

**PARAGON CONVENT SCHOOL**

**SECTOR : 24 B, CHANDIGARH**

**LESSON - 16**

**LIGHT**

**Multiple Choice Questions (Page No.233)**

1. (a)      2. (c)      3. (b)      4. (c)      5. (a)

**Multiple Choice Questions (Page No.240)**

1. (b)      2. (b)      3. (a)      4. (d)      5. (b)

**SECTION - A**

**Oral Questions**

Q1.- What is meant by 'reflection of light'?

Ans.- The process of sending back the light rays which fall on the surface of a object is called reflection of light.

Q2.- What is meant by 'dispersion of light'?

Ans.- The phenomenon of splitting of white light into its component colours on passing through a transparent medium like a glass prism is called dispersion of light.

Q3.- What is meant by 'spectrum of light'?

Ans.- The band of seven colours formed on a white screen, when white light passes through a prism (or any transparent medium) is called spectrum of white light.

**Science Quiz**

Q1.- What kind of reflection takes place from the surface of shining objects?

Ans.- Regular reflection of light

Q2.- What do you mean by cataract?

Ans.- Cataract is a condition of eyes in which the eye lens becomes cloudy (or hazy).

Q3.- At what angle are mirrors inclined to each other in a kaleidoscope?

Ans.-  $60^\circ$

## **WORKSHEET**

### **Tick ( $\surd$ ) the correct options**

1. (d)      2. (c)      3. (b)      4. (c)

### **Circle the odd ones. Give reasons for your choice**

1. Red                  Orange                  Purple                  Green

Ans.- Purple - It is not the component of spectrum of light, whereas others are components of spectrum of light.

2. Sclera                  Retina                  Choroid                  Eardrum

Ans.- Eardrum - It is a part of human ear, whereas others are parts of a human eye.

3. Myopia                  Hypermetropia                  Tuberculosis                  Cataract

Ans.- Tuberculosis - It is a disease associated with lungs, whereas other are eye defects.

### **Fill in the blanks**

1. far point                  2. hypermetropia                  3. convex                  4. kaleidoscope

## **SECTION B**

### **Multiple Choice Questions**

1. (a)      2. (b)      3. (a)

### Very Short Answer Questions

Q1.- Name the two types of eye defects.

Ans.- Myopia and hypermetropia

Q2.- Name some food items rich in vitamin A.

Ans.- Green leafy vegetables, cod-liver oil, eggs, milk, curd, cheese, butter, papaya and mango

Q3.- What is the near point of human eye?

Ans.- The near point of a normal human eye is about 25 cm.

### Short Answer Type-I Questions

Q1.- State the laws of reflection.

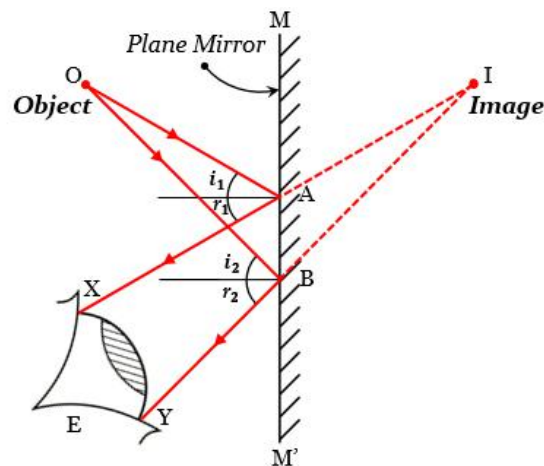
Ans.- The laws of reflection are as follows:

(i) The angle of incidence is equal to the angle of reflection.

(ii) The incident ray, the normal at the point of incidence and the reflected ray, all lie in the same plane.

Q2.- Draw a diagram to show the formation of an image of a point object on a plane mirror.

