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

SECTION-A

1. (d)
Only a shiny or plastic coated paper cannot be used to spread over sand or mesh wire. All the others can be used.

2. (d)
During drought, the soil does not have sufficient moisture to grow crops, there is shortage of fodder and people may migrate to other places in search of food and fodder.

3. (d)
The botanical name of touch-me-not plant is *Mimosa*.

4. (b)
Giraffe reproduces by giving birth to young ones.

5. (d)
Teeth are not present in the alimentary canal of red worms.

6. (d)
River is not a form of precipitation as the water does not reach the Earth by this water body. All the others are ways by which water reaches the Earth's surface.

7. (c)
Churning is the process used to separate butter from buttermilk.

8. (b)
The liquid obtained after filtration is called the filtrate.

9. (d)
The process of conversion of water vapour into its liquid form is called condensation.

10. (a)
A phenomenon in which a substance expands and changes its shape is called expansion.

11. (b)
Burning is a rapid process. Paper burns rapidly.

12. (b)

Photosynthesis takes place only during the day.

13. (c)

During respiration, living organisms take in oxygen and release carbon dioxide to the air.

14. (b)

Torch and Mobile Phone are battery powered electric appliances.

15. (b)

When the bulb is switched on, the key gets closed, current flows and the bulb glows.

16. (a)

In an electric circuit, the direction of current is taken to be from the positive to the negative terminal of the electric cell as shown in Fig (i)

17. (d)

The magnet sticks to the door of the refrigerator because the door is made up of a magnetic material.

18. (d)

Magnets were discovered by Magnes.

19. (d)

As the two magnets do not touch each other, it means that the lower portion of the dropped material should be of the same polarity as the top one.

20. (b)

Magnet II has maximum strength as it attracts maximum number of steel chips.

SECTION-B

21.

i. The streamlined body shape (boat shape) allows the fish to move easily in water.
ii. This is because fishes have gills which help them to use the oxygen dissolved in water. Gills are unable to absorb atmospheric oxygen, due to which the fish will die when removed out of water.

22. Plastic bags thrown away carelessly on roads and other places get into drains and the sewer system. As a result, drains get choked and sewage water spills on the roads. During heavy rains, it might even create a flood like situation.

23. Organisms which use trees for their activities are called arboreal organisms. Example - lemur and squirrel.

24. The demand for water is increasing day-by-day due to increasing population. This leads to shortage of water in many parts of the world. Also, the amount of usable water on the Earth is limited. Hence, we should use water carefully and take care to conserve it.

25. 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 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 precipitate out in the form of solid crystals.

26. Melting of wax is just a phase change. During melting, only physical properties of wax change, the chemical properties remain unchanged. Wax melts because its temperature is raised during heating. But once the heat source is removed, wax begins to lose heat and returns to its original form.

27. When it rains heavily, water fills up all the spaces between soil particles which were originally occupied by air. In this situation, earthworms come out of the soil for respiration.

28.

i. Switch 'Off' or open switch
ii. Switch 'On' or closed switch

29. In the olden days, the travelers used to find directions by suspending natural magnets with a thread. When suspended freely, these magnets point in the North-South direction.

30. The filament is connected to two thick wires out of which one is connected to the metal case of the bulb. The other thick wire is connected to the metal tip at the bottom of the bulb. Such an arrangement provides support to the filament and also makes the connection of the filament to the outer circuit.

SECTION-C

31.

(a) Garbage which does not rot when buried in the soil - plastic toys, glass jar, aluminium wrappers.

Garbage which rots when buried in the soil - Dried leaves, leftover food, egg shells.

(b) Some materials of garbage rot and get converted into compost which acts as manure for plants. This compost when mixed with soil provides nutrients to the plants.

32.

(a) Ways of minimizing generation of plastic waste:

i. We should make minimum use of plastic bags.
ii. We should carry a cloth or a jute bag when we go out for shopping.
iii. We should not use plastic bags to store eatables.
iv. We should not put garbage in plastic bags and throw it away.

(b) It is better to use compost as manure than chemical fertilizers because:

i. Making compost is cheap whereas making of chemical fertilizers is very expensive.
ii. Compost is natural manure which does not harm the soil but chemical fertilizers are man-made chemicals which harm the soil in long run.

33.

(a)

i. Skin
ii. Gills
iii. Tiny pores in leaves
iv. Lungs

(b)

i.

1. Some plants store the waste products within their parts in a way that they do not harm the plant as a whole.
2. Some plants remove waste products as secretions.

ii. Reproduction

34. Some typical movements in plants are:

i. Bending of the stem towards sunlight (phototropism).
ii. Movement of roots vertically downwards towards the Earth (geotropism).
iii. Immediate closing or shutting of leaves of the touch-me-not plant on touching is an example of nasticism.
iv. Flowering and seed germination in plants are regulated by the duration of light (photoperiodism).

35.

(a) The maximum amount of solute which can be dissolved in a given amount of solvent at a specific temperature is called solubility.

(b)

i. All aerated drinks contain dissolved carbon dioxide.
ii. Aquatic animals survive on the oxygen dissolved in water.

(c) The solubility of gases in water decreases with a rise in temperature.
During summer season, fishes in shallow ponds die because the water in the pond gets warm due to summer heat and as a result, the amount of dissolved oxygen in water decreases.

36. Burning of a paper is an irreversible change. During the burning of paper, ash and smoke is produced. This ash and smoke cannot be converted back to the original paper, so it is a an irreversible change.
When a small quantity of curd is added to warm milk, the milk is then stirred and kept aside for a few hours, it changes into curd. This change involves a chemical reaction, i.e. fermentation. This curd cannot be converted back into milk and hence it is an irreversible change.
When water is boiled, it changes into steam. When this steam is cooled, water is formed again (condensation). So, the changing of water into steam can be reversed by cooling. Thus, boiling of water is a reversible change.
When coal tar is heated, it melts to form a thick black liquid which is used in making and repairing roads. When this hot molten coal tar gets cooled, it solidifies again to form coal tar. Hence, the melting of coal tar is a reversible change.

