Goa Board
Class VI Science
Term 2
Sample Paper – 4 Solution

SECTION A

1. **(c)** Rain water
Rain water is the purest form of natural water.

2. **(b)** Reused
Jam bottles can be reused to keep dals in the kitchen.

3. **(a)** Groundwater
Most of the water which becomes available as groundwater, comes out when wells are dug.

4. **(d)** Composting
The image shows the process of composting.

5. **(d)** Long ears
Deer has long ears to hear the movement of predators and thus, protect themselves by running away from them.

6. **(a)** Respiration
Respiration is the process by which energy is obtained when oxygen oxidizes the food that we eat.

7. **(a)** The same shape
Sieving is not used when components of a mixture have same size.

8. **(b)** Filtration, evaporation, condensation
Sand can be separated by filtration. The filtrate consists of dissolved salts in water. This salt water is then transferred to a kettle and the lid is kept closed. The kettle is then heated for some time. The water starts evaporating. Water in the form of steam is then recollected by holding the previously cooled metal plate above the spout of the kettle. The water drops are observed to be falling from the plate due to the process of condensation.

9. (a) Evaporation increases with an increase in the temperature
Liquids evaporate at all temperatures. Evaporation becomes faster at higher temperatures.

10. (c) Heating followed by cooling
Fixing of iron rim to the wooden wheel of a cart involves heating followed by contraction on cooling.

11. (c) Reversible change
Glowing of an electric bulb is a reversible change.

12. (a) Air occupies space
Air is present everywhere and occupies space.

13. (d) 1%
Carbon dioxide, water vapour, dust particles and other gases constitute only 1% of the air.

14. (a) positive
The metal cap is the positive terminal of the electric cell.

15. (c) Switch
The device which is used to allow current to flow in a circuit or cut it off when desired is called switch.

16. (a) Glass
Because, glass is not a metal and therefore, does not allow electricity to pass through it.

17. (b) North-south
Solution: Unlike poles attract each other and like poles repel each other.

18. (d) One bar is a magnet and the other is magnetic
Only if one bar is a magnet and the other is magnetic, the toy car gets attracted to bar 2 in both the cases.

19. (c)CDs, DVDs, ATM cards contain magnetic materials; so, they may get damaged by the influence of a magnet
CDs, DVDs, ATM cards contain magnetic materials; so, they may get damaged by the influence of a magnet.

20. (b) A temporary magnet
An electromagnet is a temporary magnet.

SECTION B

21. Rains during the monsoon season bring relief especially after the hot summer days. The sowing of many crops depends on the arrival of monsoon.

22.

(a) Garbage.
(b) Landfill.

23.

(a) Organisms unable to adapt to their habitat changes die and their species may become extinct.
(b) Biotic and abiotic factors.

24. Farmers often burn the husk, dried leaves and waste part of crop plants in their fields after harvesting. Burning of these produces smoke and gases that are harmful to our health. Instead, these wastes could be converted into useful compost.

25. The farmers separate grain seeds from bundles of stalks by threshing process. In this process, the stalks are beaten to free the grain seeds.
This method simply involves beating the stalks of grain and separating the grains from the stalks.

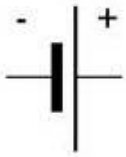
26.

i. Reversible change
ii. Irreversible change
iii. Reversible change
iv. Irreversible change

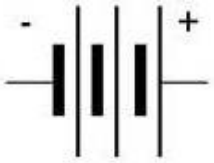
27. The atmospheric pressure goes on decreasing as we go up above the sea-level. Therefore, the amount of oxygen also decreases at a higher altitude. Due to this reason, mountaineers carry oxygen cylinders with them, while climbing high mountains.

28.

i. Cell:



ii. Battery:



29. The figure shows that the pull of a magnet is strongest at its ends and these ends are known as the poles of the magnet.

30. The materials which do not allow the electric current to pass through them are called insulators. Examples - rubber and paper.

SECTION C

31.

(a) The gases that we breathe out contain water vapour which condenses at spectacles; so, the glass becomes wet and with the help of small amount of water, it is easy to clean the spectacles.

(b) Water cycle is important because of the following reasons:

i. Water cycle makes fresh water available in the form of rain.

ii. It keeps the amount of water on the earth's surface constant.

32.

(a) Recycling means the collection and separation of used and discarded items made up of paper, plastic, glass and metals, and sending them to their respective industries for making fresh paper, plastic, glass and metal objects like waste paper are sent to paper mills whereas reuse means using the same things again like plastic jars in which we buy jam, pickle, etc. are used for storing things like sugar and salt.

(b) Polythene bags do not rot when buried and remain as such for years together. Hence, its disposal poses a huge problem.

33.

i. The crop fields, forests, villages, and cities may get submerged by water of floods.
ii. Floods cause extensive damage to the crops, domestic animals, property and human life.
iii. During floods, the animals living in the water also get carried away with the waters. They often get trapped on land areas and die when the flood water recedes.
iv. Rains also affect the animals living in the soil.

34.

(a) Vermicomposting is different from traditional composting because in traditional composting, the kitchen waste is converted into compost by micro-organisms present in the soil but in vermicomposting, the kitchen waste is converted into vermicompost by redworms.

(b)

i. We should not put wastes containing salt, oil and milk preparations in the pits, as the disease-causing small organisms start growing in the pit.
ii. Mixing powdered egg shells or sea shells with the wastes helps red worms in grinding their food well.

35.

