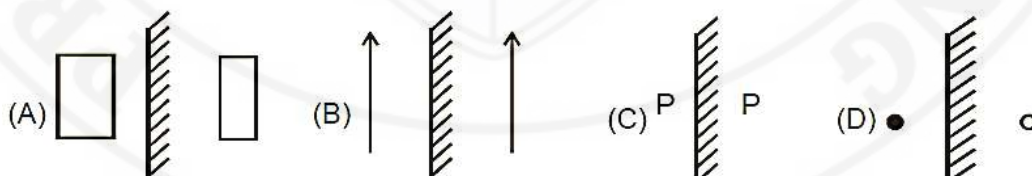


**Light**

**DPP – 1**

1. Light is a form of..... .  
 (A) matter (C) energy  
 (B) fluid (D) none
2. Which of the following is a point source of light :  
 (A) Star (C) A bulb  
 (B) Candle (D) Tube light
3. Which of the following is a natural source of light :  
 (A) bulb (C) moon  
 (B) tubelight (D) artificial satellite
4. Nature of light is :  
 (A) Ray (C) Dual  
 (B) Wave (D) None
5. We see different objects around us due to ..... of light. :  
 (A) Refraction (C) Polarisation  
 (B) Diffraction (D) Reflection
6. Normal is the :  
 (A) line perpendicular to the incident ray  
 (B) line perpendicular to the reflected ray  
 (C) line perpendicular to the mirror surface at any point  
 (D) line perpendicular to mirror at the point of incidence
7. A thin plane mirror :  
 (A) refracts light (C) transmits light  
 (B) reflects light (D) none of these
8. The angle of reflection is the angle between :  
 (A) the reflected ray and surface of mirror  
 (B) the incident ray and the surface of mirror  
 (C) the normal to the surface of a mirror and incident ray  
 (D) the normal to the surface of mirror and reflected ray
9. In a plane mirror, .....acts as the reflecting surface :  
 (A) Silver layer  
 (B) The glass sheet  
 (C) The red-orange layer at the back.  
 (D) The air above the glass surface.
10. If angle of incidence is equal to  $0^\circ$ , the angle of reflection will be :  
 (A)  $90^\circ$  (C)  $45^\circ$   
 (B)  $120^\circ$  (D)  $0^\circ$
11. The sun is a..... luminous body whereas moon is a ..... body.
12. Define light
13. Define hot source of light.
14. What do you mean by rectilinear propagation of light?
15. What do you mean by self-luminous sources of light?

- Images formed by plane mirror are always..... :  
 (A) real (C) erect and real  
 (B) virtual (D) magnified
- In a plane mirror, the distance of the image from the mirror is..... the distance of object from the mirror :  
 (A) equal to (C) greater than  
 (B) less than (D) both B and C are possible
- What type of mirror is used to obtain virtual, laterally inverted image, equal in size of object:  
 (A) plane mirror (C) concave mirror  
 (B) convex mirror (D) all of these
- A point object in front of a plane mirror forms :  
 (A) point image (C) both A and B  
 (B) extended image (D) neither A nor B
- Which of the following is not a characteristic of image formed by a plane mirror :  
 (A) Size of image = size of object  
 (B) Distance of image from mirror = distance of object from mirror  
 (C) we cannot obtain the image on the screen  
 (D) Image is formed on the same side as that of object
- Different types of mirrors are :  
 (A) plane mirror (C) convex mirror  
 (B) concave mirror (D) all of these
- A virtual image is always formed ..... w.r.t. object :  
 (A) on the same side of mirror (C) inside the mirror  
 (B) on the opposite side of mirror (D) none of these
- Identify true and false statement: (T - true; F - False) :  
 (i) A real image can be seen as well as obtained on a screen  
 (ii) A virtual image is erect with respect to the object  
 (iii) If rays of light after reflection or refraction actually converge at a point then the image formed is called virtual image.  
 (A) TTF (B) TTT (C) FTF (D) TFT
- Identify the correct laterally inverted image of letter 'g' :  
 (A) q (B) g (C) 9 (D) ā
- Identify the correct image:



- Write differences between real image and virtual image.
- Define lateral inversion.
- Why cannot you see your image in newspaper?
- An object A is placed at a distance  $d$  in front of a plane mirror. If one stands directly behind the object at a distance  $S$  from the mirror, find the distance of the image of A from the individual.
- Define reflection of light.

