CBSE
Class VI Science
Term 2
Sample Paper – 1

Time: 2 ½ hrs **Total Marks: 80**

General Instructions:

1. The question paper consists of 34 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 15. 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 16 to 22. These are SAQs carrying two marks each.
5. Section C comprises question numbers 23 to 31. These are SAQs carrying four marks each.
6. Section D comprises question numbers 32 to 34. These are SAQs carrying five marks each.

SECTION-A

1. What is added to a paste of rice husk and paper to make papier mache? [1]
(a) Humus
(b) Water
(c) Alcohol
(d) Clay

2. Which organ of the frog helps it to swim in water? [1]
(a) Legs
(b) Webbed feet
(c) Lungs
(d) Scales

3. The process of condensation is the reverse of [1]
(a) Evaporation
(b) Condensation
(c) Transpiration
(d) Elimination

4. The second hand of a clock moves _____ than the hour hand. (1)
(a) Faster
(b) Slower
(c) With the same speed
(d) Faster only at some intervals

5. A mixture of pebbles and stones from sand can be separated using [1]
(a) Decantation
(b) Filtration
(c) Sieving
(d) Hand picking

6. Heating tar while making a road is an example of [1]
(a) Chemical change
(b) Reversible change
(c) Evaporation
(d) Irreversible change

7. Falling of a tree branch is an example of [1]
(a) Reversible change
(b) Irreversible change
(c) At high altitudes - reversible change and at low altitudes – irreversible change
(d) No change

8. Tiny bubbles seen on the surface of boiling water is [1]
(a) dissolved air escaping when water is heated.
(b) dissolved impurities in water escaping when water is heated.
(c) dissolved nitrogen in water escaping when water is heated.
(d) air dissolving in water.

9. Which of the following processes does not help in recycling carbon dioxide back into the air? [1]
(a) Respiration
(b) Combustion
(c) Photosynthesis
(d) Burning

10. In the given pictures, which one shows the correct sign positions? [1]

(e) 

(f) 

(g) 

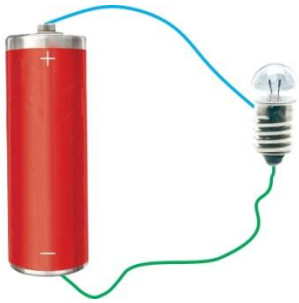
(h) 

11. Fibrous roots are associated with (1)

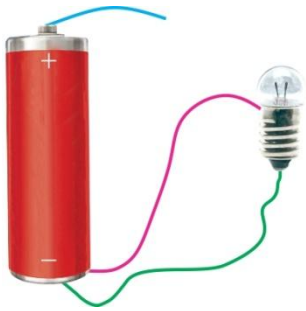
(a) Parallel venation
(b) Reticulate venation
(c) Carrots
(d) Many lateral roots

12. Observe the given diagrams. Which one shows the complete circuit? [1]

(a)



(b)



(c)

(d)

13. In which circuit will the bulb or bulbs glow brightest? [1]

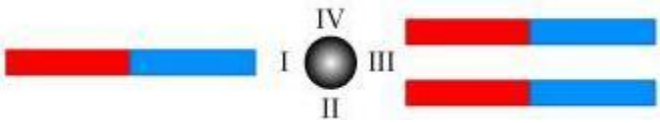
(a) A simple circuit with one bulb and one battery.

(b) A simple circuit with one bulb and two batteries.

(c) A simple circuit with two bulbs and one battery.

(d) Bulb/bulbs will be equally bright in all the above cases.

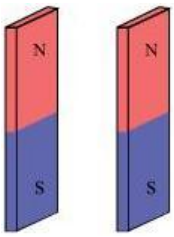
14. In an experiment, Rodger places a small iron ball between three magnets of equal strengths, as shown in the given figure. The magnets are at equal distances from the ball. The ball will move towards point [1]



(a) I
(b) II
(c) III
(d) IV

15. Ajay has two bar magnets, as shown in the given figure. He wants to store them safely. Which of the following diagrams correctly shows the method employed by Ajay? [1]

(a)



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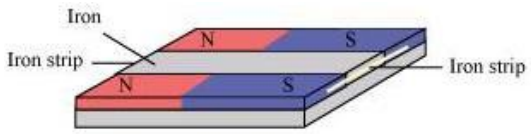

