

## Light, Shadows and Reflection

### Test

Time - 40 Minutes

Maximum Marks - 20

### Important Instructions

- This test contains 20 questions.
- Each questions has FOUR options (1), (2), (3) and (4). ONLY ONE of these four options are correct.
- For each question, marks will be awarded in one of the following categories.

Full Marks : +1: If only correct answer is given.

Zero Marks : 0: If no answer is given.

Negative Marks : There is no negative marking

1. The girl in the given figure is able to see the dog because



- (1) light is falling on the dog
- (2) it is dark
- (3) light gets reflected from the dog to the girl's eyes
- (4) light from the bulb is reaching the girl's eyes

2. Who of the following is correct.

Raman : Luminous objects produce their own light.

Rajan : The objects , which allow light to pass through them, are called luminous objects.

Rahul : The objects, which reflects more than 90% of lights falling on their surfaces, are called, luminous objects.

- (1) Raman
- (2) Rajan
- (3) Rahul
- (4) All of them

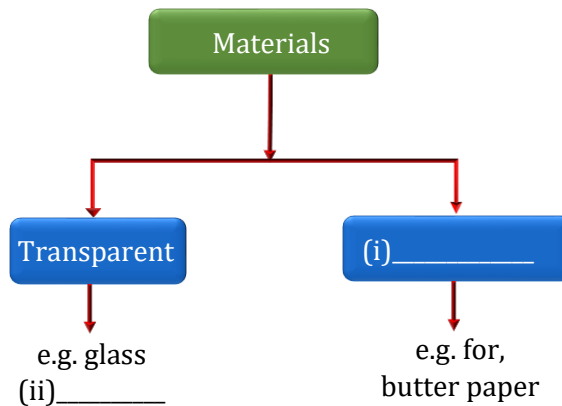
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Glass

- (1) it is not night time yet.
- (2) the light is not strong enough.
- (3) the glass is a transparent object.
- (4) the glass is an opaque object.

8. Study the flow chart carefully.



What can (i) and (ii) be ?

(i)

(ii)

- |                 |            |
|-----------------|------------|
| (1) Translucent | Pure water |
| (2) Opaque      | Wooden box |
| (3) Translucent | Wooden box |
| (4) Opaque      | Pure water |

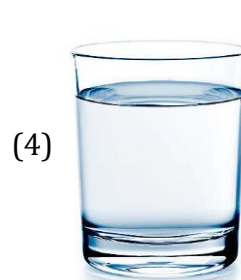
9. The shape and size of a shadow depends on:

- (1) the shape and size of the object.
- (2) the intensity of source of the light.
- (3) the distance between the source of light and object.
- (4) Both (1) and (3)

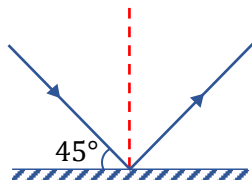
10. In which of the following multiple reflection of light takes places?

- |                |                      |
|----------------|----------------------|
| (1) Periscope  | (2) Kaleidoscope     |
| (3) Microscope | (4) Both (1) and (2) |

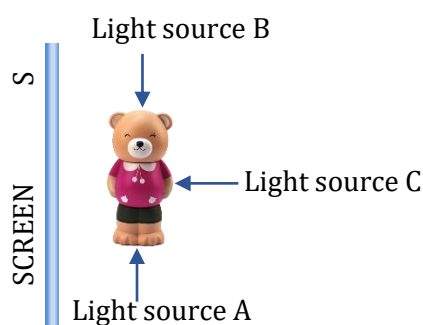
11. Which object is most likely opaque?



12. Image formed by a plane mirror is  
 (1) Virtual and erect  
 (2) Of same size as that of object  
 (3) Laterally inverted  
 (4) All the above
13. What is the angle of reflection in the following figure.



- (1)  $0^\circ$                       (2)  $45^\circ$                       (3)  $90^\circ$                       (4)  $180^\circ$
14. What happens when light strikes opaque materials?  
 (1) All of the light passes through.  
 (2) Most of the light passes through and some is reflected.  
 (3) All of the light is absorbed or reflected.  
 (4) Some light passes through and some light is absorbed.
15. Light from which source will form shadow on the screen S in the figure given below.



- (1) Light source A                      (2) Light source B  
 (3) Light Source C                      (4) All of the above
16. Match the column

Column-I		Column-II	
(A)	Scattering back of light by shining surface	(p)	Lateral inversion
(B)	Phenomenon of changing left to right	(q)	Shadow
(C)	Formed due to reflection by mirror	(r)	Reflection
(D)	Region of absence of light	(s)	Image

- (1) (A → q); (B → p); (C → s); (D → r)                      (2) (A → r); (B → s); (C → p); (D → q)  
 (3) (A → p); (B → r); (C → q); (D → s)                      (4) (A → r); (B → p); (C → s); (D → q)

(1) zig-zag pattern                      (2) circular pattern  
(3) straight line                        (4) none of these

(1)  $90^\circ$                       (2)  $30^\circ$                       (3)  $45^\circ$                       (4)  $50^\circ$

(1) real image      (2) virtual image      (3) erect      (4) all

**Statement-2 :** No light reaches the area where shadow is formed.

- (1) Both statement-1 and statement-2 are true and statement-2 is correct explanation of statement-1
- (2) Both statement-1 and statement-2 are true and statement-2 is not correct explanation of statement-1
- (3) Statement-1 is true but statement-2 is false.
- (4) Statement-1 is false but statement-2 is true.

## Answer Key

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	3	1	2	3	3	4	3	1	4	4	3	4	2	3	3	4	3	3	1	1

## Test Solutions

## 1. Option (3)

Non-luminous objects can be seen when light falling on them reflects and reaches our eyes.

## 2. Option (1)

Luminous objects produce their own light.

## 3. Option (2)

(ii) and (iv) only

## 4. Option (3)

Light always travels in straight line.

## 5. Option (3)

Shadows are formed due to rectilinear propagation of light.

## 6. Option (4)

The essential condition for the formation of shadow are material should be opaque, there should be a source of light and screen and the object must be placed in the path of light.

## 7. Option (3)

For the formation of shadow, the object must be opaque.

## 8. Option (1)

(i) Translucent (ii) Pure water

## 9. Option (4)

The shape and size of a shadow depends on the shape and size of the object and the distance between the source of light and object.

## 10. Option (4)

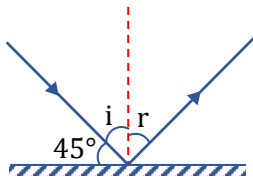
Periscope, Kaleidoscope

## 11. Option (3)

Metal can is an opaque material.

## 12. Option (4)

Image formed by plane mirror is virtual and erect, of same size as that of object and laterally inverted.

**13. Option (2)**

We know that  $\angle i = \angle r$

$$\angle i = 90^\circ - 45^\circ = 45^\circ$$

So,  $\angle r = 45^\circ$

**14. Option (3)**

Shadow is formed opposite to the light source.

When light strikes opaque materials all of the light is absorbed or reflected because opaque material can not pass the light.

**15. Option (3)**

A shadow is formed when an opaque object or material is placed in the path of rays of light.

**16. Option (4)**

$(A \rightarrow r); (B \rightarrow p); (C \rightarrow s); (D \rightarrow q)$

**17. Option (3)**

Due to phenomena of rectilinear propagation of light, light travels in straight line.

**18. Option (3)**

Two mirror are placed at  $45^\circ$  in periscope.

**19. Option (1)**

Image which can be obtained on a screen is a real image.

**20. Option (1)**

Both statement-1 and statement-2 are true and statement-2 is correct explanation of statement-1