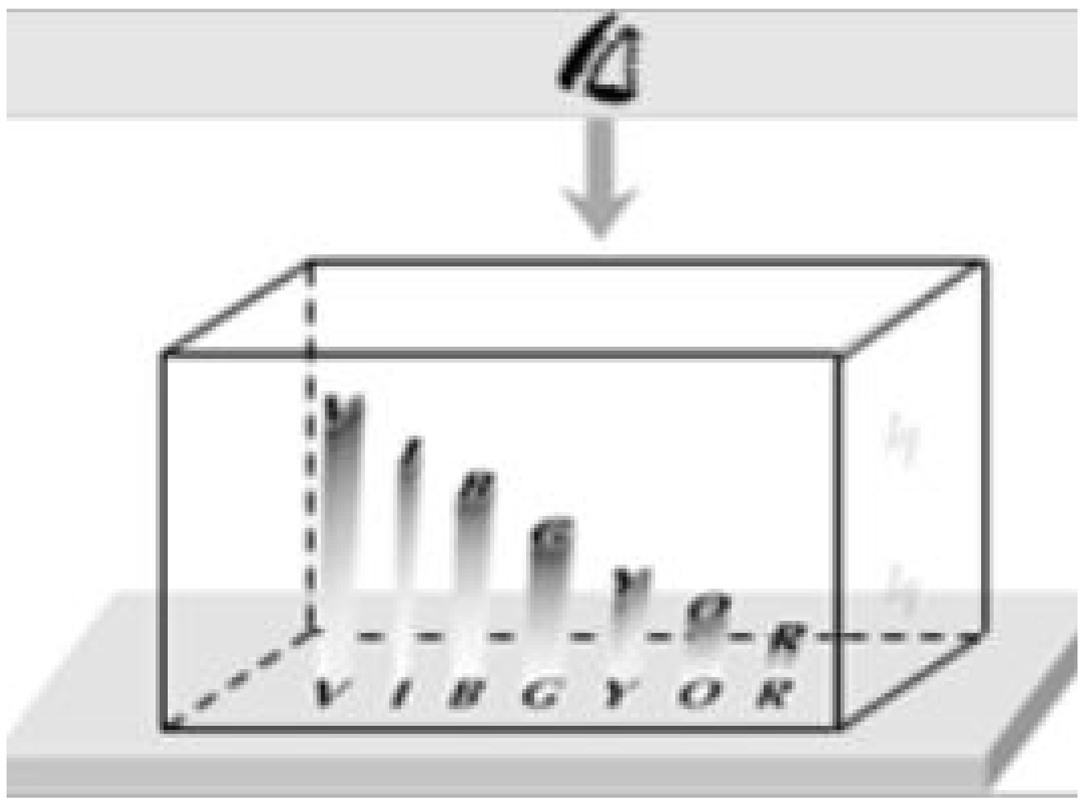
Q4. (2) 1.54

Q5. (3) 1.92

Passage - 2 **5 Marks**

Answer Key 11.4

Marks - 25



Seema observe a glass slab is placed over a page on which the word VIBGYOR is printed with each letter in corresponding colour. Answer the below questions by reading the above information.

Q1. (2) Letter V is raised more

Q2. (1) Violet

Q3. (1) Violet

Q4. (2) Violet

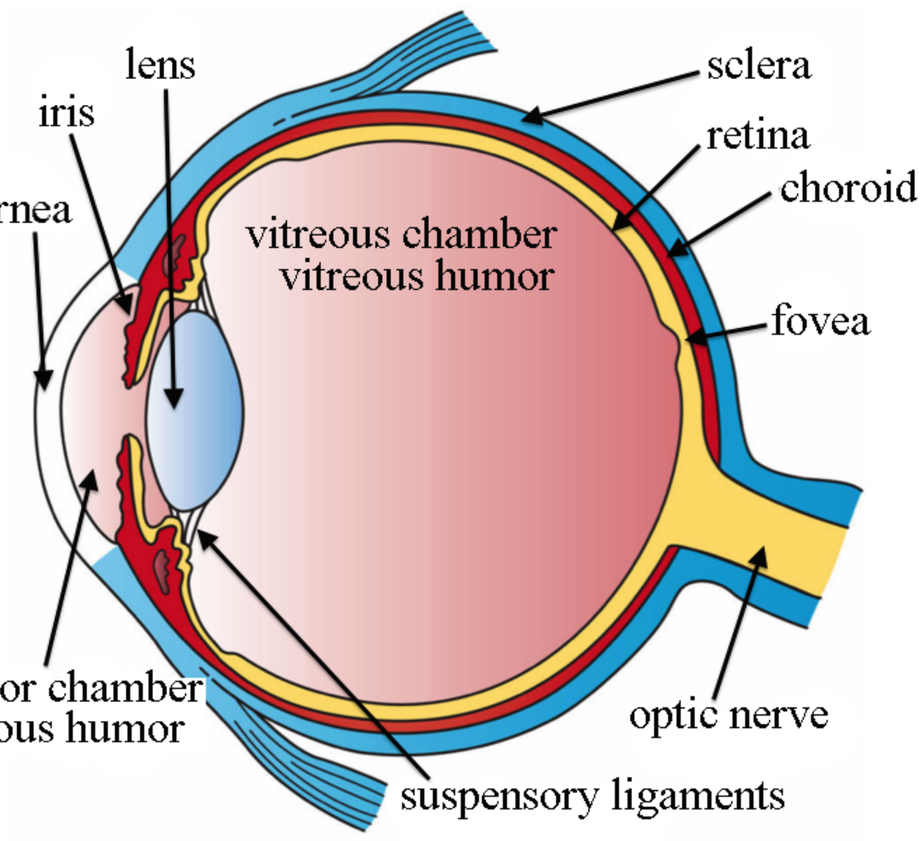
Q5. (1) $\frac{real\ depth}{refractive\ index}$