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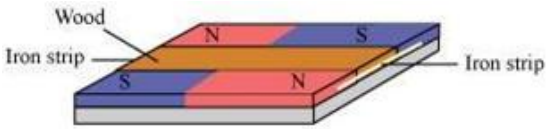
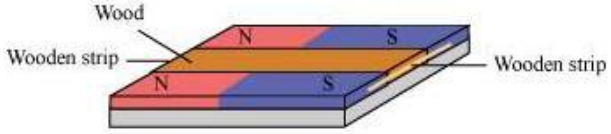
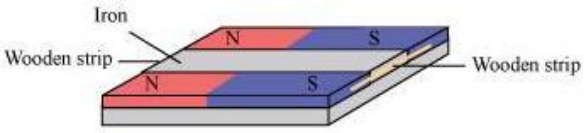




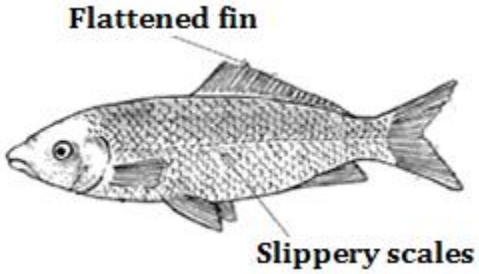
(d)



SECTION-B

16. Explain how jute plants are harvested. [2]

17. What advantage do the highlighted features give to a fish? [2]

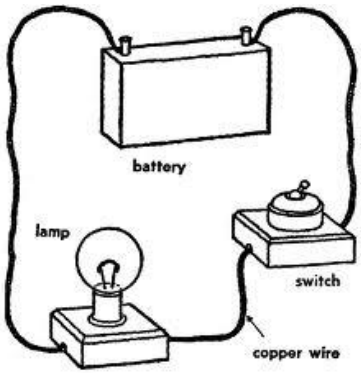


18. When a single yarn is pulled out continuously from a torn pair of socks, the fabric gets unravelled. Why? [2]

19. How can the process of expansion be used to fix a metal rim tightly on a wooden wheel? [2]

20. Why is carbon dioxide gas used to extinguish fire? [2]

21. Will the bulb glow in the arrangement shown in the figure? Give reasons. [2]



22. How does a tree look when seen through a pinhole camera? [2]

SECTION-C

23. [4]

(a) Give reasons:

i. We should not put wastes containing salt, oil and milk preparations in waste pits as food for red worms.

ii. It is better to mix powdered egg shells or sea shells with the wastes to be put in waste pits.

(b) What type of conditions do red worms need to survive well?

24. [4]

(a) What are the problems faced by people due to drought?

(b) What is the basic idea behind rainwater harvesting?

25. 'Living beings respond to stimuli'. Cite any two examples each of animals and plants to illustrate the same. [4]

26. Explain the reasons for separating mixtures into their components with the help of examples. [4]

27. Classify the following changes as irreversible and reversible with explanations: [4]

(a) Inflating a balloon and it

(b) Rolling a roti and baking a roti

28. [4]

(a) Define combustion.

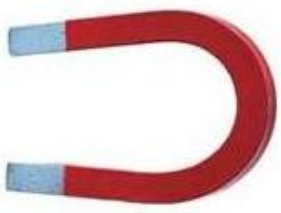
(b) Describe an activity to show that air (oxygen) is necessary for the combustion of substances.

29. [4]

(a) Identify the type of magnets:

i.

ii.



(b) How did travellers use magnets to find directions in the olden days?

30. How can we make an electric switch? [4]

31. When iron fillings are spread on a sheet and a bar magnet is placed on it, what do you observe? Do you find anything special about the way they arrange themselves? [4]

SECTION-D

32. How are camels adapted to survive in a desert? [5]

33. [5]

(a) Define reversible and irreversible changes.

(b) With the help of three examples, explain the difference between changes which can or cannot be reversed.

34. [5]

(a) Describe a procedure to make a home-made torch.

(b) What are conductors? Give two examples of a conductor.

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Sample Paper – 1 Solution

SECTION-A

1. **(d)**
   Papier mache is a mixture of clay, paper and rice husk.

2. **(b)**
   All aquatic animals have webbed feet which helps them to swim and resist friction of water.

3. **(a)**
   Condensation is the reverse of evaporation.

4. **(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 completes one round in 12 hours.

5. **(c)**
   Sieving allows the fine sand particles to pass through the holes of the sieve while the bigger stones and pebbles remain on the sieve.

6. **(b)**
   Tar on heating changes to liquid and on cooling forms a solid mass.

7. **(b)**
   Falling of a tree branch is an irreversible change.

8. **(a)**
   Air is dissolved in water and it escapes when water is heated and therefore tiny bubbles are seen on the surface of boiling water.

9. **(c)**
   Photosynthesis does not help in recycling back carbon dioxide back into air.

10. **(a)**
    In an electric cell, metal cap is the positive terminal of the electric cell and the metal disc is the negative terminal.

