

Maharashtra State Board

Class VI Science

Sample Paper – 3

Solution

I.

1. (c)

The process of passing out waste substances from the body is called excretion. The movement of a living thing from one place to another is called locomotion. The process of breathing in oxygen and giving out carbon dioxide is called respiration. The process in which a living thing produces another living thing like itself is called reproduction.

2. (a)

The force applied by the Earth is called gravitational force, due to which it pulls everything towards itself. A ball thrown high up in the air comes down after reaching a certain height because of the force of gravity.

3. (d)

Atmosphere, lithosphere and hydrosphere are the factors essential for the existence of life on the Earth. They support life on the Earth.

4. (b)

The part of the stem between two nodes is called internode. The angle formed between the stem and a leaf is called axil. The stalk of the leaf is called a petiole.

5. (d)

Seconds, minutes, days, months and years are the units used to measure time.

6. (d)

The conventional sources of energy are non-renewable energy sources which are being used extensively in a way that their known reserves have been depleted to a great extent. These include wood, coal, petrol and diesel.

7. (c)

The food taken inside the body is chewed in the mouth and acted upon by the saliva. It then passes into the stomach where it is partially digested. This food then enters the small intestine where useful substances are absorbed. The food then enters the large intestine where water is absorbed. The solid waste matter is passed out of the body through the anus.

8. (b)

The following is the correct flow of the food chain:

Grass → Grasshopper → Frog → Snake → Eagle

The food chain represents the interdependence of different organisms for food.

9. (c)

The CGS unit used to measure distance is centimetre (cm), while the SI unit is metre (m).

10. (b)

Herbs are plants which are 1–1½ metres tall, shrubs are 2–3 metres tall and climbers and creepers cling to a support or creep along the ground.

11. (a)

Centrifugation is used to separate blood into its components. When the blood is spun in the centrifuge, the heavier cells separate from the lighter blood cells and can be collected for other uses.

12. (b)

When we burst crackers, the chemical energy stored in the crackers is released in the form of light and sound. Some amount of heat energy is also released during the process.

13. (d)

Practices such as keeping public places clean, disposing the garbage in dustbins and economical utilisation of resources will contribute in maintaining good social health.

14. (a)

The plucked strings of a guitar possess oscillatory motion because the strings exhibit a back and forth repetitive motion.

15. (b)

Maglev trains are based on the principle of magnetic repulsion between the tracks and the bottom of the train to lift the train off the ground.

II.

- 16.** Wastewater from factories contains poisonous chemicals which when mixed with drinking water can contaminate it. This may either cause the people to become ill or even die when they drink this water. Therefore, wastewater from factories should not be allowed to mix with drinking water.

17. The supply of fossil fuels on the Earth is limited. If we do not use these fuels sparingly and economically, then they will get depleted in the long run as they are not renewable. We will then have to look for alternative sources of energy.

18.

Action	Force applied
(a) Applying brakes on a bicycle	Muscular force
(b) A crane lifting a heavy iron load	Magnetic force

19.

- (a) Pancreas. It is a part of the human digestive system, while the others are a part of the human respiratory system.
- (b) Saliva. It is used for the digestion of food in the mouth, while the others are used in the digestion of food in the small intestine.

20.

- (a) Volume: The space occupied by something is called its volume.
- (b) Displacement: When a force is applied on an object, it moves from its original place. This shift in the position of an object is called displacement.

III.

21. Differences between flowering and non-flowering plants:

Flowering plants	Non-flowering plants
1. Plants which bear flowers are called flowering plants.	1. Plants which do not bear flowers are called non-flowering plants.
2. They have well-defined roots, stem, leaves, flowers and fruits.	2. They do not have well-defined roots, stem, leaves, flowers and fruits.
3. They reproduce by seeds.	3. They reproduce by spores or by vegetative reproduction.
4. Examples: Mango, neem	4. Examples: Mould, fern

22. Advantages of using a machine:

- (a) Saves time and effort in doing work
- (b) Work of uniform quality is obtained
- (c) Difficult work can be done easily

23. The atmosphere forms an envelope around the Earth. Harmful rays coming from the Sun are absorbed by the ozone layer present in the atmosphere. The atmosphere acts as a filter and allows only the required amount of heat and light to reach the surface of the Earth. Therefore, the atmosphere is called the Earth's protective shell.

