

Chapter 11

MULTIPLE CHOICE QUESTIONS

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|--------|--------|--------|--------|
| 1. (c) | 2. (b) | 3. (d) | 4. (a) |
| 5. (c) | 6. (c) | 7. (c) | |

SHORT ANSWER QUESTIONS

8. The image obtained will be the same in all the three cases.
9. A sheet of transparent material is placed at 'P'.
10. The light of torch at position C will not form a shadow of the ball on the screen.
11. No
12. (i) The colour of the shadow of an object does not depend on its colour.
(ii) Translucent objects allow light to pass through them partially or transparent objects allow most of the light to pass through them.
13. We can obtain more than one shadow of an object if light from more than one source falls on it. [For example during a match being played in a stadium, multiple shadows of players are seen].
14. No. Shadow of the bird can only be seen when the bird is flying very low close to the ground.
15. (i) By applying oil, grease, butter on it or pasting a butter paper on it.
(ii) Grinding (rubbing) the surface of the glass by any abrasive material.

16. $A \rightarrow a$
 $B \rightarrow b$
17. The colour of light will not affect the shadow, because shadow is the dark patch formed when an object obstructs the path of light and hence no light reaches in the shadow region.
18. Air around us is transparent but when thick smoke, thick clouds, etc. are present in the air it does not remain transparent.
19. The colour of shadows of all three towels will be the same.
20. The colours of the image of the shirts will be the same as the colour of the shirt.
21. The shadow formed will be dark and of the shape of the flower along with the stalk.

LONG ANSWER QUESTIONS

22. We can see the shadow of football lying on the ground because the ground acts as a screen for it. However, when the football is kicked high, the ground, which is acting as a screen is away from the football, hence no shadow of the football will be formed on the ground.
23. Some of the reason can be
- (i) The screen is away from the ball.
 - (ii) The beam of light from the torch is falling parallel to the screen on the ball.
 - (iii) The torch is kept away from the ball.
24. Shadow will not be formed in each case. Shadow will be formed by the sheet of plywood and the piece of muslin cloth.
- The sheet of plywood will form a dark shadow as it blocks the path of light completely.
- The piece of muslin cloth will form a lighter shadow as it allow light to pass through it partially.