1. A plane mirror forms ..... image of a single object:
 

(A) single	(C) triple
(B) double	(D) multiple
2. An object is placed between two parallel plane mirrors with reflecting sides facing each other. Number of images formed will be:
 

(A) 1	(C) infinite
(B) 2	(D) zero
3. What type of mirrors are used in solar cookers:
 

(A) plane mirrors	(C) parabolic mirrors
(B) convex mirrors	(D) all are correct
4. Images formed by reflecting periscopes are:
 

(A) brighter than object	(C) equally bright as object
(B) fainter than object	(D) none of these
5. In case of multiple image formation by two plane mirrors, placed parallel to each other, image by one mirror acts as an ..... for the second mirror :
 

(A) image	(C) both (A) and (B) are correct
(B) object	(D) none of these
6. The beautiful patterns that we obtain in a kaleidoscope are due to..... of light :
 

(A) multiple reflection	(C) refraction
(B) diffraction	(D) dispersion
7. Device which is used in submarines to get the outside view is :
 

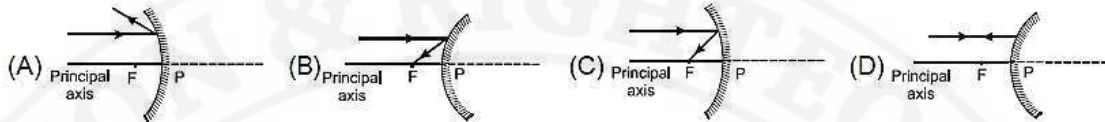
(A) kaleidoscope	(C) spectroscope
(B) periscope	(D) camera
8. Laws of reflection are .....in diffused reflection :
 

(A) Violated	(C) Followed at some points only
(B) Followed	(D) Sometimes violated and sometimes followed.
9. Reflection through plane mirror is an example of :
 

(A) regular reflection	(C) irregular reflection
(B) diffused reflection	(D) all are correct
10. If angle of incidence is  $30^\circ$ , then glance angle of reflection is :
 

(A) $60^\circ$	(C) $30^\circ$
(B) $90^\circ$	(D) $120^\circ$
11. Draw ray diagram to show the working of periscope.
12. Draw neat diagram of kaleidoscope.
13. Write any two uses of plane mirror.
14. Write any three uses of periscope.
15. Write one disadvantage of reflecting periscope.

- A virtual image is formed by concave mirror when the object is placed:
  - between the focus and the pole
  - at the focus
  - between the focus and the centre of curvature
  - beyond the centre of curvature
- Which of the following correctly depicts the reflection of a ray of light on a spherical mirror?



- Convex mirrors are used in cars to see the traffic coming from behind because:
  - They produce magnified images
  - They produce images which are clearer than those produced by other mirrors
  - They reflect light better than the other mirrors
  - They form images which are smaller than the objects
- What should be the minimum height of a plane mirror to get a full image of a man whose height is  $h$  ?
  - $h$
  - $2h$
  - $h/2$
  - $h/4$
- An observer runs towards a plane mirror with a velocity  $x$  m/s. What is the velocity of his image which will appear to move towards him?
  - $2x$  m/s
  - $x/2$  m/s
  - $x$  m/s
  - $x/4$  m/s
- A student sitting in the last row of classroom is unable to see the writing on the board. He is suffering from
  - myopia
  - hypermetropia
  - farsightedness
  - astigmatism
- Which of the following figure is correct:



- Light travels in a straight line. This phenomenon is known as –
  - Dispersion
  - Reflection
  - Refraction
  - Rectilinear propagation.
- Light is \_\_\_\_\_ form of Energy.
  - invisible
  - visible
  - mechanical
  - elastic
- Sun is \_\_\_\_\_ source of light.
  - Luminous
  - Non-Luminous
  - Natural
  - Both (a) & (c)

- Define dispersion of light.
- How is hypermetropia corrected?
- Define blindness.
- What are the different causes of blindness?
- Give some methods to take care of eyes.

1. The amount of light entering into eye is controlled by :
 

(A) Lens	(C) Cornea
(B) Pupil	(D) Retina
2. While reading a book, minimum distance between book and eyes should be :
 

(A) 10 cm	(C) 25 cm
(B) 20 cm	(D) 50 cm
3. The change in focal length of an eye lens to focus the image of objects at varying distances is done by the action of its :
 

(A) Pupil	(C) Ciliary muscles
(B) Retina	(D) Blind spot
4. The human eye can focus objects at different distances by adjusting the focal length of the eye lens. This is due to:
 

(A) Persistence of vision	
(B) Near sightedness	
(C) Accommodation	
(D) Least distance of distinct vision	
5. Decrease in focal length of eye lens causes:
 

(A) Hypermetropia	(C) Astigmatism
(B) Myopia	(D) Nothing
6. Nightblindness is caused by the deficiency of:
 

(A) Vitamin A	(C) Vitamin C
(B) Vitamin B	(D) Vitamin E
7. Images formed on the retina of a human eye is:
 

(A) temporary	(C) blurred
(B) permanent	(D) none of these
8. Loss of vision which cannot be corrected by lenses is:
 

(A) myopia	(C) blindness
(B) astigmatism	(D) none of these
9. An eye suffering from shortsightedness forms image of far object:
 

(A) In front of retina	(C) On retina
(B) Behind retina	(D) Outside eye
10. Final processing of signals carried by the optic nerve is done by:
 

(A) brain	(C) heart
(B) spinal cord	(D) optic nerve
11. Draw a ray diagram of image formation in a myopic eye.
12. What is myopia?
13. Give the two causes of myopia.
14. How is myopia corrected?
15. Give the two causes of hypermetropia.