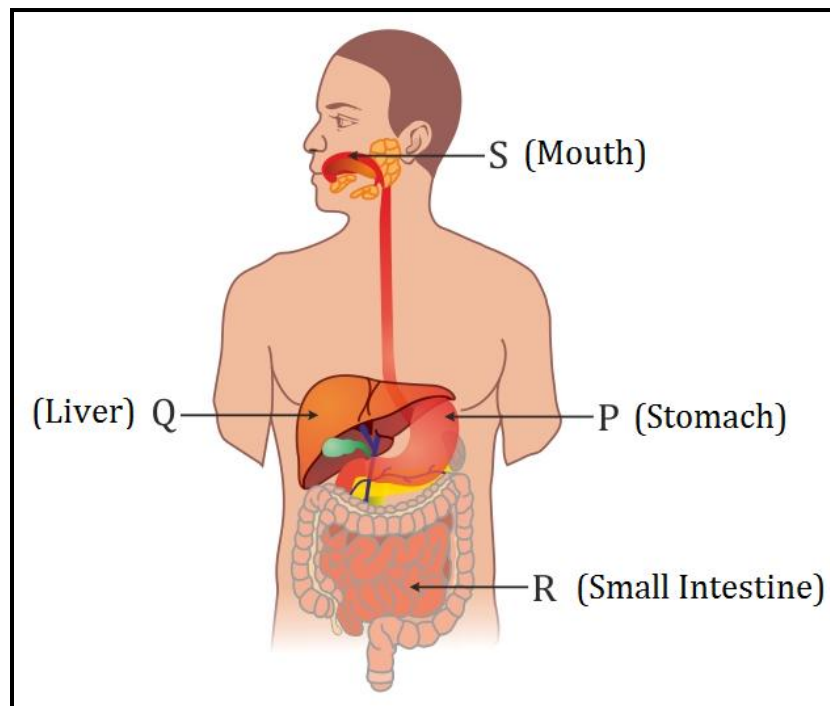
24.

Mixtures	Method of separation
(a) Sand + Sal ammoniac	Sublimation
(b) Water + Alum	Evaporation
(c) Water + Soil	Settling and decantation

25. Karanja and jatropha can be grown even in areas with scanty rainfall. It is possible to obtain biofuel from the seeds of karanja and jatropha plants. Biofuel is an alternative source of energy. It can supplement the conventional sources of energy. This fuel can be used to run motors, pumps etc. Therefore, the cultivation of karanja and jatropha is being encouraged.

IV.

26.



27. We can take care of machines in the following ways:

- (a) Dust should be wiped off from time to time by using a clean cloth.
- (b) The parts of machines which get rubbed against each other must be regularly oiled to avoid wear and tear.
- (c) Rusting of machines must be avoided by painting and oiling them regularly.
- (d) Special maintenance departments must be set up to take care of and maintain machines.

28. Animals can be classified in the following ways:

- (a) Wild (living in the jungle) and domestic (staying with human beings)
- (b) Unicellular (single cell) and multicellular (many cells)
- (c) Terrestrial (living on land), aquatic (living in water) and amphibious (living in water and on land)
- (d) Vertebrates (with vertebral column) and invertebrates (without vertebral column)
- (e) Scaled, haired or feathered based on the body covering
- (f) Oviparous (lay eggs) and viviparous (give birth to young ones)

29. While buying vegetables in the market, the following care must be taken with respect to weights and measures:

- (a) The vegetable vendor must hold the balance correctly so that the beam moves freely.
- (b) The weight measures should be made of metal because wooden or any other weights are considered unauthorised.
- (c) Standard weights and measures should be used, and the beam balance should have the standardised mark or the stamp of the Department of Weights and Measures.

30.

- (a) Veins: Transport food and water and give support to the leaf
- (b) Root cap: Protects the delicate root tip from injury
- (c) Seed coat: Protects the radicle and the plumule
- (d) Cotyledon: Stores food for the developing embryo