

Maharashtra State Board

Class VI Science

Sample Paper – 1

Solution

I.

1. (c)

When living things receive a stimulus from something in their surrounding, they respond to it. This response to stimulus is a characteristic of living things.

2. (b)

When like poles of two magnets are brought in contact, they repel each other.

3. (c)

After filtration, solid impurities remain behind on the filter paper and the solution which is collected is called filtrate.

4. (d)

The petiole is a narrow stalk which connects the leaf to the stem.

5. (a)

Atmosphere is an envelope of air around the Earth. It is the Earth's protective shell.

6. (c)

Water stored at a height in a dam possesses potential energy. Potential energy is the stored up energy which has the potential to do work.

7. (b)

Saliva is secreted by the salivary glands located near the mouth. Saliva contains ptyalin.

8. (b)

The following food chain is the correct flow of a food chain:

Grass → Grasshopper → Frog → Snake → Eagle

The food chain represents the interdependence of different organisms for food on each other.

9. (c)

The SI unit to measure mass is kilogram (kg).

10. (c)

Plants which live for many years are called perennials.

11. (a)

The rich cream yoghurt is churned to obtain butter. Churning separates butter and buttermilk. Because butter is light, it floats on buttermilk.

12. (b)

In plants, the energy is stored in the form of chemical energy.

13. (d)

A solar cell is made using thin disks of pure silicon.

14. (a)

The fulcrum is in the middle in the lever of the first order. The load and the effort are on either side of the fulcrum.

15. (b)

Movement of bird's wings is back and forth, repetitive motion; hence, it is an oscillatory motion.

II.

16. Rubber or plastic when burnt releases certain poisonous substances. These substances pollute air which may disturb social health and social environment. Hence, rubber and plastic should not be burnt.

17. Sources of energy which are in use for long time are called conventional sources of energy. Wood, coal and fossil fuels are examples of conventional sources of energy.

18. It is expensive to manufacture Maglev trains and the tracks required for their run; therefore, Maglev trains are not in common use.

19.

(a) Function of digestive juices: They break down complex food substances into simple absorbable substances in the small intestine.

(b) Function of alveoli: Exchange of gases occurs in the alveoli. Oxygen is mixed in blood and carbon dioxide is taken up from the blood to throw out of the body.

20.

(a) Kinetic energy: The energy which a body gets because of its motion is called kinetic energy.

(b) Displacement: When a force is applied on an object, it moves from its original place. This shift in the position of the object is called displacement.

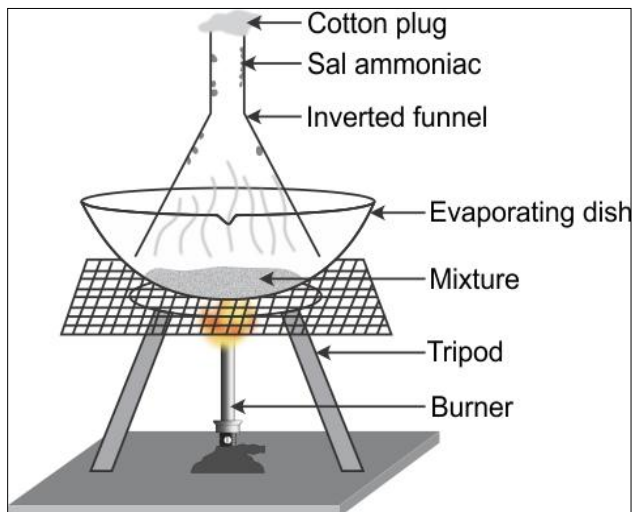
III.

- 21.** Three ways of classifying plants are as follows:
1. Bearing flowers: Plants which bear flowers are flowering plants and plants which do not bear flowers are non-flowering plants.
 2. Difference in the height of stems and branches: Plants are classified as herbs, shrubs, trees, climbers and creepers.
 3. Natural length of life cycle:
Perennials – Plants which live for many years
Biennials – Plants which live for two years
Annuals – Plants which live for a year
- 22.** Smoother surfaces always offer less resistance. When talcum powder is sprinkled on a carrom board, the friction between the surface of the board and the coins and striker reduces. Because of less friction, the movement of coins and striker becomes smooth on the board. This makes playing carrom easy.
- 23.** The part of the Earth inside the mantle is called core. The Earth's core is very hot and forms almost 16% of the Earth's volume. The core is subdivided into two parts:
1. Part near the mantle:
 - It is the central part and extends up to 1200 km.
 - It is extremely hot and a solid ball.
 - It is made of iron and nickel.
 2. Part at the centre of the Earth:
 - It is about 2250 km thick.
 - It is in the liquid state.
 - Its temperature is more than 4000°C.
- 24.** A weighbridge is a type of scale. Usually an approximate weight of an empty truck is known. A loaded truck is driven on to the steel platform of the weighbridge. The scale is kept under the steel platform. The weight of the loaded truck is taken. The weight of the empty truck is subtracted from the weight obtained by the scale of the weighbridge.
- 25.** Harmful effects of ozone depletion:
1. Because of depletion of the ozone layer, harmful rays from the Sun reach the Earth. These rays are dangerous for living beings.
 2. The average temperature of the Earth is increasing, resulting in global warming.
 3. Global warming results in the melting of ice in the polar regions causing an increase in the sea levels which will submerge the coastal regions in the near future.
 4. The incidence of skin diseases and skin cancer is also high because of direct exposure to the harmful rays of the Sun.