37.

(a) Sea divers carry oxygen gas cylinders along with them because there is no free oxygen in the sea water. The little dissolved oxygen present in water cannot be used for breathing by sea divers unlike aquatic animals.

(b) Activity: Take some water in a glass vessel or a beaker. Heat it slowly using a burner on a tripod stand. Before the water begins to boil, look carefully at the inner surface of the vessel. Tiny bubbles will be seen on the inside of the vessel. These bubbles are of air dissolved in water.
On heating water, the solubility of air in it decreases due to which air dissolved in water escapes in the form of tiny bubbles. This shows that air is dissolved in water.

38.

(a) The bulb does not glow when the safety pin is not in touch with the other drawing pin because the circuit is not complete due to a gap between the two drawing pins. Hence the switch is said to be 'off'.

(b) Insulators: Plastic scale, rubber and thermocol.
Conductor: Aluminium foil.

39.

(a) Like poles repel each other while unlike poles attract each other. Hence, both the magnets will repel each other in this case.

(b) Bar magnet, horse-shoe magnet, cylindrical magnet and button magnet.

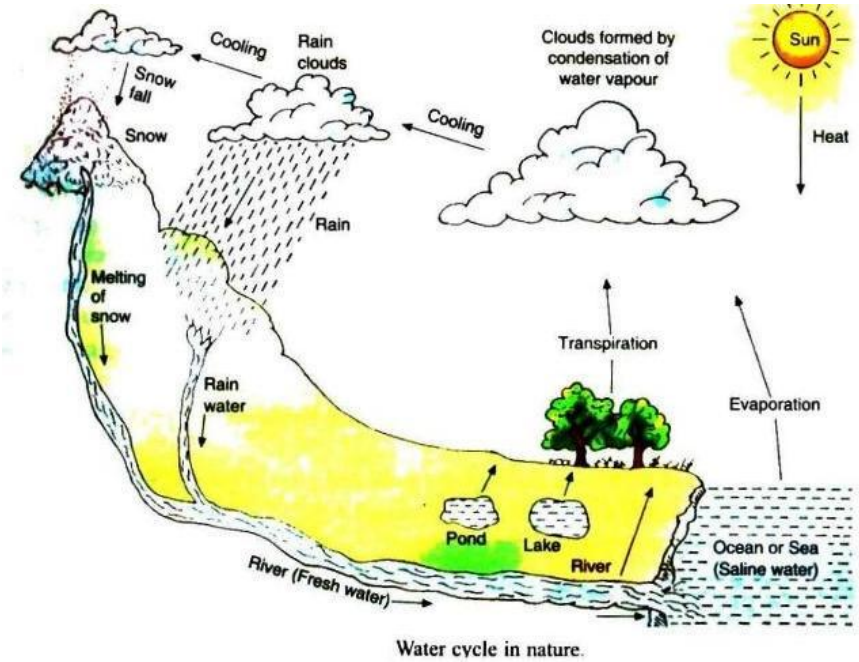
40.

(a) The cell passes an electric current through the torch bulb which heats up its filament and makes the bulb glow.

(b) A bulb may get fused due to normal wear and tear of the filament or when too much electricity is passed through it suddenly.

SECTION-D

41.



Water cycle in nature.

42.

(a) Potato
(b) Reproduction
(c) Rose plant
(d) Excretion
(e) Closing of flowers of certain plants after sunset / Folding of leaves of mimosa plant when touched.

43.

(a) Composition of air-
Nitrogen - 78%
Oxygen - 21%
Water vapour, carbon dioxide, other gases and dust particles - 1%

(b) Activity: To show that about one-fifth of air is oxygen and the rest four-fifth is nitrogen.

i. Take a trough and place a gas jar stand in it. Fix a candle on the gas jar stand and fill half the trough with water.
ii. Light the candle with a matchstick and cover the burning candle by placing an inverted gas jar over it.
iii. After a short time, the candle stops burning and water rises up in the gas jar to a certain level. The candle gets extinguished because all the oxygen present in air contained in the gas jar was used up by the burning candle.
iv. When the candle burns, then oxygen of air in the gas is used up and carbon dioxide gas is formed. This carbon dioxide gas (CO_2) formed is absorbed by the sodium hydroxide solution present in the trough. The absorption of CO_2 gas by NaOH solution creates a vacuum in the gas jar. Hence, water rises up in the gas jar to fill this vacuum.
v. Water in the gas jar rises to about one-fifth part of the volume of air initially present in the gas jar. The volume of water rise in the gas jar is equal to the volume of oxygen present in the air in the gas jar which was used up during the burning of candle. Hence, we conclude that about one-fifth of air is oxygen. The major part of air which is not used up for burning of candle and remains behind in the gas jar is nitrogen. Since water does not rise in the remaining four-fifth part of the gas jar, it proves that about four-fifths part of air is nitrogen.

44.

(a) Once there was a shepherd named Magnes, who used to take his herd of sheep and goats to the near-by mountains for grazing. He would take a stick with him to control his herd. The stick had a small piece of iron attached at one end. One day he was surprised to find that he had to pull hard to free his stick from a rock on the mountainside. It seemed as if the stick was being attracted by the rock. The rock was a natural magnet and it attracted the iron tip of the shepherd's stick. This led to the discovery of natural magnets.

(b) Plastic, fabric, leather and wood.