

Class: VI
Subject: SCIENCE
No. of Questions: 22
Duration: 2.5 Hrs

General Instructions:

1. The question paper consists of 22 questions and is divided into four sections, A, B, C and D
2. All questions are compulsory.
3. Section A comprises question numbers 1 to 10. These are multiple choice questions carrying one mark each. You are to select one most appropriate response out of the four provided options.
4. Section B comprises question numbers 11 to 15. These are SAQs carrying two marks each.
5. Section C comprises question numbers 16 to 20. These are SAQs carrying four marks each.
6. Section D comprises question numbers 21 to 22. These are SAQs carrying five marks each.

SECTION A

Q1. Find the odd one out of the following:



- (a) Bag
- (b) Ice-cream cone
- (c) Pencil
- (d) Bag and ice-cream cone

Sol. (b)
The pencils and bag can be grouped together because they are used in school.

Q2. Which of the following is not made of glass?

- (a) Window
- (b) Window pane
- (c) Tumbler
- (d) Beaker

Sol. (a)
Windows are not made of glass

Q3. Which of the following is not a property of plastics?

- (a) They do not corrode.
- (b) They can be molded into any shape.
- (c) They are good conductors of heat electricity.
- (d) They are obtained from petroleum oil.

Sol. (c)
They are bad conductors of heat and electricity.

Q4. The second hand of a clock moves _____ than the hour hand.

- (a) Faster
- (b) Slower
- (c) With the same speed
- (d) Faster only at some intervals

Sol. (a)
The second hand of a clock moves faster than the hour hand. The second hand completes one round in 60 seconds. Whereas the hour hand complete one round in 12 hours.

Q5. The length of the playground is ten times the length of the classroom. If the classroom is 10 m long, then the playground is _____ long.

- (a) 10 cm
- (b) 1 m
- (c) 100 m
- (d) 1000 m

Sol. (c)
The length of the classroom is 10 m.
The length of the playground is 10 times the length of the classroom.
Hence, the length of the playground is $10 \times 10 \text{ m} = 100 \text{ m}$.

- Q6. Hand span and leg span are units of length which are _____ for all men.
- (a) Exactly the same
 - (b) Not the same
 - (c) Approximately the same
 - (d) None of the above

Sol. (b) Hand span and leg span are units of length which are not the same for all men, as different individuals have different lengths of hands and legs.

- Q7. The pendulum of a clock has
- (a) Periodic motion
 - (b) Circular motion
 - (c) Rectilinear motion
 - (d) All of the above

Sol. (a) The motion of a pendulum is regular and repeats after equal intervals of time. Hence, the pendulum of a clock has periodic motion.

- Q8. Which of the following is not a source of light?
- (a) Candle
 - (b) Sun
 - (c) Torch
 - (d) Mirror

Sol. (d)
A mirror does not emit light. It only reflects light emitted from a source.

- Q9. The image formed by a pinhole camera is
- (a) Erect
 - (b) Upside down
 - (c) Bent at an angle
 - (d) None of the above

Sol. (b)
The image formed by a pinhole camera is upside down, i.e. it is inverted in nature.

- Q10. The image formed in a mirror is
- (a) Yellow
 - (b) Black and white
 - (c) Coloured
 - (d) Bluish

- Sol. (c)
The image formed in a mirror is of the same colour as that of the object. Hence, it forms a coloured image.

SECTION B

Q.11 Explain how jute plants are harvested.

Sol. Jute plants are harvested at the flowering state. The stems are cut close to the ground and are then tied into bundles and soaked in water for a few days. This method of soaking is called retting. It softens the tissues and permits the fibers to be separated.

Q.12 You are given a task to make an umbrella. List four materials you will require to make it.

Sol. Materials required to make an umbrella are
(a) Waterproof cloth / plastic sheet
(b) Wire
(c) Steel rods
(d) Thread

Q.13 While measuring the length of a pencil with a scale, one end is at 2.5 cm and the other end at 9.2 cm. What is the length of the pencil in millimeters?

Sol. Length of the pencil = reading of second end - reading of first end
= 9.2 cm - 2.5 cm
= 6.7 cm

But 1 cm = 10 mm

∴ 6.7 cm = 67 mm

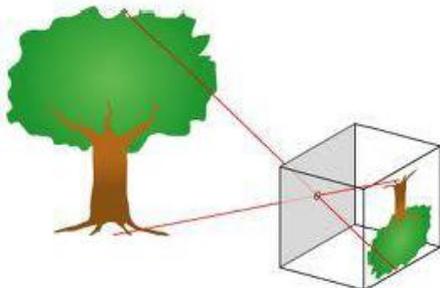
So, the length of the pencil = 67 mm

Q.14 Explain the process of shadow formation.