11. (a)

Leaves of plants with a fibrous root system show parallel venation.

12. (a)

The first diagram has a complete circuit, and hence here the bulb glows.

13. (b)

Two batteries provide a greater flow of electricity than one and hence the bulb will glow more brightly.

14. (c)

The ball will move towards point III since it is forces of attraction are more at point III due to the more number of magnets.

15. (b)

Bar magnets should be kept in pairs with their unlike poles on the same side. They must be separated by a piece of wood while two pieces of soft iron should be placed across their ends.

SECTION-B

16. Jute plants are harvested at the flowering stage. 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 fibres to be separated.

17. Flattened fins give stability, and control the direction of movement during swimming. Slippery scales protect the fish and help in easy movement through water.

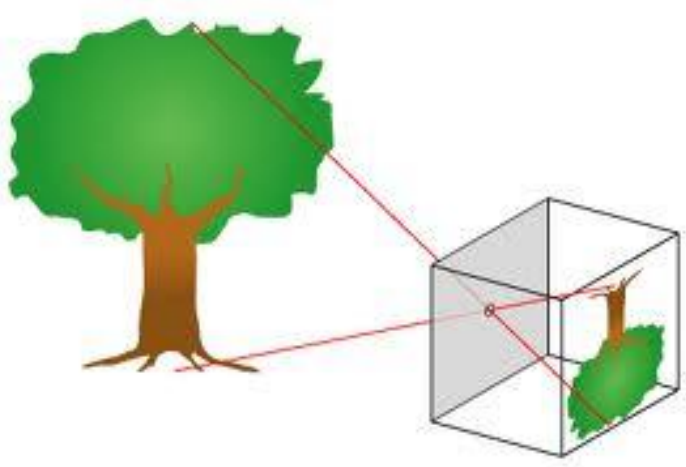
18. Knitting is the process used to prepare the fabric for socks. In knitting, a single yarn is used to make a piece of fabric. Therefore, when a single yarn is pulled out continuously from a torn pair of socks, the fabric gets unravelled.

19. The metal rim is made slightly smaller than the wooden wheel. On heating, the rim expands and fits onto the wheel. Cold water is then poured over the rim, which contracts and fits tightly onto the wheel.

20. Carbon dioxide gas does not support combustion. When sprayed on a burning object, it cuts off the supply of oxygen and extinguishes the fire.

21. Yes, the bulb will glow in the arrangement shown in the figure because the circuit is complete i.e. there is a continuity in the circuit without any break.

22. Tree view through a pinhole camera



SECTION-C

23.

(a)

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 help red worms in grinding their food well.

(b) Redworms do not survive in very hot or very cold surroundings. They grow well in moist surroundings.

24.

(a) The problems faced by people due to drought are:

i. In drought conditions, the soil does not have sufficient moisture to grow crops well.

ii. The vegetation such as grass and fodder does not grow well and leads to shortage of fodder for domestic animals.

iii. Many people living in the areas of drought may have to migrate to other places along with their domestic animals in search of food and fodder.

(b) The basic idea behind rainwater harvesting is to catch water where it falls on the Earth's surface.

25. All living organisms respond to stimuli by moving towards or away from it. Examples

i. The increased secretion of saliva on seeing our favourite food is the response to the flavour of the food.

ii. A bright flash of light makes us close our eyes or narrow them.

iii. The leaves of the 'Touch-me-not' plant close on touching them.

iv. The tip of the shoot moves towards light.

26. Mixtures are separated into their components for the following reasons:

1. To remove undesirable components
   For example, tea is made by boiling tea leaves in water and then adding milk and sugar. After tea is made, the used tea leaves are an undesirable component of the mixture 'tea' and are removed from it by using a tea strainer.
2. To remove harmful components
   For example, food grains like rice, wheat, pulses etc. usually contain small pieces of stones, some insects etc. These cannot be consumed and are hence removed from the food grains before use.
3. To obtain a pure sample of a substance
   For example, tap water contains some impurities and dissolved salts in it making it an impure mixture. This water is made free of impurities or dissolved salts by the process of distillation and as a result, we get pure water.
4. To obtain a useful component
   For example, buttermilk is a mixture from which the useful component 'butter' is separated.

27.

(a) Inflating a balloon is a reversible change. When air is blown into a balloon, its shape and size change and the balloon gets inflated. Now when the air filled in the balloon is allowed to escape, the balloon comes back to its original size and shape. Hence, inflating a balloon is a reversible change.
Bursting of a balloon is an irreversible change. When a balloon filled with air is burst, the balloon cannot be changed back to its original shape and size. Since the change in the shape and size on bursting of a balloon cannot be reversed, it is an irreversible change.