IV.

26. Procedure to separate sal ammoniac and sand from a mixture:

- Take a mixture of sand and sal ammoniac in an evaporating dish.



- Place a cotton plug in a funnel and invert it over the mixture.
- Heat the mixture slowly.
- After some time, particles of sal ammoniac deposit in the funnel and on the cotton plug.
- Sal ammoniac sublimates because of heating.
- When it cools, it turns into solid and deposits on the funnel and the cotton plug.

27.

- (a) A screw is a kind of inclined plane. It has circular grooves. It can be easily turned or pushed into a support by a screw driver. Because it reduces the efforts of work, a screw is a simple machine.
- (b) When a girl slides down on a slide, she is sliding down straight; hence, she is in linear motion. However, as she slides down, her speed is constantly increasing. Hence, she is in non-uniform linear motion.

28. When living things receive a stimulus, they respond to it. This characteristic of living things is called response to stimuli.

When a potted plant is kept at the window, light acts as a stimulus. The plant responds to this stimulus. The upper tip of the plant starts growing towards the light.

The plant will grow in response to the light, and hence, it bends while finding its way towards the light.

29. Production of gobar gas:

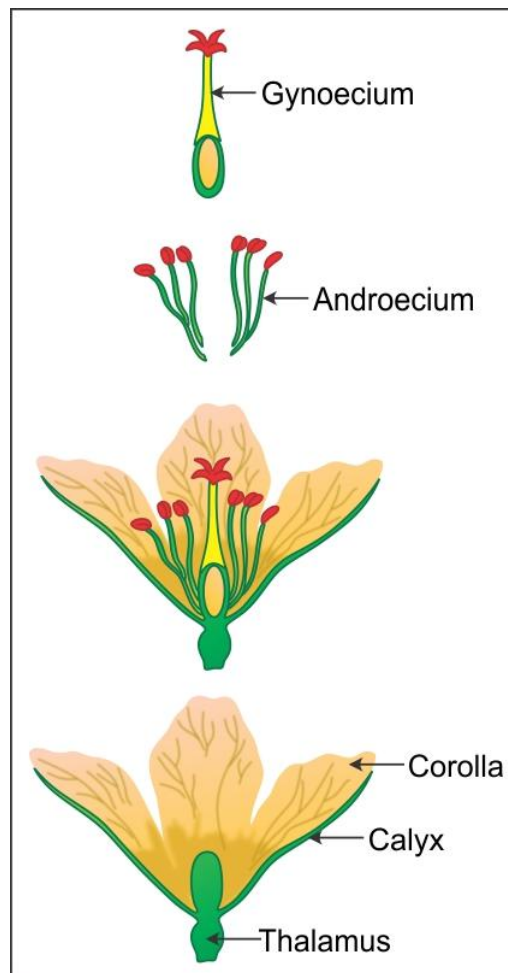
- Gobar gas is produced in a gobar gas plant.
- It is also called biogas because it is prepared by using cow dung and plant refuse as raw material.
- Microorganisms present in the gobar gas plant act on and decompose the raw material.
- The decomposition of raw material results in the release of methane gas.
- Methane gas itself is gobar gas.

Uses of gobar gas:

- The process of biogas production results in the formation of manure.
- Plants are eco-friendly, so they do not harm the environment.
- Gobar gas is used as cooking fuel on a large scale in villages.
- It is also used for lighting lamps and the generation of electricity on a small scale.

30. Structure of flower:

A flower is attached to the stem with the help of a stalk. The other end of the stalk is bulgy and is called thalamus. The thalamus supports all the other parts of the flower.



There are four main parts of a flower:

1. Calyx:

- The calyx is the outermost whorl of a flower.
- It is made of green-coloured sepals.
- It protects the other parts of a flower in the bud stage.

2. Corolla:

- The corolla is the second whorl.
- It shows great variety of colours and fragrances.
- It attracts birds, insects and animals to carry out pollination.

3. Androecium:

- The androecium is the male part of the flower.
- It is made of stamens.
- Each stamen is made of a filament and anther.
- Anthers consist of pollen grains.

4. Gynoecium:

- The gynoecium is the female part of the flower.
- It is the innermost whorl of the flower.
- It is made of pistils.
- Each pistil is made of stigma, style and ovary.

The androecium and gynoecium take part in the process of reproduction.