Passage - 3

5 Marks

Answer Key 11.4

Marks - 25



Jyothi observe the above human eye.Few questions came to her mind. Give answers to the below questions:

Q1. (2) Cornea

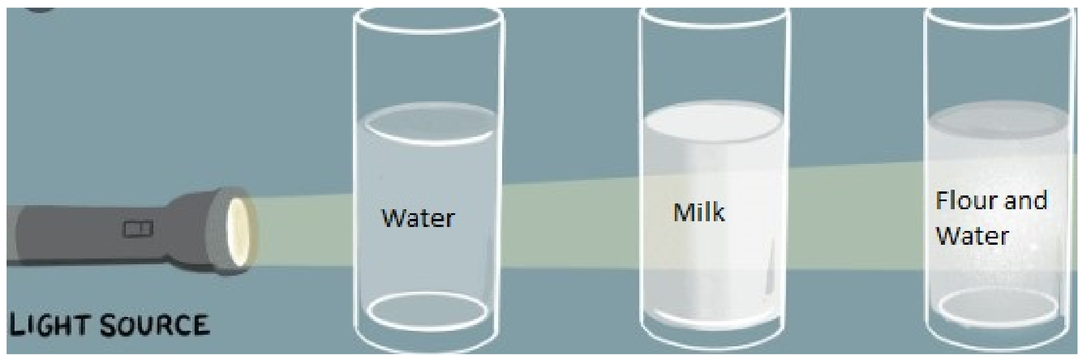
Q2. (3) Iris

Q3. (2) Refraction

Q4. (2) 1/16th of a second

Q5. (2) Rods

Passage - 4 **5 Marks**



Answer Key 11.4

Marks - 25

A teacher is teaching the students certain concepts related to the tyndall effect. See the above image and answer the below questions.

Q1. (1) Tyndall effect

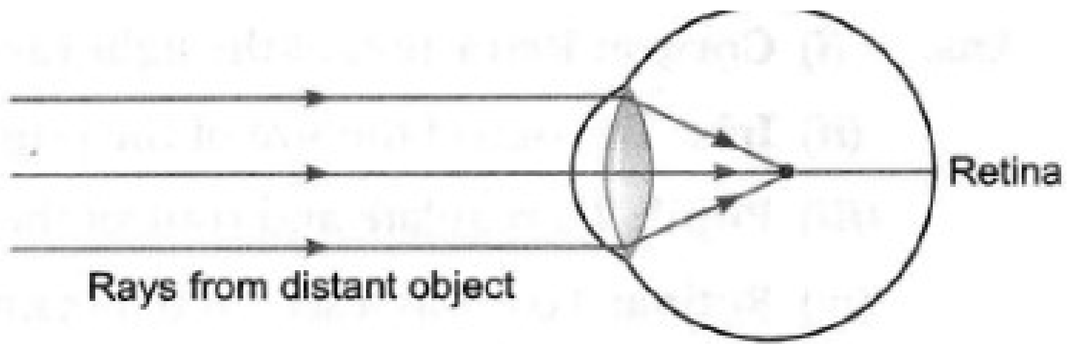
Q2. (2) 40 to 900 nanometers

Q3. (2) NO

Q4. (1) YES

Q5. (1) YES

Passage - 5 **5 Marks**



Geetha observes that a person needs a lens of power −4.5 D for correction of her vision. Few questions came to her mind. Give answers to the below questions:

Q1. (1) Myopia

Q2. (2) 0.22 m

Q3. (2) Concave lens

Answer Key 11.4

Marks - 25

Q4. (2) $\frac{1}{P}$

Q5. (1) Dioptre