SHIKSHA CLASSES

Subject : Science -I | **Question Paper** | **Total Marks** : 20

Class : X | **7. Lenses** | **Time** : 1 Hour

Q.1: A) Choose the correct alternative : **2**

1) A small aperture in iris which controls intensity of light is called ------.

a) Eye lens b) Eye ball c) Pupil d) Cornea

2) The lens which is thin at centre and thick at edges is ----

a) Convex lens b) Cancave lens c) Biconvex d) Both b and c

B) Solve the following question. (Any One) **1**

1) Find the odd man out

Medical equipment, torch, scanner, spectograph

2) Complete the analogy

Convex lens : Converging lens : : Cancave lens : ------

3) Write true or false

The power of lens depends on its focal length

Q.2: A) Give scientific reason. (Any One) **2**

1) A concave lens is used to correct myopia.

2) In old age bifocal lens is necessary for some person.

B) Solve the following question. (Any Two) **4**

1) Explain the terms a) centre of curvature b) Optical centre

2) What is lens formula?

3) What is persistance of vision? Why one can sense color only in bright light?

4) A concave lens of focal length 12 cm and convex lens of focal length 20 cm are kept in contact with each other. Find the focal length of their combination and its power.

Q.3: Solve the following questions. (Any Two) **6**

1) At which position will you keep an object in front of a convex lens so as to get a real image of the same size as the object? Draw a figure.

2) What is the Cartesian sign convention used for lens?

3) At what distance from a convex lens of focal length 2.5 m should a boy stand so that his image is half of his height?

4) What is the function of iris and the muscles connected to the lens in the human eye.

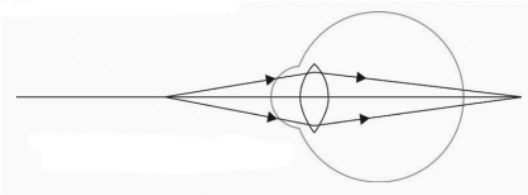
Q. 4: Solve the following question. (Any One) **5**

1) Distinguish between

   a) Farsightedness & Nearsightedness

   b) Concave lens & Convex lens.

2) Given below is diagram showing a defect of human eye. Study it and answer the following question.



   i) Name and define the defect shown in fig.
   ii) Give two possible reason for this defect of eye in human being.
   iii) Name the type of lens used to correct the defect.
   iv) Draw a well labelled diagram to show how the defect is rectified by using the lens.

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