(b) Rolling of a roti is a reversible change. Roti is made by rolling a ball of dough into a circular shape. This rolled roti can be easily converted back to the ball of dough i.e. it is an action which can be reversed, hence it is a reversible change.
Baking a roti is an irreversible change. Baked roti cannot be changed back into the original ball of dough i.e. this action cannot be reversed. Hence, it is an irreversible change.

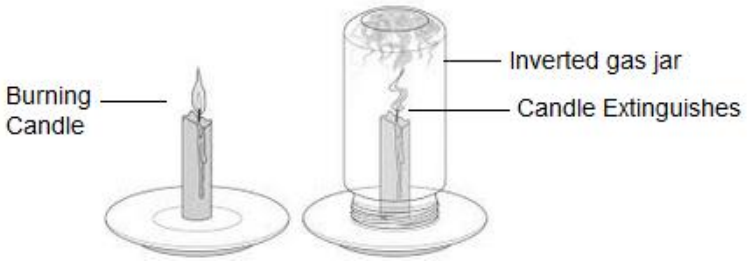
28.

(a) Combustion is the process of burning of a substance.

(b) Activity: Take a candle and fix it on a table. The candle is lighted. The candle will continue to burn due to continuously available fresh air providing the required oxygen for combustion.

Now cover the burning candle by putting an inverted gas jar over it. After a short time, the candle stops burning and gets extinguished. When the burning candle is covered with a gas jar, the candle takes away the oxygen necessary for burning from the air enclosed in the gas jar.

After some time, when all the oxygen in the air inside the gas jar is used up, the burning candle gets extinguished. This proves that air is necessary for combustion of substances.



29.

(a)

i. Bar Magnet

ii. Horse-shoe magnet

(b) In the olden days, travellers used to find directions by suspending natural magnets with a thread. When suspended freely, these magnets point in north-south direction.

30. Take two drawing pins, a safety pin, two wires and a small sheet of thermocol or a wooden board. Insert a drawing pin into the ring at one end of the safety pin and fix it on the thermocol sheet. Make sure that the safety pin can be rotated freely. Now, fix the other drawing pin on the thermocol sheet in a way that the free end of the safety pin can touch it.

The safety pin fixed acts as a switch in this arrangement.

31. When iron fillings are spread on a sheet and a bar magnet is placed on it, the iron fillings cling to the bar magnet.
Yes, we find that the iron fillings attract more towards the regions close to the two ends of a bar magnet.

SECTION-D

32. The camel is adapted to desert conditions because of the following:

i. Its limbs contain large pads which help it to move on hot and slippery sand.
ii. The hump of the camel is a reservoir of food in the form of fat.
iii. It drinks a large quantity of water and stores it in water-cells, muscles and connective tissues.
iv. It can live without drinking water for about two weeks. It excretes very little water in the form of urine.
v. It can adjust its internal temperature according to the surrounding air. It sweats profusely in the bright sun to maintain its body temperature.

33.

(a) Reversible changes are changes which can be reversed to form the original substance.
Irreversible changes are changes which cannot be reversed to form the original substance.

(b)

i. If we inflate a balloon, the size and shape of the balloon undergoes a change. However, the original size and shape of the balloon can be obtained back by allowing the air to escape from the balloon. This means that the change which occurs by inflating a balloon can be reversed. But, if the balloon bursts after being inflated, then its original size and shape cannot be obtained back. Thus, in this case, the change cannot be reversed.
ii. If we fold a piece of paper, then the shape and size of the paper undergoes a change. In this case, the original shape and size of the paper can be obtained back. Thus, this change can be reversed. However, if we cut the piece of paper, the change in the shape and size of the paper cannot be reversed.
iii. If we heat solid wax, it melts to form a liquid called molten wax. On cooling, the molten wax becomes a solid again i.e. melting of wax is a reversible change. But, if we light a candle, then the wax present in it starts burning to produce carbon dioxide gas, water vapour, soot, heat and light. These products obtained by burning of wax cannot be combined to get back the original wax of the candle. Hence, burning of wax is an irreversible change.

34.

(a) The procedure to make a home-torch is as follows:
Take a torch bulb and a piece of wire. Remove the plastic covering at the two ends of the wire. Wrap one end of the wire around the base of the electric bulb. Fix the other end of the wire to the negative terminal of an electric cell with a rubber band. Now, bring the tip of the base of the bulb that is, its other terminal, in contact with the positive terminal of the cell. The bulb starts glowing.

(b) Materials which allow electric current to pass through them are called conductors. Examples - iron, pencil lead etc.