(a) No, it is not possible to separate a mixture of salt and sugar by using water as a solvent since, both sugar and salt are soluble in water.

(b) The following steps will be done to separate this mixture:

i. Bring a magnet near this mixture several times. All the iron filings will stick to the magnet and get separated. Then, the mixture will be left with two components - chalk powder and common salt.
ii. Some water is added to this mixture and stirred. Common salt dissolves in water to form salt solution, whereas chalk powder remains undissolved.
iii. On filtering, chalk powder is obtained as a residue on the filter paper and salt solution is obtained as filtrate.
iv. This filtrate (salt solution) is evaporated and pure common salt is left behind.

36.

Physical changes	Chemical changes
i. Composition of substance remains same.	i. Composition of substance changes.
ii. No new substances are formed.	ii. New substances are formed.
iii. These are reversible changes.	iii. These are usually irreversible changes.
iv. Chemical properties of the substance remain the same.	iv. New substances with new chemical properties are formed.
v. Example: Boiling of water, stretching of rubber band.	v. Examples: Rusting of iron, formation of curd.

37. Smoke is present in the air. It consists of fine carbon particles and some gases. Smoke is produced by burning of fuels like wood, petrol, coal etc. Tall chimneys are installed in factories to take smoke produced in factories high up in the air so as to reduce its harmful effects on the ground. Traffic policemen regulating traffic often wear masks to protect themselves from the smoke containing harmful gases which is emitted by the vehicles moving around them.

38.

(a) A fused bulb has a break in its filament which means that there is a break in the path of the current between the terminals of the electric cell. Therefore, a fused bulb does not light up as no current passes through its filament.

(b) The rubber gloves are insulators. This saves the electrician from getting a shock. That is why, an electrician uses rubber gloves while repairing an electric switch.

39.

(a) When we rub soil or sand with a magnet, we find some particles of soil or sand remain attached to it because the soil or sand particles contain some iron particles which stick to the magnet.

(b) No, the magnet will not show its properties if it is accidently dropped from some height because it loses its magnetic properties if it is heated, hammered or dropped from some height.

40.

(a) The switch acts as a lever that connects (ON) and disconnects (OFF) the circuits.

(b) The two terminals of the electric cell are never joined together without connecting them through a switch and a device like a bulb because if we do so, the chemicals in the electric cell get used up very fast and the cell stops working.

SECTION D

41.

(a)

i. Living organisms are able to respond to changes in their surroundings and adjust to those changes.

ii. The oxygen taken in during respiration releases the energy from the food consumed by the organism.

iii. Excretion helps the body to get rid of the toxic wastes which accumulates in the body as a byproduct of various life processes.

(b) Seeds are living. For example - push your hand deep inside a sack of wheat. There is some heat being produced inside the sack of wheat because the seeds respire and give out heat. This shows that seeds are living.

42.

(a) When the air moves up to sufficient heights, it becomes cool and the water vapour present in it condenses to form tiny drops of water called droplets. These tiny droplets remain floating in air and appear as clouds. Many droplets of water come together to form larger sized drops of water. Some drops of water become quite heavy and begin to fall, giving rise to rain.

(b)

i. People are able to utilize ground water through open wells, tube wells and hand pumps.

ii. Seepage of rain water into the ground is reduced in areas:

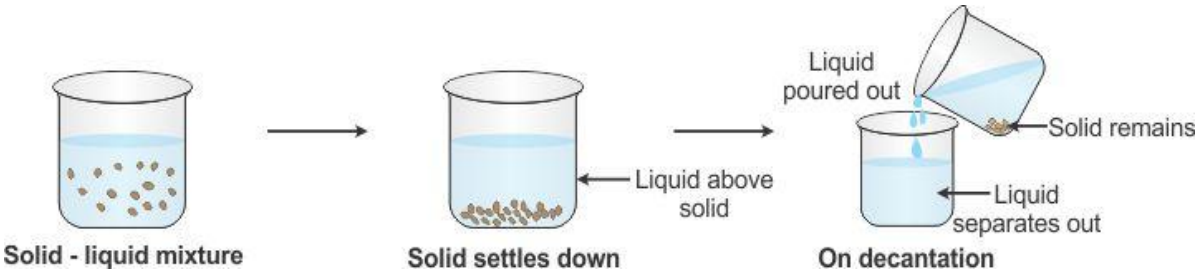
1. Where the land has little or no vegetation.
2. Where most of the land is covered with concrete.

43.

(a) A solution in which no more substance can be dissolved at that temperature is called a saturated solution.

(b) **Principle:** Sedimentation method is based on the tendency of insoluble solid particles to settle down in an insoluble solid-liquid mixture.

Technique: The mixture of an insoluble solid-liquid substance is allowed to stand without any disturbance. During this process, the insoluble solid particles settle at the bottom and the liquid floats above it. The liquid can be decanted and separated from the solid substances.



(c) If the saturated solution of a substance at a particular temperature is heated to a higher temperature, then the solubility of the substance increases and more of the substance can be dissolved in it.

If the saturated solution of a substance at a particular temperature is cooled to a lower temperature, then the solubility of the substance decreases and some of the dissolved substance will separate out in the form of solid crystals.

44.

(a) A compass is a small box with a glass cover on it. A magnetized needle is pivoted inside the box, which can rotate freely. The compass has a dial with directions marked on it.

(b) The compass is kept at a place where we want to know the directions. Its needle indicates the north-south direction when it comes to rest. The compass is then rotated until the north and south marked on the dial are at the two ends of the needle.