Sol. When an opaque object is placed in front of a source of light, the light rays cannot pass through it. However, they can bend around the object. So, a dark region in the shape of the object is formed behind the object (the light source being on the other side). This dark region is the shadow of the object.

Q.15 How does a tree look when seen through a pinhole camera?

Sol.



SECTION C

Q.16 (i) What is the importance of oxygen gas dissolved in water?
(ii) How is carbon dioxide gas dissolved in water helpful to plants which live in water?
(iii) Name two examples of gases which do not dissolve in water.

Sol. (i) Oxygen gas dissolves in water. The plants and animals which live in water use the oxygen dissolved in water for respiration. Thus, oxygen gas dissolved in water is important for the survival of these animals and plants.

(ii) Carbon dioxide gas also dissolves in water. The plants which live in water use the carbon dioxide dissolved in water for photosynthesis.

(iii) Nitrogen and methane gas do not dissolve in water.

Q.17 Which of the following are soluble in water and which are insoluble in water? Groundnut oil, Potassium permanganate, Alum, Wax, Sugar, Sand, Petrol, Copper sulphate

Sol. Soluble in water: Potassium permanganate, Sugar, Alum, Copper sulphate.
Insoluble in water: Groundnut oil, Wax, Sand, petrol

Q.18 (i) What are the different types of motion which take place when a car is turning around a roundabout?

(ii) What is measurement?

Sol. (i) The car and the people sitting inside it are moving in a circle, and hence, their motion is circular motion. The wheels are in two types of circular motion – one about their centre, and the other the centre of the roundabout.

(ii) Measurement is the determination of the dimensions, quantity or capacity of an item.

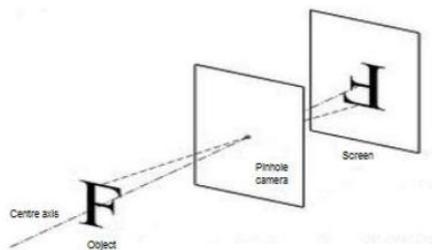
- Q.19 (i) A cricket bat is 11 times longer than the scale in your geometry box. If the length of the scale is 15 cm, what is the length of the cricket bat?
(ii) What can you tell about the motion of a raindrop when there is no wind? What if there is a wind blowing?

Sol. (i) The length of the scale is 15 cm
The length of the bat is 11 times the length of the scale.
Hence, the length of the bat is $11 \times 15 \text{ cm} = 165 \text{ cm}$.

(ii) When there is no wind, the raindrop falls down along a straight line, so its motion is rectilinear. However, when there is wind blowing, the raindrop is carried away while falling downward, so it will have a combination of many motions such as rectilinear, circular, zigzag, rotational etc.

- Q.20 (i) What is a pinhole camera?
(ii) How does the word F appear in a pinhole camera?

Sol. (i) A pinhole camera is a simple camera with no lens and with a single small aperture.
(ii) The image of the word F appears as given below.



SECTION D

- Q21 A and B are two natural fibres. Fibre A is soft and smooth, and is separated from the seeds by the process C. Fibre A is used for making the wicks of oil lamps lit on Diwali. Fibre B is rough and is present as an outer covering on the ripened fruit D which occurs mainly in coastal areas. Fibre B is also known by another name E. This fibre is used for making ropes and mats.

- (i) Name fibre A.
(ii) What is process C known as?
(iii) Name fibre B.
(iv) What is the name of fruit D?
(v) Write the name E.

Sol. (i) Cotton
(ii) Ginning
(iii) Coconut fibre
(iv) Coconut

(v) Coir

Q.22 Give the characteristics of the image formed by a plane mirror.

Sol. The characteristics of the image formed by a plane mirror are

- (i) The image formed in a plane mirror is virtual (or unreal). It cannot be obtained on a screen.
- (ii) The image formed in a plane mirror is at the same distance behind the mirror as the object is in front of it.
- (iii) The image in a plane mirror is of the same size as the object. It is neither enlarged nor diminished.
- (iv) The image in a plane mirror is erect. It is the same side up as the object.
- (v) The image in a plane mirror is laterally inverted (sideways reversed) with respect to the object.