Ans.-



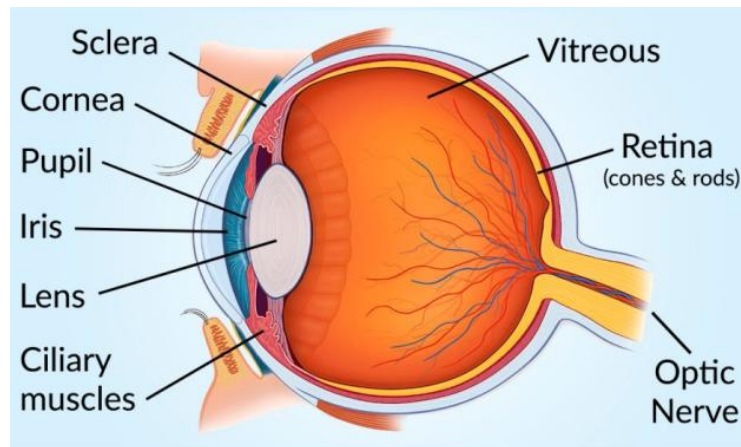
Q3.- What is meant by power of accommodation?

Ans.- The ability of the eye lens to adjust its focal length, so as to see the objects located anywhere is called the power of accommodation.

### **Short Answer Type - II Questions**

Q1.- Draw a well-labelled diagram of the human eye.

Ans.-



Q2.- Explain the working of a human eye with the help of a flow chart.

Ans.-

The light coming from an object enters the eye through the cornea and the pupil.



The lens focuses the light rays to form a real, inverted & highly diminished image on the retina.



The sensory cells (rods & cones) of the retina get activated and generate electric signals.



Optic nerves send electric signals to the brain. The brain interprets these signals and renders the erect image of the object.

Q3.- What is hypermetropia? How is it caused and corrected?

Ans.- A person with hypermetropia or far-sightedness can see distant (far off) objects clearly but cannot see nearby objects distinctly. It is caused when image of a nearby object is formed behind the retina and not at the retina itself. It is corrected by using spectacles with a convex lens.

Q4.- Nitika meets with an accident and her eyes get injured. She is unable to see. Doctors tells her that it is a curable blindness and ask her to wear black spectacles. When she goes to school, her classmates start making fun of her. But Monika does not do so and helps her in doing her work.

A) What is curable blindness?

B) Is it right to make fun of visually challenged people? Why/Why not?

Ans.- (a) The condition when either the cornea or the eye lens become opaque due to some diseases or defects and a person cannot see is known as curable blindness. It can be cured.

(b) No, it is not right to make fun of visually challenged people. If we make fun of them, they may feel under privileged and hurt and we should never hurt the feelings of other people. We should never make fun of people or behave with them in a way we don't want others to behave with us.

### **Long Answer Questions**

Q1.-Define the following terms :

A) incident ray    B) reflected ray    C) normal at the point of incidence

C) angle of incidence    E) angle of reflection

Ans.- (a) Incident ray : The ray of light which falls on the mirror's reflecting surface is called incident ray.

(b) Reflected ray : The ray of light which is sent back after reflection by the mirror surface at the point of incidence is called reflected ray.

(c) Normal at the point of incidence: The normal is a line drawn perpendicular or right angle to the mirror surface at the point of incidence.

(d) Angle of incidence : The angle which the incident ray makes with the normal at the point of incidence is called the angle of incidence

(e) Angle of reflection: The angle which the reflected ray makes with the normal is called angle of reflection.

Q2.- What is the function of the following in human eye?

A) Sclera    B) Cornea    C) iris    D) choroid    E) retina

Ans.- a) Sclera : It is the outer most covering of the eye. It protects the vital internal parts of the eye from external injuries.

(b) Cornea : It allows the light to enter into the eyeball.

(c) Iris : It regulates the amount of the light entering the eye by adjusting the size of the pupil.

(d) Choroid : It darkens the eye from inside and prevents any internal reflection.

(e) Retina : It contains rods and cones which are sensitive to light. The cones are sensitive to bright light and can detect colour, while the rods are sensitive to the intensity of light, i.e., the dim light.